5MVP3
MAIN BOARD
AT FORM FACTOR
USER'S MANUAL
(VER. 2.1)

COPYRIGHT
THIS MANUAL AND THE INFORMATION CONTAINED HEREIN ARE PROTECTED BY COPYRIGHT. ALL RIGHTS ARE RESERVED.

WARNING AND DISCLAIMER
THIS MANUAL IS DESIGNED TO PROVIDE INFORMATION ABOUT THE PENTIUM® AGP MAIN BOAR D. EV ERY EFFORT HAS BEEN MADE TO MAKE THIS MANUAL AS ACCURATE AS POSSIBLE, BUT NO WARRANT Y OR F ITNESS I S IMPLIED. ALL T HE INFORMATION IS PROVIDED ON AN 'AS IS' BASIS. THE AUTHOR AND HIS CORRESPONDING PUBLISHING COMPANY SHALL HAVE NEITHER LIABILITY NOR RESPONSIBILITY TO ANY PERSON OR ENTITY WITH RESPECT TO ANY LOSS OR DAM AGES AR ISING FROM T HE I NFORMATION CONT AINED IN T HIS MANUAL OR FROM THE USE OF THE SYSTEM BOARD THAT ACCOMPANIES IT. INFORMATION CONTAINED IN T HIS M ANUAL IS SU BJECT TO CHANGE W ITHOUT NOT ICE. T HE M ANUFACTURER OF THE SYSTEM BOARD WI LL NOT BE HELD RESPONS IBLE FO R TECHNICAL OR EDITORIAL OM ISSIONS M ADE HERE IN, NO R FOR THE INCIDENTAL OR CONSEQ UENTIAL DAMAGES RESULTING FROM I TS FURN ISHING, PERF ORMANCE, FUNCTIONALITY OR USE. SUBSEQUE NT CHANGES T O THIS MANUAL WILL BE INCORPORATED INTO THE NEXT EDITION. WE WELCOME ANY SUGGEST ION RE GARDING T HIS M ANUAL OR OUR COMPUTER PRODUCTS.

TRADEMARKS
ALL TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS.

TABLE OF CONTENTS

CAPTER 1   INTRODUCTION

1-1 OVERVIEW

5MVP3 MAIN BOARD COMBINES THE ADVANCED CAPABILITIES OF THE VIA® APOLLO MVP 3 CHIP SETS W ITH A HIGH PERFORMANCE CONCURRENT PCI LOCAL BUS ARCHITECTURE TO PROVIDE THE IDEAL PLATFORM FOR UNLEASHING THE UNSU RPASSED SP EED AND P OWER OF TH E I NTEL® PE NTIUM® PROCESSOR, CYRI X® 6X86M1/ 6X86L M1/ 6X86MX / 6X86MII A ND AMD® K5/K6/K6- 2 P ROCESSORS, AND C AN B E EASILY UPGRADED F OR 321 PIN ZIF SOCKET. T O BE MOR E SPECIFIC, THIS MAIN BOARD OFFERS 100MHZ CPU/DRAM BUS FREQUENCIES AND SUPPORT PC 100/66MHZ SDRAM OPTION WITH 100MHZ CPU.

THE PROCESSOR'S ADVANCED PE RFORMANCE I S C OMPLEMENTED BY A SECOND L EVEL WRITE B ACK P B-SRAM UP T O 1MB A ND M AIN MEMORY UP TO 1GB R AM. T HE MA IN MEMO RY IS INIT IALED U SING THE BOARD'S T WO 72- PIN S IMM S OCKETS A ND TWO 168- PIN DIMM SOCKETS THAT A CCEPT E ITHER T HE NE W HIGH P ERFORMANCE EDO, BEDO, OR FAST PAGE MODE DRAM.

VIA® M VP3 CHIP SET IN TEGRATES A FULL SET OF I/O FEATURES ON BOARD, INCLUDING TWO 16550 UART COMPATIBLE SERIAL PORTS, ONE EPP/ECP C APABLE P ORT, ONE FL OPPY DISK C ONTROLLER, AND ONE INFRARED COMMUNICATION CONTROLLER. ONE CHIP B UILT IN ENHANCED IDE C ONTROLLER P ROVIDES CONVENIENT, SP EEDY P CI BUS MAST ER CONNECT ION C APABLE OF FOUR IDE DEVICES, INCLUDING HARD DISK AND CD-ROM.

VIA® B UILDS ALL P RODUCTS T O EXACTING ST ANDARDS, USING THE HIGHEST QUALITY COMP ONENTS A VAILABLE. W E ARE P ROUD T O PROVIDE THIS SYSTEM BOARD AND HOP E IT BRINGS YOU YE ARS OF RELIABLE SERVICE.

1-2 MAIN FEATURES

ITEM	DESCRIPTION
SOCKET 7	SUPPORTS CPU IN A 321 PIN ZIF SOCKET A. INTEL® PENTIUM®P54C /P55C MMX CPU B. CYRIX®6X86/6X86L/6X86MX/ MII C. AMD ® K5/K6/K6-2 PROCESSORS
CHIPSET	VIA® APOLLO MVP3 CHIPSET
CACHE	512K; 1024K
MEMORY	2 DIMM/ 2 SIMM DIMM: A. SYNCHRONOUS DRAM WITH 168-PIN DIMM MODULES OF 8,16, 32, 64MB, 128MB FOR 66MHZ B. EDO RA M W ITH 168- PIN DIM M MODUL ES OF 8,1 6, 32 , 64MB, 128MB FOR 66MHZ(5V OR 3.3V) C. 100MHZ FREQ. CPU: PC-100 100 MHZ DIMM SIMM: TAKE UP TO 256MB RAM IN ONE BANK, USING 72-PIN SIMM M ODULES OF 1, 2, 4, 8, 1 6, 32, OR 64MB WITH SUPPORTS FOR EDO, BEDO OR FAST PAGE MODE MEMORY
AGP SLOT	AGP COM PLIANT WITH 1 X OR 2X M ODE U P TO 133MHZ
EXP. SLOT	3*16-BIT ISA SLOTS AND 3* 32-BIT PCI EXPANSION SLOTS
I/O	INTEGRATED I TE I T8661F/RF MU LTI I /O C HIPSET THAT OFFERS TWO 16550 UA RT COMP ATIBLE SERIAL P ORTS, ONE EPP/ECP CAPABLE P ORT, ONE IR PORT, AND ONE FLOPPY DISK DRIVE CONNECTOR, IN-FRA-RED CONNECTOR
FLASH ROM	128KB
SIZE	22.0 X 24.0 CM
SPECIAL FEATURE	AT OR ATX POWER CONNECTOR

NOTE: 5MVP3 IS ESPECIALLY DE SIGNED F OR AMD® K6 -PR300 3. 45V VI/O(66MHZ F REQ.) AND K 6-2 CP U W ITH 100 MHZ F REQ. & 95MHZ K6-2 333 CPU.

1-3 UNPACKING

THE MAIN BOARD PACKAGE CONTAINS:
  * MVP3 MAIN BOARD
  * MANUAL
  * CABLES
  * DRIVER & UTILITY / CD
IF A NY OF T HESE I TEMS IS MISSING OR DAMAGED, CONTACT THE DEALER FR OM W HOM YOU P URCHASED. LEAVE T HE 5MVP 3 IN ITS ORIGINAL PACKING UNTIL YOU ARE READY TO
INSTALL IT.

1.4 QUICK REFERENCE FOR CD SOFTWARE DRIVERS

THIS CD CONT AINS D RIVERS AS B ELOW. READ **"I NDEX"** BEFORE INSTALLING REQUIRED DRIVERS. "INDEX" FILE IS HTML FORMAT.
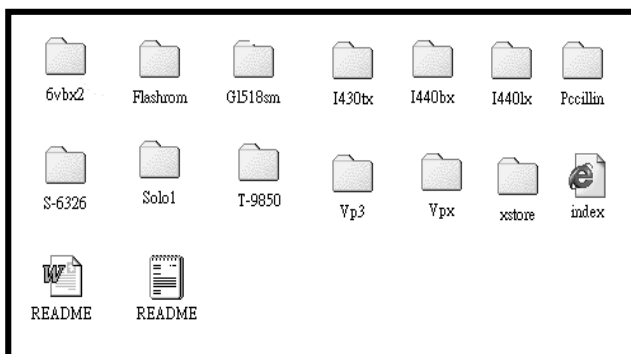
1. **MAIN B OARDS:** I4 40BX, I44 0EX, I 440LX, I43 0TX, VIA® VPX, VP3, 691BX, 692BX PRO – BASED MAIN BOARDS
2. **A.G.P CARDS:** S- 6326 AND T985
3. **SOLO-1:** ESS-SOLO-1 SOUND DRIVER
4. **GL518SM:** CPU VOLTAGE/TEMPERATURE A ND F AN SP EED DETECTION SOFTWARE
5. **PCCILLIN:** ANTI- VIRUS PROTECTION SOFTWARE

6. **XSTORE PRO ID E DRIV ER:** IDE BUS M ASTER DR IVER FOR ULTRA DMA 33

CHAPTER 2 MOTHER BOARD SPECIFICATION

2-1 MOTHERBOARD LAYOUT
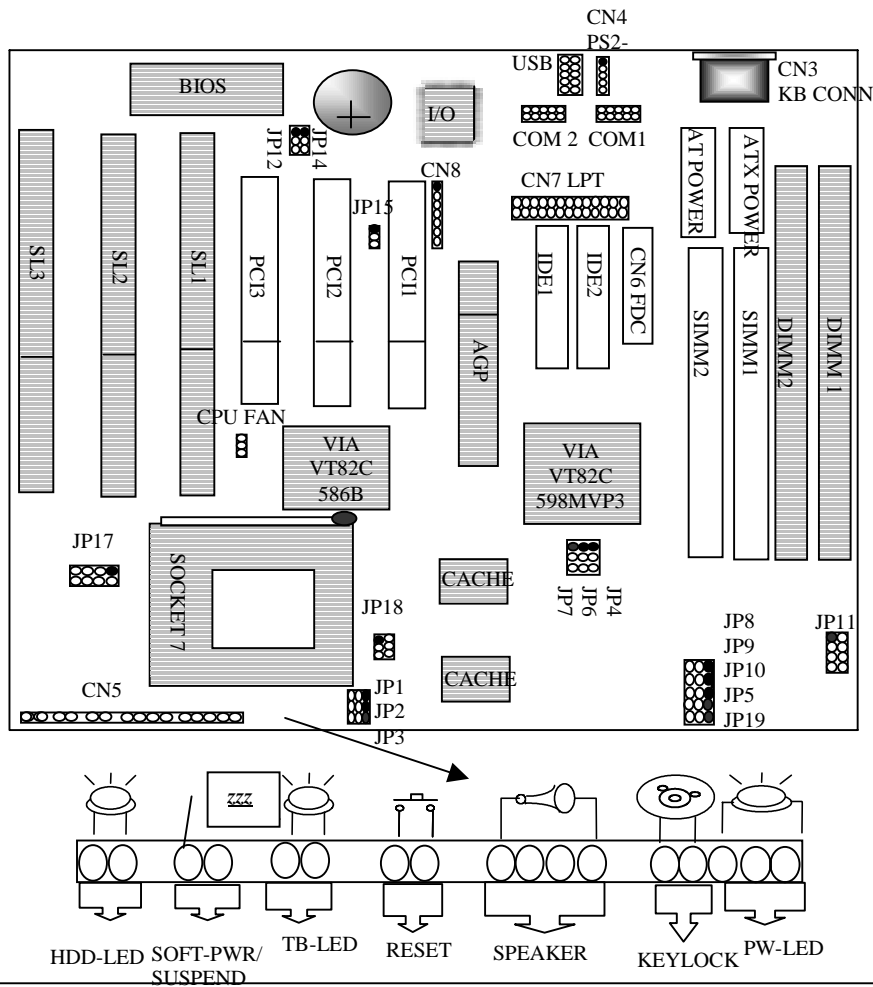
2-2 JUMPER SETTINGS

PLEASE MAKE SURE THE JUMPERS ARE CORRECTLY SET.

INTEL® PENTIUM® PROCESSOR INSTALLATION

CPU CLOCK	SYS. CLOCK	JP1	JP2	JP3	JP6	JP7	JP8	JP9	JP10	JP17	JP18	JP19	RATIO
P54C 100 MHZ 3.3V	66 MHZ	1-2	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2, 5-6, 7-8	OPEN	1-2	1.5X
P54C 133 MHZ 3.3V	66 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2, 5-6, 7-8	OPEN	1-2	2X
P54C 166 MHZ 3.3V	66 MHZ	2-3	2-3	1-2	2-3	2-3	1-2	1-2	1-2	1-2, 5-6, 7-8	OPEN	1-2	2.5X
P55C 166 MHZ 2.8/3.3V	66 MHZ	2-3	2-3	1-2	2-3	2-3	1-2	1-2	1-2	7-8	1-2,3-4,5-6	1-2	2.5X
P54C 200 MHZ 3.3V	66 MHZ	1-2	2-3	1-2	2-3	2-3	1-2	1-2	1-2	1-2, 5-6, 7-8	OPEN	1-2	3X
P55C 200 MHZ 2.8/3.3V	66 MHZ	1-2	2-3	1-2	2-3	2-3	1-2	1-2	1-2	7-8	1-2,3-4,5-6	1-2	3X
P55C 233 MHZ 2.8/3.3V	66 MHZ	1-2	1-2	1-2	2-3	2-3	1-2	1-2	1-2	7-8	1-2,3-4,5-6	1-2	3.5X

CYRIX® 6X86 PROCESSOR INSTALLATION

CPU CLOCK	SYS. CLOCK	JP1	JP2	JP3	JP6	JP7	JP8	JP9	JP10	JP17	JP18	JP19	RATIO
166+ M1 3.52V	66 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2,3-4,5-6,7-8	OPEN	1-2	2X
6X86L 166 2.8/3.3V	66 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	1-2	1-2	7-8	1-2,3-4,5-6	1-2	2X
6X86L 200 2.8/3.3V	75 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	2-3	1-2	7-8	1-2,3-4,5-6	1-2	2X
6X86MX 166 2.9/3.3V	66 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2,7-8	1-2,3-4,5-6	1-2	2X
6X86MX 200 2.9/3.3V	75 MHZ	2-3	1-2	1-2	2-3	2-3	1-2	2-3	1-2	1-2,7-8	1-2,3-4,5-6	1-2	2X
6X86MX 233 2.9/3.3V	75 MHZ	2-3	2-3	1-2	2-3	2-3	1-2	2-3	1-2	1-2, 7-8	1-2,3-4,5-6	1-2	2.5X
6X86MX 266 2.7/3.3V	**83 MHZ**	**2-3**	**2-3**	**1-2**	**1-2**	**2-3**	**2-3**	**2-3**	**1-2**	**1-2,3-4,5-6**	**1-2,3-4,5-6**	**1-2**	**2.5X**
6X86MII 300 2.9/3.3V	**66MHZ**	**1-2**	**1-2**	**1-2**	**2-3**	**2-3**	**1-2**	**1-2**	**1-2**	**1-2, 7-8**	**1-2,3-4,5-6**	**1-2**	**3.5X**

AMD® K5/K6/K6-2 PROCESSOR INSTALLATION

CPU CLOCK	SYS. CLOCK	JP1	JP2	JP3	JP6	JP7	JP8	JP9	JP10	JP17	JP18	JP19	RATIO
K5-PR100/PR133 3.52V	66 MHZ	1-2	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2,3-4,5-6,7-8	OPEN	1-2	1.5X
K5-PR166 3.52V	66 MHZ	2-3	2-3	1-2	2-3	2-3	1-2	1-2	1-2	1-2,3-4,5-6,7-8	OPEN	1-2	2.5X
K6-PR166 2.9/3.3V	66 MHZ	2-3	2-3	1-2	2-3	2-3	1-2	1-2	1-2	1-2,7-8	1-2,3-4,5-6	1-2	2.5X
K6-PR200 2.9/3.3V	66 MHZ	1-2	2-3	1-2	2-3	2-3	1-2	1-2	1-2	1-2,7-8	1-2,3-4,5-6	1-2	3X
K6-PR233 3.2/3.3V	66 MHZ	1-2	1-2	1-2	2-3	2-3	1-2	1-2	1-2	5-6,7-8	1-2,3-4,5-6	1-2	3.5X
K6-PR233 3.3/3.3V	66 MHZ	1-2	1-2	1-2	2-3	2-3	1-2	1-2	1-2	1-2,5-6,7-8	1-2,3-4,5-6	1-2	3.5X
K6-PR266 2.2/3.3V	66 MHZ	2-3	1-2	2-3	2-3	2-3	1-2	1-2	1-2	3-4	1-2,3-4,5-6	1-2	4X
K6-PR300 2.2/3.45V	66 MHZ	2-3	2-3	2-3	2-3	2-3	1-2	1-2	1-2	3-4	1-2,3-4,5-6	2-3	4.5X
K6-2 266 2.2V/3.3V	**66 MHZ**	**2-3**	**1-2**	**2-3**	**2-3**	**2-3**	**1-2**	**1-2**	**1-2**	**3-4**	**1-2,3-4,5-6**	**1-2**	**4X**
K6-2 300 2.2V/3.3V	**100MHZ**	**1-2**	**2-3**	**1-2**	**1-2**	**2-3**	**1-2**	**1-2**	**2-3**	**3-4**	**1-2,3-4,5-6**	**1-2**	**3X**
K6-2 333 2.2V/3.3V	**95 MHZ**	**1-2**	**1-2**	**1-2**	**1-2**	**2-3**	**2-3**	**1-2**	**2-3**	**3-4**	**1-2,3-4,5-6**	**1-2**	**3.5X**
K6-2 350 2.2V/3.3V	**100MHZ**	**1-2**	**1-2**	**1-2**	**1-2**	**2-3**	**1-2**	**1-2**	**2-3**	**3-4**	**1-2,3-4,5-6**	**1-2**	**3.5X**
K6-2 380 2.2V/3.3V	**95 MHZ**	**2-3**	**1-2**	**2-3**	**1-2**	**2-3**	**2-3**	**1-2**	**2-3**	**3-4**	**1-2,3-4,5-6**	**1-2**	**4X**
K6-2 400 2.2V/3.3V	**100MHZ**	**2-3**	**1-2**	**2-3**	**1-2**	**2-3**	**1-2**	**1-2**	**2-3**	**3-4**	**1-2,3-4,5-6**	**1-2**	**4X**

JP1-JP3 - CPU/BUS RATIO

JP1-JP3 - CPU/BUS RATIO

JP1
JP2
JP3
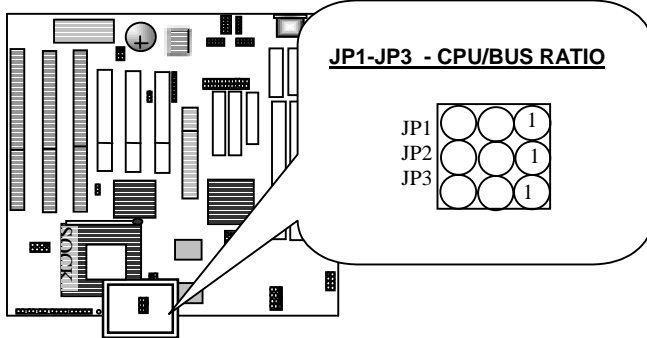
RATIO	JP1	JP2	JP3	RATIO	JP1	JP2	JP3	RATIO	JP1	JP2	JP3
1.5X	1-2	1-2	1-2	2X	2-3	1-2	1-2	4.5X	2-3	2-3	2-3
2.5X	2-3	2-3	1-2	3X	1-2	2-3	1-2				
3.5X	1-2	1-2	1-2	4X	2-3	1-2	2-3				

JP4-JP5: SDRAM CLOCK FREQUENCY

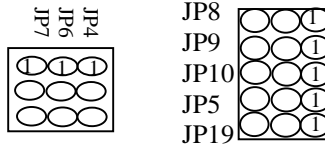| SDRAM CLOCK FREQUENCY	JP4	JP5
SAME WITH CPU CLOCK	2-3	1-2
66MHZ	1-2	2-3

JP7 JP6 JP4

JP8
JP9
JP10
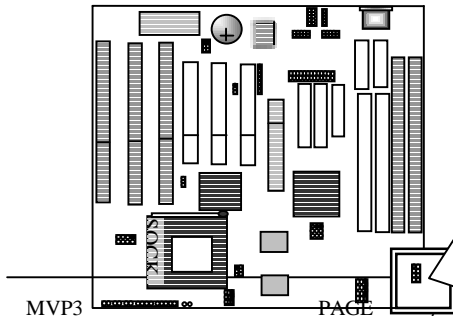JP5
JP19

MVP

PAGE
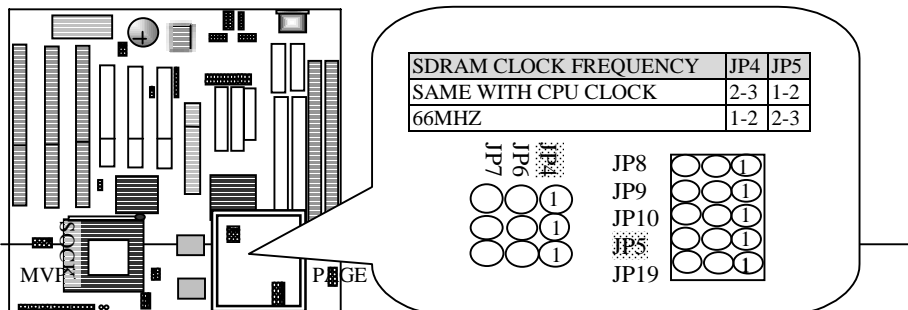
JP6 - JP10 - CPU SPEED SELECTOR
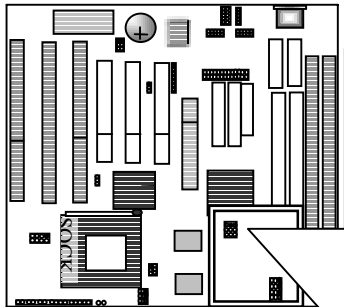
PLEASE NOTE "CPU SPEED SELECTOR" ARE JP6-JP10. JP4 , JP5 &JP19 ARE NOT INCLUDED.

JUMPER	66 MHZ	75 MHZ	83.3 MHZ	95 MHZ	100 MHZ
JP6	2-3	2-3	1-2	1-2	1-2
JP7	2-3	2-3	2-3	2-3	2-3
JP8	1-2	1-2	2-3	2-3	1-2
JP9	1-2	2-3	2-3	1-2	1-2
JP10	1-2	1-2	1-2	2-3	2-3

66MHZ	75MHZ	83.3MHZ

95 MHZ	100 MHZ	

JP11: DIMM VOLTAGE SELECTOR

JP11: DIMM VOLTAGE SELECTOR

JP11	DESCRIPTION
1-2, 3-4	5V DIMM
5-6, 7-8	3.3V DIMM

7
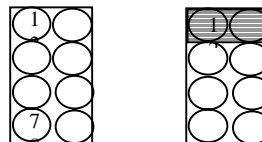
JP12: FLASH ROM VOLTAGE SELECTOR
JP14: CMOS SELECTOR

JP12	FLASH ROM VOLTAGE SELECTOR
1-2	5V (SST®,WINBOND®)
2-3	12V (INTEL®,MXIC®)

5V   12V

JP14	CMOS SELECTOR
1-2	NORMAL (DEFAULT)
2-3	CLEAR CMOS (CLEAR PASSWORD)

NORMAL   CLEAR CMOS

JP18:   CPU VOLTAGE CONNECTOR

JP18	CPU VOLTAGE CONNECTOR
OPEN	SINGLE VOLTAGE
1-2, 3-4, 5-6	DUAL VOLTAGE

DUAL   SINGLE
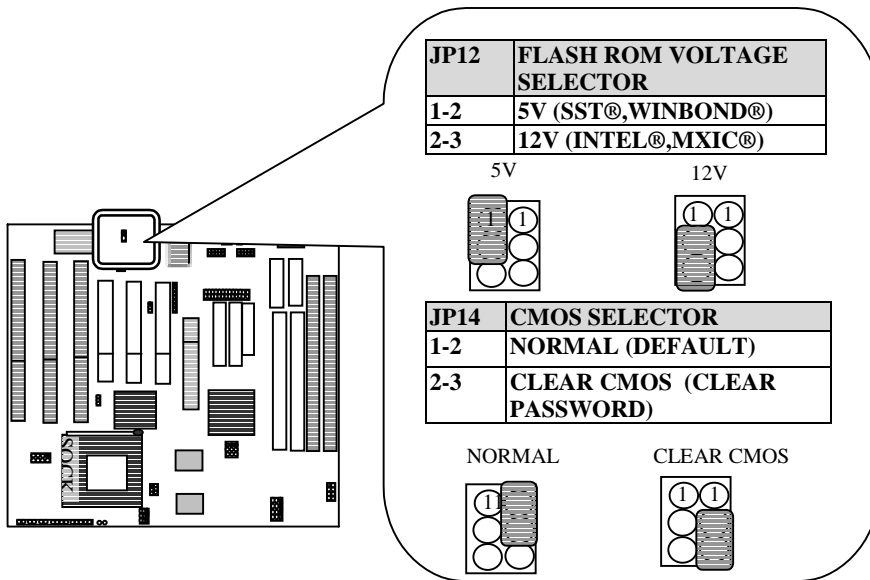
JP17 - CPU VOLTAGE SELECTOR
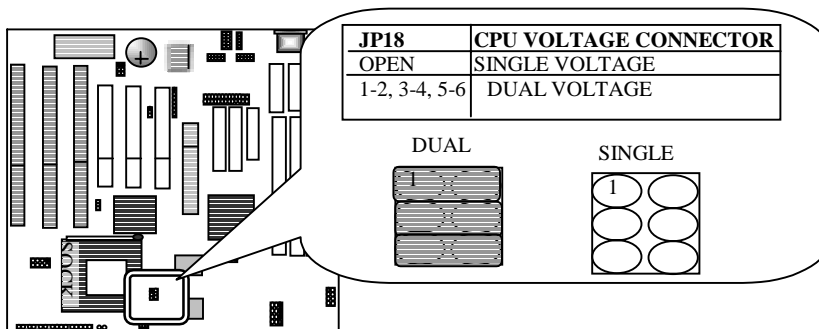
JP17 - CPU VOLTAGE
SELECTOR
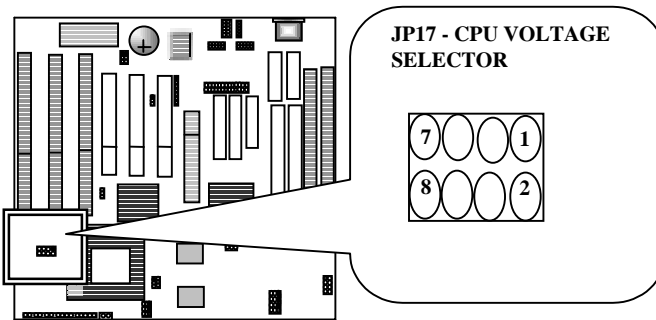
JP17	VCORE	JP17	VCORE
1-2	2.1V	3-4	2.2V
1-2, 3-4, 5-6	2.7V	7-8	2.8V
1-2, 7-8	2.9V	5-6, 7-8	3.2V
1-2, 5-6, 7-8	3.3V	1-2, 3-4 5-6, 7-8	3.5V

JP19: CPU TYPE SELECTIOR

JP19: CPU TYPE SELECTIOR

FOR INTEL®
P54C/P55C, CYRIX®
M1/MX/MII, AMD®
K5/K6 166-K6233/ K6-2
CPU

FOR AMD®
K6-PR300 CPU

JP8
JP9
JP10
JP5
JP19

JP8
JP9
JP10
JP5
JP19
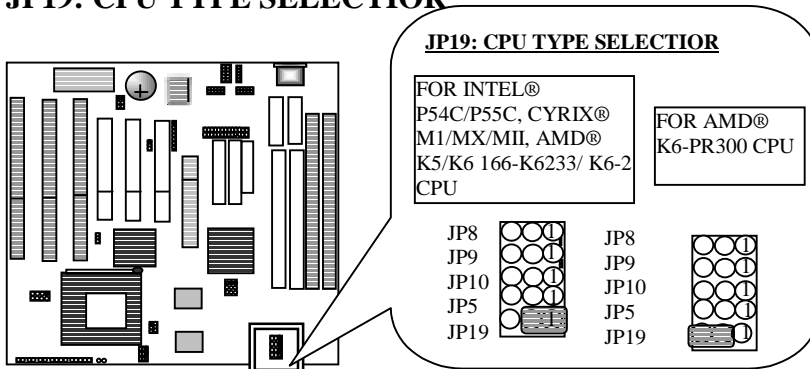
CN3: KB-CONNECTOR

CN3: KB-CONNECTOR

CN8: I.R (INFRA-RED) CONNECTOR

CN8: I.R(INFRA-RED CONNECTOR

PIN	SIGNAL NAME
1	IRRX
2	GROUND
3	IRTX
4	+5VDC
5	IRRXH
6	+5V DC
7	GROUND

MVP3
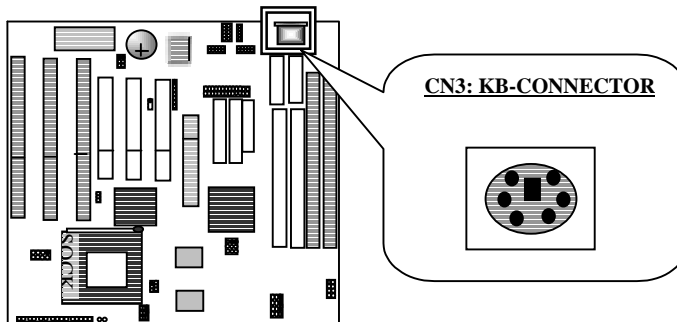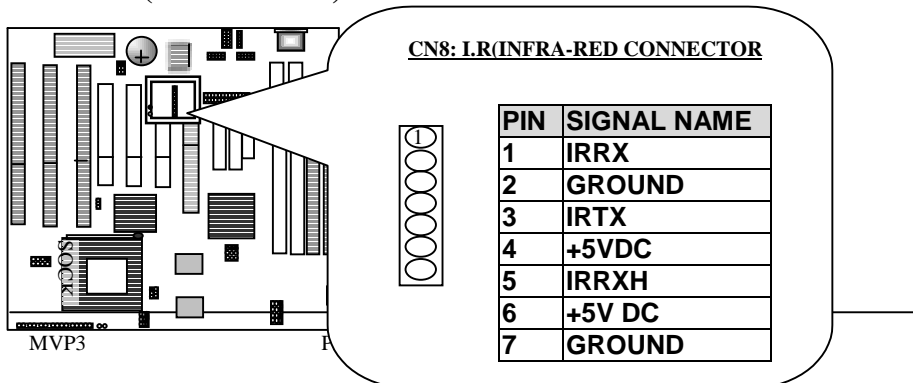
CN9: AT POWER CONNECTOR
CN10: ATX POWER CONNECTOR
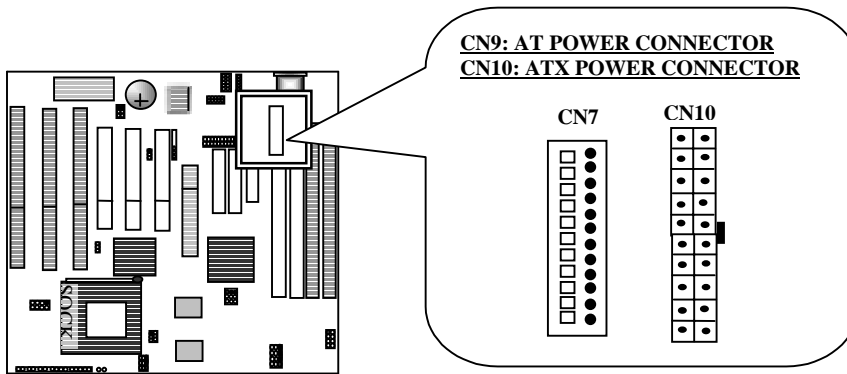
CN9: AT POWER SUPPLY CONNECTOR

PIN	DESCRIPTION	PIN	DESCRIPTION
1	POWER GOOD	7	GROUND
2	+5V DC	8	GROUND
3	+12V DC	9	-5V DC
4	-12V DC	10	+5V DC
5	GROUND	11	+5V DC
6	GROUND	12	+5V DC

CN10- ATX POWER SUPPLY CONNECTOR

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+3.3V DC	11	+3.3V DC
2	+3.3V DC	12	-12V DC
3	GROUND	13	GROUND
4	+5V DC	14	SOFT-POWER
5	+5V DC	15	GROUND
6	+5V DC	16	GROUND
7	GROUND	17	GROUND

8	POWER GOOD	18	-5V DC
9	+5V STANDBY	19	+5V DC
10	+12V DC	20	+5V DC

IDE1: PRIMARY HDD CONNECTOR
IDE2: SECONDARY HDD CONNECTOR
CN7: FLOPPY DISK CONNECTOR

IDE1: PRIMARY HDD CONNECTOR
IDE2: SECONDARY HDD CONNECTOR
CN7: FLOPPY DISK CONNECTOR

IDE   IDE2   CN7
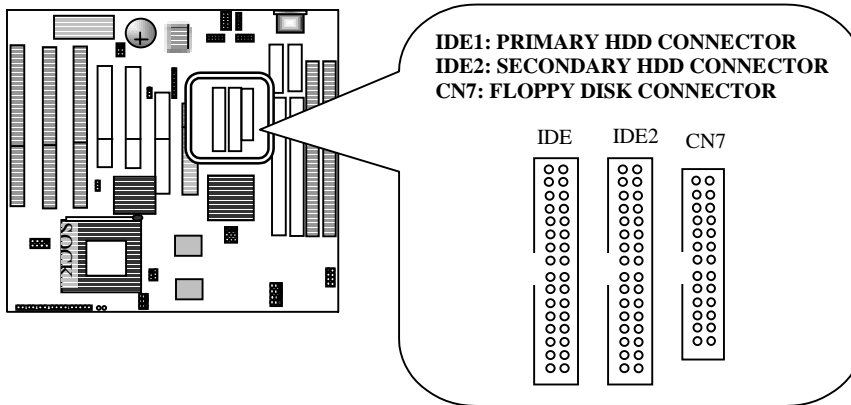
USB: Universal Serial Port Connector

USB

PIN1

| USB Pin Out	
USB1	USB2
Pin1 +5V	Pin6 +5V
Pin2 USBP0-	Pin7 USBP1-
Pin3 USBP0+	Pin8 USBP1+
Pin4 GND	Pin9 GND
Pin5 GND	Pin10 GND
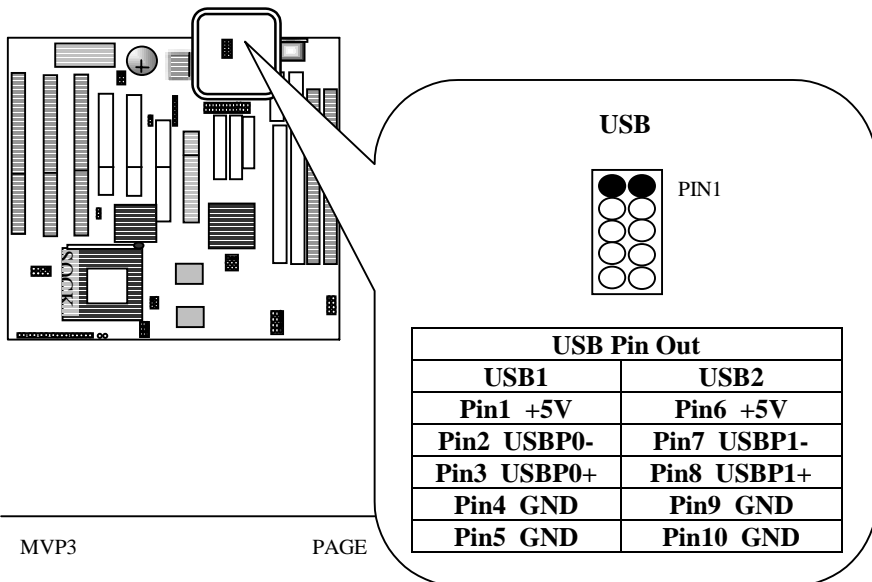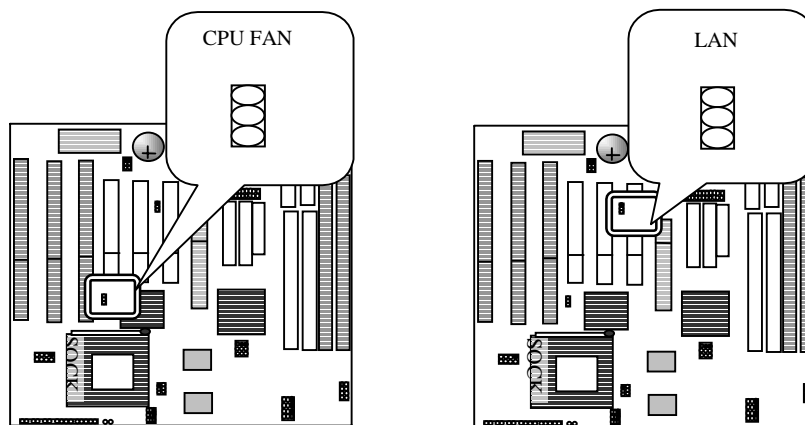
2-3 SIMM INSTALLATION PROCEDURES

THE SIMM MEMORY MODULES W ILL ON LY FIT IN ONE ORIENT ATION AS SHOWN BECAUSE OF A "PLASTIC SAFETY TAB" ON ONE END OF THE SIMM SLOT S W HICH REQUIRES T HE " NOTCHED END" OF THE SIMM MEMORY MODULES.

PRESS THE MEMORY MODULE FIRMLY INTO PLACE STARTING AT A 45 DEGREE ANGLE M AKING S URE T HAT ALL T HE CONT ACTS ARE ALIGNED WITH THE SOCKET.

NOTCHED END
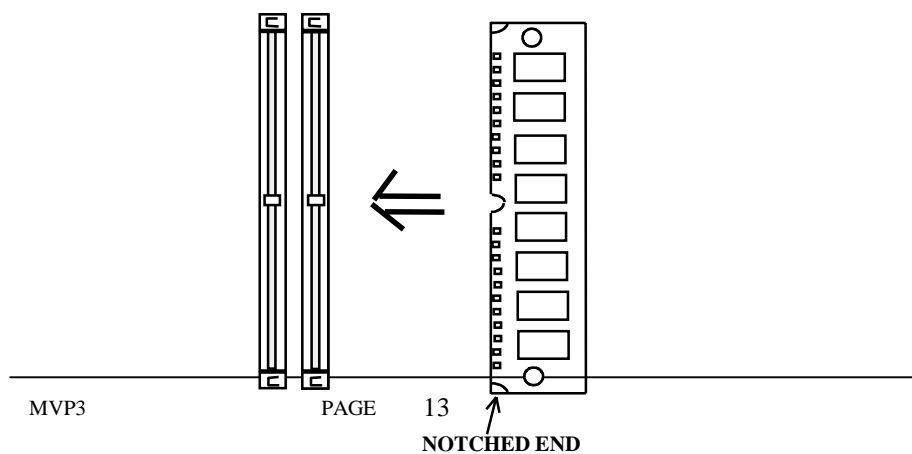
2-4 DIMM INSTALLATION PROCEDURES

INSERT THE MODUL E AS S HOWN. DUE TO DIFFERENT NUMBER OF PINS ON EITHER SIDE OF T HE B REAKS, THE MODULE WILL ONLY FIT IN THE ORIEN TATION A S SHOW N. DR AM SIMM MODU LES HAVE THE SAME P IN CONT ACT ON B OTH SIDES. SDRAM DIMM MODULES HAVE DIFFERENT PIN CONT ACTSS ON EACH SIDE AND T HEREFORE H AVE A HIGHER PIN DENSITY.

EDO DIMM SUPPORTS EITHER 3.3V OR 5V. PLEASE NOTE ONLY PC-100 100 MHZ DIMM IS REQUIRED WHEN T HE S YSTEM IS USI NG 100 MHZ CPU.

MVP3   PAGE   14
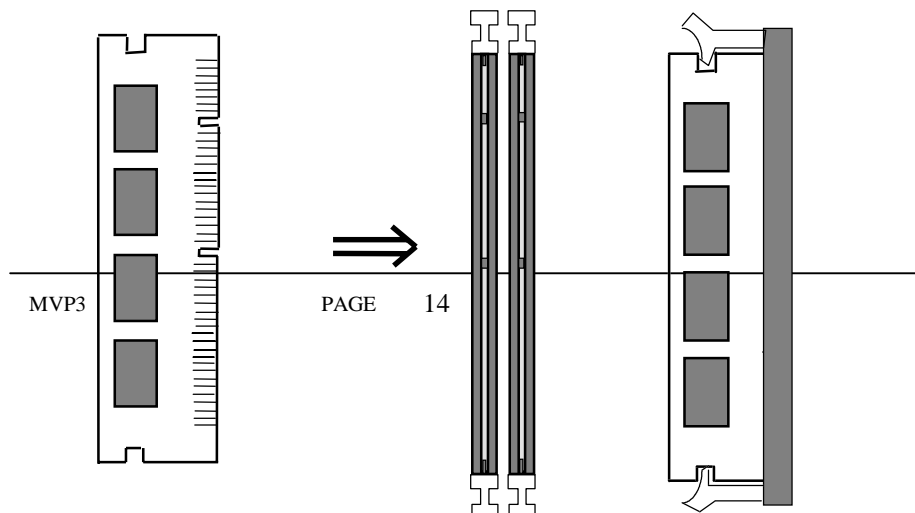
2-5 MEMORY CHART

SYSTEM MEMORY RAM IS COMPRISED OF INDUSTRIAL STANDARD 72-PIN SINGLE IN-LINE MEMORY MODULES (SIMMS). BUR ST EXT ENDED DATA OUT (BEDO) AND EXT ENDED DA TA OUT (EDO) MEMORY ARE THE L ATEST DRA M C HIP DESIGNS T HAT PERFORM A LOT BETTER THAN TH E F AST PA GE M ODE D RAM TY PE. THE **VIA APOLLO M VP3** CHIPSET IS ABLE TO S UPPORT S TANDARD F PM (FAST PA GE M ODE), EDO (EXT ENDED DA TA OUT), B EDO (BURST EXTENDED DATA OUT), AND PC-100 100MHZ DIMM. MEMORY CAN BE INSTALLED IN A VARIETY OF CONG., AS SHOW IN THE FOLLOWING TABLE:

TOTAL MEMORY	BANK 0 (DIMM1)	BANK 1 (DIMM2)	BANK2 (SIMM1, SIMM2)
8MB	8MB		
8MB			4MB&4MB
12MB	8MB	4MB	
16MB	8MB	8MB	
16MB			8MB&8MB

24MB	16MB	8MB	
32MB	16MB	16MB	
32MB	32MB		
32MB			16MB&16MB
40MB	32MB	8MB	
48MB	32MB	16MB	
64MB	32MB	32MB	
64MB			32MB&32MB
64MB	64MB		
72MB	64MB	8MB	
80MB	64MB	16MB	
96MB	64MB	32MB	
128MB	64MB	64MB	
128MB			64MB&64MB

CHAPTER 3   BIOS SETUP

AWARD'S ROM B IOS P ROVIDES A B UILT-IN SET UP P ROGRAM WHICH ALLOWS USER TO MODIFY T HE B ASIC SYST EM CONFIG URATION AND HARDWARE PARAMETERS. THE MODIFIED DATA WILL BE STORED IN A B ATTERY-BACKED C MOS RA M SO D ATA WILL BE R ETAINED EVEN WHEN THE POWER IS TURNED OFF. IN GENERAL , T HE INFOR MATION SAVED IN T HE CMOS R AM ST AY UNCHANGED UN LESS T HERE IS CONFIG. CHANGE IN T HE SYST EM, SUCH AS H ARDISK D RIVER REPLACEMENT OR CHANGES OF NEW EQUIPMENT.

IT IS POSSIBLE THAT CMOS HA S A B ATTERY FA ILURE W HICH CAUSES DATA L OSS IN CMO S R AM. IF SO, RE-ENTERING SY STEM CONFIG. PARAMETERS BECOMES NECESSARY.

TO ENTER SETUP PROGRAM

POWER ON THE COMPUTER AND PRESS <DEL> KEY IMMEDIATELY, WHICH BRINGS YOU INTO BIOS CMOS SETUP UTILITY.

THE MENU DISPLAYS ALL THE MAJOR SELECTION ITEMS AND ALLOWS
USER TO SELECT ANY OF SHOWN ITEMS. THE SELECTION IS MADE BY
MOVING CURSOR (PRESS ANY DIRECTION KEY) TO THE ITEM AND
PRESS "ENTER" KEY. A NON LINE HELPS MESSAGE IS DISPLAYED AT
THE BOTTOM OF THE SCREEN AS CURSOR IS MOVING TO VARIOUS
ITEMS WHICH PROVIDES USER BETTER UNDERSTANDING OF EACH
FUNCTION. WHEN A SELECTION IS MADE, THE MENU OF SELECTED
ITEM WILL APPEAR. THUS, THE USER CAN MODIFY ASSOCIATED
CONFIGURATION PARAMETERS.

3-1 STANDARD CMOS SETUP

THE STANDARD CMOS SETUP SCREEN IS DISPLAYED AS ABOVE. SYSTEM B IOS A UTOMATICALLY DET ECTS MEMORY SI ZE. NO CHANGES ARE NECESSARY SINCE IT HAS A FEW ITEMS FOR SETT ING. EACH ITEM
MAY HAVE ONE OR MORE OPTION SETTINGS. IT ALLOWS YOU TO

CHANGE THE SYSTEM DATE AND TIME, IDE HA RD DISK, F LOPPY DISK DRIVE TYPES FOR DRIVE A: AND B : B OOT UP VIDEO DIS PLAY MODE, AND POST ERROR H ANDLING SELECTION. USE THE ARROW KEYS TO HIGHLIGHT T HE I TEM A ND T HEN USE T HE <PGUP> OR <P GDN> KEYS TO SELECT THE VALUE YOU WANT IN EACH ITEM.

HARD DISK CONFIGURATIONS

TYPE :
SELECT FROM "1" TO "45" TO FILL IN REMAINING FIELDS WITH REDEFINED VALUES OF DISK DRIVES. SELECT "USER" TO FILL IN THE REMAINING FIELDS. SELECT "AUTO" TO DETECT THE HDD TYPE AUTOMATICALLY.

SIZE :
THE HARD DISK SIZE. THE UNIT IS MEGA BYTE

CYLS :
THE CYLINDER NUMBER OF THE HARD DISK

HEAD :
THE READ/WRITE HEAD NUMBER OF HARD DISK. THE RANGE
IS
FROM **"1" TO "16."**

PRECCOMP :
THE CYLINDER NUMBER AT WHICH THE DISK DRIVE CHANGES THE WRITTEN TIMING

LANDZ :
THE CYLINDER NUMBER THAT THE DISK DRIVE HEADS (READ/WRITE) ARE SEATED WHEN THE DISK DRIVE IS PARKED

SECTOR :
THE SECTOR NUMBER OF EACH TRACK DEFINED ON THE HARD

DISK. THE RANGE IS FROM **"1" TO "64."**

MODE :

SELECT **"AUTO"**   TO   DETECT TH   E   MODE TY   PE
AUTOMATICALLY.

IF YOUR HARD DISK SUPPORTS THE LBA MODE, SELECT **"LBA"**
OR **"LARGE".** HOWEVER, IF YOUR HARD DISK CYLINDER IS
MORE THAN 1024 AND DOES NOT SUPPORT THE LBA FUNCTION,
YOU HAVE TO SET AT **"LARGE".** SELECT "NORMAL" IF YOUR
HARD DISK SUPPORTING CYLINDER IS BELOW 1024.

3-2 BIOS FEATURES SETUP
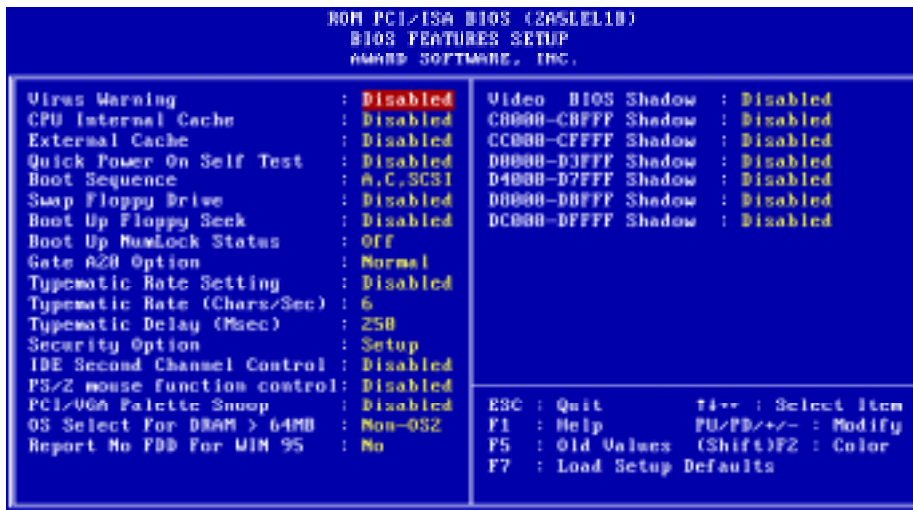
SELECTING THE **"BIOS FEATURE SETUP"** OPTION IN THE CMOS SETUP
UTILITY   MENU   ALLOWS USE R T O CHANGE SYST   EM RE LATED
PARAMETERS IN THE DISPLAY MENU. THIS MENU SHOW S ALL OF T HE
MANUFACTURER'S DEFAULT VALUES O F SV -P55V. A GAIN, USE R C AN
MOVE THE CURSO R B Y P RESSING DIRECT ION KEYS AND <P GDN> O R
<PGUP> KEY TO MODIFY THE P ARAMETERS. P RESSING [F1] KEY T O
DISPLAY HE LP MESS AGE OF T   HE SEL ECTED ITEM.   THE SETUP

PROGRAM ALSO P ROVIDES 2 CONVE NIENT W AYS T O L OAD T HE DEFAULT PARAMETER DATA FROM CMOS [F7] AREA IF SHOWN DATA IS CORRUPTED. THIS PROVIDES THE SYSTEM WITH A CAPABILITY TO RECOVER FROM ANY POSSIBLE ERROR.

AUTO VIRUS WARNING:
WHEN ENA BLED, IT A SSIGNS T HE B IOS T O MONITOR T HE MASTER BOOT SECTOR AND THE DOS B OOT SECTOR OF T HE FIRST HARD DISK DRIVE. THE OPTIONS ARE: **ENABLED, DISABLED (DEFAULT).**

CPU INTERNAL CACHE:
WHEN ENABLED, IT IMPROVES THE SYSTEM PERFORMANCE. DISABLE THIS I TEM WHEN TESTING OR TROUBLE-SHOOTING. T HE OPTIONS ARE: **ENABLED (DEFAULT), DISABLED**

EXTERNAL CACHE:
WHEN ENABLED, IT SUPPORTS A N OP TIONAL C ACHE S RAM. T HE OPTIONS ARE: ENABLED (DEFAULT), DISABLED.

QUICK POWER ON SELF TEST:
WHEN ENA BLED, IT A LLOWS T HE BIOS TO BY PASS THE EXTENSIVE MEMORY TEST. THE OPTIONS ARE : **ENABLED, DISABLED (DEFAULT).**

BOOT SEQUENCE:
ALLOWS TH E S YSTEM B IOS TO TRY F IRST TO B OOT TH E OPERATING SYSTEM FROM THE SELECTED DISK DR IVE. T HE OPTIONS AR E : **A, C, SCSI (DEFAULT); C, A, SCSI; C, CDROM , A; CDROM , C, A; D, A, SCSI; E, A, SCSI; F, A, SCSI; SCSI, A, C; SCSI, C, A; C ONLY; LS/ZIP, C.**

SWAP FLOPPY DRIVE:

WHEN ENABLED, IT ALLOWS YOU TO SWITCH THE ORDER IN WHICH THE OPERATING SYSTEM ACCESSES T HE FL OPPY DR IVES DUR ING BOOT UP. THE OPTIONS ARE : **ENABLED, DISABLED (DEFAULT)**

BOOT UP FLOPPY SEEK:
WHEN ENABLED, IT ASSIGNS THE BIOS TO PERFORM FLOPPY DISKETTE DRIVE T ESTS BY ISSUING THE TIME- CONSUMING SEEK COMMANDS. THE OPTIONS ARE : **ENABLED (DEFAULT), DISABLED**

BOOT UP NUMLOCK STATUS:
WHEN SET TO ON, IT ALLOWS THE BIOS TO AUTOMATICALLY ENABLE THE NUM LOCK FUNCTION WHEN THE SYSTEM BOOTS UP. THE OPTIONS
ARE: **ON (DEFAULT), OFF.**

TYPEMATIC RATE SETTING:
THE TERM "TYPEMATIC" MEA NS T HAT WHEN A KEYB OARD KEY IS HELD DOW N, T HE CH ARACTER IS REPEATEDLY ENT ERED UNTIL THE KEY IS RELEASED. W HEN THIS ITEM IS ENA BLED, YOU M AY CHANGE THE TYPEMATIC R EPEAT R ATE. THE OPTIONS ARE : **DISABLED (DEFAULT), ENABLED**

TYPEMATIC RATE (CHARS/SEC):
IT SETS THE RATE OF A CH ARACTER REPEAT WHEN THE KEY IS HELD DOWN. THE OPTIONS ARE: **6 (DEFAULT), 8, 10, 12, 15, 20, 24, 30.**

TYPEMATIC DELAY (MSEC):
IT S ETS THE D ELAY TI ME B EFORE A CHARACTER IS REPEATED. THE OPTIONS ARE: 250 (DEFAULT), 500, 750, 1000 MILLISECOND.

SECURITY OPTION:
ALLOWS YO U T O SET THE SEC URITY LEVEL OF THE SYSTEM. T HE OPTIONS ARE : **SETUP (DEFAULT), SYSTEM.**

PCI/VGA PAIETTE SNOOP:
WHEN ENA BLED, IT A LLOWS YOU T   O INST ALL AN ENH ANCED
GRAPHICS ADAPTER CARD. IF YOUR G RAPHICS ADAPTER CARD DOES
NOT SUPP ORT THE PALETTE SNOOP FUNCT ION,   PLEASE SET AT
DISABLE TO AVOID SYSTEM MALFUNCTION. THE OPTIONS ARE:
ENABLED, DISABLED (DEFAULT).

VIDEO BIOS SHADOW:
WHEN ENA BLED, IT A LLOWS T HE B IOS TO COP Y T HE VIDEO ROM
CODE OF THE ADD-ON VIDEO C ARDS T O T HE SYST EM MEMORY FOR
FASTER   ACCESS. T   HE OP TIONS ARE : **ENABLED (DEFAULT),
DISABLED.**

C8000-CBFFF TO DC000-DFFFF SHADOW:

WHEN ENABLED, IT ALLOWS THE BIOS TO COPY THE BIOS ROM CODE
OF THE ADD-ON C ARD TO SYSTEM MEMORY FO R FAST ER ACCESS. IT
MAY IMPROVE THE PERFORMANCE OF T HE A DD-ON C ARD. SOME
ADD-ON C ARDS W ILL N OT FUNCT ION P ROPERLY IF IT ’S BIOS ROM
CODE IS SHADOWED. TO USE THESE OPTIONS CORRECTLY, YOU NEED
TO KNOW THE MEMORY ADDRESS RANGE USED BY THE BIOS ROM OF
EACH A DD-ON C ARD. T HE OPTIONS ARE   **: ENAB LED, DI SABLED
(DEFAULT).**

3-3 CHIPSET FEATURES SETUP
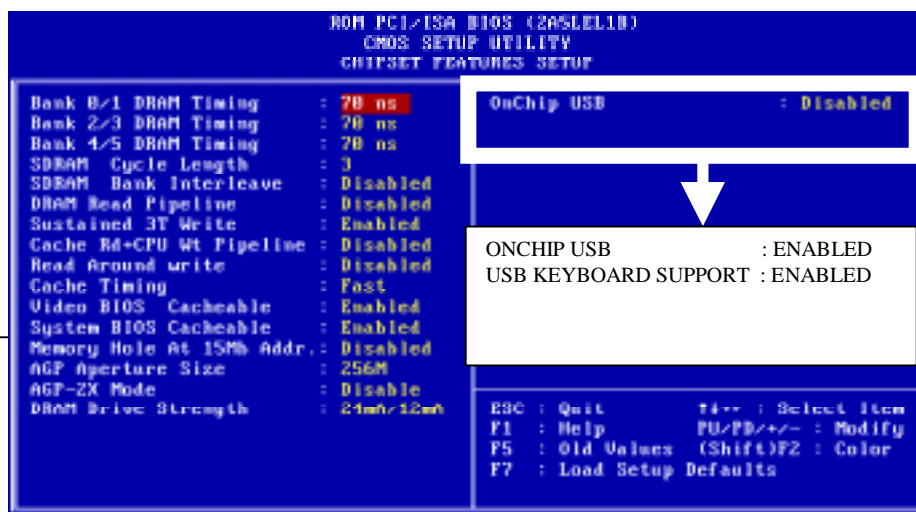
ONCHIP USB:
DEFAULT IS DISABLE. IF THE SYSTEM USES RELEVENT **USB DEVICES**, FIRST GO TO **PNP/PCI CONFIG URAION** (REFER TO PAGE 27) AND ENABLE **"ASSIGN IRQ FOR USB."** THEN COME TO **CHIPSET FEATURES SETPUP**, AND CHOOSE **"ENABLE"** IN **"ON CHIP USB**." THE OTHER LINE **"USB KEYBOARD SUPPORT"** WILL APPEAR AS ABOVE.

VIDEO BIOS CACHEABLE:
WHEN ENABLED, IT ALLOWS THE SYSTEM TO USE THE VIDEO BIOS CODES C 0000H-C7FFFH FROM CAC HE, INS TEAD O F T HE S LOWER DRAMS
OR ROMS. VIDEO BIOS MUST BE SHADOWED FIRST. THE OPTIONS ARE: ENABLED (DEFAULT), DISABLED.

SYSTEM BIOS CACHEABLE:
WHEN ENABLED, IT ALLOWS THE R OM AREA E0000H- FFFFFH T O BE CACHEABLE WHEN CACHE CONTROLLER IS ACTIVATED. THE OPTIONS ARE: ENABLED (DEFAULT), DISABLED.

MEMORY HOLD AT 15MB ADDR.:
WHEN ENABLED, THE MEMORY HOLE AT THE 15MB ADDRESS WILL BE RELOCATED TO THE 1 5~16MB A DDRESS R ANGE OF T HE ISA CYCLE WHEN T HE PROCESSOR ACCESSES T HE 1 5~16MB ADDRESS AREA. WHEN DISABLED, THE MEMORY HOLE AT THE 15MB ADDRESS WILL BE TREATED AS A D RAM C YCLE WHEN T HE P ROCESSOR ACCESSES T HE 15~16MB ADDRESS. T HE OPT IONS A RE: **ENABLED, DIS ABLED (DEFAULT).**

3-4 POWER MANAGEMENT SETUP

POWER MANAGEMENT:
WHEN ENABLE, IT ALLOWS YOU TO USE POWER MANAGEMENT
FEATURES.

PM CONTROL BY APM:
A: SEL ECTING " **NO**" AL LOWS T HE B IOS TO IGNORE T HE A PM
(ADVANCED POWER MANAGEMENT) SPECIFICATION.
B: SELECTING " **YES**" ALLOWS THE BIO S TO WAIT F OR A PM'S PR OMPT
BEFORE I T E NTERS **DOZE MODE, STANDBY M ODE, OR SUSPEND
MODE.** IF A PM IS INS TALLED, IT WIL L P ROMPT B IOS T O S ET THE
SYSTEM IN TO T HE POWER SAVING MODE AFTER ALL TASKS ARE
DONE.

VIDEO OFF OPTION:
THIS FEA TURE P ROVIDES THE SEL ECTIONS OF T HE VIDEO DISPLAY
POWER SA VING MO DE. THE OPTION " **SUSPEND - > O FF**" A LLOWS TH E
DISPLAY BLANKS IF THE SYSTEM EN TERS SUSP END MODE. T HE
OPTION " **ALL MODES -> OFF**" ALLOWS THE VIDEO DISP LAY B ANKS IF
THE SYST EM EN TERS DOZ E MO DE OR S USPEND MODE. THE OPTION

"**ALWAYS ON** " ALLOWS T HE VIDEO DISP LAY T O ST AY IN ST ANDBY MODE EVEN THE SYSTEM ENTERS DOZE OR SUSPEND MODE.

VIDEO OFF METHOD:

THE O PTION "**V/H SYNC+ B LANK**" ALL OWS T HE B IOS T O BLANK OFF SCREEN DISPLAY B Y T URNING OFF T HE V-SYNC SIGNALS SENT FROM ADD-ON VG A C ARD. "**DPMS SUPPORT ED**" AL LOWS T HE BIOS TO BLANK OF F S CREEN DISP LAY B Y YOUR ADD-ON VG A CARD WHICH SUPPORTS DP MS. (DISP LAY POWER MANAGEMENT SIGNALING FUNCTION). "**BLANK SCRE EN**" ALL OWS T HE B IOS TO BLANK SCREEN DISPLAY BY TURNING OFF THE RED-GREEN-BLUE SIGNALS.

CONSERVE MODE:

WHEN THE DOZE MODE OF THE SYSTEM BEING HAPPENED, THE DOZE MODE IS HANDLED BY HARDWARE NOT BY SMI FUNCTION.

MODEM USE IRQ:

WHEN THE SYSTEM IS IN GREEN FUNCTION, MODEM WAKES UP THE SYSTEM THROUGH IRQ.

HDD POWER DOWN:

SELECTING **"DISABLED"** WILL TURN OFF THE HARD DISK DRIVE (HDD) MOTOR. SELECTING **"1MIN ...15MIN"** A LLOWS Y OU T O DEFINE T HE HDD IDLE TIME BEFORE THE HDD ENTERS POWER SAVING MODE. T HE OPTION **"WHEN SUSPEND"** LETS THE BIOS TURN THE HDD MOTOR OFF WHEN THE SYSTEM IS IN SUSP END MODE. THE OPTIONS **"1MIN ... 15MIN"** A ND **"WHEN SUSP END"** W ILL NOT W ORK CO NCURRENTLY. WHEN HDD IS IN P OWER SA VING MO DE, A NY ACCESS TO THE HDD WILL WAKE THE HDD UP.

DOZE MODE:

WHEN DISA BLED, T HE SYST EM W ILL NOT ENTER DOZE MODE. THE SPECIFIED TIME OPTION DEFINE T HE IDLE T IME T HE SYSTEM T AKES BEFORE IT ENTERS DOZE MODE.

SUSPEND MODE:

WHEN DISABLED, THE SYSTEM WILL NOT ENTER SUSPEND MODE. THE SPECIFIED TIME OPTION DEFINES THE IDLE TIME THE SYSTEM TAKES BEFORE IT ENTERS SUSPEND MODE.

VGA:
A: SELECTING **"ON"** WILL ENABLE THE POWER MANAGEMENT TIMERS WHEN A "**NO ACTIVITY**" EVENTS IS DETECTED IN THE VGA.
B:SELECTING " OFF" TO DISA BLE T HE P M TIMER EVEN IF A **"NO ACTIVITY"** EVENT IS DETECTED.

LPT & COM:
A: SELECTING "**LPT & COM**" WILL ENABLE THE POWER MANAGEMENT TIMERS WHEN A **"NO ACTIVITY"** EVENT IS DET ECTED IN T HE LPT AND COM PORTS.
B: SEL ECTING " **LPT**" ("**COM**") W ILL E NABLE THE POWER MANAGEMENT TIMERS W HEN A " NO ACTIVITY" EVENT IS DETECTED IN THE LPT (COM) PORTS.
C: SE LECTING " **NONE**" TO DISABLE THE P M TIMER EVEN IF A " NO ACTIVITY" EVENT IS DETECTED.

HDD & FDD:
A: SELECTING **"ON"** WILL ENABLE THE POWER MANAGEMENT TIMERS WHEN A **"NO AC TIVITY"** EVENT IS DET ECTED IN THE HA RD DISK DRIVE AND FLOPPY DISK DRIVE.
B: SELECTING " OFF" TO DISA BLE T HE P M TIMER EVENT IF A " NO ACTIVITY" EVENT IS DETECTED.

DMA/MASTER:
WHEN T HE MA STER IS WOR KING, T HE SYS TEM WILL NOT HAVE SMI SIGNAL UNTIL THE MASTER IS FINISHED.

PRIMARY INTR:
WHEN ENABLED, YOU CAN CHOOSE ANY IRQ#.

IRQ#:

WHEN SET AT "**PRIMARY**" THE PROCESSOR WILL POWER DOWN ONLY AFTER THE BIOS DE TECTS A " NO IRQ A CTIVITY" DURING T HE TIME SPECIFIED BY THE SUSPEND TIME. IF SET AT "**SECONDARY EVENT"** THE SYSTEM WILL DIST INGUISH W HETHER A N INT ERRUPT A CCESSES AN I/O ADDRE SS OR NOT . IF I T DOES, THE SYST EM EN TERS T HE STANDBY MODE. IF NOT , THE SYSTEM ENTERS THE DREAMING MODE; THAT IS THE SYSTEM GOES B ACK FULL-ON ST ATUS B UT LEAVES THE MONITOR B LANK. FO R INST ANCE, IF T HE SYST EM CONNECT S TO A LAN AND RE CEIVES AN I NTERRUPT FROM I TS FI LE SE RVER, THE SYSTEM WIL L ENT ER T HE DR EAMING MODE TO EXECUTE T HE CORRESPONDING CALLING ROUTINE.

3-5 PNP/PCI CONFIGURATION

PCI IRQ ACTIVED BY:
IF YOUR IDE CARDS IS TRIGGERED BY EDGE, SET IT AT "EDGE". THE
OPTIONS ARE: LEVEL, EDGE (DEFAULT).

PCI IDE IRQ MAP TO: `
SET TO A UTO TO A LLOW TH E S YSTEM B IOS TO A UTOMATICALLY
DETECT WHICH INTERRUPT IS USED BY T HE PCI MASTER DRIVE. THE
OPTIONS ARE: P CI-AUTO (DEFAULT), PCI-SLOT1, PCI-SLOT2, PCI-SLOT3,
PCI-SLOT4, ISA.

CPU TO PCI WRITE BUFFER:
WHEN ENA BLED, IT A LLOWS D ATA AND ADDRESS AC CESS TO THE
INTERNAL BUFFER OF 82C586B, SO THE PROCESSOR CAN BE RELEASED
FROM THE WAITING STATE. THE OPTIONS ARE: ENABLED (DEFAULT),
DISABLED.

PCI DYNAMIC BURSTING:
WHEN ENA BLED, T HE PCI C ONTROLLER ALLOWS BURSTING PCI T O
TRANSFER IF T HE C ONSECUTIVE P CI C YCLES COME WIT H THE
ADDRESS FALLING IN THE SAME 1KB SPACE. THIS IMPROVES THE PCI
BUS T HROUGH-PUT. THE O PTIONS ARE: ENABLED (DEFAULT),
DISABLED.

PCI MASTER 0 WS WRITE:
WHEN ENA BLED, IT A LLOWS A ZERO-WAIT-STATE-CYCLE DELAY
WHEN THE PCI MA STER DR IVE WR ITES DA TA INT O DRA M. T HE
OPTIONS ARE: ENABLED, DISABLED (DEFAULT).

ASSIGN IRQ FOR USB & ASSIGN IRQ FOR USB
DEFAULT VALUE FOR "ASSIGN IRQ FOR USB" IS DISABLE AND "ASSIGN IRQ FOR VGA" EN ABLE. FO R VG A CARDS OF GOOD QUALITY,   IRQ ADDRESS IS REQUIRED, B UT FOR SOME L OW-END VG A CARDS, NO IR Q IS NEEDED. T HEREFORE, P LEASE C ONSIDER **VGA CA RD'S FEA TURE BEFORE** SETTING **"ASSIGN IR Q FOR USB"** AN D " **ASSIGN IR Q FOR VGA."**

3-6 LOAD SETUP DEFAULTS

SELECTING THIS FIELD LOADS T HE F ACTORY DEF AULTS FO R B IOS AND   CHIPSET   FEATURES W HICH T HE SYST EM A UTOMATICALLY DETECTS.

3-7 INTEGRATED PERIPHERALS
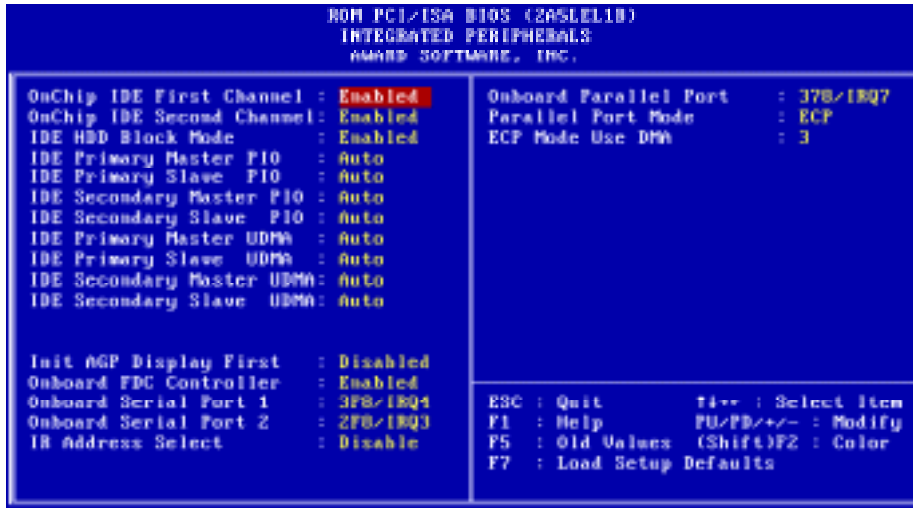
ONCHIP IDE FIRST CHANNEL:
WHEN ENABLED, IT ALLOWS THE IDE DRIVER TO USE THE FIRST CHANNEL OF THE PRIMARY IDE.

ONCHIP IDE SECOND CHANNEL:
WHEN ENABLED, IT ALLOWS THE IDE DRIVE TO USE THE SECOND CHANNEL OF THE PRIMARY IDE.

IDE PRIMARY SLAVE PIO:
THE DEFAULT VALUE IS **AUTO.**
AUTO: BIOS WILL AUTOMATICALLY DETECT THE ONBOARD PRIMARY SLAVE PCI IDE HDD ACCESSING MODE.7
MODE 0-4 : MANUALLY SET THE IDE ACCESSING MODE.

IDE SECONDARY MASTER PIO:
THE DEFAULT VALUE IS **AUTO**.
AUTO   : BIOS WILL AUTOMATICALLY DETECT THE ONBOARD

SECONDARY MASTER PCI IDE HDD ACCESSING MODE.
MODE 0-4 : MANUALLY SETS THE IDE ACCESSING MODE.

IDE PRIMARY MASTER PIO:
THE DEFAULT VALUE IS **AUTO**.

IDE SECONDARY SLAVE PIO:
THE DEFAULT VALUE IS **AUTO**.

ONBOARD FDC CONTROLLER:
THE DEFAULT VALUE IS **ENABLED**.
ENABLED : ENABLED THE ONBOARD I/O CHIP'S FLOPPY DRIVE
INTERFACE CONTROLLER.
DISABLED : DISABLED THE ONBOARD I/O CHIP'S FLOPPY DRIVE
INTERFACE CONTROLLER. WHEN USE ON-CARD
ISA FDC'S CONTROLLER.

ONBOARD SERIAL PORT 1:
THE FIELD ALLOWS THE USER TO SELECT THE SERIAL PORT. THE
DEFAULT VALUE IS **AUTO**.
COM1: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM1/3F8H
COM2: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM2/2F8H
COM3: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM3/3E8H
COM4: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM4/2E8H
DISABLED: DISABLE ONBOARD I/O CHIP'S SERIAL PORT 1.
AUTO : BIOS WILL AUTOMATICALLY DETECT THE ONBOARD SERIAL
PORT.

ONBOARD SERIAL PORT 2:

THE FIELD ALLOWS THE USER TO SELECT THE SERIAL PORT. THE DEFAULT VALUE IS AUTO.
COM1: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM1/3F8H
COM2: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM2/2F8H
COM3: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM3/3E8H
COM4: ENABLE ONBOARD SERIAL PORT1 AND ADDRESS IS COM4/2E8H
DISABLED: DISABLE ONBOARD I/O CHIP'S SERIAL PORT 1.
AUTO : BIOS WILL AUTOMATICALLY DETECT THE ONBOARD SERIAL PORT.

ONBOARD PARALLEL PORT:
THE FIELD ALLOWS THE USER TO SELECT THE LPT PORT. THE DEFAULT VALUE IS 378H/IRQ7.
378H : ENABLE ONBOARD LPT PORT AND ADDRESS IS 378H AND IRQ7
278H : ENABLE ONBOARD LPT PORT AND ADDRESS IS 278H AND IRQ5
3BCH : ENABLE ONBOARD LPT PORT AND ADDRESS IS 3BCH AND IRQ7
DISABLED : DISABLE ONBOARD I/O CHIP'S LPT PORT

3-8 SUPERVISOR PASSWORD

1. IF CMOS IS CORRUPTED OR THE OPTION IS NOT USED, A DEFAULT
PASSWORD STORED IN THE ROM WILL BE USED. THE SCREEN WILL
DISPLAY THE FOLLOWING MESSAGE:

ENTER PASSWORD

**PRESS THE [E NTER] KEY   TO CONTI NUE AF TER
PROPER PASSWORD IS GIVEN.**

2. IF CMOS IS CO RRUPTED OR T HE OPTION IS USED EARL IER, B UT THE
USER WISHES TO CH ANGE DEF AULT P ASSWORD, T HE SET UP U TILITY
WILL DISPLAY A MESSAGE AND ASK FOR A CONFIRMATION.

CONFIRM PASSWORD:

3.AFTER PRESSING THE [EN TER] KEY (ROM P ASSWORD IF T HE OPT ION
WAS NOT USED) OR CURRENT P ASSWORD (USER-DEFINED P ASSWORD),
THE USER CAN CH   ANGE T HE P ASSWORD AND ST ORE NEW ONE   IN
CMOS RAM. A MAXIMUM OF 8 CHARACTERS CAN BE ENTERED.

3-9 IDE HDD AUTO DETECTION

THE " **IDE HDD AUTO DET ECTION**" UTIL ITY IS A VERY USEF UL T OOL
ESPECIALLY W HEN YOU DO N OT KNOW W HICH KIND OF HARD DIS   K
TYPE YOU ARE USING. YOU C AN USE T HIS UT ILITY TO DE TECT THE
CORRECT D ISK TY PE INSTALLED I N TH E S YSTEM AUTOMATICALLY.
YET, NOW YOU C AN SET HARD DISK T YPE TO AUTO IN THE STANDARD
CMOS SETUP. YOU DON'   T NEED T HE"IDE HDD A UTO DE TECTION"
UTILITY.   THE BIOS W ILL AUT O-DETECT THE HA RD DISK SIZE AND
MODEL ON DISPLAY DURING POST.

ROM PCI/ISA BIOS (2A5LEL19)							
CMOS SETUP UTILITY							
AWARD SOFTWARE, INC.							
HARD DISK TYPE	SIZE	CYLS	HEADS	PRECOMP	LANDZONE	SECTORS	MODE
PRIMARY MASTER	343	665	16	65535	664	63	NORMAL
PRIMARY SLAVE							
SECONDARY MASTER							
SECONDARY SLAVE							

NOTE: HDD MODES

THE AWARD BIOS SUPPORTS 3 HDD MODES: NORMAL, LBA&LARGE.

NORMAL MODE:
GENERIC ACCESS MODE EIT HER IN B IOS OR IDE CONT ROLLER W ILL MAKE ANY T RANSFORMATION DU RING ACCESSING. T HE MAXIMUM NUMBER OF C YLINDERS, HE AD & SECTORS FOR NORMAL MODE ARE 1024, 16 & 63.

<div align="center">

NO.CYCLINDER   (1024)
X NO.HEAD   (16)
X NO.SECTOR   (63)
X NO.PER SECTOR (512)
----
528 MEGABYTES

</div>

IF USER SETS IN NORMAL MODE, THE MAXIMUM ACCESSIBLE HDD SIZE WILL BE 528 MEGA BYTE EVEN THOUGH I TS P HYSICAL SIZE MAY BE GREATER THAN THAT !

LBA (LOGICAL BLOCK ADDRESSING) MODE:
A NEW HDD ACCESSING MET HOD T O OVERCOME T HE 52 8 MEGABYTE BOTTLENECK. THE NUMBER OF CYLINDERS, HEAD & SECTORS SHOWN IN SET UP MA Y NOT B E THE NUMB ER PHYSICALLY CO NTAINED IN T HE HDD. DURING HDD A CCESSING, THE IDE CONT   ROLLER W ILL TRANSFORM T HE L OGIC ADD RESS DE SCRIBED BY SECTOR, HEAD & CYLINDER INTO ITS OW N PHYSICAL ADDRESS INSIDE T HE HDD.   THE MAXIMUM HDD SI ZE SUP PORTED B Y L BA MODE   IS 8.4 GIGABYTES WHICH IS OBTAINED BY THE FOLLOWING FORMULA:

<div align="center">

NO.CYLINDER   (1024)
X NO.HEAD   (255)
X NO.SECTOR   (63)
X BYTES.PER SECTOR (512)

8.4 GIGABYTES

</div>

LARGE MODE:
EXTENDED HDD ACCESS MODE SUP PORTED B Y A WARD SO FTWARE. SOME IDE HDDS CONT AIN MOR E T HAN 1024 C YLINDER WITHOUT LBA

SUPPORT (IN SOME CASES, USE R DOES NOT W ANT L BA). THE AWARD
BIOS PROVIDES ANOTHER ALTERNATIVE TO SUPPORT THESE KINDS OF
LARGE MODE:

CYLS.	HEADS	SECTOR	MODE
1120	16	59	NORMAL
560	32	59	LARGE

BIOS TRICKS DOS (OR OTHER OS) THAT THE NUMBER OF CYLINDERS IS
LESS THAN 1024 BY DIVIDING I T IN TO 2. A T THE S AME T IME, THE
NUMBER OF HE ADS IS MU LTIPLIED B Y 2. AVERSE TRANSFORMATION
PROCESS W ILL B E M ADE INSIDE INT 12H IN ORDER TO ACCESS THE
RIGHT HDD ADDESS THE RIGHT HDD ADDRESS !

$$\begin{array}{ll} \text{NO.CYLINDER} & (1024) \\ \text{X NO.HEAD} & (32) \\ \text{X NO.SECTOR} & (63) \\ \text{X BYTES.PER SECTOR} & (512) \\ \hline \text{1 GIGABYTES} \end{array}$$

NOTE:
**TO SUPPORT LBA OR LARGE MODE OF HDDS, THERE MUST BE SOME
SOFTWARES INVOLVED. ALL THESE SOFTWARES AR E LO CATED IN
THE AW ARD HDD S ERVICE ROU TINE (IN T 13H). IT M AY FAIL TO
ACCESS A HDD W ITH LB A (LA RGE) M ODE SEL ECTED IF YOU ARE
RUNNINGING UNDER A OPERATIONAL SYSTEM WHICH REPLACES
THE WHOLE INT 13H. UNIX OPERATIONL SYSTEMS DO NOT SUPPORT
EITHER OR LA RGE AND MUST UTILIZE THE STANDARD MODE. UNIX
CAN SUPPORT DRIVES LARGER THAN 528MB.**

3-10 SAVE & EXIT SETUP

AFTER YOU H AVE M ADE CH ANGES UN DER SET UP, P RESS <ESC> T O RETURN T O THE MA IN MENU. MOVE CUR SOR T O "SAVE AND EXIT SETUP," OR P RESS " F10" A ND T HEN P RESS "Y" T O CHANGE THE CMOS SETUP. IF YOU DIO NOT CHANGE ANYTHING, PRESS <ESC> AGAIN OR MOVE CURSOR TO "EXIT WITHOUT SAVING" AND PRESS "Y" TO RETAIN THE SE TUP SETTINGS. THE FOLL OWING MESS AGE WI LL APPEAR AT THE CENTER OF THE SCREEN TO ALLOW YOU T O SAVE D ATA TO CMOS AND EXIT THE SETUP UTILITY.

SAVE TO CMOS AND EXIT (Y/N)?

3-11 EXIT WITHOUT SAVING

THE " **EXIT WI THOUT S AVING**" OP TION W ILL B RING YOU B ACK TO NORMAL B OOT UP PROCEDURE W ITHOUT SA VING ANY INT O CMOS RAM. ALL OF THE OLD DATA IN T HE CMOS W ILL NOT B E DESTROYED. IF YOU SEL ECT T HIS FEA TURE, THE FOLL OWING MESSAGE WILL APPEAR AT THE CENTER OF THE SCREEN T O ALLOW YOU T O EXIT THE SETUP UTILITY WITHOUT SAVING CMOS MODIFICATIONS:
  QUIT WITHOUT SAVING(Y/N)?

3-12 I/O & MEMORY MAP

MEMORY MAP

ADDRESS RANGE	SIZE	DESCRIPTION
00000-7FFFF	512K	CONVENTIONAL MEMORY
80000-9FBFF	127K	EXTENDED CONVENTIONAL MEMORY
9FC00-9FFFF	1K	EXTENDED BIOS DATA AREA IF PS/2 MOUSE IS INSTALLED
A0000-C7FFF	160K	AVAILABLE FOR HI DOS MEMORY
C8000-DFFFF	96K	AVAILABLE FOR HI DOS MEMORY AND ADAPTER ROMS
E0000-EEFFF	60K	AVAILABLE FOR UMB
EF000-EFFFF	4K	VIDEO SERVICE ROUTINE FOR MONOCHROME & CGA ADAPTER
F0000-F7FFF	32K	BIOS CMOS SETUP UTILITY
F8000-FCFFF	20K	BIOS RUNTIME SERVICE ROUTINE (2)
FD000-FDFFF	4K	PLUG AND PLAY ESCD DATA AREA
FE000-FFFFF	8K	BIOS RUNTIME SERVICE ROUTINE (1)

I/O MAP

000-01F	DMA CONTROLLER (MASTER)
020-021	INTERRUPT CONTROLLER (MASTER)
022-023	CHIPSET CONTROL REGISTERS. I/O POSTS
040-05F	TIMER CONTROL REGISTERS
060-06F	KEYBOARD INTERFACE CONTROLLER (8042)
070-07F	RTC PORTS & CMOS I/O PORTS
080-09F	DMA REGISTER
0A0-0BF	INTERRUPT CONTROLLER (SLAVE)
0C0-0DF	DMA CONTROLLER (SLAVE)
0F0-0FF	MATH COPROCESSOR
1F0-1FB	HARD DISK CONTROLLER
278-27F	PARALLEL PORT 2
2B0-2DF	GRAPHICS ADAPTER CONTROLLER
2F8-2FF	SERIAL PORT 2
360-36F	NETWORK PORTS
378-37F	PARALLEL PORT 1
3B0-3BF	MONOCHROME & PARALLEL PORT ADAPTER
3C0-3CF	EGA ADAPTER
3D0-CDF	CGA ADAPTER
3F0-3F7	FLOPPY DISK CONTROLLER
3F8-3FF	SERIAL PORT-1

3-13 TIME & DMA CHANNELS MAP

TIME MAP:
TIMER CHANNEL 0 SYSTEM TIMER INTERRUPT
TIMER CHANNEL 1 DRAM REFRESH REQUEST
TIMER CHANNEL 2 SPEAKER TONE GENERATOR

DMA CHANNELS:
DMA CHANNEL 0 AVAILABLE
DMA CHANNEL 1 ONBOARD ECP (OPTION)
DMA CHANNEL 2 FLOPPY DISK (SMC CHIP)
DMA CHANNEL 3 ONBOARD ECP (DEFAULT)
DMA CHANNEL 4 CASCADE FOR DMA CONTROLLER 1
DMA CHANNEL 5 AVAILABLE
DMA CHANNEL 6 AVAILABLE
DMA CHANNEL 7 AVAILABLE

3-14 INTERRUPT MAP

NIMI: NON-MASKABLE INTERRUPT

IRQ(H/W): 0 SYSTEM TIMER INTERRUPT FROM TIMER 0
1 KEYBOARD OUTPUT BUFFER FULL
2 CASCADE FOR IRQ8-15
3 SERIAL PORT2
4 SERIAL PORT1
5 PARALLEL PORT 2
6 FLOPPY DISK (SMC CHIP)
7 PARALLEL PORT 1
8 RTC CLOCK
9 AVAILABLE
10 AVAILABLE
11 AVAILABLE
12 PS/2 MOUSE
13 MATH COPROCESSOR
14 ONBOARD HARD DISK (IDE1) CHANNEL
15 ONBOARD HARD DISK (IDE2) CHANNEL

3-15 RTC & CMOS RAM MAP

RTC & CMOS: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
              12   HARD DISK TYPE BYTE
              13   RESERVE
              14   EQUIPMENT TYPE
              15   BASE MEMORY LOW BYTE
              16   BASE MEMORY HIGH BYTE
              17   EXTENSION MEMORY LOW BYTE
              18   EXTENSION MEMORY HIGH BYTE
              19-2D
              2E-2F
              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

3-16 CD DRIVER SETUP AFTER INSTALLATING WINDOWS 98

AFTER SETT ING WINDOWS 98, IT IS REQUIRED T O INSTALL DRIVERS FOR **586XIRQ** AND **VXD-V26** AS BELOW. FIRST, PERFORM **"SETUP"** IN **586XIRQ,** AND THEN FOLLOWS **"SETUP"** IN **VXD-V26.**
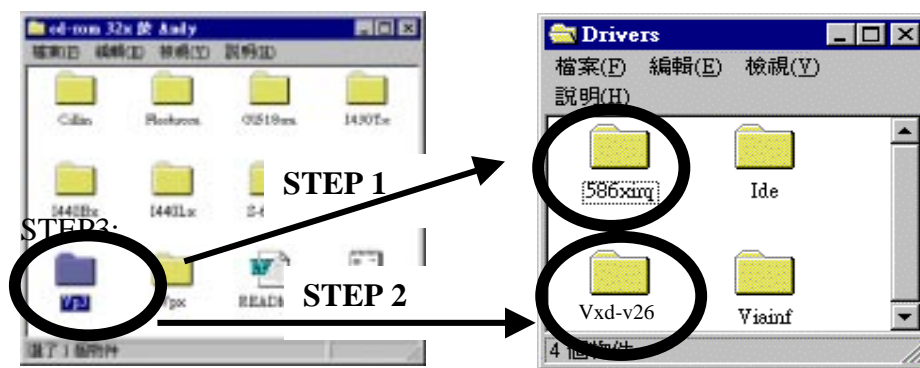
*IF THE CD DRIVER IS B EFORE/INCLUDES VER.1.6, P LEASE DOWNLOAD THE LASTEST VERSION FROM OUR WEBSITE :

WWW.LUCKY-STAR.COM.TW