

MANUAL USER'S

386DX-AD5



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TRADEMARKS ANNOUNCEMENT

*** IBM PC/AT , AMI, INTEL, AMD, CYRIX
UMC, MS-DOS, OS/2, UNIX, XENIX,ARE
THE REGISTERED TRADEMARKS OF
THEIR RESPECTIVE ORGANIZATIONS**



Unit 1

Overview

Talking about 386 M/B, everybody thinks of SPEED. Yes, the feature of this new enhanced main board, 386-AD III is in its fast speed when compare with the other 386 M/B.

The concept of cache memory is that some active portion of a low speed memory is stored in duplicate, and in a higher-speed cache memory. When memory request is generated, the request is first presented to the cache memory. If cache cannot respond, the request is presented to main memory.

The CACHE main board is designed to perform as a very efficient memory system, while the memory devices is very low-cost. The detailed specification of this 386-AD III M/B as follows :

Specification :

- * Using ALI Chipset, consists of M1429,M1431.
- * Using INTEL / AMD 80386DX-33/40 or CYRIX CX486DLC-40 CPU, Landmark Speed (V. 2.0) is 51.4/ 61.6 or 128.5 respectively.
- * 100% IBM PC/AT compatible.

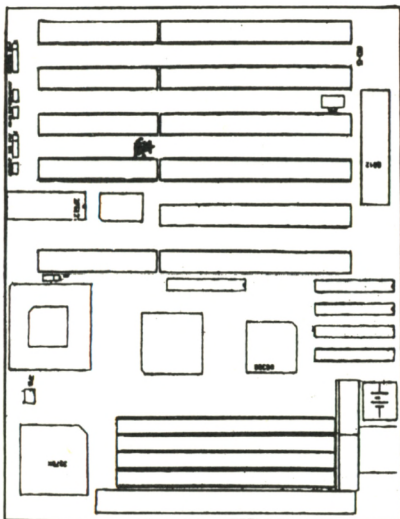
- * 80387 co-processor Socket Support.
- * Write-Back & Write-Through direct mapping Cache with Cache sizes 32KB/128KB.
- * Page Mode DRAM controller supports up to 32MB DRAM with combination of 256KB/1MB/4MB SIMM Modules.
- * Hardware/Software TURBO speed control.
- * AMI BIOS (Single BIOS, 512K-Bit ROM).
- * Five 16-Bit expansion slots.
- * Optionized for OS/2, WINDOWS/386, UNIX, XENIX, NOVELL 386.... Software Environment.
- * 1/2 Baby Half Size ; 4-Layer.



Unit 2

*Main Board Layout
and Description*

386-AD V Main Board Layout :



AD-5

JP 13 for CPU Clock Jumper Select

CPU Clock	1-2	3-4	5-6
33MHz	ON	ON	OFF
40MHz	OFF	OFF	ON

JP1, JP5 CPU Type Select

1-2 : Intel & AMD 386DX

2-3 : Cyrix 486DLC

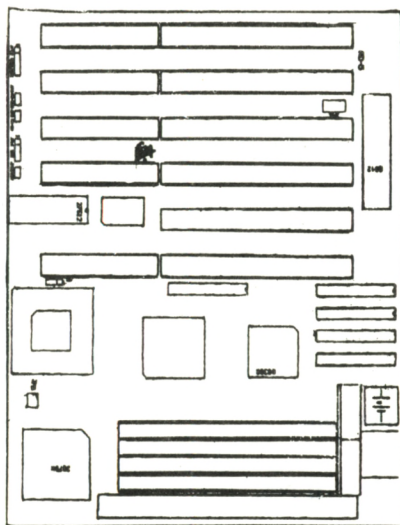
CACHE RAM :

Total CACHE RAM for 386-AD III M/B is 32KB, 128KB Cache memory size. While using 32KB, 128KB please insert the SRAM in sockets:

U1-U4, U18

Main Board Layout & Description

1. 32KB Cache RAM is inserted: 8K8*5 pcs
2. 128KB Cache RAM is inserted: 32K8*4 pcs
and TAG RAM is inserted: 8K8*1 pcs



AD-5

SLOTS

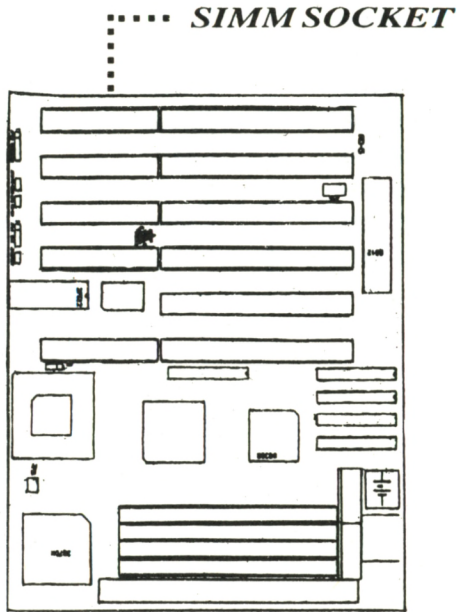
The expansion slots are :

16 bit slot * **6** pcs

Memory Organization

Memory size expansion from 1 MB to 32MB On Board. Let's discuss it one by one :

On Board RAM :



Main Board Layout & Description

Supporting 256KB, 1MB and 4MB SIMM RAM MODULE. So, memory are available with mixture of 1MB / 2MB / 4MB / 5MB / 8MB / 16MB / 20MB / 32MB devices.

Memory Size	BANK0	BANK1
1 MB	256KB	---
4 MB	512KB	2 MB
4 MB	1 MB	---
5 MB	256KB	4 MB
8 MB	1 MB	4 MB
16 MB	4 MB	---
20 MB	1 MB	16 MB
32 MB	4 MB	16 MB



Unit 3

BIOS Setup

B *IOS Setup*

This chapter advises user how to use the CHIP SETUP under the AMI BIOS. Please read it clearly.

After power on and memory test, please press " DEL " key. The program will go to the next screen.

Hit , If you want to run SETUP/EXTD-SET.

AMIBIOS SETUP PROGRAM - 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 AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Standard CMOS Setup for Changing Time, Date, Hard Disk Type, etc.
ESC:Exit ↵→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Standard CMOS Setup for Changing Time, Date, Hard-disk Type, etc.

AMIBIOS SETUP PROGRAM - STANDARD CMOS SETUP
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Date (mn/date/year) : **Base memory :** 640 KB
Time (hour/min/sec) : 09 : 23 : 35 **Ext. memory :** 15360 KB

Cyln Head Wpcom LZone Sect Size

Hard disk C: type : 37 615 8 128 615 17 41 MB
Hard disk D: type : Not Installed
Floppy drive A : 1.2 MB, 5 1/4 "
Floppy drive B : Not Installed
Primary display : VGA/PGA/EGA
Keyboard : Installed

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

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	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	31	1	2	3
4	5	6	7	8	9	10

ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color PU/PD:Modify

NOTE :

In the right bottom part of the screen, the calendar will alter the current year/month/date. You can use " ↑ " " ↓ " " → " " ← " to select the item you want, and use PgUp & PgDn to change the value.

B IOS Setup

AMI BIOS SETUP PROGRAM - STANDARD CMOS SETUP								
(C) 1993 American Megatrends Inc., All Rights Reserved								
Date (mn/date/year) :	Wed, Mar 03 1993	Base memory :	640 KB					
Time (hour/min/sec) :	09 : 23 : 35	Ext. memory :	15360 KB					
		Cyln Head Wpcom LZone Sect Size						
Hard disk C: type :	37	615 8 128 615 17	41 MB					
Hard disk D: type :	Not Installed							
Floppy drive A :	1.2 MB, 5 1/4 "							
Floppy drive B :	Not Installed							
Primary display :	VGA/PGA/EGA							
Keyboard :	Installed							
Time is 24 hour format:-								
Rouns(00-23), Minute:(00-59), Second:(00-59)								
(1 : 30 AM:01 : 30 : 00),(1 : 30PM= 13 : 30 : 00)								
		Sun	Mon	Tue	Wed	Thu	Fri	Sat
		28	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	31	1	2	3
		4	5	6	7	8	9	10
ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color PU/PD: Modify								

NOTE :

You can change the time according to the rule explanation in the left bottom part of the screen.

B IOS Setup

AMIBIOS SETUP PROGRAM - STANDARD CMOS SETUP																																																								
(C) 1993 American Megatrends Inc., All Rights Reserved																																																								
Date (mn/date/year) : Wed, Mar 03 1993				Base memory : 640 KB																																																				
Time (hour/min/sec) : 09 : 23 : 35				Ext. memory : 15360 KB																																																				
Hard disk C: type :		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7" style="text-align: center;">CylIn Head Wpcom LZone Sect Size</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">37</td> <td style="text-align: center;">615</td> <td style="text-align: center;">8</td> <td style="text-align: center;">128</td> <td style="text-align: center;">615</td> <td style="text-align: center;">17</td> <td style="text-align: center;">41MB</td> </tr> </tbody> </table>						CylIn Head Wpcom LZone Sect Size							37	615	8	128	615	17	41MB																																			
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Hard disk D: type :		Not Installed																																																						
Floppy drive A :		: 1.2 MB, 5 1/4 "																																																						
Floppy drive B :		: Not Installed																																																						
Primary display :		: VGA/PGA/EGA																																																						
Keyboard :		: Installed																																																						
FIXED type= 01...46, USER defined type= 47, For type 47 Enter:CylIn Head, Wpcom, LZone, Sec. (Wpcom is 0 for ALL, 65535 for NONE)																																																								
=ESC:Exit → ← ← :Sel F2/F3:Color PU/PD: Modify=		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Sun</th> <th>Mon</th> <th>Tue</th> <th>Wed</th> <th>Thu</th> <th>Fri</th> <th>Sat</th> </tr> </thead> <tbody> <tr> <td>28</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> </tr> <tr> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> </tr> <tr> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> </tr> <tr> <td>28</td> <td>29</td> <td>30</td> <td>31</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> </tbody> </table>						Sun	Mon	Tue	Wed	Thu	Fri	Sat	28	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	31	1	2	3	4	5	6	7	8	9	10
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NOTE :

According to your equipment, select hard disk C or D.
 The options are 1-47 types.

B IOS Setup

AMIBIOS SETUP PROGRAM - STANDARD CMOS SETUP	
(C) 1993 American Megatrends Inc., All Rights Reserved	
Date (mn/date/year) :	Wed, Mar 03 1993
Time (hour/min/sec) :	09 : 23 : 35
	Base memory : 640 KB
	Ext. memory : 15360 KB
	Cyln Head Wpcom LZone Sect Size
Hard disk C: type :	37 615 8 128 615 17 41 MB
Hard disk D: type :	Not Installed
Floppy drive A :	1.2 MB, 5 1/4"
Floppy drive B :	Not Installed
Primary display :	VGA/PGA/EGA
Keyboard :	Installed
Options:-	
360 KB 5 1/4" , 1.2 MB 5 1/4" , 720 KB 3 1/2"	
1.44 MB 3 1/2" , 2.88 MB 3 1/2" not Installed	
ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color PU/PD:Modify	

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	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	31	1	2	3
4	5	6	7	8	9	10

NOTE :

According to your equipment, set floppy drive A or B.
 The options are 360KB 5 1/4", 1.2MB 5 1/4", 720KB 3 1/2",
 1.44MB 3 1/2", 2.88MB 3 1/2" and Not Installed.

B IOS Setup

AMIBIOS SETUP PROGRAM - STANDARD CMOS SETUP
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Date (mn/date/year) : Wed, Mar 03 1993 Base memory : 640 KB
Time (hour/min/sec) : 09 : 23 : 35 Ext. memory : 15360 KB

Cyln Head Wpcom LZone Sect Size

Hard disk C: type : 37 615 8 128 615 17 41 MB
Hard disk D: type : Not Installed
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
28	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	31	1	2	3
4	5	6	7	8	9	10

Options:
Monochrome, Color 40x25,
VGA/ PGA/ EGA, Color 80x25, not installed

ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color PUP/D:Modify

NOTE :

According to your display card, set primary display types. The options are Monochrome, Color 40 x 25, Color 80 x 25, VGA or EGA and Not Installed.

B IOS Setup

AMIBIOS SETUP PROGRAM - STANDARD CMOS SETUP
(C) 1993 American Megatrends Inc., All Rights Reserved

Date (mn/date/year) : Wed, Mar 03 1993 **Base memory :** 640 KB
Time (hour/min/sec) : 09 : 23 : 35 **Ext. memory :** 15360 KB

Cyln Head Wpcom LZone Sect Size

Hard disk C: type : 37 615 8 128 615 17 41 MB
Hard disk D: type : Not Installed
Floppy drive A : 1.2 MB, 5 1/4 "
Floppy drive B : Not Installed
Primary display : VGA/PGA/EGA
Keyboard : Installed

Options:-
 Installed : Test key board
 not Installed: Do not test keyboard

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	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	31	1	2	3
4	5	6	7	8	9	10

ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color PU/PD:Modify

NOTE :

When keyboard is installed, ROM tests keyboard; otherwise, it dose not.

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STANDARD CMOS SETUP ADVANCED COMS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Advanced CMOS Setup for Configuring System Options.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Advanced CMOS Setup for configuration System Options.

B IOS Setup

AMIBIOS SETUP PROGRAM - ADVANCED CMOS SETUP	
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System Boot Up num Lock	: On
Numeric Processor Test	: Enabled
Floppy Drive Seek At Boot	: Enabled
System Boot Up Sequence	: A., C:
External Cache Memory	: Enabled
Internal Cache Memory	: Disabled
Password Checking Option	: Setup
Video ROM Shadow C000,32K	: Enabled
System ROM Shadow F000,64K	: Enabled
BootSector Virus Protection	: Disabled

ESC:Exit ↓ → ↑ ← :Sel (Ctrl)PU/PD:Modify F1:Help F2/F3:Color
F5:Old Values F6:BIOS Setup Defaults F7:Power-on Defaults

NOTE :

Above Values are Default.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Advanced Chipset Setup for Configuring the Chipset Redisters.
ESC:Exit ↓ → ↑ ← :Sel F2/F3:Color F10:Save & Exit

NOTE :

Advanced Chipset Setup for configuration Chipset Registers.

AMIBIOS SETUP PROGRAM - ADVANCED CHIPSET SETUP	
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AUTO Config Function	: Enabled
AT Bus Clock Select	: CLK2 /10
DRAM Read wait State	: Normal
DRAM Write wait State	: Normal
SRAM Read wait State	: 0 WS
SRAM Write wait State	: 0 WS
Cycle Check Point	: Fast
Slow Refresh	: 60u
Ext. Cache WB/WT Feature	:WB
Shadow Cacheable	: Disabled
Polling Clock Select	: CLK2 /3
DMA Clock Select	: ATCLK/2

ESC:Exit ↓→↑← :Sel (Ctrl)PU/PD:Modify F1:Help F2/F3:Color
F5:Old Values F6:BIOS Setup Defaults F7:Power-on Defaults

NOTE :

Above Values are Default.

AMIBIOS SETUP PROGRAM - 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 AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Load BIOS Setup Default Values for Advanced CMOS and Advanced CHIPSET Setup.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Load BIOS Setup Default Values for Advanced CMOS and Advanced CHIPSET Setup.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ONDEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Load Power-On Default Values for Advanced CMOS and Advanced CHIPSET Setup.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Load Power-On Default Values for Advanced CMOS and Advanced CHIPSET Setup.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHYUICE BY22MOED AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Change the User Password Stored in the CMOS .
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Change the User Password Stored in the CMOS.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Auto Detection of Hard Disk Type.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Auto Detection of Hard Disk Type.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Format the Hard Disk, Auto Interleave Detection and Media Analysis.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Format the Hard Disk, Auto Interleave Detection and Media Analysis.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Write the Settings to the CMOS and Exit.
ESC:Exit ↓→↑←: Sel F2/F3:Color F10:Save & Exit

NOTE :

Write the Settings to the CMOS and Exit.

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STANDARD CMOS SETUP ADVANCED CMOS SETUP ADVANCED CHIPSET SETUP AUTO CONFIGURATION WITH BIOS DEFAULTS AUTO CONFIGURATION WITH POWER-ON DEFAULTS CHANGE PASSWORD AUTO DETECT HARD DISK HARD DISK UTILITY WRITE TO CMOS AND EXIT DO NOT WRITE TO CMOS AND EXIT
Do Not write the Settings to the CMOS and Exit.
ESC:Exit ↓→↑←:Sel F2/F3:Color F10:Save & Exit

NOTE :

Do Not write the Settings to the CMOS and Exit.

