

MODBIN

USER'S GUIDE

V4.50.58

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Introduction

MODBIN is an executable program that offers many customization features for Award BIOS for IBM Personal Computer and compatible systems. MODBIN is a menu driven program that will take you menu by menu through the customization process. **In addition to the PCI Configuration Display function (new function), the current Modbin Utility version 4.50.58 can also support 2MB BIOS ROM size.**

Remark: Users are unable to make any changes under the condition that users have already requested us before to set the PCI Display function to Disable always in the previous BIOSes.

Before You Begin

The MODBIN diskette contains **MODBIN.EXE**, which is an executable file. To use MODBIN you must have available MODBIN.EXE and a binary (.BIN) file or a mainboard on which binary code version is later than 4.5x and is contained in a ROM.

Menu Driven MODBIN

To enter MODBIN, type "MODBIN" at the DOS prompt. The Main Menu will be displayed. Figure 1 shows an example of the Main Menu.

MODBIN functions

MODBIN functions are displayed at the left side of the Main Menu.

Update File

Choosing this option will write all the modified data out to the output file and then exit the program. The output file can be a new file or an existing file. To update file, select the *Update File* option and press <Enter>. Use the <↑> and <↓> keys to choose from the file names listed by MODBIN, or use <TAB> key to move the highlighted bar to "Directory" and "File", type the output directory and file name, then press <Enter>. If you are at the Main Menu screen, and you wish to leave without updating the .BIN file, press the <Esc> key. The MODBIN program will ask you if you want to abort the edit. Type "Y" and it will put you back to the DOS command line. If you are not sure or decide not to exit, type "N".

Load File

This option will load a desired .BIN file before you use other MODBIN functions for customization. When you enter MODBIN, the highlighted bar will highlight *Load File* option. Press <Enter>, and MODBIN will automatically search for the .BIN files in the disk drive where MODBIN exists and list them at the right side of Main Menu screen. Use the <↑> and <↓> arrow keys to go to the desired .BIN file and press <Enter>. If the desired .BIN file is not in the disk drive MODBIN automatically searches. Use <TAB> key to move the highlighted bar to "Directory" and "File". Type the correct drive and file name, then press <Enter>. If the desired .BIN file has been successfully loaded, a brief description of the file and BIOS message will be displayed. Figure 2 shows an example screen of a loaded .BIN file.

If you wish to load binary code from ROM directly, press <Alt> and L at the same time.

Selecting this option will display the following options menu:

Figure 2 Loaded .BIN File

MODBIN (c) Award Software 1993-1996 V.4.50.58	
19/09/96 - i430HX - 2A59FE39C - 00	
Update File	
Load File	
Change BIOS Message	
Edit Drive Table	
Load Drive Table	
Save Drive Table	
Change BIOS Options	
Installed Option	
Chipset Regs. Default	
Chipset Setup Default	
Auto Table (c)	
Speed Pin Option	
Reg. for Cyrix CPUs	
Reg. for IBM CPUs	
EISA option	
Standard CMOS Default	
BIOS timing table	
POST Display Select	
Additional Information	
Power management	

File name : C:\2A59FE39.BIN

F2-Show setup ↓↑-Move cursor ENTER-Accept ESC-Abort & Exit

If the .BIN file is loaded successfully, then a message for BIOS information such as "19/09/96-i430HX-2A59FE39C-00" will be displayed at the top of the screen indicated as follows,

19/09/96 - BIOS make date
I430HX - Chipset name
2A59FE39C-00 - Award source code part number

When you call the Award office for technical service, please advise us of the BIOS information message.

Change BIOS Message

This option is used to change the BIOS message that is displayed when the system is powered on. In MODBIN, the default message is displayed near the bottom of the Main Menu screen, above the Control Keys.

To change the message, select the Change BIOS Message field and press <Enter>. The original message will be highlighted with the cursor stopped at the last character of the original message. Type the message you require to display and then press <Enter>. The message should not exceed 79 characters; if it does, the last characters will be ignored. If you make an error, use the <<-> key to go back up and then retype the correct entry.

Edit Drive Table

The Edit Drive Table option allows you to change the default hard disk drive table. To create your own drive type, select the Edit Drive Table option and press <Enter>. The Drive Table screen, as Figure 3 shows, will be displayed at the right side of the screen:

Figure 3 Edit Drive Table

MODBIN (c) Award Software 1993-1996 V.4.50.58								
19/09/96 - i430HX - 2A59FE39C -00								
Update File	Type	Cyldrs	Heads	Precomp	Control	Landzone	Sectors	
Load File								
Change BIOS Message	1	306	4	128	0	305	17	
Edit Drive Table	2	615	4	300	0	615	17	
Load Drive Table	3	615	6	300	0	615	17	
Save Drive Table	4	940	8	512	0	940	17	
Change BIOS Options	5	940	6	512	0	940	17	
Installed Option	6	615	4	65535	0	615	17	
Chipset Regs. Default	7	462	8	256	0	511	17	
Chipset Setup Default	8	733	5	65535	0	733	17	
Auto Table (c)	9	900	15	65535	0	901	17	
Speed Pin Option	10	820	3	65535	0	820	17	
Reg. for Cyrix CPUs	11	855	5	65535	0	855	17	
Reg. for IBM CPUs	12	855	7	65535	0	855	17	
EISA option	13	306	8	128	0	319	17	
Standard CMOS Default	14	733	7	65535	0	733	17	
BIOS timing table	16	612	4	0	0	663	17	
POST Display Select	17	977	5	300	0	977	17	
Additional Information	18	777	7	65535	0	977	17	
Power management								

F2-Show setup ↓↑-Move cursor ENTER-Accept ESC-Abort & Exit

Use the <↑> and <↓> arrow keys or <PgUp> and <PgDn> to move through the selections (1-14, 16-47) and select the drive table number that you want to change. Refer to your **BIOS CMOS Setup Guide** for a complete list of the default drive types available. If your drive type specification is not in this list, this option allows you to modify an existing drive type to conform to the specifications of your particular drive.

NOTE: If the BIOS used is Version 4.5x, drive table number is only up to 46.

Load Drive Table

This option is most useful for the OEMs which allows you to read in a text file to modify the current drive table. The format of the file should be as follows:

Type Cylinders Heads Precomp Control Landzone Sectors

Each of the items should be separated by space and each line should be terminated with a carriage return.

NOTE: In order to enter the value "None" for the Precomp, enter -1 in the drive table file.

To load the file, select the Load Drive Table option and press <Enter>. The screen will display the prompt,

Drive Table File Name:

Type the file name, including path and extension, and press <Enter>.

This option can be used together with Save Drive Table.

Save Drive Table

Choosing the option will write all the modified data in Drive Table out to the output text file to create a new drive table. Select Save Drive Table option and press <Enter>. Use <TAB> key to move the highlighted bar to "Directory" and "File", type the correct drive and file name, then press <Enter>.

This option is useful for the OEM manufacturers and is used together with Load Drive Table.

Change BIOS Options

The Change BIOS Options is used to change many of the BIOS features, including the floppy speed condition, security conditions and the Num-Lock status.

Num-Lock on 101 Keyboard

This item is only for BIOS Version 4.5x or before, it toggles the bit that determines if the Num-Lock will be on or off when computer boots up and a 101-key keyboard is detected.

Floppy Speed Switching

If Floppy Speed Switching is set to enabled, and when a floppy drive cannot handle high-speed access, this option will switch the speed to LOW during the access and then back to system default speed when it is done.

Security Default Password

Changes the default password from AWARD_SW to your own default password. The password is limited to 8 characters.

NOTE: Even though you have changed the security default password and updated the .BIN file, MODBIN will not display your own default password when you enter the .BIN file the next time. However, the default password was actually modified.

Security Number of Retry

Changes the retry number for typing the correct password after power on the system. If the attempts to type the correct password have exceeded the Security Number of Retry, system will be automatically reset.

PIE Wait for FDD

Select the wait type for motor spin up when accessing floppy disk drive. Default value of this option is disable.

Power On Delay Count

The delay time between Power-on to POST, from 0 CPU instruction to maximum 65335 CPU instructions.

Setup Default Color Value

From 00 to 15. 14 is color black and white. The default color value will only be loaded when CMOS failed.

POST Default Color Value

From 00 to 15. 14 is color black and white. The default color value will only be loaded when CMOS failed.

POST Color Option

2 selections, POST default and setup setting. The color selected in this option will be loaded when CMOS is O.K.

POST default - POST color same as POST default
Setup setting - POST color same as setup setting

Update Revision Number :

For customization PROJECT, manufacturers can define the value by themselves.

PCI configuration display:

This option can let users set the PCI configuration display to Enable or Disable. Default value of this option is enable. The showing display will be shown after “system Configuration Table” as follows:

PCI device listing

Bus No.	Device No.	Function No.	Vender ID	Device ID	Device Class	IRQ
----------------	-------------------	---------------------	------------------	------------------	---------------------	------------

0	7	1	8086	7010	IDE Controller	14
0	10	0	10B9	3307	Multimedia device	11

(the above figures depend on the status of users' cards and hardware)

If you do not need the PCI device shown on the screen, please set the function to disable.

To Set the function to disable, follow the below procedures:

- 1) type "modbin"
- 2) select "**Change BIOS Options**"
- 3) move the cursor to "**PCI Configuration Display:**"
- 4) set the function to "**Disable**" by pressing "_" or "+" key
- 5) power on the computer again, you will find the PCI Configuration Display function is not shown on the screen before system booting.

In addition to the PCI Configuration Display function, the current ModBin Utility version 4.50.58 can also support **2MB** BIOS ROM size.

Remarks: *Users are unable to make any changes under the condition that users*

have already requested us before to set the PCI Display function to Disable always in the previous BIOSes.

Installed Option

Selecting this option will display the following Installed Options Menu, which shows all of the options that the BIOS will check for.

DRAM parity check

Enable or disable DRAM parity check. Note that this item is only BIOS Version 4.5x or before.

Keylock checking

Enable or disable keylock check.

Onboard E000h video ROM scan

Enable or disable BIOS scanning for video at onboard E000h.

Onboard C000h video ROM scan

Enable or disable BIOS scanning for video at onboard C000h.

Manufacture loop checking

Installed to perform POST loop when keyboard controller manufacturing pin is active.

PS2 mouse support

Installed to perform PS2 mouse support.

Novell HDD work around

Installed to avoid hard disk failure for Novell server when the disk type is set to Type User.

NOTE: Available only when system shadow is enabled.

Chipset Reg. Default

This option allows you to edit the default value location of the chipset registers. To edit the default, select Chipset Reg. Default option and press <Enter>. Use arrow keys to move around "Data" field. To change the value, directly type the number you want.

Chipset Setup Default

If the BIOS used is Version 4.5x, this option allows you to edit the setup items showed by Award BIOS CMOS Setup Utility.

You may select from total 5 pages of Award BIOS CMOS setup. Furthermore, you may select the value of each setup function and the setup item or decide whether the setup function or the setup item being displayed on screen. By this, the end-user can only see or change the CMOS setup from the items you selected.

For detail description of each setup function and item listed below, please refer to the user's guide of **Award BIOS CMOS Setup Utility Version 4.51PG**.

Control keys	Name	Description
F1	Help	Pop out the help window
F2	Item name	Status of each option for setup items. If you do not wish the option to be selected by end-user, you can disable the option. For BIOS default and setup default only.

F3	Posi modi	Auto arrange the position of selected setup items
↑↓←→		move the cursor up or down, left or right
PgUp/PgDn		move to previous page or next page
+−	Change value	change value of the setup item
Enter	Update	Update the value of the setup item
Esc	Abort	Abort the changes

In addition, you may rename the selected setup item by directly typing the name you wish.

5 pages from the CMOS Setup Utility may be modified by MODBIN, they are,

MODBIN	CMOS Setup Utility
Page 0	Main Menu (CMOS SETUP UTILITY)
Page 1	Standard CMOS Setup Menu
Page 2	BIOS Features Setup Menu
Page 3	Chipset Features Setup Menu
Page 4	Power Management Setup Menu
Page 5	PCI Configuration Setup Menu

In each of the 5 pages you may modify, there will be 6 status reports listed at the right hand side. They are,

Status report	Description
Item status	If it is normal, the setup item will be displayed and can be changed by CMOS Setup Utility. If it is show only, the setup item will be displayed but can not be changed by CMOS Setup Utility. If is disabled, the setup item will not be displayed nor be changed by CMOS Setup Utility.
BIOS default	The value of BIOS default
Setup default	The value of setup default
X	The X axis position of the setup item which displayed in CMOS Setup Utility. LT indicates the left side of the screen, and RT indicates the right side of the screen.
Y	The Y axis position of the setup item which displayed in CMOS Setup Utility. The Y axis is indicated by row number.

The setup items in Page 0 are,

- STANDARD CMOS SETUP
- BIOS FEATURES SETUP
- CHIPSET FEATURES SETUP
- POWER MANAGEMENT SETUP
- PCI CONFIGURATION SETUP
- LOAD BIOS DEFAULT
- LOAD SETUP DEFAULT
- PASSWORD SETTING
- IDE HDD AUTO DETECTION
- HDD LOW LEVEL FORMAT
- SAVE & EXIT SETUP
- EXIT WITHOUT SAVE

The setup items in Page 1 are,

- Daylight saving
- Primary Master
- Primary Slave
- Secondary Master
- Secondary Slave
- Drive A type
- Drive B type
- Video
- Halt on

The setup items in Page 2 are,

- Virus Warning
- CPU Internal Cache
- External Cache
- Quick Power On Self Test
- Boot Sequence
- Swap Floppy Drive
- Boot Up Floppy Seek
- Boot Up NumLock Status
- Boot Up System Speed
- Gate A20 Option
- Memory Parity Check
- Typematic Rate Setting
- Typematic Rate (Chars/Sec)
- Typematic Delay (Msec)
- Security Option
- Video BIOS Shadow
- C8000 - CFFFF Shadow
- D0000 - D7FFF Shadow
- D8000 - DFFFF Shadow

The setup items in Page 3 (will vary from chipset)

- Auto-Configuration
- ISA Bus Clock
- LBD# Sample Point
- Cache Write Cycle
- Cache Burst Read Cycle
- L2 Cache/DRAM Cycle WS
- DRAM RAS to CAS Delay
- DRAM Write Cycle
- DRAM Write CAS Pulse
- DRAM CAS Percharge Time
- DRAM RAS to MA Delay
- DRAM Speed
- DRAM Slow Refresh
- CPU Internal Cache
- CPU Burst Write
- L2 Cache Policy
- L2 Cache Tag Bits
- Onboard 496B IDE Port
- Onboard VESA IDE-1 WS
- Onboard VESA IDE-2 WS
- Onboard 496B IDE Port
- IDE 0 Master Mode
- IDE 0 Slave Mode
- IDE 1 Master Mode
- IDE 1 Slave Mode
- IDE Prefetch Read Buffer
- IDE HDD Block Mode
- Onboard FDD Controller
- Onboard Serial Port 1
- Onboard Serial Port 2
- Onboard Parallel Port
- Onboard Parallel Mode
- Onboard Game Port

The setup items in Page 4 are

- Power Management
- PM Control by APM
- Video Off Option
- Video Off Method
- Suspend Switch
- Clock Down by SMOUT
- HDD Off After
- Doze Mode

Standby Mode
Suspend Mode
PCI Master Activity
COM Ports Activity
LPT Ports Activity
HDD Ports Activity
DMA Ports Activity
VGA Activity
IRQ 3 (COM 2)
IRQ 4 (COM 1)
IRQ 5 (LPT 2)
IRQ 6 (Floppy Disk)
IRQ 7 (LPT 1)
IRQ 8 (RTC Alarm)
IRQ 9 (IRQ 2 Redir)
IRQ10 (Reserved)
IRQ 11 (Reserved)
IRQ 12 (PS/2 Mouse)
IRQ 13 (Coprocessor)
IRQ 14 (Hard Disk)
IRQ 15 (Reserved)

The setup items in Page 5 are

PnP BIOS Auto-Config
Slot 1 Using INT#
Slot 2 Using INT#
Slot 3 Using INT#
Slot 4 Using INT#
1st Available IRQ
2nd Available IRQ
3rd Available IRQ
4th Available IRQ
PCI IRQ Activated By
PCI IDE 2nd Channel
PCI IDE IRQ Map To
Primary IDE INT#
Secondary IDE INT#
Master Arbitration Protocol
CPU->PCI Mem Post Write Buf
CPU->PCI Memory Burst Write
PCI Master Burst Read/Write

Auto Table (c)

If the BIOS you use is Version 4.5x, this option allows you to modify auto-programming chipset registers according to CPU speed, single bank of cache & double bank of cache.

Speed Pin Option

Selecting Speed Pin Option allows you to change keyboard controller status.

Speed Switching

Toggle the interpretation between speed pins being active high or active low.

Polarity of output pins

Toggles the system speed. When Speed Switching is set to Enable, you can select, based on the mainboard specification switch The speed output pin and power management output control pin of 8042 from the following pins,

Turbo	Green PC
Pin 23	Pin 23
Pin 24	Pin 24
Pin 27	Pin 27
Pin 28	Pin 28
Pin 29	Pin 29
Pin 30	Pin 30

Also, the pin 29 and 30 are set for PS/2 mode.

Keyboard controller type

The selections are Award, KB-200X (KB-100, AMI, Regional JetKey-5), Phoenix, C&T, IBM standard (JetKey), KB-200.

Program chipset for speed change

It allows you to program specific chipset if the speed has been changed.

ON/OFF cache for speed change

It allows you to change cache status if the speed has been changed.

Turbo switch input

Select turbo switch being input from keyboard. If it is set to enable, turbo switch will be from keyboard controller input port.

Turbo switch 8042 pin

Select turbo switch being input from Pin 29 or Pin 30 once it is input from keyboard controller.

Turbo switch polarity

Select turbo switch hi active or low active being input once it is input from keyboard controller.

Reg. for Cyrix CPUs/Reg. for IBM CPUs

This option toggles the performance of CPU internal cache. However, it depends on hardware design.

EISA Option

This option is available for EISA systems which allow you to set EISA manufacture ID and product ID. These IDs can be detected and seen by EISA Configuration Utility.

EISA manufacture ID

The manufacture ID is limited to 3 characters from A to Z.

EISA product ID

The product ID is limited to 4 numbers from 0 to 9.

Standard CMOS Default

NOTE: It does not function for BIOS Version 4.5x

BIOS Timing Table

This option shows the time table of peripheral input and output time out. This option is designed for the convenience of manufacture test.

Refresh rate test factor

FDD motor spin up

FDD head settle

LPT initialize
Keyboard check
FDC IRQ6 completion
FDC status byte read
FDC command byte send
HDC busy check
HDD IRQ14 completion
HDC data request
COM port time out
LPT busy check

POST Display Select

NOTE: It does not function for BIOS Version 4.5x

Additional Information

NOTE: It does not function for BIOS Version 4.5x

Power management

Selecting this option will display the following options menu, which shows all of the options that the BIOS will check for.

Figure 4 Power Management

MODBIN (c) Award Software 1993-1996 V.4.50.58	
19 /09 /96 - i430HX - 2A59FE39C - 00	
Update File	Disable
Load File	
Change BIOS Message	IDEX : E 1 E2
Edit Drive Table	DATA : 00000000 00000000
Load Drive Table	
Save Drive Table	
Change BIOS Options	
Installed Option	
Chipset Regs. Default	
Chipset Setup Default	
Auto Table (c)	
Speed Pin Option	
Reg. for Cyrix CPUs	
Reg. for IBM CPUs	
EISA option	
Standard CMOS Default	
BIOS timing table	
POST Display Select	
Additional Information	
Power management	

F2-Show setup ↓↑-Move cursor ENTER-Accept ESC-Abort & Exit TAB-Next group

PCI Configuration

This option is available for PCI system which allow you to set PCI configuration.

Figure 5 PCI configuration

MODBIN (c) Award Software 1993 V.4.50.33	
19/09/95 - i430HX - 2A59FE39C - 00	
Load File	
Change B IOS Message	Device Number of PCI Slot
E dit Drive Table	
L oad Drive Table	PCI Slot 00 : 06
S ave Drive Table	PCI Slot 01 : 07
C hange BIOS Options	PCI Slot 02 : 08
I nstalled Option	PCI Slot 03 : 09
Chipset R egs. Default	
Chipset S etup Default	
A uto Table (c)	
S peed P in Option	
R eg. for Cyrix CPUs	
R eg. for IBM CPUs	
E ISA option	
Standard C MOS Default	
B IOS timing table	
P OST D isplay Select	
A dditional Information	
P ower management	
P CI configuration	

F2-Show setup ↓↑-Move cursor ENTER-Accept ESC-Abort & Exit