386 -VC-H

Mainboard
User's Manual

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INTRODUCTION

SYSTEM GUIDE

The 386-W-H Cache System Motherboard

The 386-W-H Cache System board is a high performance system board, utilizing the VIA Technology Inc.'s VT82C480 80386 PC/AT chipset, that offers outstanding features and performance for building advanced personal computers or workstations.

High-speed Memory

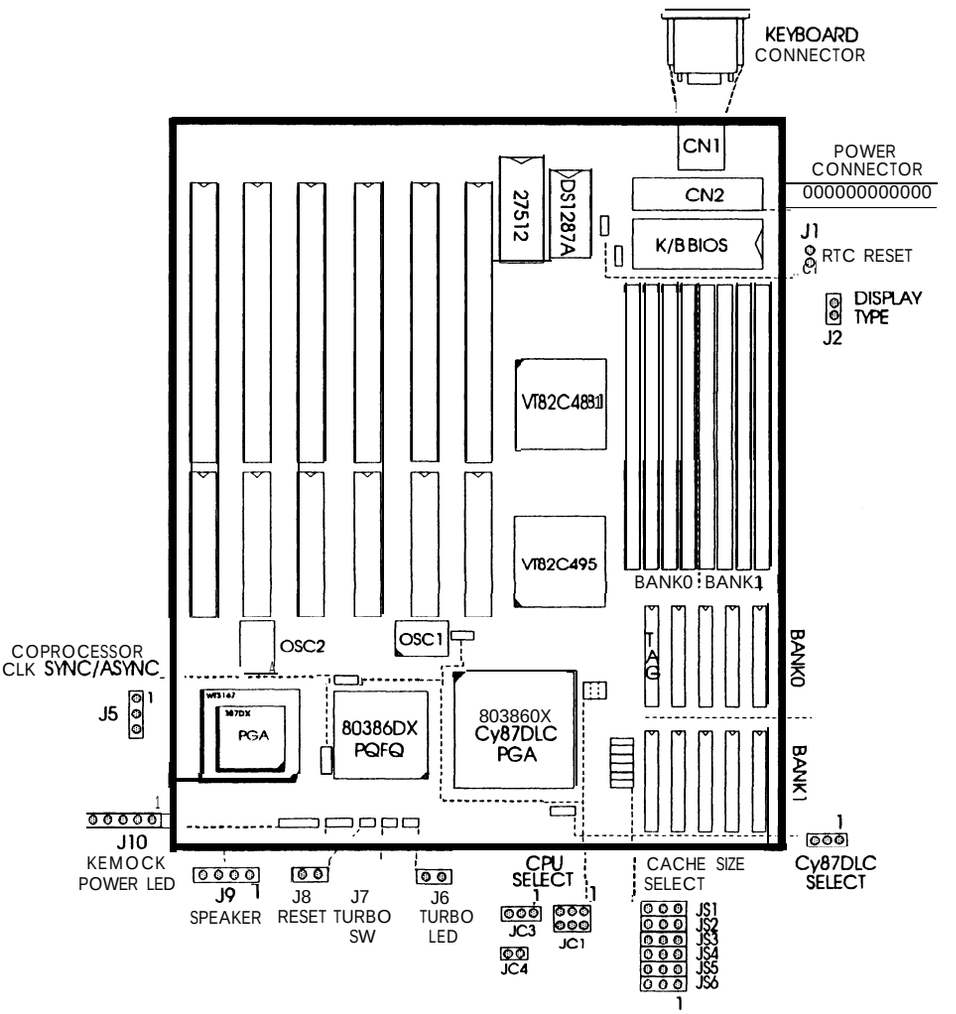
The 386-W-H Cache System board is capable of accommodating 1 to 32 megabytes of on board memory, using 256KB, 1MB, 4MB SIMMs.

SPECIFICATIONS

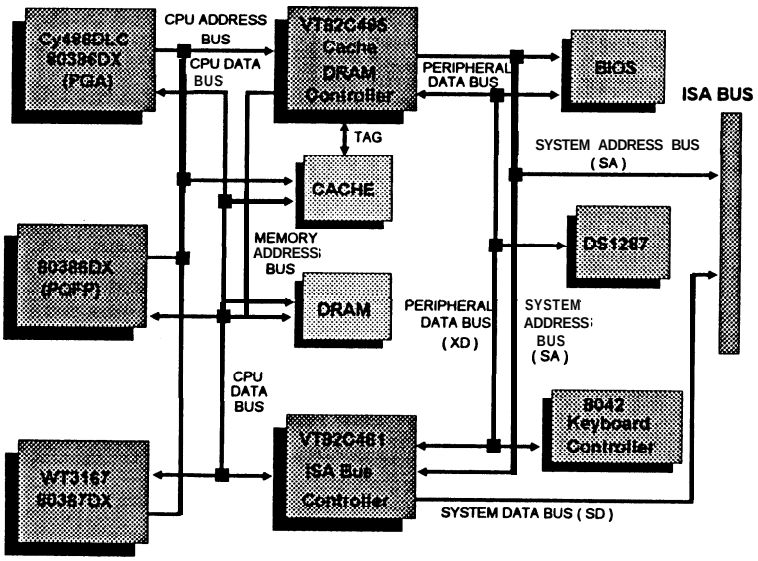
The 386-VC-H Cache System board comes with the following features:

- AMD386DX/Intel386DX/Cyrix486DLC microprocessor. Dual CPU of PQFP and PGA packages.
- VIA VT82C480 80386 PC/AT Chipset for high performance.
- Supports 0KB/32KB/64KB/128KB/256KB of direct mapped write-back cache memory.
- Supports 1MB up to 32MB of DRAM memory; provides page mode DRAM operation.
- Shadow RAM for fast BIOS access.
- 64KB User-friendly BIOS.
- Six 16-bit expansion slots.
- Real time clock/calendar.

MOTHERBOARD LAYOUT



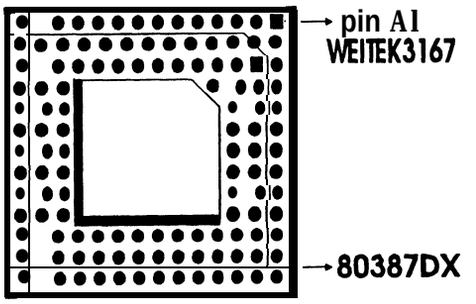
SYSTEM BLOCK DIAGRAM



WEITEK3167 & INTEL80387 COPROCESSOR

The 386-VC-H Cache System board provides a socket for Weitek 3 167 or Intel 80387 numeric coprocessor. Intel 80387 may run in both synchronous mode and asynchronous mode; Weitek 3 167 runs in synchronous mode only.

To plug the coprocessor into the 121-pin PGA socket, please note that the alignment and position are as follows:



INSTALLATION

CONNECTOR DESCRIPTION

Jumper	Function	Pin outs	Signal name
J6	Turbo LED	1. 2.	v c c Turbo signal
J8	Hardware reset	1. 2.	Ground Reset signal
J9	Speaker connector	1. 2. 3. 4.	Speaker signal NC Ground + 5V
J10	Key lock & power LED	1. 2. 3. 4. 5.	Power signal Spare Ground Keylock Ground
CN2	Power connector	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	Power good + 5V + 12V -12v Ground -5V + 5V
CN1	Keyboard connector	1. 2. 3. 4. 5.	Keyboard clock Keyboard data No connection Ground + 5V

JUMPER DESCRIPTION

Jumper	Function	Open	Close
J1	**RTC** reset **(if using DS1287A)**	Normal (default)	Reset
J2	Display type	Mono/EGA/ VGA (default)	Color
J7	CPU speed (Turbo switch)	Turbo	Normal
J8	Hardware reset (Reset)	Normal	Reset

CPU SELECTION

CPU Type / Jumper	PGA		PQFP
	Cy486DLC	80386DX	80386DX
JC1	shorted	open	open
JC3	1-2 shorted	1-2 shorted	2-3 shorted
JC4	shorted	shorted	open

	CYRIX 87DLC	
JN1	1-2 shorted	Enable
	2-3 shorted	Disable

COPROCESSOR CLOCK SELECTION

Jumper	Sync. mode	Async. mode
J5	1-2 shorted **(default)**	2-3 shorted

MEMORY SYSTEM

MEMORY CONFIGURATION

Memory	Bank 0	Bank 1
1MB	256Kx4	
2MB	256Kx4	256Kx4
SMB	256Kx4	1Mx4
17MB	256Kx4	4Mx4
4MB	1Mx4	
SMB	lMx4	256Kx4
8MB	1Mx4	1Mx4
20MB	lMx4	4Mx4
16MB	4Mx4	
17MB	4Mx4	256Kx4
20MB	4Mx4	1Mx4
32MB	4Mx4	4Mx4

CACHE RAM & CONFIGURING CACHE SIZE

The 386-VC-H Cache System board uses six jumpers to configure the cache size.

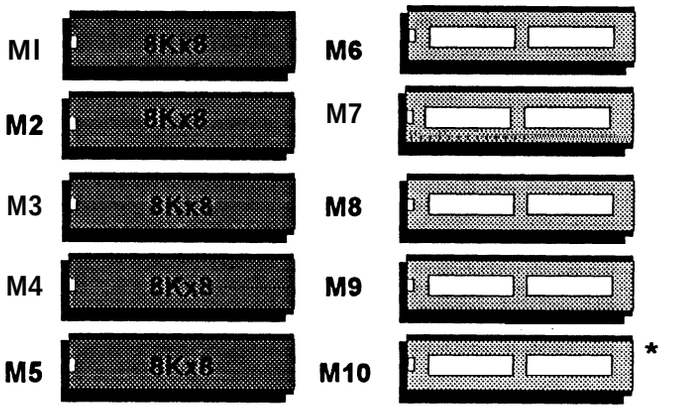
	32K	64K	128K	256K
ALTER RAM	8Kx8	8Kx8	8Kx8	32Kx8
TAG RAM	8Kx8	8Kx8	8Kx8	32Kx8
DATA RAM	8Kx8	8Kx8	32Kx8	32Kx8
JS1	2-3*	2-3	1-2	2-3
JS2	2-3	2-3	l-2	l-2
JS3	2-3	2-3	2-3	l-2
JS4	1-2+	2-3	2-3	2-3
JS5	l-2	2-3	2-3	2-3
JS6	l-2	2-3	l-2	2-3

* "2-3" represents 2-3 pin shorted

+ "l-2" represents l-2 pin shorted

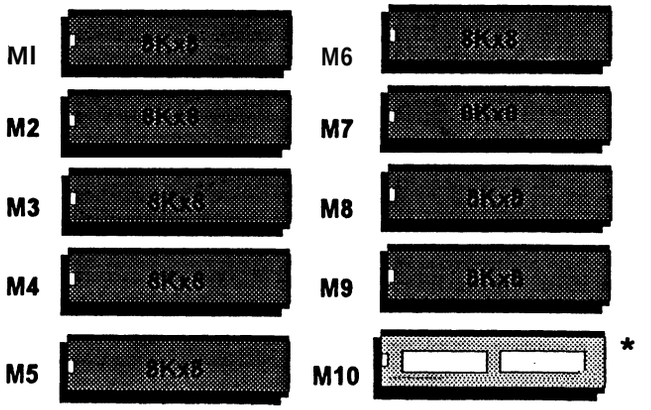
32Kbytes Direct Mapped Cache

The 32KbytesDirect Mapped Cache option is achieved by **installing** four **8Kx8** SRAM (DATA RAM) in **Ml,** M2, M3, M4. Install one **8Kx8** SRAM (TAG RAM 28 pin) in MS.



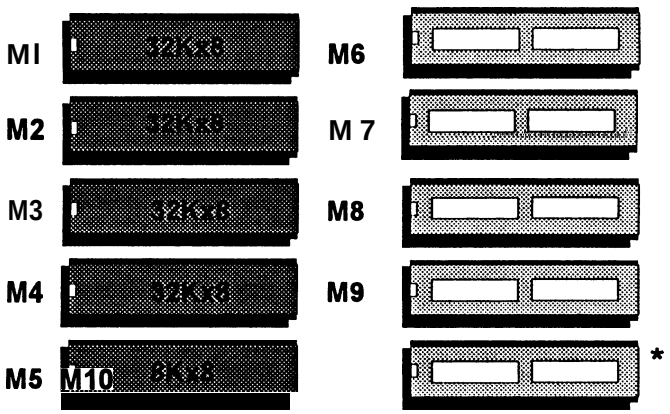
64Kbytes Direct Mapped Cache

The 64Kbytes Direct Mapped Cache option is achieved by installing eight **8Kx8** SRAM (DATA RAM) in Ml, M2, M3, M4, M6, M7, MS, **M9**. Install one **8Kx8** SRAM (TAG RAM 28 pin) in MS.



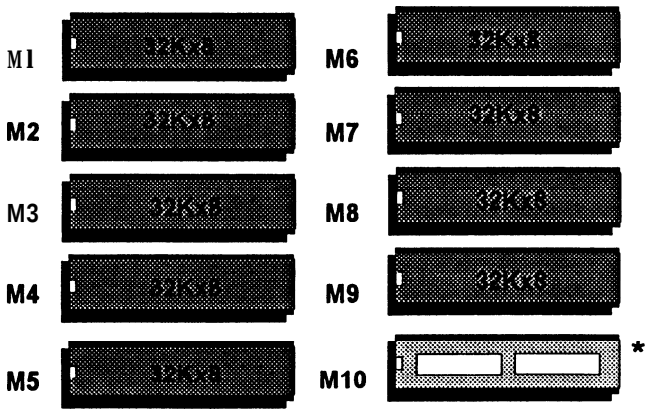
128Kbytes Direct Mapped Cache

The **128Kbytes** Direct Mapped Cache option is achieved by installing four **32Kx8** SRAM (DATA RAM) in Ml, **M2,** M3, M4. Install one **8Kx8** SRAM (TAG RAM 28 pin) in **M5**.



256Kbytes Direct Mapped Cache

The **256Kbytes** Direct Mapped Cache option is achieved by installing eight **32Kx8** SRAM (DATA RAM) in Ml, **M2,** M3, M4, M6, M7, MS, **M9**. Install one **32Kx8** SRAM (TAG RAM 28 pin) in **M5**.



** M10 is A Iter RAM, it is optional.*

AWARD BIOS SETUP

SETUP SYSTEM CONFIGURATION

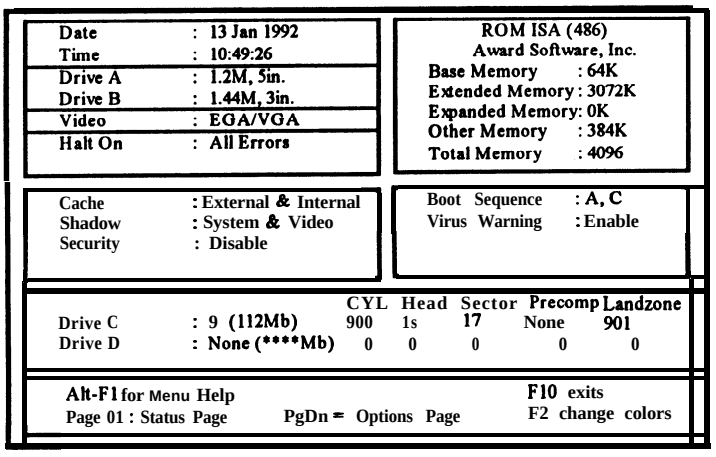
A setup program has been built into the system BIOS so the configurations stored in the CMOSRAM can be changed. This program should be executed only after:

(1) User has changed system configuration.

(2) User has changed system backup battery.

(3) System has detected a configuration error and has asked the user to run the setup program.

After power-on RAM testing, the message: "TO ENTER SETUP BEFORE BOOT PRESS CTRL-ALT-ESC" is displayed on the screen. Press "CTRL+ ALT+ ESC" to run setup or do nothing to bypass. If the "CTRL+ ALT+ ESC" is pressed, the following message will be displayed:



** Before disable the system & video shadow, you have first to disable the video cacheable and system cacheable function in the options page setup.*

STATUS PAGE SETUP

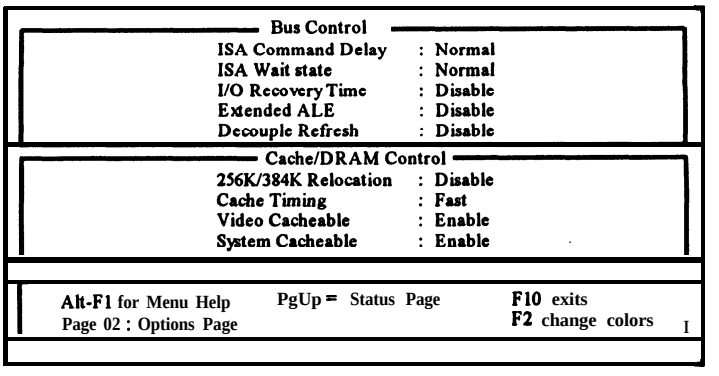
The setup program is completely menu-driven. Use the arrow keys to select an entry; "+ /-" keys to change an entry; and "F 10" key to exit. Help messages are displayed in the window on the screen.

If this option is chosen then the screen above is displayed. System BIOS automatically detects memory size, thus no changes are necessary. After the changes are made, press "F 10" to exit.

OPTIONS PAGE SETUP

The Options Page Setup program functions the same way as the status page Setup, as shown below.

Users are not encouraged to run the status page Setup program, as your system should have been fme tuned before shipping. Improper setup may cause the system to fail, so consult your dealer before making any changes.



SAVE AND EXIT

Once you have completed Setup , then press F 10 to exit. If you did not make any changes, press F 1 to exit; otherwise, press F5 to save and exit.

HARD DISK SPECIFICATIONS

CONNER

Model	Capacity	Cylinder	Head	Sector
CP-3ooo	40MB	977	5	17
CP-30064	60MB	762	4	39
CP-30064H	60MB	762	4	39
CP-30084	85MB	526	8	39
CP-30084E	85MB	526	8	39
CP-30104	120MB	762	8	39
CP-30104H	120MB	762	8	39
CP-30174	170MB	903	8	46
CP-30174E	170MB	903	8	46
CP-30204	200MB	683	16	38
CP-30204F	200MB	683	16	38

MAXTOR

Model	Capacity	Cylinder	Head	Sector
7120AT	120MB	1024	14	17
7213AT	203MB	683	16	38

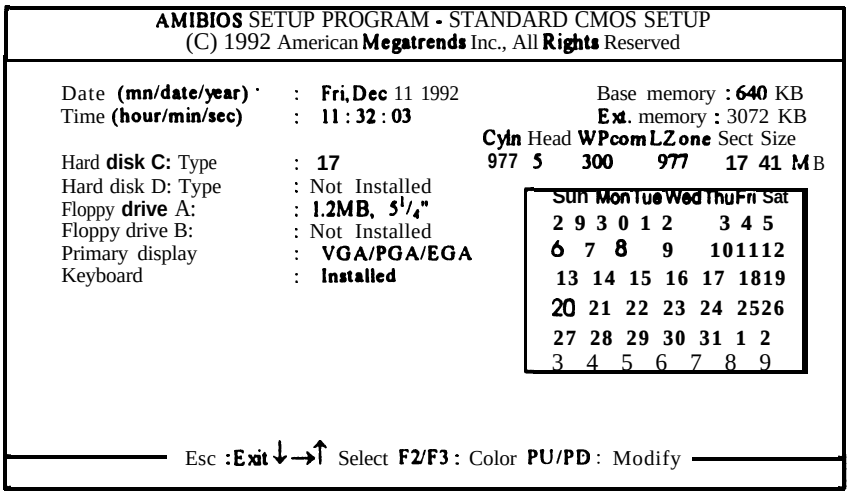
QUANTUM

Model	Capacity	Cylinder	Head	Sector
PRO52AT	52MB	751	8	17
PRO80AT	80MB	611	16	17
PRO105AT	105MB	755	16	17
PRO120AT	120MB	901	S	53
PRO240AT	240MB	723	13	51

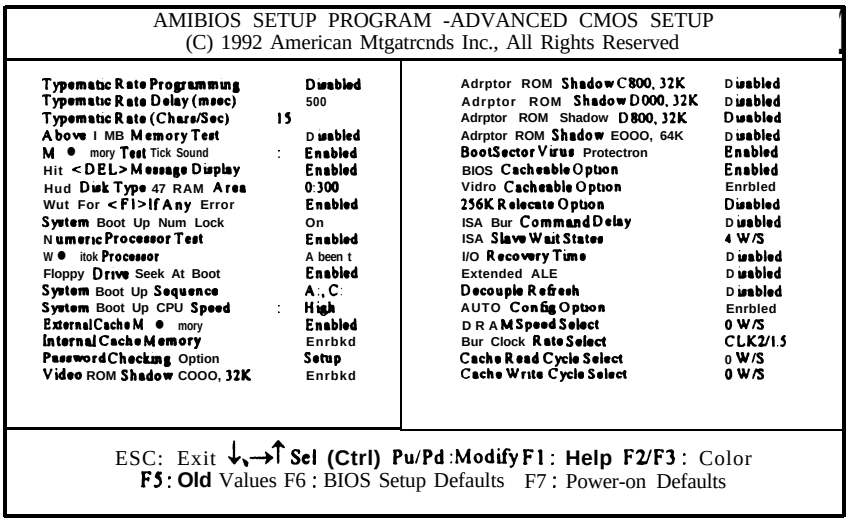
SEAGATE

Model	Capacity	Cylinder	Head	Sector
ST351A/X	40MB	977	S	17
ST3096A	85MB	1024	10	17
ST3120A	102MB	1024	12	17
ST3 144A	125MB	1001	1s	17
ST3283A	24SMB	978	14	35

STANDARD CMOS SETUP



ADVANCED CMOS SETUP



"AMI BIOS SETUP PROGRAM"
addendum for VENUS mainboard