

UMC 486 VESA BUS

User's Manual

(4FVUD-1.0)

Mainboard



ISA BUS

EISA BUS

LOCAL BUS

CHAPTER 1

Introduction

The UMC 486 system board is a high-performance personal computer system board based on an 80486 microprocessor running at 25/33/40/50 MHz. The board offers a socket for a hand-inserted cpu.

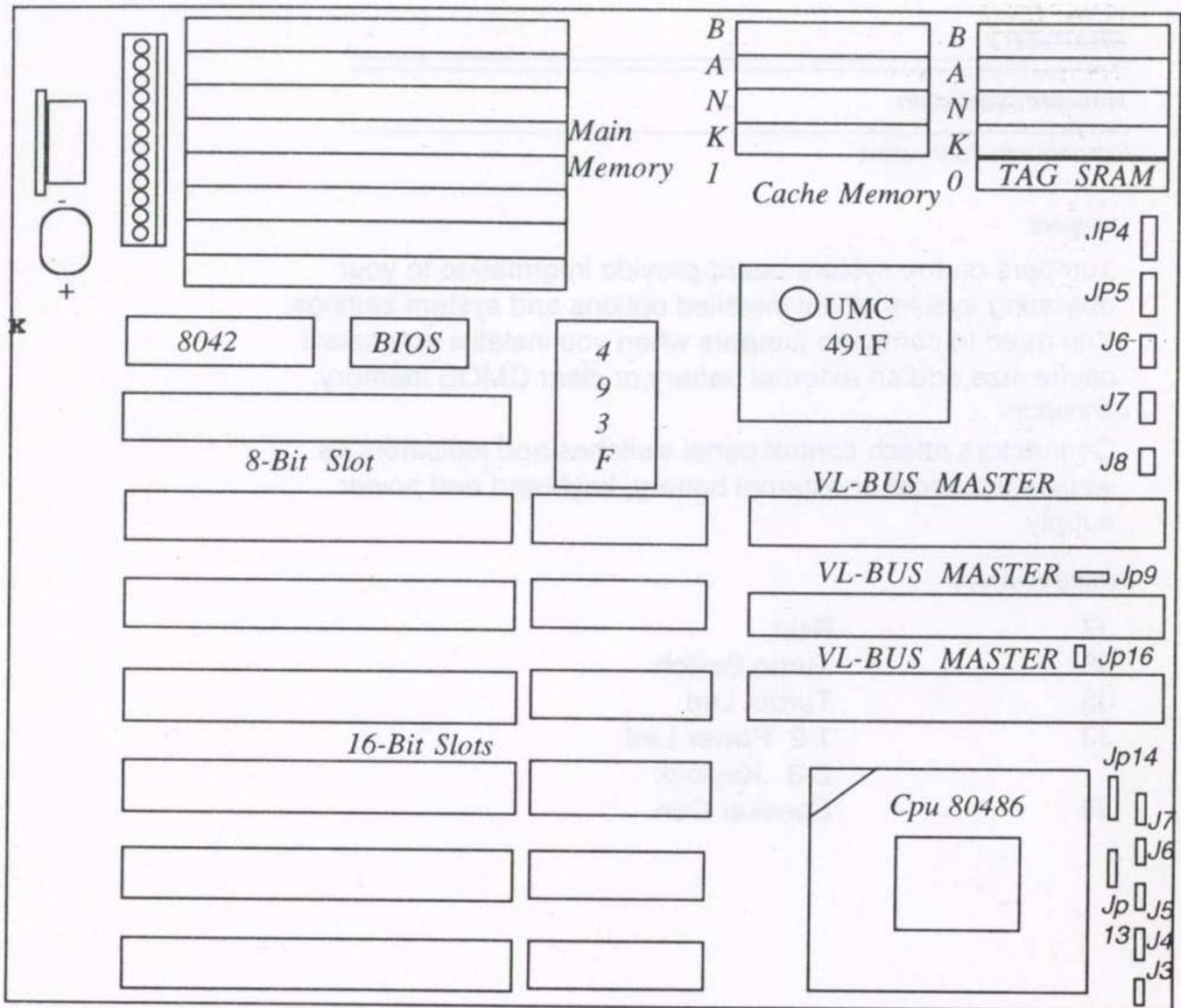
A cache subsystem can be configured for 32kb, 64kb, 128kb, or 256kb cache memory to improve overall throughput. The board also features three 32-bit Local Bus slots for VESA standard.

The UMC 486 system board uses the highly integrated UMC 491F chip that integrates all system control functions.

FEATURES

The advanced features of the the 4FVUD motherboard include:

- . One of the following CPUS:
 - Intel i486DX CPU running at 33 or 50 MHz,
 - Intel i486DX2 CPU running at 50 or 66MHz,
 - Intel 80486SX CPU running at 20or 25MHz,
- . Internal 8K cache with 4-way set associate alogorithm built into the CPU
- . External 32K/64K/128K/256K cache system
- . Memory support up to 32Mbytes with combinations of 256K, 1M, and 4M SIMM modules.
- . Three 32-BIT VESA BUS MASTER slots
- . Six 16-bit ISA slots and one 8-bit ISA slot
- . AMI BIOS



UMC491 Placement

CHAPTER 2

Hardware installation

Jumpers and Connectors

Jumpers

Jumpers on the system board provide information to your operating system about installed options and system settings. You need to configure jumpers when you install a cpu,select cache size,add an external battery,or clear CMOS memory.

Connectors

Connectors attach control panel switches and indicators,as well as the speaker,external battery, keyboard and power supply.

Setting Jumpers

J7	Rset
J8	Turbo Switch
J5	Turbo Led
J3	1-2 Power Led 2-3 Keylock
J4	Speaker Con.

CPU Type Selectors: JP3 , JP13 , JP14

The UMC 491 system board can support several type of CPU. To configure the system board to recognize which type of CPU is installed, you must set jumpers JP3, JP13, and JP14 as below.

CPU	JP13	JP14
486	1-2,2-3	1-2
P23	2-3	open
p23N	1-2,3-4	2-3

JP3	short enable cx487s
	open disable cx487s

Cache Memory Selection: Jp4 - JP8

The system board supports 32K, 64K, 128K or 256K of cache memory. You configure cache memory by installing 8K8 or 32K8 SRAM chips in Data RAM sockets U13 - U16 and U21- U24, and in TAG RAM socket U20, and then setting the cache jumpers.

Cache Size and Memory Locations

Cache Size	Tag RAM (U20)	Data RAM (U13-U16)	Data RAM (U21-U26)
32K	8k8	None	32K8
64K	8K8	8K8	8K8
128K	8K8	None	32K8
256K	32K8	32K8	32K8

Cache Size Selection :

Cache Size	JP4	JP5	JP6	JP7	JP8
32K					
64K	open	1-2	Off	On	On
128K	2-3	2-3	Off	On	On
256K	1-2	1-2	On	On	On

Memory Bank Configuration

The UMC 486 system board supports two memory banks on-board, numbered bank 0 and bank 1. User needn't care which bank he should install which type DRAM. So these functions are very convenient to End-user.

Table 2-1 below for possible configurations.

Bank 0	Bank 1	Memory
256K	----	1M
256K	256K	2M
1M	-----	2M
256K	1M	5M
1M	-----	4M
1M	256K	5M
1M	1M	8M
4M	-----	16M
256K	4M	17M
4M	256K	17M
1M	4M	20M
4M	1M	20M
4M	4M	32M

VL-Bus Master Setting : JP9, JP16

Settings

CPU Speed	JP9	JP16
<= 33MHz	Off	1-2
> 33MHz	On	2-3

Table 1 below for possible configurations

Bank 0	Bank 1	Memory
1M	1M	2M
2M	2M	4M
4M	4M	8M
8M	8M	16M
16M	16M	32M
32M	32M	64M
64M	64M	128M
128M	128M	256M
256M	256M	512M
512M	512M	1024M
1024M	1024M	2048M
2048M	2048M	4096M
4096M	4096M	8192M
8192M	8192M	16384M
16384M	16384M	32768M
32768M	32768M	65536M
65536M	65536M	131072M
131072M	131072M	262144M
262144M	262144M	524288M
524288M	524288M	1048576M
1048576M	1048576M	2097152M
2097152M	2097152M	4194304M
4194304M	4194304M	8388608M
8388608M	8388608M	16777216M
16777216M	16777216M	33554432M
33554432M	33554432M	67108864M
67108864M	67108864M	134217728M
134217728M	134217728M	268435456M
268435456M	268435456M	536870912M
536870912M	536870912M	1073741824M
1073741824M	1073741824M	2147483648M
2147483648M	2147483648M	4294967296M
4294967296M	4294967296M	8589934592M
8589934592M	8589934592M	17179869184M
17179869184M	17179869184M	34359738368M
34359738368M	34359738368M	68719476736M
68719476736M	68719476736M	137438953472M
137438953472M	137438953472M	274877906944M
274877906944M	274877906944M	549755813888M
549755813888M	549755813888M	1099511627776M
1099511627776M	1099511627776M	2199023255552M
2199023255552M	2199023255552M	4398046511104M
4398046511104M	4398046511104M	8796093022208M
8796093022208M	8796093022208M	17592186044416M
17592186044416M	17592186044416M	35184372088832M
35184372088832M	35184372088832M	70368744177664M
70368744177664M	70368744177664M	140737488355328M
140737488355328M	140737488355328M	281474976710656M
281474976710656M	281474976710656M	562949953421312M
562949953421312M	562949953421312M	1125899906842624M
1125899906842624M	1125899906842624M	2251799813685248M
2251799813685248M	2251799813685248M	4503599627370496M
4503599627370496M	4503599627370496M	9007199254740992M
9007199254740992M	9007199254740992M	18014398509481984M
18014398509481984M	18014398509481984M	36028797018963968M
36028797018963968M	36028797018963968M	72057594037927936M
72057594037927936M	72057594037927936M	144115188075855872M
144115188075855872M	144115188075855872M	288230376151711744M
288230376151711744M	288230376151711744M	576460752303423488M
576460752303423488M	576460752303423488M	1152921504606846976M
1152921504606846976M	1152921504606846976M	2305843009213693952M
2305843009213693952M	2305843009213693952M	4611686018427387904M
4611686018427387904M	4611686018427387904M	9223372036854775808M
9223372036854775808M	9223372036854775808M	18446744073709551616M
18446744073709551616M	18446744073709551616M	36893488147419103232M
36893488147419103232M	36893488147419103232M	73786976294838206464M
73786976294838206464M	73786976294838206464M	147573952589676412928M
147573952589676412928M	147573952589676412928M	295147905179352825856M
295147905179352825856M	295147905179352825856M	590295810358705651712M
590295810358705651712M	590295810358705651712M	1180591620717411303424M
1180591620717411303424M	1180591620717411303424M	2361183241434822606848M
2361183241434822606848M	2361183241434822606848M	4722366482869645213696M
4722366482869645213696M	4722366482869645213696M	9444732965739290427392M
9444732965739290427392M	9444732965739290427392M	18889465931478580854784M
18889465931478580854784M	18889465931478580854784M	37778931862957161709568M
37778931862957161709568M	37778931862957161709568M	75557863725914323419136M
75557863725914323419136M	75557863725914323419136M	151115727451828646838272M
151115727451828646838272M	151115727451828646838272M	302231454903657293676544M
302231454903657293676544M	302231454903657293676544M	604462909807314587353088M
604462909807314587353088M	604462909807314587353088M	1208925819614629174706176M
1208925819614629174706176M	1208925819614629174706176M	2417851639229258349412352M
2417851639229258349412352M	2417851639229258349412352M	4835703278458516698824704M
4835703278458516698824704M	4835703278458516698824704M	9671406556917033397649408M
9671406556917033397649408M	9671406556917033397649408M	19342813113834066795298816M
19342813113834066795298816M	19342813113834066795298816M	38685626227668133590597632M
38685626227668133590597632M	38685626227668133590597632M	77371252455336267181195264M
77371252455336267181195264M	77371252455336267181195264M	154742504910672534362390528M
154742504910672534362390528M	154742504910672534362390528M	309485009821345068724781056M
309485009821345068724781056M	309485009821345068724781056M	618970019642690137449562112M
618970019642690137449562112M	618970019642690137449562112M	1237940039285380274899124224M
1237940039285380274899124224M	1237940039285380274899124224M	2475880078570760549798248448M
2475880078570760549798248448M	2475880078570760549798248448M	4951760157141521099596496896M
4951760157141521099596496896M	4951760157141521099596496896M	9903520314283042199192993792M
9903520314283042199192993792M	9903520314283042199192993792M	19807040628566084398385987584M
19807040628566084398385987584M	19807040628566084398385987584M	39614081257132168796771975168M
39614081257132168796771975168M	39614081257132168796771975168M	79228162514264337593543950336M
79228162514264337593543950336M	79228162514264337593543950336M	158456325028528675187087900672M
158456325028528675187087900672M	158456325028528675187087900672M	316912650057057350374175801344M
316912650057057350374175801344M	316912650057057350374175801344M	633825300114114700748351602688M
633825300114114700748351602688M	633825300114114700748351602688M	1267650600228229401496703205376M
1267650600228229401496703205376M	1267650600228229401496703205376M	2535301200456458802993406410752M
2535301200456458802993406410752M	2535301200456458802993406410752M	5070602400912917605986812821504M
5070602400912917605986812821504M	5070602400912917605986812821504M	10141204801825835211973625643008M
10141204801825835211973625643008M	10141204801825835211973625643008M	20282409603651670423947251286016M
20282409603651670423947251286016M	20282409603651670423947251286016M	40564819207303340847894502572032M
40564819207303340847894502572032M	40564819207303340847894502572032M	81129638414606681695789005144064M
81129638414606681695789005144064M	81129638414606681695789005144064M	162259276829213363391578010288128M
162259276829213363391578010288128M	162259276829213363391578010288128M	324518553658426726783156020576256M
324518553658426726783156020576256M	324518553658426726783156020576256M	649037107316853453566312041152512M
649037107316853453566312041152512M	649037107316853453566312041152512M	1298074214633706907132624082305024M
1298074214633706907132624082305024M	1298074214633706907132624082305024M	2596148429267413814265248164610048M
2596148429267413814265248164610048M	2596148429267413814265248164610048M	5192296858534827628530496329220096M
5192296858534827628530496329220096M	5192296858534827628530496329220096M	10384593717069655257060992658440192M
10384593717069655257060992658440192M	10384593717069655257060992658440192M	20769187434139310514121985316880384M
20769187434139310514121985316880384M	20769187434139310514121985316880384M	41538374868278621028243970633760768M
41538374868278621028243970633760768M	41538374868278621028243970633760768M	83076749736557242056487941267521536M
83076749736557242056487941267521536M	83076749736557242056487941267521536M	166153499473114484112975882535042072M
166153499473114484112975882535042072M	166153499473114484112975882535042072M	332306998946228968225951761070084144M
332306998946228968225951761070084144M	332306998946228968225951761070084144M	664613997892457936451903522140168288M
664613997892457936451903522140168288M	664613997892457936451903522140168288M	132922799578491587290380704428336576M
132922799578491587290380704428336576M	132922799578491587290380704428336576M	265845599156983174580761408856673152M
265845599156983174580761408856673152M	265845599156983174580761408856673152M	531691198313966349161522817713346304M
531691198313966349161522817713346304M	531691198313966349161522817713346304M	1063382396627932698323045634426692608M
1063382396627932698323045634426692608M	1063382396627932698323045634426692608M	2126764793255865396646091268853385216M
2126764793255865396646091268853385216M	2126764793255865396646091268853385216M	4253529586511730793292182537706770432M
4253529586511730793292182537706770432M	4253529586511730793292182537706770432M	8507059173023461586584365075413540864M
8507059173023461586584365075413540864M	8507059173023461586584365075413540864M	17014118346046923173168730150827081728M
17014118346046923173168730150827081728M	17014118346046923173168730150827081728M	3402823669209384634633746030165416352M
3402823669209384634633746030165416352M	3402823669209384634633746030165416352M	6805647338418769269267492060330832704M
6805647338418769269267492060330832704M	6805647338418769269267492060330832704M	13611294676837538538534984120661665408M
13611294676837538538534984120661665408M	13611294676837538538534984120661665408M	27222589353675077077069968241323330176M
27222589353675077077069968241323330176M	27222589353675077077069968241323330176M	54445178707350154154139936482646660352M
54445178707350154154139936482646660352M	54445178707350154154139936482646660352M	108890357414700308308279872965293327008M
108890357414700308308279872965293327008M	108890357414700308308279872965293327008M	217780714829400616616559745930586654016M
217780714829400616616559745930586654016M	217	

AMIBIOSSETUPPROGRAM

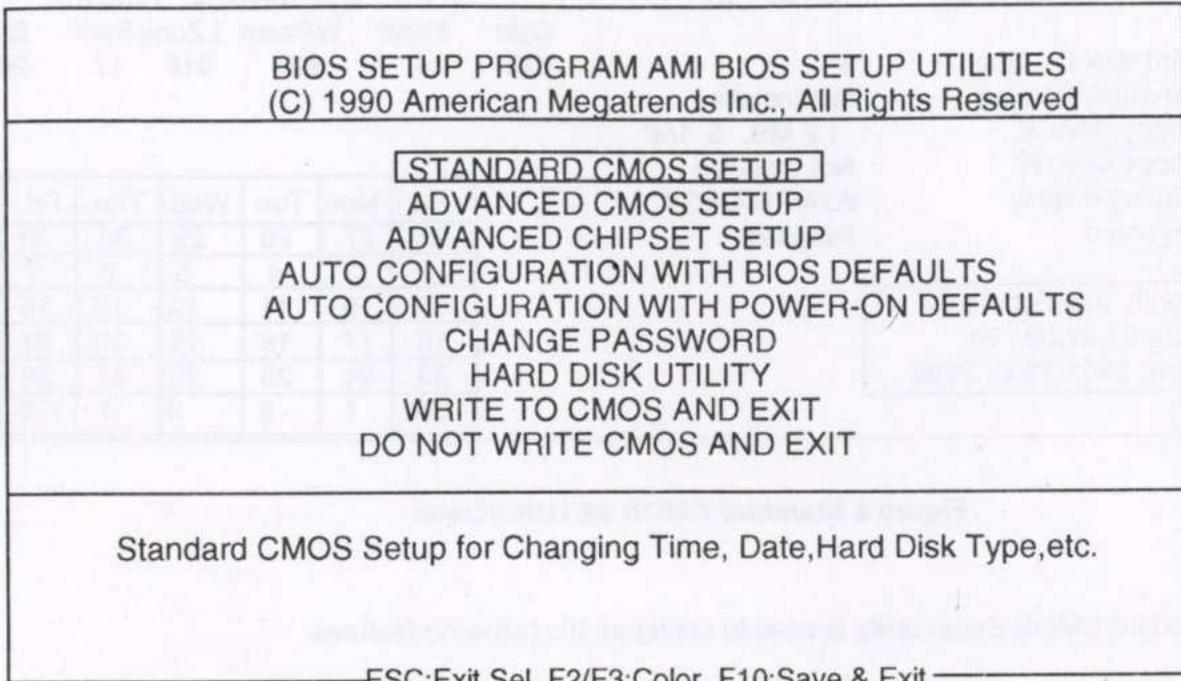
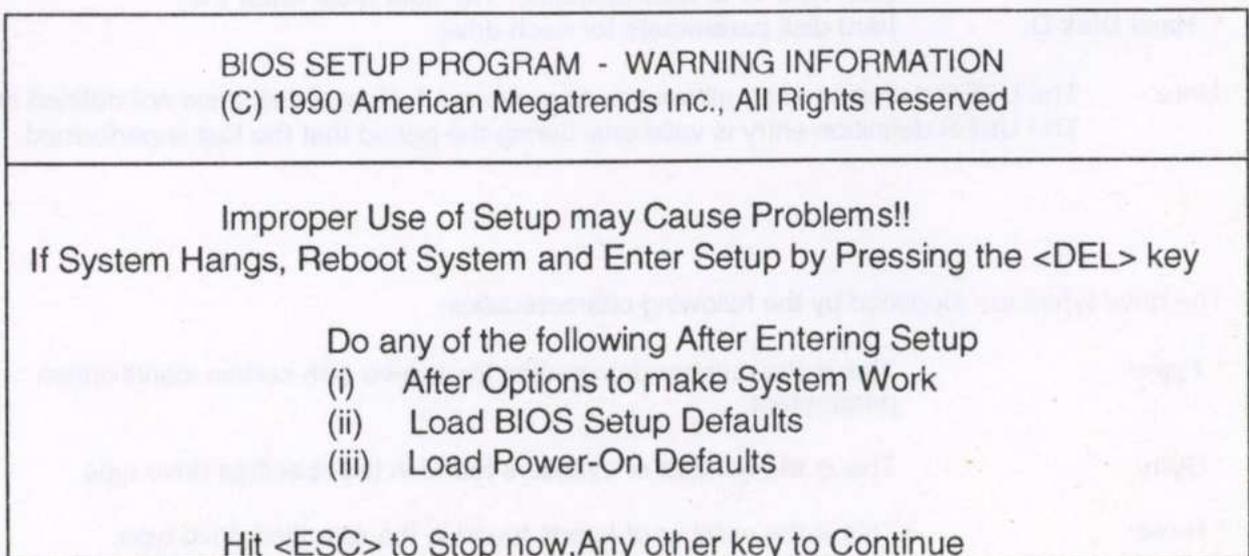


Figure 1

The generic menu options of the BIOS SETUP Program are shown in Figure 1

A warning message, shown in below is displayed each time one of the first three options (Standard CMOS Setup, Advanced CMOS Setup, and Advanced Chips Set Setup) is selected, before any changes are showed to any of the setup parameters.



BIOS SETUP PROGRAM-STANDARD CMOS SETUP
 (C) 1990 American Megatrends Inc., All Rights Reserved

Date (mn/date/year)	: Sun, Feb,2,1992	Base memory:	640 KB				
TIME (hour/min/sec)	: 15 : 01 : 16	Ext. memory:	1408 KB				
Hard disk C: type	: 2	Cyln	Head	WPcom	LZone	Sect	Size
Hard disk D: type	: Not Installed	615	4	300	615	17	20MB
Floppy drive A:	: 1.2 MB, 5 1/4"						
Floppy drive B:	: Not Installed						
Primary display	: VGA/PGA/EGA						
Keyboard	: Installed						

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Month: Jan, Feb....Dec
Date: 01, 02, 03...31
Year: 1901, 1902..2099

Figure 2 Standard CMOS SETUP Screen

The Standard CMOS Setup utility is used to configure the following features:

* **Date:** Month, Date, and Year, Ranges for each value are listed below in prompt box in the lower left corner of the CMOS Setup Screen (Figure 2).

* **Time:** Hour, Minute, and Second. Uses 24 hour clock format, i.e., for PM numbers, add 12 to the hour. You would enter 4:30 P.M. as 16:30:00.

* **Daylight Saving:** Disabled or Enabled.

* **Hard Disk C:** Hard disk types from 1 to 46 are standard ones: and type 47 is user definable. The user must enter the

* **Hard Disk D:** hard disk parameters for each drive.

Note: The USER definition entry allows you to perform a test on a disk drive not defined in ROM. The USER definition entry is valid only during the period that the test is performed.

The drive types are identified by the following characteristics:

* **Type:** This is the number designation for a drive with certain identification parameters.

* **Cyln:** This is the number of cylinders found in the specified drive type.

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

* **WPcom:** WPcom is the read delay circuitry which takes into account the timing differences between the inner and outer edges of the surface of the disk platter .

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

* **Capacity:** This is the formatted capacity of the drive based on the following formula:
 (# of heads) x (#of cylinders) x (17 secs/cyl) x (512 bytes/sec)

Listed below are the attributes for disk types 1 through 46.

Type	Cyln	Head	WPcom	LZone	Sect	Size
1	306	4	128	305	17	10MB
2	615	4	300	615	17	20MB
3	615	6	300	615	17	31MB
4	940	8	512	940	17	62MB
5	940	6	512	940	17	47MB
6	615	4	65535	615	17	20MB
7	462	8	256	511	17	31MB
8	733	5	65535	733	17	30MB
9	900	15	65535	901	17	112MB
10	820	3	65535	820	17	20MB
11	855	5	65535	855	17	35MB
12	855	7	65535	855	17	50MB
13	306	8	128	319	17	20MB
14	733	7	65535	733	17	43MB
16	612	4	0	663	17	20MB
17	977	5	300	977	17	41MB
18	977	7	65535	977	17	57MB
19	1024	7	512	1023	17	60MB
20	733	5	300	732	17	30MB
21	733	7	300	732	17	43MB
22	733	5	300	733	17	30MB
23	306	4	0	336	17	10MB
24	925	7	0	925	17	54MB
25	925	9	65535	925	17	69MB
26	754	7	754	754	17	44MB
27	754	11	65535	754	17	69MB
28	699	7	256	699	17	41MB
29	823	10	65535	823	17	68MB
30	918	7	918	918	17	53MB
31	1024	11	65535	1024	17	94MB
32	1024	15	65535	1024	17	128MB
33	1024	5	1024	1024	17	43MB
34	612	2	128	612	17	10MB
35	1024	9	65535	1024	17	77MB
36	1024	8	512	1024	17	68MB

37	615	8	128	615	17	41MB
38	987	3	987	987	17	25MB
39	987	7	987	987	17	57MB
40	820	6	820	820	17	41MB
41	977	5	977	977	17	41MB
42	981	5	981	981	17	41MB
43	830	7	512	830	17	48MB
44	830	10	65535	830	17	69MB
45	917	15	65535	918	17	114MB
46	1224	15	65535	1223	17	152MB

"Not Installed" is available for use as an option.

This option could be used for diskless workstations and SCSI hard disks. Type 47 may be used for both hard disks C: and D:.

The parameters for type 47 under Hard Disk C: and Hard Disk D: may be different, which effectively allows 2 different user-definable hard disk types

* Floppy Drive A and Floppy Drive B: The options are 360 KB 5 1/4", 1.2 MB 5 1/4", 720KB 3 1/2", 1.44MB 3 1/2", 2.88MB 3 1/2", and Not installed. Not installed could be used as an option for diskless workstations.

* Primary Display: Options are Monochrome, Color 40 x 25, VGA/PGA/EGA, Color 80 x 25, and Not Installed. The Not installed option could be used for network file servers.

* Keyboard: Options are installed or Not installed.

ADVANCED CMOS SETUP

BIOS SETUP PROGRAM AMI BIOS SETUP UTILITIES
(C) 1990 American Megatrends Inc., All Rights Reserved

STANDARD CMOS SETUP
ADVANCED CMOS SETUP
 ADVANCED CHIPSET SETUP
 AUTO CONFIGURATION WITH BIOS DEFAULTS
 AUTO CONFIGURATION WITH POWER-ON DEFAULTS
 CHANGE PASSWORD
 HARD DISK UTILITY
 WRITE TO CMOS AND EXIT
 DO NOT WRITE CMOS AND EXIT

Advanced CMOS Setup for Configuring System Option

ESC:Exit Sel F2/F3:Color F10:Save & Exit

Figure 3

Typematic Rate Programming

- Extended Memory Test
- Memory Test Tick Sound
- Memory Parity Error Check
- HitMessage Display
- Wait for<F1>If Any Error
- Internal/External Cache Memory
- (486) of Cache Memory (386)
- * Fast Gate A20 Option
- * Video of Adapter ROM Shadow
- * GA20 Line After System Boot

The options for the following featuers of the Advancde CMOS setup are either "Present" or "Absent:"

- Numeric Processor
- Weitek Processor

The options for Power-On Up Num Lock are "On" or "Off."

The options for system boot Up Speed are "High" or "Low."

BIOS SETUP PROGRAM - ADVANCED CMOS SETUP (C)1993 American Megatrends Inc., All Rights Reserved	
Typematic Rate Programming	: Disabled
Typematic Rate Delay (msec)	: 500
Typematic Rate (Chars/Sec)	: 15
Above 1 MB Memory Test	: Disabled
Memory Test Tick Sound	: Enabled
Memoty Parity Error Check	: Enabled
Hit Message Display	: Enabled
Hard Disk Type 47 RAM Area	: 0:300
Wait For <F1> If Any Error	: Enabled
System Boot Up Num Lock	: On
System Boot Up CPU Speed	: Hight
Floppy Driver Seek At Boot	: Disabled
System Boot Up Sequence	: A: , C:
External Cache Memory	: Enabled
Internal Cache Memory	: Enabled
Password Checking Option	: Setup
Fast Gate A20 Option	: Enable

Figure 4

A short description follows for each of the options on the Advanced CMOS Setup Screen.

Typematic Rate Programming :

By enabling this option, the user can adjust the rate at which a keystroke is repeated. The options "Typematic Rate Delay" and "Typematic Rate" affect this rate. When a key is pressed and held down, the character appears on the screen and after a delay set by the Typematic Rate Delay, it keeps on repeating at a rate set by the Typematic Rate value. When two or more keys are pressed and held down simultaneously, only the last key pressed will be repeated at the typematic

rate. This stops when the last key pressed is released, even if other keys are depressed.

Extended Memory Test:

This feature, when enabled, will invoke the POST memory routines on the RAM above 1 MB (if present on the system). If disabled, the BIOS will only check the first 1MB of RAM.

Memory Test Tick Sound:

This option will enable (turn on) or disable (turn off) the "ticking" sound during the memory test.

Memory Parity Error Check:

If the system board does not have parity RAM, the user may disable the memory parity error checking routines in the BIOS. The user should check with the manufacturer regarding the proper setting of this option.

Hit Message Display :

Disabling this option, will prevent the message:

"Hit if you want to run SETUP"

From appearing on the screen when the system boots-up.

Hard Disk Type 47 Data Area :

the AMI BIOS SETUP features two user-definable hard disk types.

Normally, the data for these disk types are stored at 0:300 in lower system RAM.

If a problem occurs with other software, this data can be located at the upper limit of the DOS shell (640KB). If the option is set to "DOS 1 KB," the DOS Shell is shortened to 639 KB, and the top KB is used for the hard disk data storage. Please refer to Figure 4 for this option.

Wait for <F1> If Any Error :

Before the system boots-up, the BIOS will execute the POST routines, a series of system diagnostic routines. If any of these tests fail, but a non-fatal error has occurred and the system can still function, the BIOS will respond with an appropriate error message followed by the following statement:

"Press <F1> to continue."

If this option is disabled, any non-fatal error which occurs will not generate the above statement, but the BIOS will still display the appropriate error message. This will eliminate the need for any user response to a non-fatal error condition message..

System Boot Up Num Lock :

The user may turn off the "numlock" option on his Enhanced Keyboard when the system is powered on. This will allow him to use the arrow keys on the numeric keypad instead of using the other set of arrow keys on the Enhanced Keyboard. The BIOS will default to turning the "num lock"

Floppy Drive Seek At Boot :

The default for this option is "Disabled" to allow a fast boot and to decrease the possibility of damage to the heads.

System Boot Up CPU Speed :

The speed at which the system will boot up is determined with this option. Choices for this option are "high" or "low". The default speed is "low".

System Boot Up Sequence :

The AMI BIOS will normally attempt to boot from floppy drive A: (if present), and if unsuccessful, it will attempt to boot from hard disk C: This sequence can be switched using this option if the option is set to "C: ,A:," the system will attempt to boot from the hard drive C: and then A: If the option is set to "A: , C:," the sequence is reversed. Please refer to Figure 4 for this option.

Password Check Option :

The password feature can be used to prevent unauthorized system boot-up or unauthorized use of BIOS SETUP. The option in the BIOS SETUP only allows the user to enable the password check option every time the system boots or upon entering SETUP only. Second option is to disable the password option entirely.

The default option is "**Setup.**" The prompt for the password will not appear when the system is rebooted.

If the "**Always**" option is chosen at Setup, each time the system is turned on, i.e. "booted," the prompt for user password will appear.

If the "**Setup**" option is chosen at Setup. The password prompt will not appear when the system is turned on, but will appear if the user attempts to enter the Setup program.

The program allows three attempts to key in the correct password. After each incorrect attempt, the prompt to enter the current password will appear; followed by an "X." After the third incorrect attempt, the system will lock and it will be necessary to reboot. The screen will not display the characters entered.

External Cache Memory:

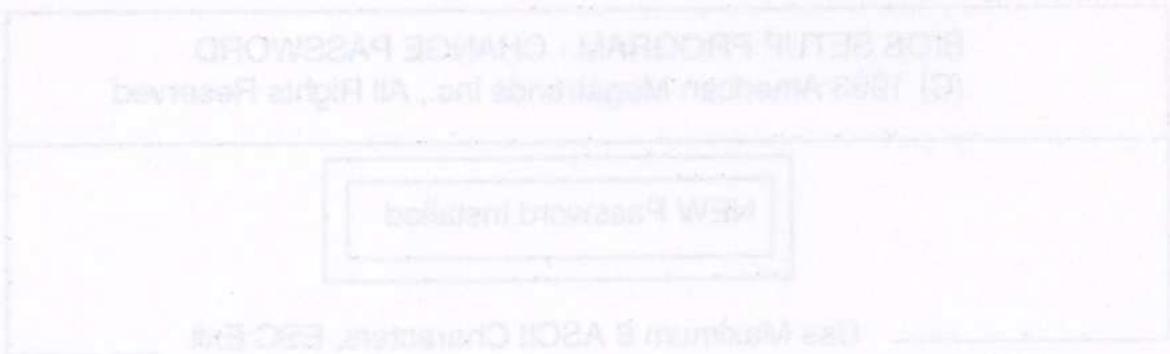
With this option, the user may enable or disable the 64K, 128K, 256K External cache.

Internal Cache Memory:

With this option, the user may enable or disable the CPU's Internal Cache Memory.

Fast Gate A20 option:

This option supported in some chip sets, to access any memory above 1MB.



Once setup is completed and the changed values have been stored in the CMOS, when the system next boots, the new will be prompted for the password if the password function is desired.

BIOS SETUP PROGRAM - CHANGE PASSWORD
(C) 1993 American Megatrends Ins., All Rights Reserved

Enter CURRENT Password:

Use Maximum 6 ASCII Characters, ESC:Exit

The first time you select this option, enter the default password AMI, or the default password specified in your system documentation, then press <Enter> to complete your selection. The screen will not display the characters entered. After the current password has been correctly entered, the screen in following Figure will appear, prompting you for the new password.

BIOS SETUP PROGRAM - CHANGE PASSWORD
(C) 1993 American Megatrends Inc., All Rights Reserved

Enter NEW Password :

Use Maximum 6 ASCII Characters, ESC:Exit

After the new password is entered, the prompt in above figure will appear. Rekey the new password and press <Enter>.

If the new password confirmation is entered without error, the screen in following will appear. Press <ESC> to return to the Main Setup menu.

BIOS SETUP PROGRAM - CHANGE PASSWORD
(C) 1993 American Megatrends Inc., All Rights Reserved

NEW Password Installed

Use Maximum 6 ASCII Characters, ESC:Exit

Once Setup is completed and the changed values have been stored in the CMOS, when the system next boots. The user will be prompted for the password if the password function is present and has been enabled.

ADVANCED CHIPSET SETUP

BIOS SETUP PROGRAM AMI BIOS SETUP UTILITIES
(C) 1993 American Megatrends Inc., All Rights Reserved

STANDARD CMOS SETUP
ADVANCED CMOS SETUP
ADVANCED CHIPSET SETUP
AUTO CONFIGURATION WITH BIOS DEFAULTS
AUTO CONFIGURATION WITH POWER-ON DEFAULTS
CHANGE PASSWORD
HARD DISK UTILITY
WRITE TO CMOS AND EXIT
DO NOT WRITE CMOS AND EXIT

Advanced CHIPSET Setup for Configuring the CHIPSET Registers

ESC:Exit Sel F2/F3:Color F10:Save & Exit

BIOS SETUP PROGRAM - ADVANCED CHIPSET SETUP
(C) 1993 American Megatrends Inc., All Rights Reserved

AUTO Config Function	:Disabled	Memory Remapping	:Enable
Cache Read Option	:3-2-2-2	F Segment Shodow RAM	:Enable
Cache Write Option	:1w.s.	E Segment Shodow RAM	:Disable
DRAM Type	:Page Mode	C000-C3FF Shodow RAM	:Enable
DRAM Wait State(s)	:2 W.S.	C400-C7FF Shodow RAM	:Disable
Keyboard Clock Select	:CPUClk/6	C800-CBFF Shodow RAM	:Disable
AT Clock Select	:CPUClk/6	CC00-CFFF Shodow RAM	:Disable
IO Recover time	:5/3 Bus Clock	D000-D3FF Shodow RAM	:Disable
HOLD PD Bus	:2-3T	D400-D7FF Shodow RAM	:Disable
Coprocessor Ready	:Delay 1T	D800-DBFF Shodow RAM	:Disable
Check ELBA# Singal	:In T2	DC00-DFFF Shodow RAM	:Dsable
Non-Cacheable Block1 Enable	:Disabled	Data Location Of Local Bus	:Isa
Non-Cacheable Block1 Size	:4MB	LowA20# ; RC Emulation	:None
Non-Cacheable Block1 Base	:0KB	Stretch Ows# Sngal Option	:Do Not
Non-Cacheable Block2 Enable	:Disabled	Hardware Parity Check	:Disable
Non-Cacheable Block2 Size	:16MB	Cyrix Cx487s Math Processor	:Absent
Non-Cacheable Block2 Base	:0KB		

AUTO Config Function : Choose Enabled or Disabled. Enabled automatically sets all parameters related to DRAM and cache. The automatic settings consider reliability and performance trade-offs. Enabled is the recommended option.

If you choose Enabled, the screen setting the following six items have no effect.

If you choose Disabled, you must set the DRAM and cache through the following four items.

Cache Read Option:

CPU Speed (MHz)	Option
DX 50	3-2-2-2
DX 40	3-2-2-2
DX 33 or DX-2 66	2-1-1-1
DX 25, DX-2 50 or below	2-1-1-1

Cache Write Option:

CPU Speed(MHz)	Option
Dx50	1WS
DX40	1WS
DX33 OR DX2-66	0WS
DX25,DX2-50 OR Below	0WS

DRAM Type:

CPU Speed(MHz)	Option
DX50	Page Mode
DX40	Page Mode
DX33 OR DX2-66	Fast Page
DX25,DX2-50 OR Below	Fast Page

DRAM Wait State(s):

CPU Speed(MHz)	Option
DX50	2W.S.
DX40	2W.S.
DX33 OR DX2-66	1W.S.
DX25,DX2-50 OR Below	1W.S.

Non-cacheable Bock There are two non-cacheable areas. Each area has a 0KB to 4KB range that is selectable. Memory space is mapped by both the on board DRAM and EISA add-on memory. If you select DRAM as non-cacheable, the CPU access the add-on memory. If you select AT Bus as non-cacheable, the CPU access the on board memory. If you select a non-cacheable area size of 0KB, the function is disabled and the CPU access the on board memory first.

AT Clock Select :

CPU Speed(MHz)	Option
DX50	CPUClk/6
DX40	CPUCk/5
DX33 OR DX2-66	CPUCk/4
DX25,DX2-50 OR Below	CPUCk/3

I/O Recovery Select : Choose 3, 4, 5, or 11 BCLKs. The system provides four type of programmable I/O recovery time for the CPU to 8-bit ISA I/O cycle.

UMC 486 VL BUS M/B ----- APPEND A

1. CLOCK GENERATOR SETTING

CLOCK	JP10	JP11
33Mhz	CLOSE	OPEN
40Mhz	CLOSE	CLOSE
50Mhz	OPEN	CLOSE

