MB-X62 Series
Dual Pentium III ATX Mainboard
with VGA/DVI,
Three 100Base-TX Ethernet &
Dual-Channel Ultra 160 SCSI
for Socket 370 Processors

Notice:

This MB-X62A/MB-X62B did not include DVI function, please ignore any description and drawing concern DVI connection.

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CHAPTER 1.

INTRODUCTION

The MB-X62 Series is a Duel Pentium III ATX Mainboard specifically designed for Socket 370 with VGA/DVI, three 10/100Base-TX Ethernet ports as well as dual-channel ultra 160 SCSI interface. With VIA 694X/686A chipsets, MB-X62 Series supports Ultra DMA-33/66 for faster hard drive transmission speeds and contains health monitoring hardware. The health monitoring IC keeps an eye on the CPU and releases an audio alarm when detecting abnormal operating voltage & temperature or malfunction of the cooling fans. For boosting operation, this motivated card also supports sockets for a Flash Disk and four DIMMs.

Other on-board features include two serial ports (RS-232 and RS-232/422/485), one multi-mode parallel (ECP/EPP/SPP) port, a floppy drive controller, a keyboard interface and a PS/2 mouse interface. The built-in high speed PCI IDE controller supports both PIO and bus master modes. Supporting up to two floppy disks, this board also can connect up to four IDE devices, including large hard disks, CD-ROM drives, tape backup drives and other IDE devices. Its 6-layer printed circuit board combined with noise-tolerant and low power consumption CMOS technology allow the MB-X62 Series to withstand many harsh industrial environments.

MB-X62 Series is a high power & full engine mainboard with an AGP display of resolution up to 1600x1200 at 256 colors. Carefully designed to be a feature-rich mainboard at a reasonable price, this board elegantly meets industry needs and saves time and money by waiving the hassle of going through the extra effort and cost of additional I/O cards. Being standards-compliant, it is proved to be a quality product with high performance and stability in a long run.

1.1 SPECIFICATIONS

- Processor
  : Dual Intel Pentium III/Celeron^{TM} Processor in Socket 370, support FSB 66/100/133 MHz CPU
- Chipset
  : VIA 694X/686A chipset
- System Memory/RAM
  : Four 168-pin DIMM sockets(recommend memory support 4 DIMMs up to 2 GB SDRAM at 100 MHz or 3 DIMMs up to1.5GB SDRAM at 133 MHz max.)
- BIOS
  : Award Licensed BIOS (2MB Flash ROM)
- Flash Memory Disk
  : Reserved socket for DiskOnChip from M-System, support up to 144 MB Flash memory disk
- AGP VGA Controller
  : ATI Rage XL, with 8MB Video memory
- SCSI Controller
  : LSI SYMBIOS SYM53C1010 Dual Channel Ultra160 SCSI chip
- Ethernet Controller
  : Three Realtek RTL8139C chip, support 10/100BASE-TX on-board RJ-45 connector, with Wake-On-LAN function
- IDE Drive Interface
  : Two PCI IDE ports, support up to four IDE devices and Ultra DMA33/66
- Floppy Drive Interface
  : One FDD port, support up to two floppy devices
- Serial Port
  : Two COM ports, support one RS-232 and one RS-232/422/485
- Parallel Port
  : One multi-mode parallel port (SPP/EPP/ECP)
- Bus Interface
  : One PCI bus interface
- RTC Battery
  : Internal RTC with Li battery
- Keyboard/Mouse Connector: 6-pin mini-Din PS/2 keyboard/mouse connector with 5-pin keyboard header
- Watchdog Timer
  : 16-level time-out intervals
- Universal Serial Bus
  : Support two USB connectors
- IR Interface
  : Support one IrDA header
- Health Monitoring
  : On-board Genesys 518SM Monitoring IC
- Power Consumption
  : 5.45A@+5V(Pentium 933MHz CPU*2 with 512MB SDRAM module*4)
- Operating Temperature
  : 0℃~60℃ (32℉~140℉)
- Humidity
  : 10 ~95 RH, non-condensing
- Dimensions
  : ATX form factor 305 X 244 mm ± 5%(12.0" X 9.6")
- Net Weight
  : 500g (1.1 pounds)

1.2 PACKING CHECK LIST

Inspect the product package for the following items before installation. If there is anything missing, please contact our authorized reseller.

Item	Qty	Remark
MB-X62	1 pc	MB-X62 Dual Pentium III Mainboard
FDD cable	1 set	34-pin to 34-pin standard header flat ribbon cable
COM2 port cable	1 set	10-pin female flat connector header to 9-pin male D-Sub connector with bracket
IDE Cable	1 pc	IDE cable 45cm
Drivers Utility	1 pc	CD-ROM
User' s manual	1 pc	MB-X62 user' s manual
*Optional Item		
Ultra 160 SCSI Cable	1 pc	080050078001
FAN with Heat-sink(For 1U application)	1 pc	0820103M00001

JUMPER SETTING AND CONNECTORS

The figure below shows the jumpers and connectors location on the MB-X62 Series. The PCB version may differ for slight changes without notice.

2.1 Board Outline of MB-X62 Series
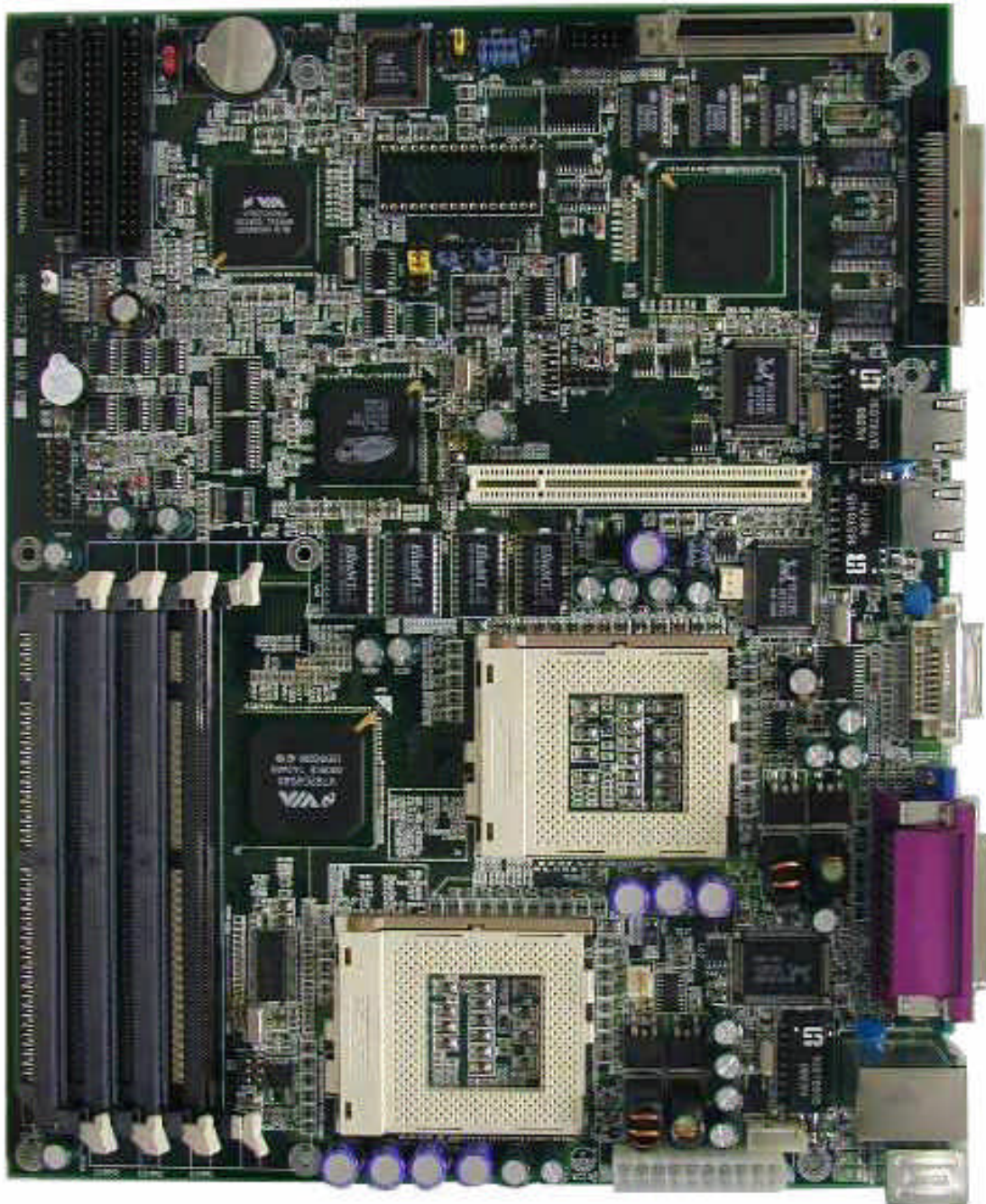
2.2 INSTALLING AND UPGRADING THE CPU

To upgrade to a higher power CPU, simply remove the old CPU and install a new one. Make sure to set the jumpers for the new CPU type and speed.

> ### *WARNING!*
> Disconnect the power cord from your system when you intend to work on it or when you plan to open the chassis of your industrial computer. Do not make connections when the power is turned on because the sensitive electronic components could be damaged by the sudden rush of power. Please only allow experienced electronic technicians to do this job.

> ### *STATIC ELECTRICITY PRECAUTION!*
> Caution! Computer components are very sensitive to damage from static electric discharge. Always ground yourself to remove static charge build-up before touching the boards in the computer. Use a grounding wrist strap at all times. Place all electronic components on anti-static pad for static-dissipation or in static-shielded bag when they are not in the chassis.

> ### *CAUTION!*
> Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the battery manufacturer's instructions or accepted environmental regulatory standards.

☐ INSTALLING THE DIMM MODULE:

A DIMM module simply snaps into a socket on the system board. Pin1 of the DIMM module must correspond with Pin1 of the socket.
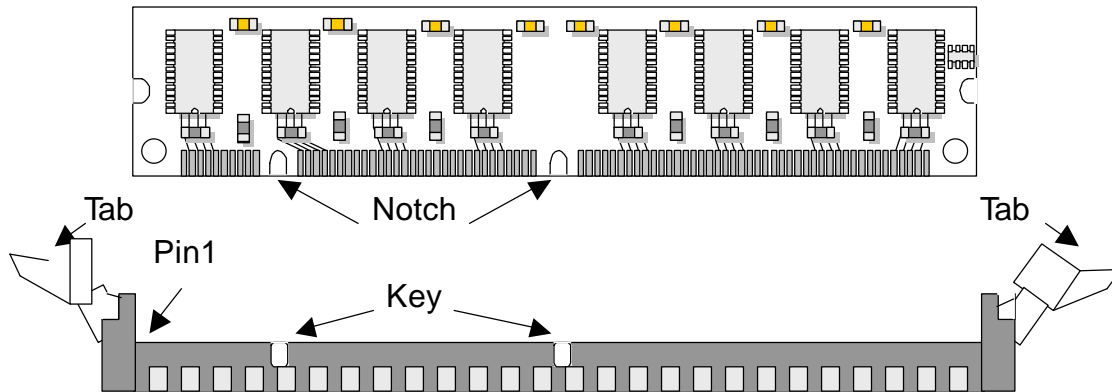
1. Pull the "tabs" which are at the ends of the socket to the side.
2. Position the DIMM above the socket with the "notches" in the module aligned with the "keys" on the socket.
3. Seat the module vertically into the socket. Make sure it is completely seated. The tabs will hold the DIMM in place.

2.3 JUMPER SETTING OVERVIEW

In order to select the operation modes of your system, configure and set the jumpers on your SBC to match the needs of your applications. To set a jumper, a plastic cap containing metal contacts is placed over the jumper pins as designated by the required configuration as listed in this section. A jumper is said to be " on " or " 1-2 " when the cap has been placed on two of its pins, as show in the figure below:
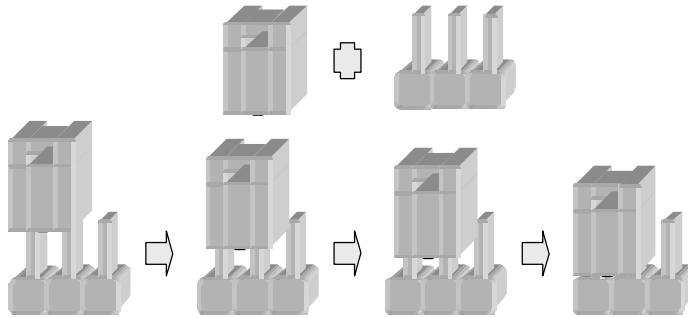
A pair of needle-nose pliers is recommended when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact our local sales representative before you make any changes. In general, you simply need a standard cable to make most connections

2.4 JUMPER LOCATIONS FOR MB-X62 SERIES

JP14

JP3
JP4
JP6
JP7

JP5
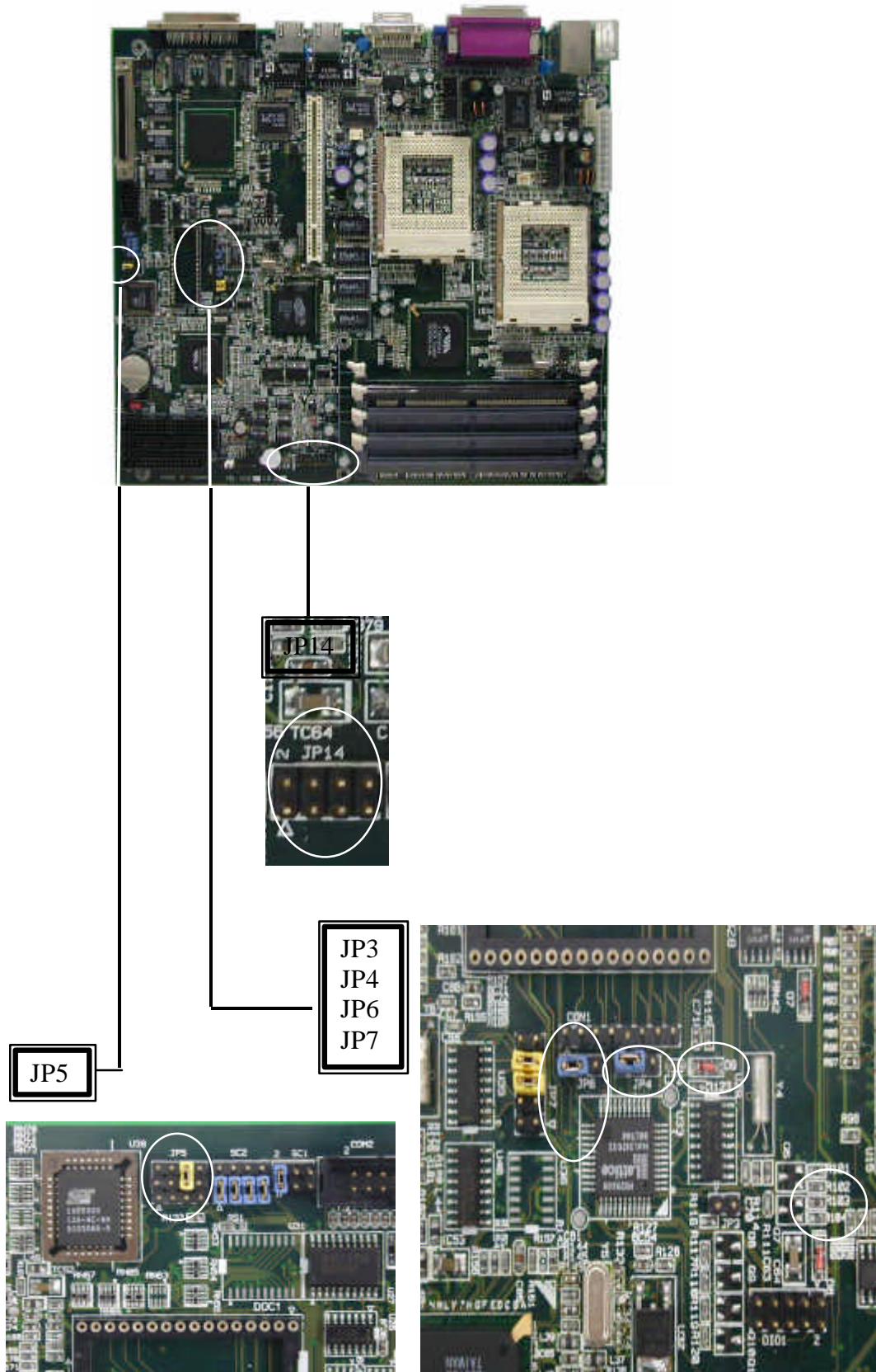
2.5 JUMPER SETTINGS SUMMARY FOR MB-X62 SERIES

JUMPER	FUNCTION
JP3	Select Software / Hardware Watch-Dog
JP4, JP6	Default Setup
JP5	Select Watch-Dog Time Out Period
JP7	Select DiskOnChip (Flash Disk) Address
JP14	Select Internal CPU Clock Ratio
SC2T1, SC2T2	Select COM2 Type
LANS1	LAN Chips Select

2.6 JUMPER SETTINGS FOR MB-X62 SERIES

✦ **JP3: Select Software/Hardware Watch-Dog**

JP3	Description	
ON	Hardware	(*Default)
OFF	Software	

*Hardware

JP3

JP3
1 2

JP3
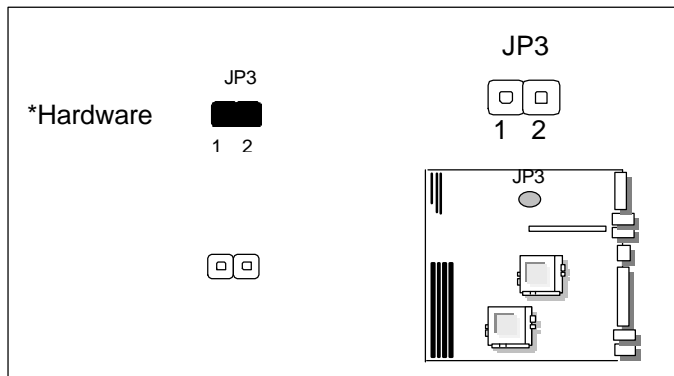
✦ **JP4: Manufacturer Default Setup (1-2)**
✦ **JP6: Manufacturer Default Setup (1-2)**

*Default

JP4/JP6

JP4/JP6
1 2 3

1 2

JP4/JP6
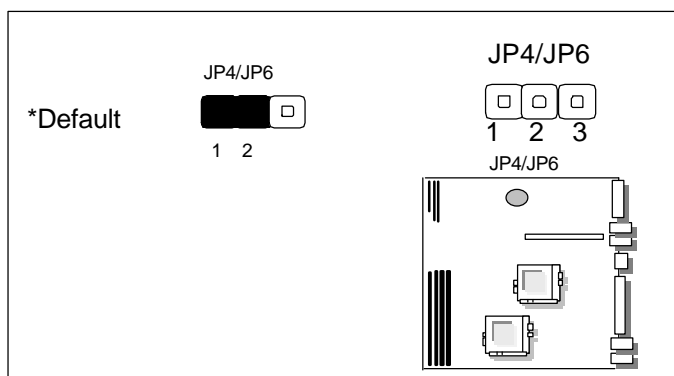
✦ JP5: Select Watch-Dog Time Out Period

Time Out Period		JP5
0.5 sec		1-5
1 sec		2-6
2 sec		3-7
4 sec	(*Default)	4-8
16 sec		7-11
32 sec		6-10
64 sec		5-9

*Default:

JP5

JP5

1 2 3 4

0.5 SEC

1 SEC

2 SEC

4 SEC

16 SEC

32 SEC

64 SEC

JP5

1 2 3 4

JP5
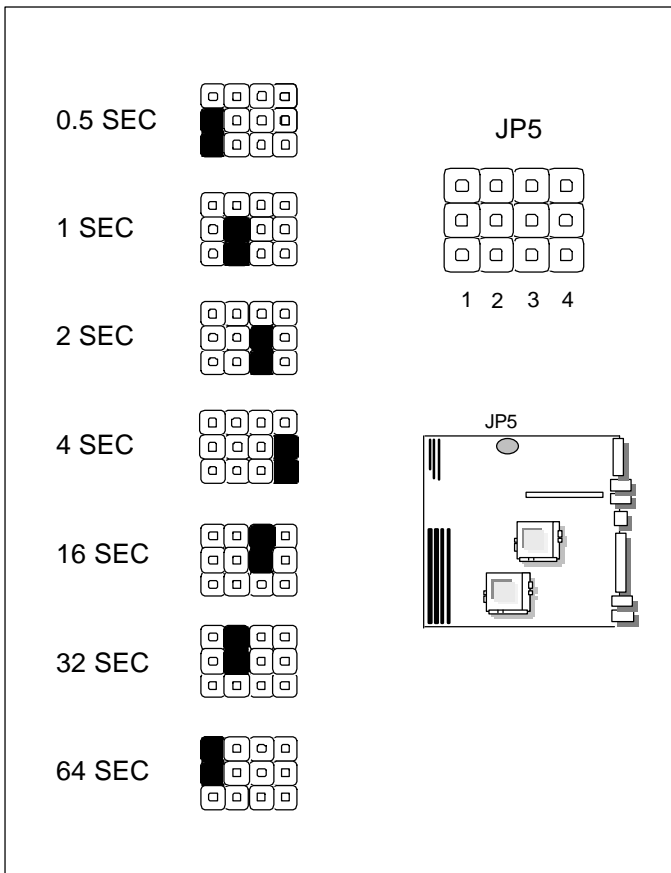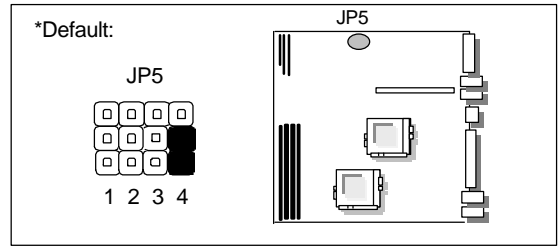
✦ JP7: Select DiskOnChip (Flash Disk) Address

Address	JP7
CC00H~CDFFH	1-2, 9-10
D000H~D1FFH	3-4, 7-8
D400H~D5FFH	3-4, 9-10
D800H~D9FFH	5-6, 7-8
DC00H~DDFFH	5-6, 9-10

Default:(2-4,8-10)

CC00H~CDFFH

D000H~D1FFH

D400H~D5FFH

D800H~D9FFH

DC00H~DDFFH

JP7

1 2
3 4
5 6
7 8
9 10

JP7
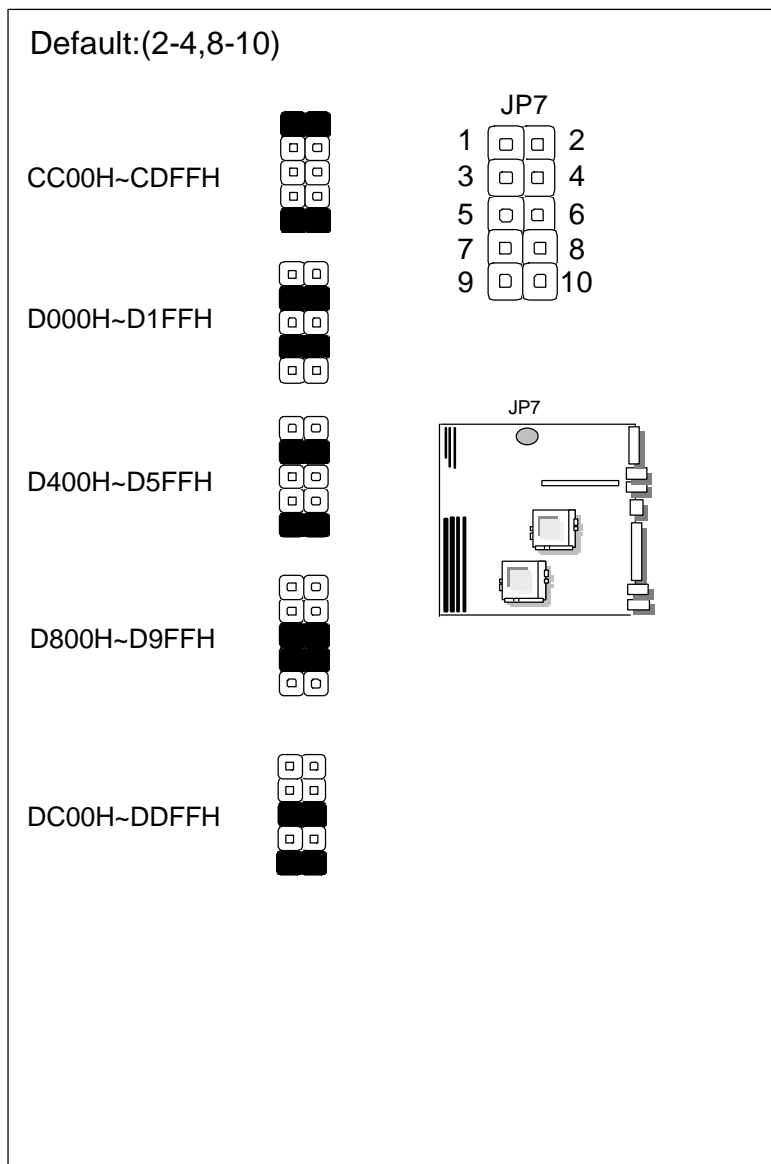
✦ JP14: Select Internal CPU Clock Ratio

Internal CPU Clock Ratio	JP14
1.5	3-4
2	1-2, 3-4, 5-6, 7-8
2.5	1-2, 3-4, 7-8
3	1-2, 5-6, 7-8
3.5	1-2, 7-8
4	3-4, 5-6, 7-8
4.5	3-4, 7-8
5	5-6, 7-8
5.5	7-8
6	1-2, 3-4, 5-6
6.5	1-2, 3-4
7	1-2, 5-6
7.5	1-2
8	3-4, 5-6
Reserved	5-6

Default:

JP14

2 ☐☐☐☐ 8
1 ☐☐☐☐ 7

JP14 ○

JP14

1.5X 2 ☐☐ 8
      1 ☐☐ 7

JP14

2 ☐☐☐☐ 8
1 ☐☐☐☐ 7

2X

2.5X

3.0X

3.5X

4.0X

JP14 ○

4.5X

5.0X

5.5X

6.0X

6.5X

7.0X

7.5X

8.0X

Reserved
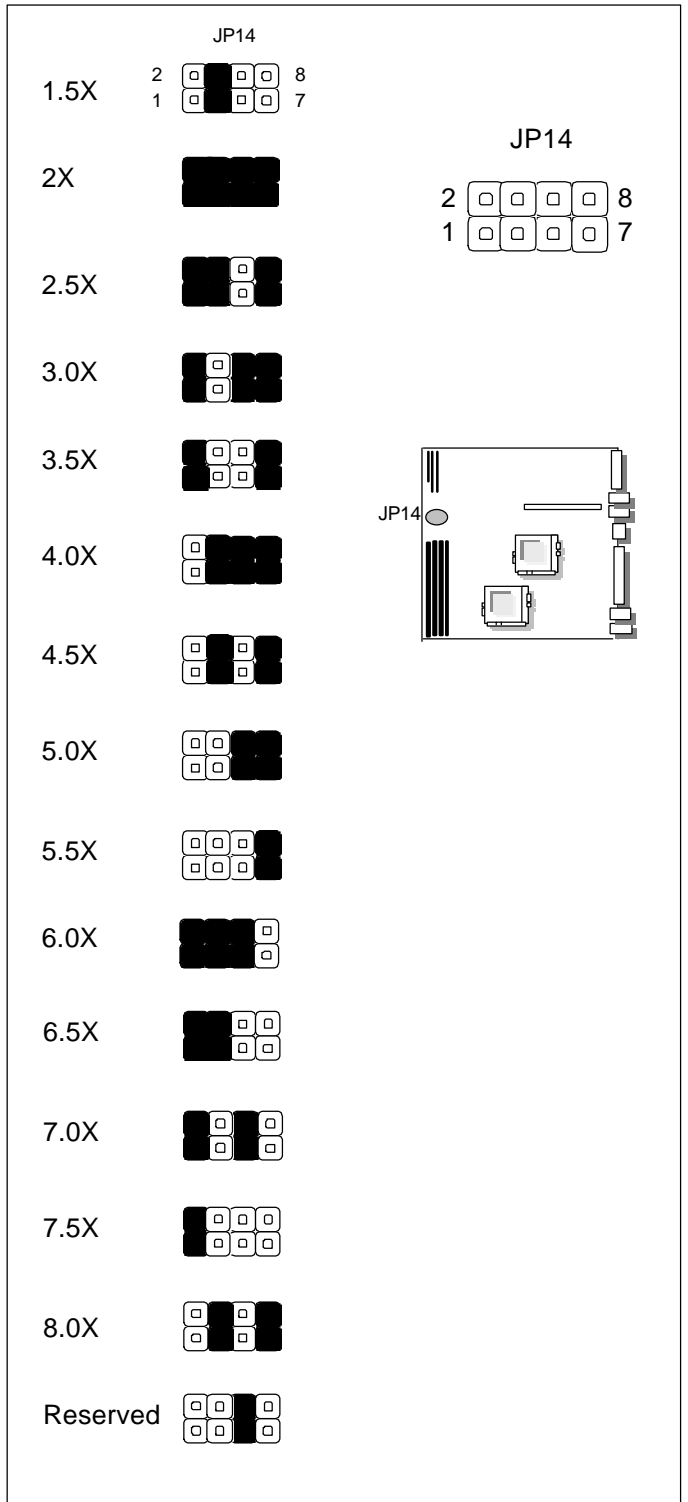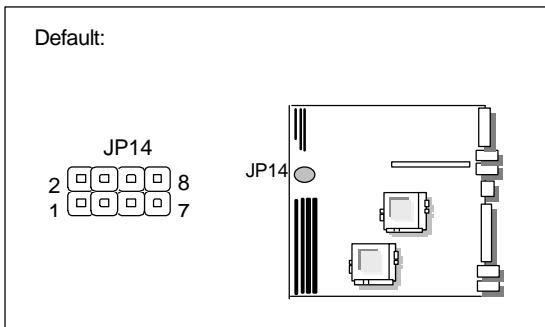
✦ **SC2T1/SC2T2: Select COM2 Type**

COM2 Type		SC2T1	SC2T2
RS-232	(*Default)	1-2	1-5, 2-6, 3-7, 4-8
RS-422		3-4	5-9, 6-10, 7-11, 8-12
RS-485		5-6	5-9, 6-10, 7-11, 8-12
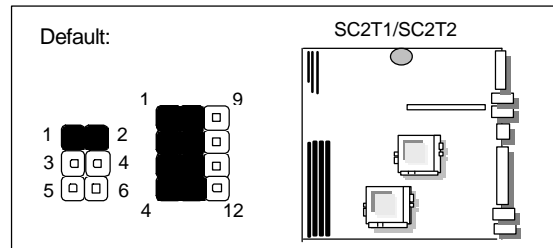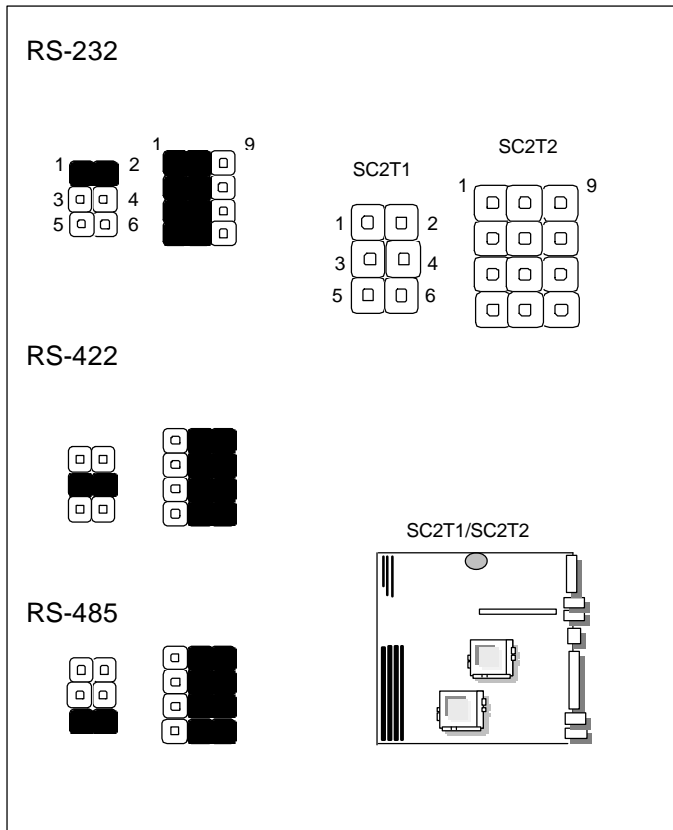
✦ LANS1: LAN Chips Select

LAN Chips	LANS1	
LAN1	1-2	(*Default)
LAN2	3-4	(*Default)
LAN3	5-6	(*Default)
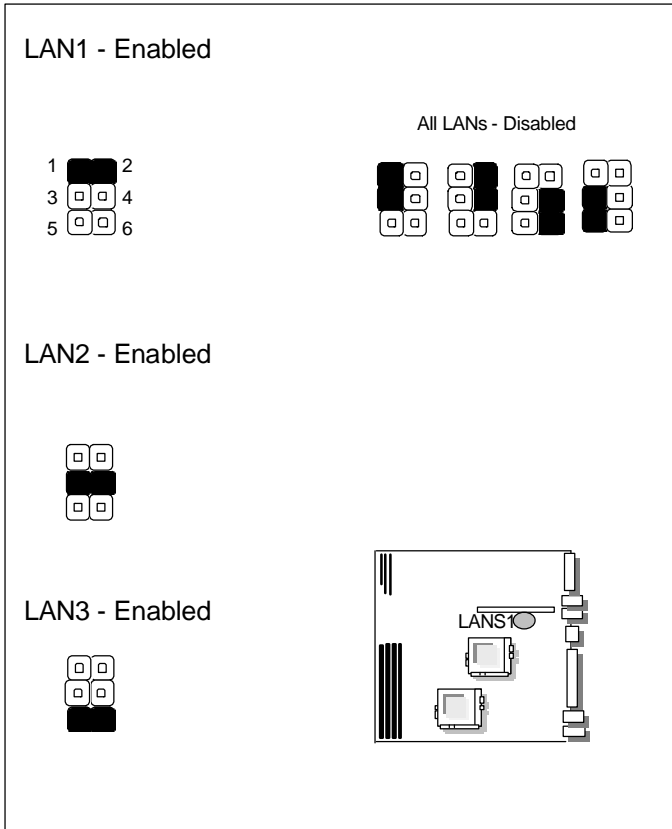
2.7 I/O CONNECTOR LOCATIONS FOR MB-X62 SERIES
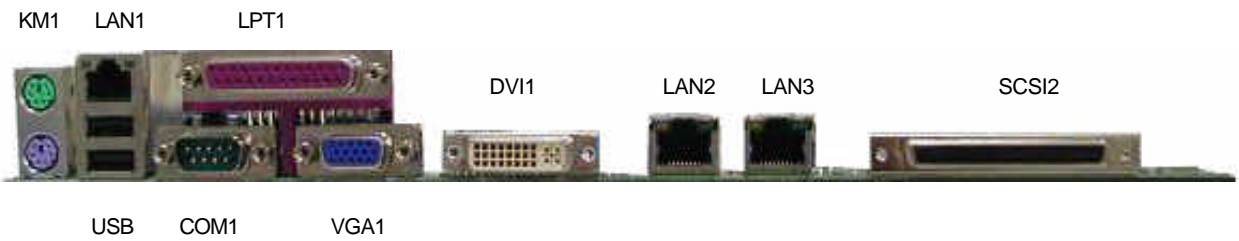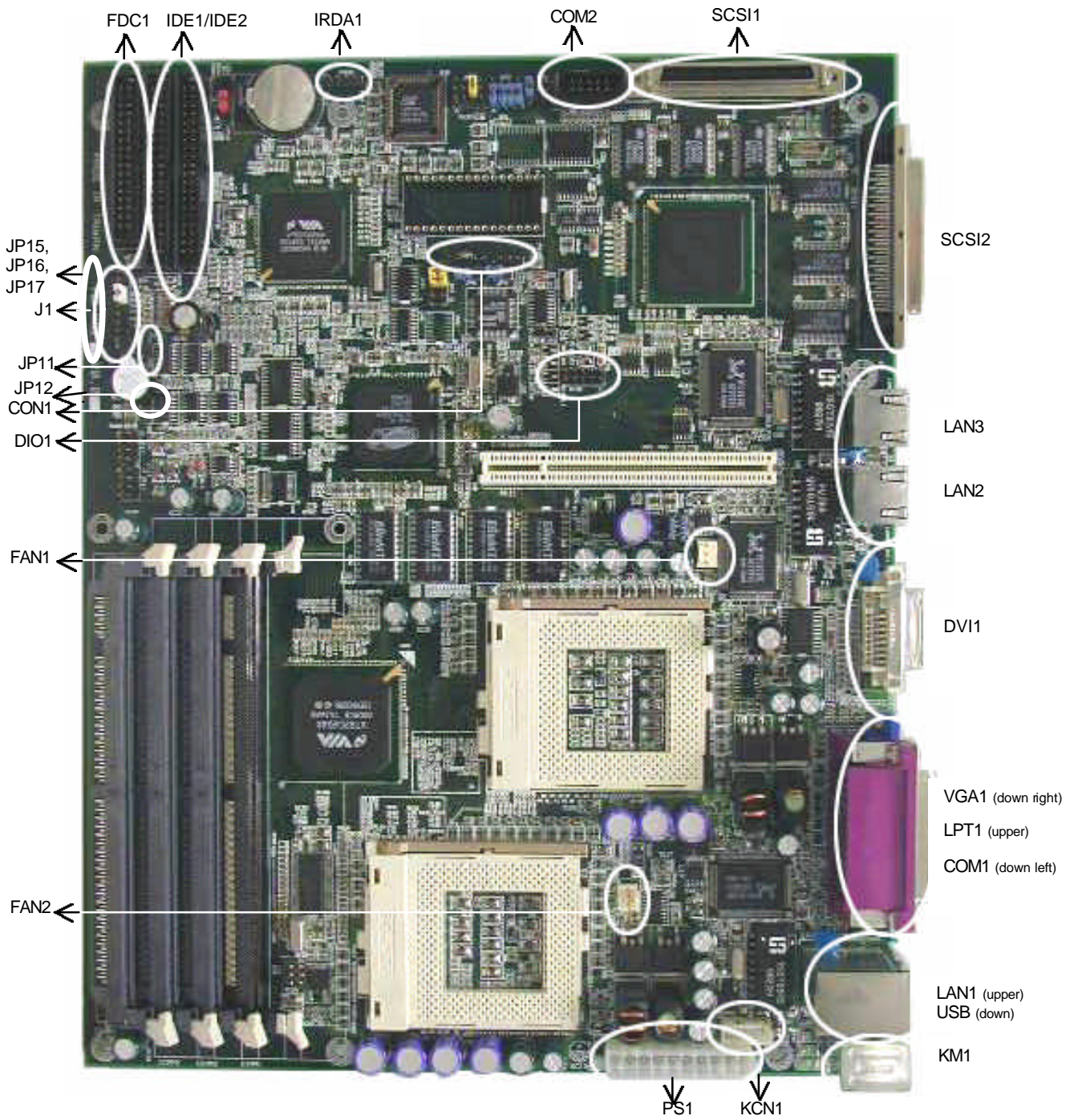
2.8 I/O CONNECTOR SUMMARY FOR MB-X62 SERIES

CONNECTOR	FUNCTION
J1	Power LED, Reset, Speaker, HDD LED
JP11	Power LED Connector (3-Pin)
CON1	ISP GAL Connector (Manufacturer Use Only)
DIO1	Digital Input / Output Ports (Header)
FAN1, FAN2	Fan Connector
FDC1	Floppy Interface Connector (Header)
IDE1 / IDE2	EIDE Interface Connector (Header)
IRDA1	Alternate IRDA
SCSI1	Internal SCSI Connector
SCSI2	External SCSI Connector
LAN1~3	10/100Base-TX RJ-45 Connectors
USB	Universal Serial Bus Connector
COM1	RS232 Serial Port #1 Connector (D-Sub)
COM2	Serial Port #2 Connector (Header)
DVI1	DVI Connector
VGA1	VGA Connector (D-Sub Connector)
LPT1	Parallel Port Connector (D-Sub)
KM1	Keyboard/Mouse Connector (Dual Mini-DIN)
KCN1	External Keyboard Connector (Header)
PS1	ATX Power Connector
JP12	Power Pin Header
JP15/16/17	LAN Indicator Header

2.9 SYSTEM STATUS INDICATORS AND CONTROL CONNECTORS

CONNECTOR	DESCRIPTION	PIN NO.	DESCRIPTION
J1	Power LED	1	Power LED +
		2	GND
	HDD LED	3	HDD LED +
		4	HDD LED -
	Reset Switch	5	Reset Switch +
		6	Reset Switch - (GND)
	Speaker	7*	External Speaker -
		8*	Internal Buzzer -
		9	NC
		10	External Speaker +

*Default: 7-8 (ON)
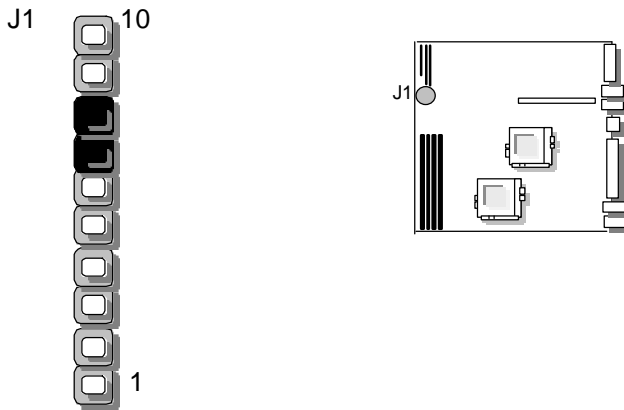
✦ **JP11: Power LED Connector**

Pin	Description
1	VCC
2	NC
3	Ground
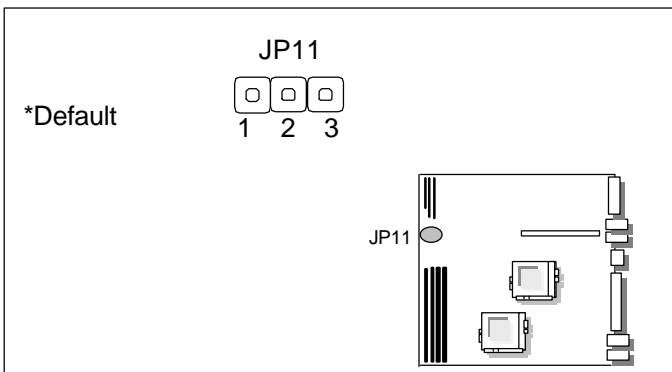
2.10 I/O CONNECTORS DESCRIPTION

✦ **CON1: ISP GAL Connector (Manufacturer Use Only)**

PIN NO.	DESCRIPTION
1	VCC
2	SDO
3	SDI
4	ISP
5	NC
6	MODE
7	Ground
8	SCLK

1   8

CON1

CON1
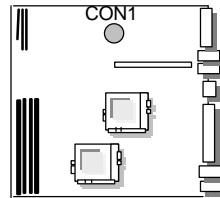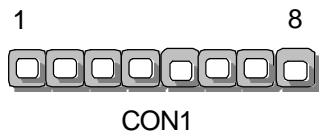
✦ **DIO1: Digital Input/Output Ports (Header)**

PIN NO.	DESCRIPTION
1	IN0
2	OUT0
3	IN1
4	OUT1
5	IN2
6	OUT2
7	IN3
8	OUT3
9	Ground
10	Ground

9   1

10   2

DIO1

DIO1
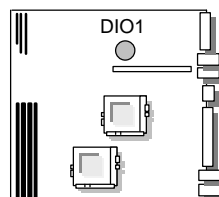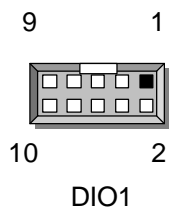
✦ FAN1/FAN2: Fan Connector

PIN NO.	DESCRIPTION
1	FAN Status
2	+12V
3	Ground

FAN1

1   3
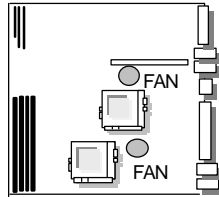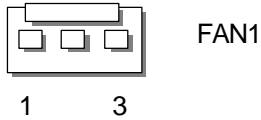
✦ IRDA1: Alternate IRDA

PIN NO.	DESCRIPTION
1	VCC
2	NC
3	IRRX
4	Ground
5	IRTX

IRDA1

1   5

IRDA1
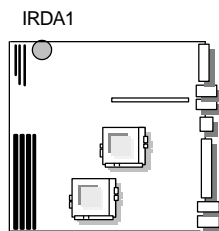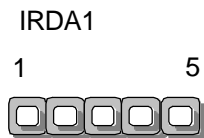
✦ **FDC1: Floppy Interface Connector (Header)**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Ground	2	Density Select
3	Ground	4	NC
5	Ground	6	DS1
7	Ground	8	Index #
9	Ground	10	Motor Enable A #
11	Ground	12	Drive Select B #
13	Ground	14	Drive Select A #
15	Ground	16	Motor Enable B #
17	Ground	18	Direction #
19	Ground	20	Step #
21	Ground	22	Write Data #
23	Ground	24	Write Gate #
25	Ground	26	Track 0 #
27	Ground	28	Write Protect #
29	Ground	30	Read Data #
31	Ground	32	Head Side Select #
33	Ground	34	Disk Change #
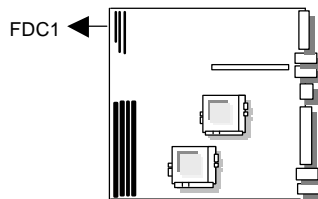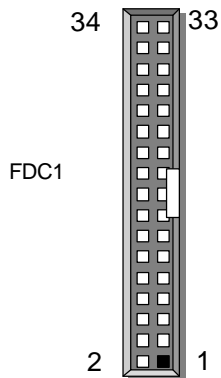
✦ **IDE1/IDE2: EIDE Connector (Header)**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Reset #	2	Ground
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Ground	20	NC
21	DMA REQ	22	Ground
23	IOW #	24	Ground
25	IOR #	26	Ground
27	IOCHRDY	28	Ground
29	DMA ACK #	30	Ground
31	Interrupt	32	NC
33	SA1	34	PD80P / SD80P
35	SA0	36	SA2
37	HDC CS0 #	38	HDC CS1 #
39	HDD Active LED #	40	Ground

40   39

IDE1/IDE2

IDE1/IDE2

2   1
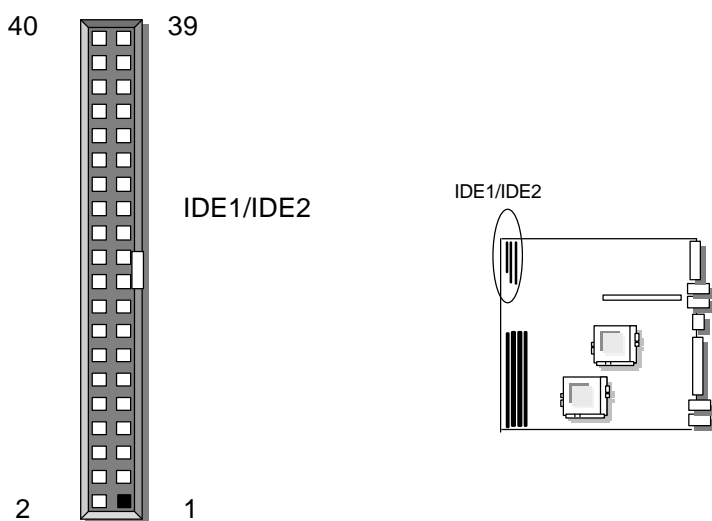
✦ **SCSI1: Internal SCSI Connector**

✦ **SCSI2: External SCSI Connector**

PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	LVDP12	35	LVDM12
2	LVDP13	36	LVDM13
3	LVDP14	37	LVDM14
4	LVDP15	38	LVDM15
5	LVDPHP	39	LVDPHM
6	LVDP 0	40	LVDM 0
7	LVDP1	41	LVDM1
8	LVDP2	42	LVDM2
9	LVDP3	43	LVDM3
10	LVDP4	44	LVDM4
11	LVDP5	45	LVDM5
12	LVDP6	46	LVDM6
13	LVDP7	47	LVDM7
14	LVDPLP	48	LVDPLM
15	GND	49	GND
16	DIFSNS	50	NC
17	LVTPWR	51	LVTPWR
18	LVTPWR	52	LVTPWR
19	NC	53	NC
20	GND	54	GND
21	LVATNP	55	LVATNM
22	GND	56	GND
23	LVBSYP	57	LVBSYM
24	LVACKP	58	LVACKM
25	LVRSTP	59	LVRSTM
26	LVMSGP	60	LVMSGM
27	LVSELP	61	LVSELM
28	LVCDP	62	LVCDM
29	LVREQP	63	LVREQM
30	LVIOP	64	LVIOM
31	LVDP8	65	LVDM8
32	LVDP9	66	LVDM9
33	LVDP10	67	LVDM10
34	LVDP11	68	LVDM11

35   68

1   34

SCSI2
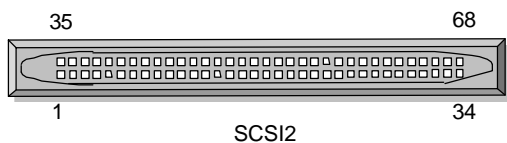
✦ **LAN1/LAN2: 10/100Base-TX RJ-45 Connector**

PIN NO.	SIGNAL
1	TX+
2	TX-
3	RX+
4	T45
5	T45
6	RX-
7	T78
8	T78
9	LINK LED - (UP)
10	LINK LED +
11	LINK LED - (DOWN)
12	ACTIVE LED +
13	LGND
14	LGND
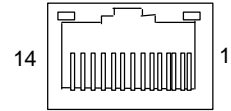
✦ **USB/LAN3: USB/100Base-TX RJ-45 Connector**

PIN	DESCRIPTION	PIN	DESCRIPTION
P1	+5V	S1	+5V
P2	PORT 0-	S2	PORT 1-
P3	PORT 0+	S3	PORT 1+
P4	GND	S4	GND
1	TX+	2	TX-
3	RX+	4	T45
5	T45	6	RX-
7	T78	8	T78
9	Green LED	10	VCC
11	Yellow LED	12	VCC
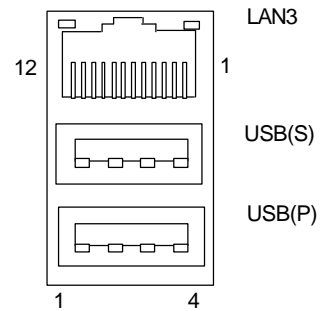
✦ COM1: RS-232 Serial Port #1 Connector (D-Sub)

PIN NO.	DESCRIPTION
1	Data Carrier Detect (DCDA #)
2	Receive Data (RXDA)
3	Transmit Data (TXDA)
4	Data Terminal Ready (DTRA #)
5	Ground (GND)
6	Data Set Ready (DSRA #)
7	Request To Send (RTSA #)
8	Clear To Send (CTSA #)
9	Ring Indicator (RIA #)
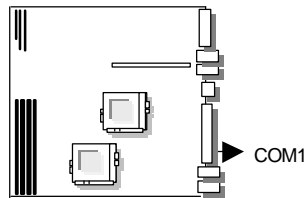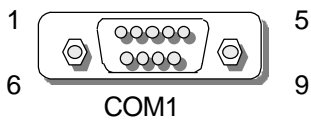
✦ COM2: Selectable Serial Port #2 Connector (Header)

PIN NO.	DESCRIPTION		
	RS-232	RS-422	RS-485
1	Data Carrier Detect (DCDB #)	Transmit Data- (TXD-)	DATA-
2	Data Set Ready (DSRB#)	NC	NC
3	Receive Data (RXDB#)	Transmit Data+ (TXD+)	DATA+
4	Request To Send (RTSB#)	NC	NC
5	Transmit Data (TXDB#)	Receive Data+ (RXD+)	NC
6	Clear To Send (CTSB#)	NC	NC
7	Data Terminal Ready (DTRB#)	Receive Data- (RXD-)	NC
8	Ring Indicator (RIB#)	NC	NC
9	Ground	NC	NC
10	NC	NC	NC
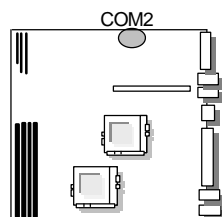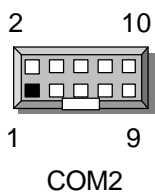
✦ **DVI1: DVI Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	TMDS Data 2 -	2	TMDS Data 2 +
3	TMDS Data Shield	4	NC
5	NC	6	DDC Clock
7	DCC Data	8	V-SYNC
9	TMDS Data 1 -	10	TMDS Data 1 +
11	TMDS Data Shield	12	NC
13	NC	14	+5V Power
15	Ground (for +5V)	16	Hot Plug Detect
17	TMDS Data 0 -	18	TMDS Data 0 +
19	TMDS Data Shield	20	NC
21	NC	22	TMDS Clock Shield
23	TMDS Clock +	24	TMDS Clock -
C1	RED	C2	GREEN
C3	BLUE	C4	H_SYNC
C5	A_GND		
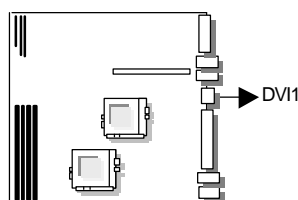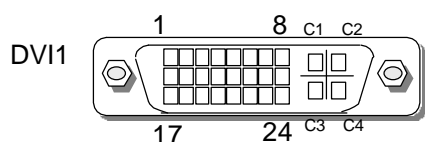
Notice:

This MB-X62A/MB-X62B did not include DVI function, please ignore any description and drawing concern DVI connection.

✦ **VGA1: VGA Connector**

PIN NO.	DESCRIPTION
1	Red Color Signal
2	Green Color Signal
3	Blue Color Signal
4	NC
5	Ground
6	Ground
7	Ground
8	Ground
9	NC
10	Ground
11	NC
12	DDC-DATA
13	H-Sync.
14	V-Sync.
15	DDC-CLK

VGA1

VGA1
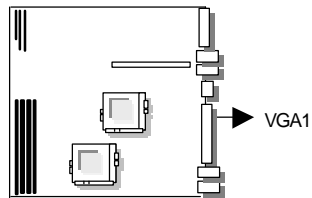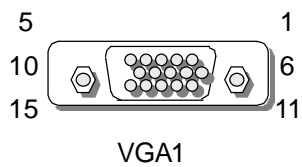
✦ **LPT1: Parallel Port Connector (D-Sub)**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Strobe #	14	Auto Form Feed #
2	Data 0	15	Error #
3	Data 1	16	Initialize #
4	Data 2	17	Printer Select IN #
5	Data 3	18	Ground
6	Data 4	19	Ground
7	Data 5	20	Ground
8	Data 6	21	Ground
9	Data 7	22	Ground
10	Acknowledge #	23	Ground
11	Busy	24	Ground
12	Paper Empty	25	Ground
13	Printer Select		

LPT1

13   1

25   14

LPT1
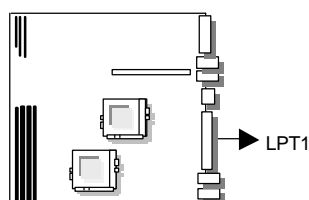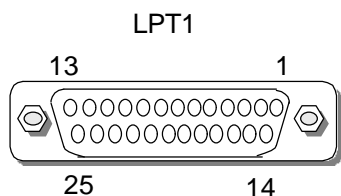
✦ **KM1: Keyboard/Mouse Connector (Dual Mini-Din)**

PIN NO.	DESCRIPTION
1	KB Data
2	NC
3	Ground
4	VCC
5	KB CLK
6	NC
7	MS Data
8	NC
9	Ground
10	VCC
11	MS CLK
12	NC

Mouse

Keyboard

KM1
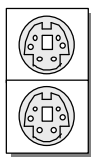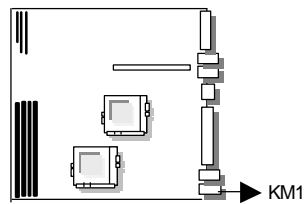
✦ **KCN1: Keyboard Cable Connector (5-Pin Wafer)**

PIN NO.	DESCRIPTION
1	Keyboard Clock
2	Keyboard Data
3	NC
4	Ground
5	VCC

KCN1
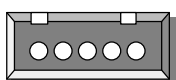
1   5
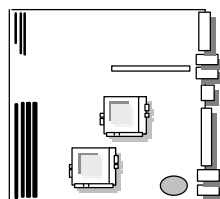
KCN1

✦ **PS1: ATX Power Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC3	11	VCC3
2	VCC3	12	- 12V
3	Ground	13	Ground
4	VCC	14	Power ON
5	Ground	15	Ground
6	VCC	16	Ground
7	Ground	17	Ground
8	Power Good	18	- 5V
9	Stand-by 5V	19	VCC
10	+ 12V	20	VCC

PS1

1   10

11   20

PS1
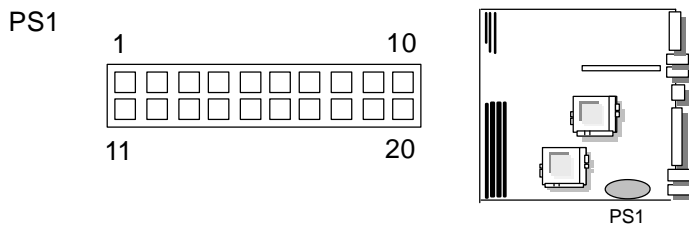
✦ **JP12 Power Pin Header**

*Please connect to ATX push button switch

*Default   JP12
                  1   2

JP12

✦ **JP15/16/17: LAN Indicator Header**

Pin	Description
1	Link
2	Power
3	Active

JP15/16/17

*Default   1 2 3

JP15/16/17
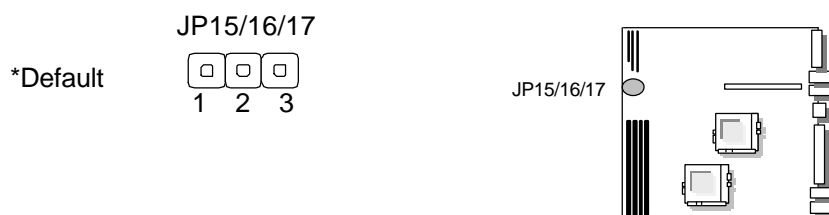
CHAPTER 3.

AWARD BIOS SETUP

Award' s ROM BIOS provides a built-in Setup program that allows users to modify the basic system configuration and settings. The modified data will be stored in a battery-backed CMOS RAM so that this data will be retained even when the power is turned off.   In general, the information saved in the CMOS RAM remains unchanged unless there is a configuration change in the system, such as hard drive replacement or new equipment installment

3.1   RUNNING AWARD BIOS

The Setup Utility is stored in the BIOS ROM.   When the power of the computer system is turned on, a screen message will appear to give you an opportunity to call up the Setup Utility while the BIOS will enter the Power On Self Test (POST) routines.   The POST routines perform various diagnostic checks while initializing the board hardware.   If the routines encounter an error during the tests, the error will be reported in one of two ways, a series of short beeps or an error message on the screen.   There are two kinds of errors, fatal and non-fatal.   The system can usually continue the boot up sequence with non-fatal errors.   Non-fatal error messages usually appear on the screen along with the following instructions:

" Press <F1> to RESUME "

Write down the message and press the F1 key to continue the boot up sequence.   After the POST routines are completed, the following message appears:

" Press DEL to enter SETUP "

Entering Setup

Turn on the power of the computer system and press <Del> immediately. If you don' t have the chance to respond, reset the system by simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys, or by pushing the ' Reset ' button on the system cabinet.   You can also restart by turning the system OFF then ON.

3.2 CMOS SETUP UTILITY

To access the AWARD BIOS SETUP program, press the <DEL> key. The screen display will appears as shown below:

Main Program Screen

CMOS Setup Utility – Copyright ©1984-2000 Award Software

Standard CMOS Features	Frequency/Voltage Control
Advanced BIOS Features	Load Fail-Safe Defaults
Advanced Chipset Features	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving

Esc   : Quit   ↕ ← ↑ : Select Item
F10   : Save & Exit Setup
F6   : SAVE CMOS TO BIOS   F7   : LOAD CMOS FROM BIOS

Time, Date, Hard Disk Type....

This screen provides access to the utility' s various functions.

Listed below are explanation of the keys displayed at the bottom of the screen:

<ESC>   **:** Exit the utility.

< ↕ ← ↑ ↓ >   **:** Use arrow keys ↕ ← ↑ ↓ to move cursor to your desired selection.

<F1>   **:** General Help

<F5>   **:** Previous Values

<F6>   **:** Fail-Safe Defaults

<F7>   **:** Optimized Defaults

<F10>   **:** Saves all changes made to Setup and exits program.

+/-/PU/PD   **:** Change Value

Standard CMOS Setup: Use this menu for basic system configurations.

Advanced BIOS Features: Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features: Use this menu to change the values in the chipset registers and optimize your system' s performance.

Integrated Peripherals: Use this menu to specify your settings for integrated peripherals.

PnP/PCI Configuration: This entry appears if your system supports PnP/PCI.

PC Health Status: This entry shows your PC health status. If Hardware Monitor Chipset is installed.

Frequency / Voltage Control: Use this menu to specify your settings for frequency / voltage control.

Load Fail-Safe Defaults: Use this menu to load the BIOS default values for the minimal/settings for optimal performance system operations.

Load Optimized Defaults: Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Set Supervisor Password: Use this menu to set Supervisor Passwords.

Set User Password: Use this menu to set User Passwords.

Save & Exit Setup: Save CMOS value changes to CMOS and exit setup.

Exit Without Saving: Abandon all CMOS value changes and exit setup.

3.3 STANDARD CMOS SETUP

When you select the "STANDARD CMOS SETUP" on the main program, the screen display will appears as :

Standard CMOS Setup Screen

CMOS Setup Utility – Copyright ©1984-2000 Award Software

Standard CMOS Setup

		Item Help
Date (mm:dd:yy)	Thu, Dec 14 2000	
Time (hh:mm:ss)	8 : 45 : 7	Menu Level
IDE Primary Master	None	Change the day, month,
IDE Primary Slave	None	year and century
IDE Secondary Master	None	
IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	261120K	
Total Memory	262144K	

The Standard CMOS Setup utility is used to configure the following components such as date, time, hard disk drive, floppy drive, display and memory.   Once a field is highlighted, on-line help information is displayed in the left bottom of the Menu screen.

Set Date : Month, Date, Year.

Set Time : Hour, Minute and Second. Use 24-hour clock format (for p.m. time, add 12 to the hour number, e.g. you would enter 4:30 p.m. as 16:30). When you select the "STANDARD CMOS SETUP" on the main program, the screen display will appears as:

Primary Master / Primary Slave

Secondary Master / Secondary Slave: Press PgUp / <+> or PgDn / <-> to select Manual, None, Auto type. 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 Manual to define your own drive type manufally.

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

If the controller of HDD interface is SCSI, the selection shall be
<div align="center">**"None"**</div>
If the controller of HDD interface is CD-ROM, the selection shall be
<div align="center">**"None"**</div>

Here is a brief explanation of drive specifications:
- ✦ **Access Mode:** The settings are Auto, Normal, Large, LBA.
- ✦ **Cylinder:** Number of cylinders
- ✦ **Head:** Number of heads
- ✦ **Precomp:** Write precom
- ✦ **Landing Zone:** Landing Zone
- ✦ **Sector:** Number of sectors

3.4 BIOS Features Setup

When you select the "BIOS FEATURES SETUP" on the main program, the screen display will appear as:

BIOS Features Setup Screen

CMOS Setup Utility – Copyright ©1984-2000 Award Software

Advanced BIOS Features

			Item Help
Anti-Virus Protection	Disabled		Menu Level
CPU Internal Cache	Enabled		
External Cache	Enabled		Allows you to choose
CPU L2 Cache ECC Checking	Enabled		the VIRUS warning
Processor Number Feature	Enabled		feature for IDE Hard
Quick Power On Self Test	Enabled		Disk boot sector
First Boot Device	Floppy		protection. If this
Second Boot Device	HDD-0		function is enabled and
Third Boot Device	CD-ROM		someone attempt to
Boot Other Device	Enabled		write data into this area,
Swap Floppy Drive	Disabled		BIOS will show a
Boot Up Floppy Seek	Disabled		warning message on
Boot Up NumLock Status	On		screen and alarm beep
Gate A20 Option	Fast		
Typematic Rate Setting	Disabled		
X Typematic Rate (Chars/Sec)	6		
X Typematic Delay (Msec)	250		
Security Option	Setup		
MPS Version Control For OS	1. 4		
OS Select For DRAM >64MB	Non-OS2		
Video BIOS Shadow	Enabled		
C8000 – CBFFF Shadow	Disabled		
CC000 – CFFFF Shadow	Disabled		
D0000 – D3FFF Shadow	Disabled		
D4000 – D7FFF Shadow	Disabled		
D8000 – DBFFF Shadow	Disabled		
DC000 – DFFFF Shadow	Disabled		

↑ ↓ ← → Move   Enter: Select   +/-/PU/PD: Value   F10: Save   Esc: Exit F1: General Help

F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

Anti-Virus Protection : The default setting of the Virus Warning is "Disabled". When it is enabled, any attempt to write to the boot sector and partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus free, bootable floppy diskette to reboot, clean and investigate your system.

CPU Internal Cache : The default setting is "Enabled". This setting enables the CPU internal cache.

External Cache : The default setting is "Enabled". This setting enables the external cache.

CPU L2 Cache ECC Checking : The default setting is "Enabled". When you select Enabled, memory checking is enabled when the external cache contains ECC SRAMs.

Processor Number Feature : The default setting is "Enabled". Enable to show the Pentium !!! CPU serial number.

Quick Power On Self Test : The default setting is "Enabled". This speeds up the Power On Self Test (POST) by skipping some items that are normally checked during the full POST. If your system is functioning normally, you can choose this feature to speed up the booting process.

First / Second / Third / Other Boot Device : The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, LAN, and Disabled

Swap Floppy Drive : The default setting is "Disabled". This setting gives you an option to swap A and B floppy disks. Normally, the floppy drive A is the one at the end of the cable and drive B is at the other end. If you set this option to "Enabled", the Drive A will function as Drive B, and vice-versa under the DOS.

Boot Up Floppy Seek : The defaults setting is "Disabled". When enabled, the BIOS will check whether there is a floppy disk drive installed.

Boot Up Numlock Status : The default setting is "On". If set "Off", the cursor controls will function on the numeric keypad.

Gate A20 Option : The default setting is "Fast". This is the optimal setting for the CPU card. The other option is "Normal".

Typematic Rate Setting : The default setting is "Disabled". If enabled, you can set the typematic rate and typematic delay.

Typematic Rate (Chars/Sec) : This setting controls the speed at which the system registers the repeated keystrokes. The choices range from 6 to 30 Chars/Sec. The default setting is "6" Chars/Sec.

Typematic Delay (M/Sec) : This setting controls the time between the display of the first and second characters. There are four delay choices: 250ms, 500ms, 750ms and 1000ms. The default setting is "250" ms.

Security Option : This setting controls the password in the main screen. The options are "Setup" and "System".   Select "Setup" and it will protect the Setup Utility settings from being tampered with. Select "System" if you want to use password feature every time the system boots up. The default setting is "Setup". You can create your password by using the "SUPERVISOR/USER PASSWORD" utility on the main program screen.

MPS Version Control For OS : An MP Platform interface standard that extends the performance of the existing PC/AT platform beyond the traditional single processor limit, while maintaining 100% PC/AT binary compatibility.

OS Select For DRAM > 64MB : The default setting is "Non-OS2". Set to "OS2" if the system memory size is greater than 64MB and the operating system is OS/2.

Video BIOS Shadow : The default setting is "Enabled" which will copy the VGA display card BIOS into system DRAM to improve performance.

C8000-CBFFF Shadow to DC000-DFFFF Shadow : The default setting for the shadow feature is "Disabled". When enabled, the ROM with the specific address is copied into system DRAM.   It will also reduce the size of memory available to the system.   After you have made your selection in the BIOS FEATURES SETUP, press the <ESC> key to go back to the main program screen.

3.5 CHIPSET FEATURES SETUP

When you select the "CHIPSET FEATURES SETUP" on the main program, the screen display will appears as:

Chipset Features Setup Screen

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Advanced Chipset Features

	Setting	Value	Item Help
	Bank 0/1 DRAM Timing	Fast	
	Bank 2/3 DRAM Timing	Fast	Menu Level
	Bank 4/5 DRAM Timing	Fast	
	Bank 6/7 DRAM Timing	Fast	Enabled adds a parity
	DRAM Clock	Host CLK	check to the boot-up
	SDRAM Cycle Length	3	memory tests. Select
	Memory Hole	Disabled	Enabled only if the
	P2C/C2P Concurrency	Enabled	system DRAM contains
	System BIOS Cacheable	Disabled	parity.
	Video RAM Cacheable	Disabled	
	AGP Aperture Size	64M	
	AGP-4X Mode	Disabled	
	AGP Driving Control	Auto	
X	AGP Driving Value	DA	
	AGP Fast Write	Disabled	
	OnChip USB	Disabled	
X	USB Keyboard Support	Disabled	
X	USB Mouse Support	Disabled	
	OnChip Sound	Disabled	
	OnChip Modem	Disabled	
	CPU to PCI Write Buffer	Enabled	
	PCI Dyamic Bursting	Enabled	
	PCI Master 0 WS Write	Enabled	
	PCI Delay Transaction	Enabled	
	PCI#2 Access #1 Retry	Enabled	
	AGP Master 1 WS Writer	Disabled	
	AGP Master 1 WS Read	Disabled	
	Memory Parity / ECC Check	Disabled	

Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit   F1: General Help

F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults

Bank 0/1 DRAM Timing / Bank 2/3 DRAM Timing
Bank 4/5 DRAM Timing / Bank 6/7 DRAM Timing : 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.

DRAM Clock : The chipset support synchronous and asynchronous mode between the host clock and DIMM clock.

Host CLK (default)	DIMM clock equal to host clock
66MHz	DIMM clock equal to 66MHz

SDRAM Cycle Length : This item allows you to select the SDRAM cycle length.   The settings are 2 or 3.

Memory Hole : 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.

Enabled	Memory hole supported
Disabled (default)	Memory hole not supported

P2C / C2P Concurrency : This item allows you to Enable or Disable the PCI to CPU, CPU to PCI concurrency.   The default setting is "Enabled".

System BIOS Cacheable : Selecting "Enabled" allows caching of the system BIOS ROM at F0000h – FFFFFh, resulting in better system performance.   However, if any program writes to this memory area, a system error may result.   The settings are "Enabled" and "Disabled".

Video RAM Cacheable : Select "Enabled" allows caching of the video BIOS, resulting in better system performance.   However, if any program writes to this memory area, a system error may result.   The settings are: "Enabled" and "Disabled".

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.

AGP-4X Mode : This item is used to enable or disable the AGP support for AGP-4x mode.

AGP Driving Control : This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in "Auto" for avoiding any error in your system. The default setting is "Auto".

AGP Driving Value : This item allows you to adjust the AGP driving force.

AGP Fast Write : This item allows you to write AGP data faster.

OnChip USB : Set this option to "Enabled" or "Disabled" the onchip USB controller. The default setting is "Disabled".

USB Keyboard Support : Set this option to "Enabled" or "Disabled" the USB keyboard/ mouse support. The default setting is "Disabled".

OnChip Sound : This item allows you to control the onboard AC 97 audio.

OnChip Modem : This item allows you to control the on board MC 97 modem.

CPU to PCI Write Buffer : When this field is "Enabled", writes from the CPU to the PCI bus are buffered, to compensate for the differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another cycle. The default setting is "Enabled".

PCI Dynamic Bursting : This item allows you to enable or disable the PCI dynamic bursting function. The settings are "Enabled" or "Disabled".

PCI Master 0 WS Write : When enabled, writes to the PCI bus and are executed with zero wait states. The settings are "Enabled" or Disabled".

PCI Delay 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. The settings are "Enabled" or "Disabled".

PCI#2 Access #1 Retry : When disabled, PCI#2 will not be disconnected until access

finishes.　　When enabled, PCI#2 will be disconnected if max retries are attempted without success.　　The default setting is "Enabled".

AGP Master 1 WS Write : When enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.　　The default setting is "Disabled".

AGP Master 1 WS Read : When enabled, reads to the AGP (Accelerated Graphics Port) are executed with one wait states.　　The default setting is "Disabled".

Memory Parity / ECC Check : This item when enable detects the memory parity and error checking and correction.　　The settings are "Enabled" or "Disabled".

3.6 INTEGRATED PERIPHERALS

When you select the "INTEGRATED PERIPHERIALS" on the main program, the screen display will appears as:

Integrated Peripherals Setup Screen

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Integrated Peripherals

			Item Help
	OnChip IDE Channel 0	Enabled	
	OnChip IDE Channel 1	Enabled	Menu Level
	IDE Prefetch Mode	Enabled	
	Primary Master PIO	Auto	
	Primary Slave PIO	Auto	
	Secondary Master PIO	Auto	
	Secondary Slave PIO	Auto	
	Primary Master UDMA	Auto	
	Primary Slave UDMA	Auto	
	Secondary Master UDMA	Auto	
	Secondary Slave UDMA	Auto	
	Init Display First	PCI Slot	
	IDE HDD Block Mode	Enabled	
	Onboard FDD Controller	Enabled	
	Onboard Serial Port 1	3F8/IRQ4	
	Onboard Serial Port 2	2F8/IRQ3	
	UART 2 Mode	Standard	
X	IR Function Duplex	Half	
X	TX, RX inverting enable	No, Yes	
	Onboard Parallel Port	378 / IRQ7	
	Onboard Parallel Mode	Normal	
X	ECP Mode Use DMA	3	
X	Parallel Port EPP Type	EPP1.9	
	Onboard Leqacy Audio	Disabled	
X	Sound Blaster	Disabled	
X	SB I/O Base Address	220H	
X	SB IRQ Select	IRQ 5	
X	SB DMA Select	DMA 1	
X	MPU-401	Disabled	
X	MPU-401 I/O Address	330-333H	
X	Game Port (200-207H)	Enabled	

 Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit   F1: General Help

F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

OnChip IDE Channel10 : The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.   The settings are "Enabled" and "Disabled".

OnChip IDE Channel11 : The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface.   Select Disabled to deactivate this interface.   The settings are "Enabled" and "Disabled".

IDE Prefetch Mode : The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses.   If you install a primary and/or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support prefetching.   The settings are "Enabled" and "Disabled".

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. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.   The settings are "Auto", "Mode 0", "Mode 1", "Mode 2", "Mode 3", "Mode 4".

Primary / Secondary Master / Slave UMDA : Ultra DMA/66 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 98 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support. The settings are "Auto" and "Disabled".

Init Display First : This item allows you to decide to active whether PCI Slot of VGA card or AGP first.   The settings are "PCI Slot" and "AGP Slot".

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.   The settings are "Enabled" and "Disabled".

Onboard FDD Controller : Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you want to use it.   If you install add-in FDC or the system has no floppy drive, select Disabled in this field.   The settings are "Enabled" and "Disabled".

Onboard Serial Port 1 / Port 2 : Select an address and corresponding interrupt for the first and second serial ports.   The settings are "3F8/IRQ4", "2E8/IRQ3", "3E8/IRQ4", "2F8/IRQ3", "Disabled", "Auto".

UART 2 Mode : This item allows you to select which mode for the Onboard Serial Port 2. The settings are "Standard", "HPSIR", "ASKIR".

IR Function Duplex : This item allows you to select the IR half/full duplex function.

TX, RX inverting enable : This item allow you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

Onboard Parallel Port : This item allows you to determine onboard parallel port controller I/O address setting. The settings are "378H/IRQ7", "278H/IRQ5", "3BC/IRQ7", "Disabled".

Onboard Parallel Mode : Select an operating mode for the onboard parallel (printer) port. Select "Normal", "Compatible", or "SPP" unless you are certain your hardware and software both support one of the other available modes.

ECP Mode Use DMA : Select a DMA channel for the parallel port for use during ECP mode. The settings are "3" and "1".

Parallel Port EPP Type : Select EPP port type 1.7 or 1.9.

Onboard Legacy Audio : This field controls the onboard legacy audio.
- Sound Blaster
- SB I/O Base Address
- SB IRQ Select
- SB DMA Select
- MPU-401
- MPU-401 I/O Address
- Game Port (200-207H)

3.7 POWER MANAGEMENT SETUP

The "Power Management Setup" controls the CPU card's "Green" features. When you select the "POWER MANAGEMENT SETUP" on the main program, the screen display will appears as:

Power Management Setup Screen

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Power Management Setup

		Item Help
ACPI function	Enabled	
Power Management	Press Enter	Menu Level
ACPI Suspend Type	S1 (POS)	
PM Control by APM	Yes	
Video Off Option	Suspend -> Off	
Video Off Method	V/H SYNC + Blank	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant – off	
Wake Up Events	Press Enter	

↑ ↓ ← Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit   F1: General Help
F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

ACPI Function : This item allows you to enable or disable the Advanced Configuration and Power Management (ACPI).   The settings are "Enabled" and "Disabled".

Power Management :

Power Management	User Define	Item Help
HDD Power Down	Disable	Menu Level
Doze Mode	Disable	
Suspend Mode	Disable	

↕ ⬌ ☾ Move   Enter: Select +/-/PU/PD: Value   F10: Save   Esc: Exit F1: General Help

F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. HDD Power Down
2. Doze Mode
3. Suspend Mode

There are four selections for Power Management, three of which have fixed mode setting.

Disable (Default)	No power management. Disables all four modes.
Min. Power Saving	Minimum power management. Doze Mode=1hr. Standby Mode =1hr., Suspend Mode=1hr., and HDD Power Down=15min.
Max. Power Saving	Maximum power management. –Only available for SL CPU's. Doze Mode=1min., Standby Mode=1min., Suspend Mode=1min., and HDD Power Down=1min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disabled.

ACPI Suspend Type : This item will set which ACPI suspend type will be used.

S1 (POS)	The S1 sleeping state is low wake-up latency sleeping state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.

PM Control by APM : The default setting is "Yes".

No	System BIOS will ignore APM when power managing the system.
Yes	System BIOS will wait for APM's prompt before it enter any PM mode.

Note: Enable this for O.S. with APM like Windows®98, Windows®NT, etc.

Video Off Option : This option is for choosing the setting in which the monitor will turn off. The default setting is "Suspend".

N/A	Always turn on.
Doze	During Doze mode, the monitor will be turned off.
Standby	During Standby mode, the monitor will be turned off.
Suspend	During Suspend mode, the monitor will be turned off.

Video Off Method : This determines the manner in which the monitor is blanked. The default setting is "V/H SYNC+Blank".

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

MODEM Use IRQ : Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. The default setting is "3".

Soft-Off by PWRBTN : Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are: "Delay 4 Sec.", "Instant-Off".

Wake Up Events :

	VGA	OFF	Item Help
	LPT & COM	LPT / COM	Menu Level
	HDD & FDD	ON	
	PCI Master	OFF	
	Modem Ring Resume	Disabled	
	RTC Alarm Resume	Disabled	
X	Date (of month)	0	
	Resume Time (hh:mm:ss)	0 0 0	
	Primary INTR	ON	
	IRQs Activity Monitoring	Press Enter	

↕ ➡ ☽ Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

VGA : When enabled, you can set the VGA to awaken the system.

LPT & COM : When LPT & COM is "On", any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD : When HDD & FDD is "On", any activity from one of the listed system peripheral devices or IRQs wakes up the system.

PCI Master : When PCI Master is "On", any activity from one of the listed system peripheral devices or IRQs wakes up the system.

Modem Ring Resume : An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

RTC Alarm Resume : This function is for setting date and time for your computer to boot up. During "Disabled", you cannot use this function. During "Enabled", choose the Date and Time Alarm:

Date Alarm	You can choose which month the system will boot up. Set to 0, to boot every day.
Time Alarm	You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

Primary INTR : When this is set to "On", any event occurring will awaken a system which has been powered down.

IRQs Activity Monitoring :

			Item Help
IRQ3	(COM 2)	Enabled	
IRQ4	(COM 1)	Enabled	Menu Level
IRQ5	(LPT 2)	Enabled	
IRQ6	(Floppy Disk)	Enabled	
IRQ7	(LPT 1)	Enabled	
IRQ8	(RTC Alarm)	Disabled	
IRQ9	(IRQ2 Redir)	Disabled	
IRQ10	(Reserved)	Disabled	
IRQ11	(Reserved)	Disabled	
IRQ12	(PS/2 Mouse)	Enabled	
IRQ13	(Coprocessor)	Enabled	
IRQ14	(Hard Disk)	Enabled	
IRQ15	(Reserved)	Disabled	

♪ ☞ ☾ Move   Enter: Select +/-/PU/PD: Value   F10: Save   Esc: Exit F1: General Help

F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

The following is a list of IRQ's Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can.   When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur.   When the operating system is ready to respond to the request, it interrupts itself and performs the service.

When set "Enabled", activity will neither prevent the system from going into a power management mode nor awaken it.

✦ IRQ3   (COM 2)
✦ IRQ4   (COM 1)
✦ IRQ5   (LPT 2)
✦ IRQ6   (Floppy Disk)
✦ IRQ7   (LPT 1)
✦ IRQ8   (RTC Alarm)
✦ IRQ9   (IRQ2 Redir)
✦ IRQ10   (Reserved)
✦ IRQ11   (Reserved)
✦ IRQ12   (PS/2 Mouse)
✦ IRQ13   (Coprocessor)
✦ IRQ14   (Hard Disk)
✦ IRQ15   (Reserved)

3.8   PNP/PCI CONFIGURATION

Both the ISA and PCI buses on the CPU card use system IRQs & DMAs.   You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configuration Setup utility, otherwise the motherboard will not work properly.

PnP/PCI Configuration Setup Screen

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PnP/PCI Configurations

			Item Help
PnP OS Installed	No		
Reset Configuration Data	Disabled		Menu Level
			Select Yes if you are
Resources Controlled By	Manual		using a Plug and Play
IRQ Resources	Press Enter		capable operating
DMA Resources	Press Enter		system. Select No if you
			need the BIOS to
PCI/VGA Palette Snoop	Disabled		configure non-boot
Assign IRQ For VGA	Enabled		devices.
Assign IRQ For USB	Disabled		

🌡 ✍ ☾ Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit   F1: General Help

F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

PnP OS Installed : When set to "Yes", BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI).   The rest of the cards will be initialized by the PnP operating system like Windows®95 or 98.   When set to "No", BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to "Yes".

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.

The settings are : "Enabled and Disabled".

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Resource Controlled By : The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices.　However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows☙98.　If you set this field to "Manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is proceded by a "　"). The settings are "Auto(ESCD)", "Manual".

IRQ Resources : When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt.

DMA Resources : The sub menu can let you control the DMA resource.

PCI/VGA Palette Snoop : Leave this field at "Disabled".　The settings are "Enabled", "Disabled".

Assign IRQ for VGA : Enable/Disable to assign IRQ for VGA.　The settings are "Enabled", "Disabled".

Assign IRQ for USB : Enable/Disable to assign IRQ for　VGA. The settings are "Enabled", "Disabled".

3.9 PC HEALTH STATUS (OPTIONAL)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages.   It is recommended that you contact your motherboard supplier to get proper value about your setting of the CPU temperature.

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PC Health Status

Current CPU1 Temp.	27 / 80	Item Help
Current CPU2 Temp	26 / 78	Menu Level
Current CPUFAN1 Speed	4121 RPM	
Current CPUFAN2 Speed	4096 RPM	
VCORE1	1.68V	
VCORE2	1.68V	
3.3V	3.30V	
5V	4.95V	
12V	12.30V	

   Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit   F1: General Help
F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

Current CPU1 Temp. : This item shows the current CPU1 temperature.

Current CPU2 Temp. : This item shows the current CPU2 temperature.

Current CPUFAN1 Speed : This item shows the current CPUFAN1 speed.

Current CPUFAN2 Speed : This item shows the current CPUFAN2 speed.

CORE 1 / VCORE 2 : This item shows the current system voltage.

3.10 FREQUENCY / VOLTAGE CONTROL

This section is for setting CPU Frequency / Voltage Control.

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Frequency/Voltage Control

		Item Help
Auto Detect DIMM/PCI Clk	Disabled	
Spread Spectrum	Disabled	Menu Level
CPU Host Clock (CPU/PCI)	Default	

⬍ ➡ ☾ Move   Enter: Select   +/-/PU/PD: Value   F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults   F7: Optimized Defaults

Auto Dect DIMM/PCI Clk : This item allows you to enable / disable auto detect DIMM / PCI Clock.   The settings are "Enabled" and "Disabled".

Spread Spectrum :

CPU Host Clock : This item allows you to select the CPU Host / PCI Clock.

3.11 LOAD FAIL-SAFE DEFAULTS

When you press "Enter" on this item, you get a confirmation dialog box with a message similar to :

Load Fail-Safe Defaults (Y/N) ? N

Pressing "Y" loads the BIOS default values for the most stable, minimal-performance system operations.

3.12 LOAD OPTIMIZED DEFAULTS

When you press "Enter" on this item, you get a confirmation dialog box with a message similar to :

Load Optimized Defaults (Y/N) ? N

Pressing "Y" loads the default values that are factory settings for optimal performance system operations.

3.13 SET SUPERVISOR / USER PASSWORD

The "SUPERVISOR/USER PASSWORD" utility sets the password.   The SBC is shipped with the password disabled.   If you want to change the password, you must first enter the current password, then at the prompt -- enter your new password.   The password is case sensitive, and can be up to 8 alphanumeric characters. Press <Enter> after you have finished typing in the password. At the next prompt, confirm the new password by re-typing it and pressing <Enter> again. When you are done, the screen automatically reverts to the main screen. Remember that when you use this feature, the "Security Option" line in BIOS FEATURES SETUP will determine when entering the password will be required.

To disable the password, press the <Enter> key instead of entering a new password when the "Enter Password" in the dialog box appears. A message will appear confirming that the password is disabled.

If you have set both supervisor and user password, only the supervisor password allows you to enter the BIOS SETUP PROGRAM.
Note : If you forget your password, the only way to solve this problem is to discharge the CMOS memory.

3.14 SAVE & EXIT SETUP

Select this option and press the <Enter> key to save the new setting information in the CMOS memory and continue with the booting process.

3.15 EXIT WITHOUT SAVING

Select this option and press the <Enter > key to exit the Setup Utility without recording any new values or changing old ones.

DRIVERS SUPPORT

4.1 DRIVER CD-ROM LIST

The table below shows the drivers supported for MB-X62 Series.

Directory	Driver Function
Drivers/694X-VIA.EXE	694X chipset driver
Drivers/8139CLAN.EXE	Network driver
Drivers/LSI-SCSI.EXE	SCSI driver
Drivers/RAGXLVGA.EXE	Display driver

HOW TO USE WATCH-DOG TIMER

If you enable the watch-dog, the hardware timer will reboot your system if your software encounters an unexpected error, or stops responding. The watch-dog timer period (from enable to reset) was decided by the jumper setting of watch-dog time out period. Please refer to the chapter on jumper settings and connectors. During the period of enable to reset, you could still cancel reset by disabling the watch-dog.

EX.1: For DOS

Execute the **DEBUG.EXE** file under DOS, Then key-in **i443**. The system will reboot automatically according to the time-out you set.

For example, if you want to Set **4 seconds** for the time-out, you should set **JP5 (4-8)**

Enable   **Disable**
C:\DOS> DEBUG   C:\DOS>DEBUG
     -i443   -i43

EX.2: For assembly Language
       Enable   :
             :
             :
      MOV   DX, 443H
      IN AL, DX
             :
             :

       Disable :
             :
             :
      IN AL, 43H
             :
             :

I/O PORT ADDRESS MAP

Address	Function
000 - 01F	DMA Controller #1
020 - 03F	Interrupt Controller #1
040 - 05F	Timer Chip
043	Disable Watch-Dog Times Operation (Read)
060 - 06F	Keyboard Controller
070 - 07F	Read Time Clock/NMI Mask
080 - 09F	DMA Page Register
0A0 - 0BF	Interrupt Controller #2
0C0 - 0DF	DMA Controller #2
0F0 - 0F1	Clear/Reset Math Coprocessor
1F0 - 1F7	Hard Disk Controller
200 - 210	Game Port
278 - 27F	Parallel Port #2
2E8 - 2EF	Serial Port #4 (COM 4)
2F8 - 2FF	Serial Port #2 (COM 2)
300 - 31F	Prototype Card/Streaming Tape Adapter
360 - 36F	PC Network
378 - 3FF	Parallel Port #1
380 - 38F	SDLC #2
3A0 - 3AF	SDLC #1
3B0 - 3BF	MDA Video Card (Including LPTO)
3C0 - 3CF	EGA Card
3D0 - 3DF	CGA Card
3E8 - 3EF	Serial Port #3 (COM 3)
3F0 - 3F7	Floppy Disk Controller
3F8 - 3FF	Serial Port #1 (COM 1)
443	Enable Watch-dog Timer Operation (read)

MEMORY ADDRESS MAP

Address Range (Hex)	Description
000000H - 09FFFFH	640 KB of Conventional RAM
0A0000H - 0BFFFFH	128 KB of Video RAM
0C0000H - 0EFFFFH	256 KB of I/O Expansion ROM
0F0000H - 0FFFFFH	64 KB of System BIOS ROM
0100000H - 7FFFFFFFH	1 MB ~ 128MB of User RAM

DMA CHANNELS

CHANNEL	Function
DMA 0	Reserved
DMA 1	Reserved
DMA 2	Floppy Disk Controller
DMA 3	ECP Parallel Port
DMA 4	Cascade for DMA #1
DMA 5	Reserved
DMA 6	Reserved
DMA 7	Reserved

INTERUPT CONTROLLER

IRQ	Function
IRQ 0	System timer output
IRQ 1	Keyboard
IRQ 2	Cascade for INTC #2
IRQ 3	Serial port #2
IRQ 4	Serial port #1
IRQ 5	Parallel port #2
IRQ 6	Floppy disk controller
IRQ 7	Parallel port #1
IRQ 8	Real time clock
IRQ 9	Software redirected to INT 0AH (IRQ 2)
IRQ 10	Reserved
IRQ 11	Reserved
IRQ 12	PS/2 Mouse
IRQ 13	Math Coprocessor (CPU Internal)
IRQ 14	Primary Hard disk
IRQ 15	Secondary Hard Disk
NMI	Parity Check Error

GLOSSARY

8-Bit Bus – Data is transmitted to expansion slots and other components on the bus only along 8 parallel data lines.

10Base-T – It is a 10Mbps IEEE 802.3/Ethernet standard that uses unshielded twisted pair cable specification.   10Base-T supports network configurations using the CSMA/CD access method over a twisted pair transmission system, up to a maximum of 100 meters in length without the use of a repeater.

16-Bit Bus or ISA Bus – Data is transmitted along either 8 or 16 data lines, depending on what kind of adapter card is used in an expansion slot.   ISA is the abbreviation of Industry Standard Architecture.

100Base-TX – It is a 100Mbps IEEE 802.3/Ethernet standard that uses UTP cable. Also called Fast Ethernet, it uses RJ-45 connectors and EIA/TIA T568B pinning. Maximum cable length from hub to node is 100 meters without a repeater.

Adapter – It is also called an expansion board, expansion card, or adapter card.   It is a small circuit board that is installed in the expansion slots on the motherboard.   You can install a particular adapter that connects a new device such as internal modem, sound card, or scanner.

AGP (Accelerated Graphic Port) – is a 32-bit, 66MHz external frequency data bus that transmits data at a maximum of 528MB/s (4 times the speed of PCI transmission); this design improves the speed of large video transactions.

BIOS (Basic Input /Output System) – This is a chip on the motherboard that contains the instructions for starting up, or booting, the computer, and more.

Bus – Data that travels in a computer along the circuits on the motherboard are called buses.   Although three main buses (data bus, address bus, and control bus) manage the computer's operation, these are often collectively called the bus.   The bus carries instructions back and forth between the CPU and other devices in the system.   ISA, EISA, VL-Bus, PCI and SCSI are examples of PC buses.

bps – Bits per second.   Also often preceded by k (kilo/thousands), **kbps** – Kilobits per second, and M (mega/million), **Mbps** – Megabits per second.

Bps – Bytes per second. (1 Byte is 8 Bits) **kbps** – kilobytes per second. **Mbps** – megabytes per second.

Bus Mastering – A method of transferring data through a bus in which the device takes over the bus and directly controls the transfer of data to the computer' s memory.   Bus mastering is a method of Direct Memory Access (**DMA**) transfer.

Cache – Cache RAM is an extra holding area for program instructions that need to be frequently used by the CPU or swapped in and out of RAM. Your CPU can usually access those instructions from the cache more quickly than it could from a hard disk or even RAM, so a cache helps the system work more efficiently. Most systems sold today offer either 256K or 512K cache.

CPU (Central Processing Unit) – executes all commands and controls the flow of data, providing the " brain " that enables the PC to calculate and perform the operations like sorting information more quickly than a human could. The CPU makes perhaps the greatest contribution to a PC' s speed and power. Note: Any additional information is subject to change without prior revision from the supplier.

Table 1 -- CPU Speeds	
Processor type	Speed ratings (MHz)
486DX2	66, 80
486DX4	75, 100, 120
Pentium	75, 90, 100, 120, 133, 150, 166, 200
Pentium MMX	166, 200, 233
Pentium Pro	150, 166, 180, 200
Pentium II	233, 266, 300, 333, 350, 400, 450
Celeron	300, 333, 366, 400, 433, 466
Pentium III	450, 500, 550

EIDE (Enhanced IDE) – It is a hard drive controller that enables your system to be able to handle fast hard disk drives at a speed of 10MBPS.

EISA or MCA Bus – Data is transmitted along 32 data lines to adapter cards designed specifically to work with the 32-bit buses.   MCA expansion slots cannot accept 8-bit or 16-bit adapter cards. EISA stands for Extended Industry Standard Architecture, while MCA stands for MicroChannel Architecture.   MCA is architecture used in IBM Microcomputer.

Expansion slots – Expansion slots are plug-in connectors that allow you to insert additional circuit boards that attach to the rest of the PC through special circuitry called the **bus**.   By inserting the right circuit board -- usually called an **adapter** or an **expansion card** – you can increase the resolution and the number of colors used by the display, or you can transform your PC into a machine for recording and playing music.

Fast SCSI – The common nomenclature associated with SCSI-2, the second generation of SCSI offering mandatory parity checking improvements over SCSI-1.

IDE (Integrated Drive Electronics) – It was developed from ST-506 type hard drive interface, utilizes BIOS INT 13h hard drive secondary software and supports two hard drives (Master and Slave).   Do not need extra software to drive since it is directly initiated in the BIOS. Data transfer rate is 4.1 Mbps. Take note that this interface cannot support other drives like the CD-ROM drive.

IEEE (Institute of Electrical and Electronic Engineers) – It is an international professional society that issues its own standards, and is a member of ANSI and ISO. Popular known standards is:

      IEEE802.3 – is a physical layer standard for 10Base-T,
                          100Base-T, Ethernet, and StarLAN.
      IEEE802.5 – is a physical layer standard for Token Ring.
      IEEE802.11 – is a physical layer standard for Wireless
                          LAN/WAN compatibility.
      IEEE802.12 – is a physical layer standard for 100VG AnyLAN.

LAN (Local Area Network) – A data communications network spanning a limited area. It provides communications between three or more computers and peripherals, in most cases using a high-speed media as it' s backbone.

Keyboard – This is a component that comes in direct contact for you with your PC. The mechanism of keyboard converts a key cap's movement into a signal sent to the computer. The most common key mechanisms are " **capacitate** " and " **hard contact** ". Capacitate keyboard has a spring that causes the plastic and the metal plunger to move near two pads that have large plates (plated in tin, nickel, and copper). These pads are connected to the keyboard's printed circuit board. Hard contact keyboard causes the key cap to collapse a foam rubber dome that presses against a sheet of plastic on the bottom of which is metallic area connected to the rest of the keyboard's circuit board.

LDCM (LANDesk Client Manager) – With the help of LDCM, PCs that are either stand-alone or on a network can not escape the control of a system administrator. Alerts will be sent to the user if an abnormal condition is encountered in a PC. It allows the administrator to give each PC a thorough check-up. Additionally, this feature is available to multiple OS's on the market today. LDCM Key Features include the following : Health Monitoring Real-Time Alerting Remote Accessibility Extensive Instrumentation. This is a product from Intel.

Mouse – Xerox Corporation first developed the concept of a pointing device, something a computer user could move with his or her hand, causing a corresponding move on screen. Because of its size and tail like cable, the device was named a mouse. Apple Computer made the mouse a standard feature of its Macintosh computers, and with the popularity of Windows, a mouse is becoming standard equipment on all PCs, as well. The " **Trackball** " provides an easier method of navigating than with the keyboard. " **Digitizing tablets** " are popular with architects and engineers who must translate precise movements of a pen into lines on the screen. " Touch screens ", on which you press either your finger or special light pen to control the software, are too tiring to use for any length of time.

MMX – CPU's with MMX technology are optimized to run multimedia application, and therefore, offer faster multimedia playback than standard CPUs.

Parallel port – Parallel ports (labeled **LPT1**, **LPT2**, and so on) are usually used for plugging in printers. The term **Centronics port** – has been almost synonymous with **printer port**.   Although a serial port can also be used to send data from a PC to some models of printers, the parallel port is faster.   A serial port sends data one bit at a time over a single one-way wire; a parallel port can send several bits of data across eight parallel wires simultaneously. Take note that a serial connection sends a single bit, a parallel port send an entire byte.

PCI Bus (Peripheral Component Interconnect) – It is a connection slot in a motherboard that supports 32-bit bus transfer rates.   The now standard PCI Local Bus carries data along at least 32 lines, that is, at least 32 bits at a time.   Local bus computer designs add special buses so the CPU can communicate directly with key components like the monitor, resulting in much better performance.   You should look for PCI local bus capabilities in any system you buy, especially PCI local bus video (which helps the monitor display more quickly).

POST (Power-On Self-Test) – is the first thing your PC does when you turn it on, and it' s your first warning of trouble with any of the components. When the POST detects an error from the display, memory, keyboard, or other basic components, it produces an error warning in the form of a message on your display and —in case your display is part of the problem —in the form of a series of beeps.

RAM (Random Access Memory) – consists of a bank of chips that act as " working memory ", holding program instructions and data only while your computer' s on.   Unless the instructions and data are saved to a disk, RAM forgets them when you turn your computer off.   RAM is measured in megabytes (M).   Most computers today come with 64M of RAM, though some sell with only 32M installed.   There are a few different types and speeds of RAM, as well.   One of the most prominent today is Extended Data Output (EDO) RAM, but an even faster type of RAM that has just hit the market is called **SyncDRAM**.

Serial port – Serial ports are also sometimes called **COM** (short for COMmunications) ports, and are labeled **COM1**, **COM2**, and so on. It is simple in concept: one line to send data, another line to receive data, and a few other lines to regulate how data is sent over the other two lines – uses range from commonplace modems and printers to plotters and burglar alarms. The most common use for serial port is with a **mouse** or **modem**. The reason for this is that a serial port is not a very efficient way to transfer

data, so little data that speed is not crucial, and perfect for modems because, with current technology, phone lines cannot transport more than one signal at a time anyway. The **serial port** is often referred to as an **RS-232 port**.

SCSI (Small Computer System Interface) – An intelligent bus for transmitting data commands between a variety of devices. There are many implementations of SCSI, including Fast SCSI, Wide SCSI, Fast Wide SCSI, Fast-20, and Fast-40.

SCSI-2 – The second generation of SCSI; includes many improvements to SCSI-1, including Fast SCSI, Wide SCSI, and mandatory parity checking.

SCSI-3 – The third generation of SCSI; introduces Fast-20 and Fast-40 as improvements to the parallel bus. The standard also includes a number of specifications for high-speed serial bus architectures such as SSA, Fiber Channel, and IEEE 1394. Also known as Ultra SCSI.

Ultra SCSI – Also known as SCSI-3, is a third generation SCSI standard that introduced parallel bus speed improvements (FAST-20 and FAST-40), an the miniaturized 68-pin micro connector.

USB (Universal Serial Bus) – USB consolidates serial, parallel, keyboard, mouse, and game ports into one asynchronous and isochronous communications port with bandwidth for data transfer speeds up to 12 Mbps without termination. By daisy-chaining USB hubs, up to 127 I/O devices can be connected to one USB port on the PC. USB is completely plug-and play meaning peripherals can be correctly detected and configured automatically as soon as they are connected.

UTP (Unshielded Twisted Pair) – Twisted pair cable with neither individual nor overall shielding. **Twisted Pair** are two wires twisted together to reduce susceptibility to RF crosswalk.

VGA (Video Graphics Array) – A video adapter that supports 640x480 pixels color resolution. The Windows OS provides medium text & graphics standard.

VL-Bus – It is also known as Local Bus; this is an I/O interface that is directly connected to and dependant on the system CPU. The VL-Bus is an abbreviation of VESA Local Bus.

Terms and Conditions

Warranty Policy

1. All products are warranted against defects in materials and workmanship for a period of two years from the date of purchase by the customer.

2. The buyer will bear the return freight charges for goods that are returned for repair within the warranty period whereas manufacturer will bear the return to user freight charges after repair.

3. The buyer will pay for repair (for the replaced materials plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.

4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service ", RMA goods will be returned at the customer expense.

5. The following conditions are excluded from this warranty

   A. Improper or inadequate maintenance by the customer.

   B. Unauthorized modification or misuse.

   C. Operation outside of the environmental specifications for the product.

RMA Service

1. **Request a RMA# :**

   Complete and fax to Supplier the "RMA Request Form" to obtain a RMA number.

2. **Shipping:**

   A. The customer is requested to fill up the problem code as listed . If none of the code is selected, please write the symptom description on the remark.

   B. Ship the defective units with freight prepaid.

   C. Mark the RMA # clearly on the box.

   D. Shipping damage as a result of inadequate packing is the customer's responsibility.

   E. Use the original packing materials whenever possible .

3. **All RMA# are valid for 30 days only:**

   When RMA goods are received after valid RMA# period , the goods will be rejected.

When requesting RMA service, please fill out this **"RMA Service Request Form"**.
Without this form your RMA will be REJECTED!!!

RMA No:		Reasons to Return:	Repair(Please include failure details)	Testing Purpose

Company:	Contact Person:
Phone No.	Purchased Date:
Fax No.:	Applied Date:

Return Shipping Address:_____

Shipping by: Air Freight   Sea   Express :_____   Others:_____

Item	Model Name	Serial Number	Configuration

Item	Problem Code	Failure Status

*Problem Code:

01:D.O.A.	07: BIOS Problem	13: SCSI	19: DIO
02: Second Time R.M.A.	08: Keyboard Controller Fail	14: LPT Port	20: Buzzer
03: CMOS Data Lost	09: Cache RMA Problem	15: PS2	21: Shut Down
04: FDC Fail	10: Memory Socket Bad	16: LAN	22: Panel Fail
05: HDC Fail	11: Hang Up Software	17: COM Port	23: CRT Fail
06: Bad Slot	12: Out Look Damage	18: Watchdog Timer	24: Others (Pls specify)

Request Party   ***Confirmed By Supplier***

_____   _____

Authorized Signatures / Date   **Authorized Signatures / Date**