
AIO4045

USER'S MANUAL

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RMA FORM	

CHAPTER 1 MOTHERBOARD

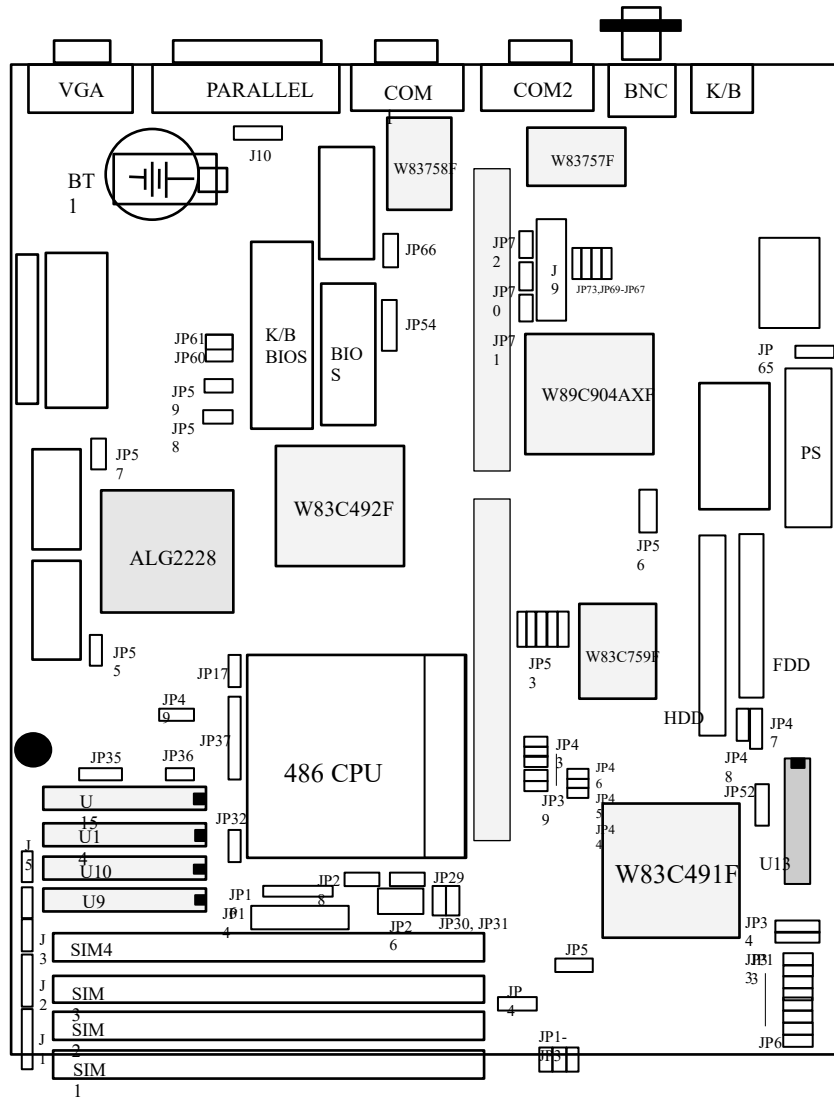
1.1 System Features

- Support INTEL 486SX, 486DX, 486DX2, P24T, P24D, S-SERIAL.
AMD 486DX, 486DX2.
Cyrix M6, M7.
- Support L1 write back CPU.

1.2 System Specifications

CPU Clock :	25/ 33/ 40 MHz
Memory :	1MB to 128MB
SRAM Size :	128KB/256KB/512KB
VGA:	Avance Logic VL-Bus VGA
I/O :	2 serial port, 1 parallel port, 2 floppy
HDD:	VL-Bus IDE
Expand I/O slot:	5 ISA slots, 1 VL-Bus slot
Dimension :	27.0cm × 21.3cm
Board design:	4-Layer implementation

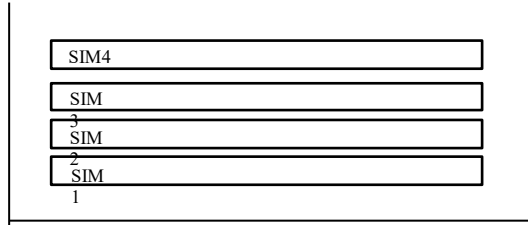
1.3 AIO4045 Board Layout



1.4 DRAM INSTALLATION

The AIO4045 main board can support expanded memory from 1MB to 128MB. Either 1MB, 2MB, 4MB, 8MB, 12MB, 16MB, 24MB, 32MB, 64MB, 128MB SIM DRAM can be used on the AIO4045 motherboard.

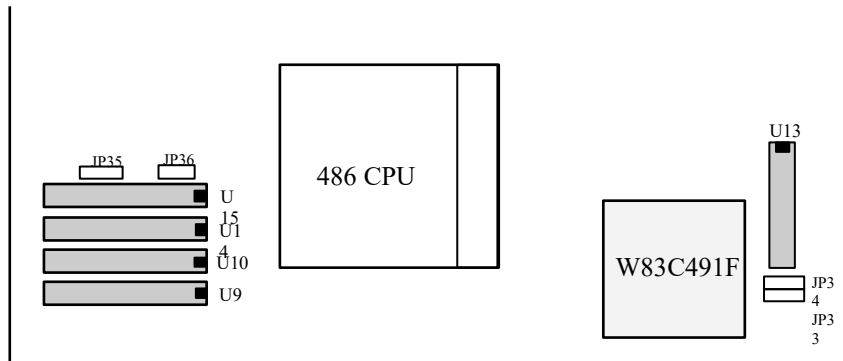
v The board layout below shows the locations of the DRAM memory banks :



v DRAM Configuration

SIM1	SIM2	SIM3	SIM4	TOTAL MEMORY
1MB*1	NONE	NONE	NONE	1MB
1MB*1	1MB*1	NONE	NONE	2MB
4MB*1	NONE	NONE	NONE	4MB
4MB*1	4MB*1	NONE	NONE	8MB
4MB*1	4MB*1	4MB*1	NONE	12MB
4MB*1	4MB*1	4MB*1	4MB*1	16MB
4MB*1	NONE	4MB*2	NONE	12MB
4MB*2	NONE	NONE	NONE	8MB
4MB*2	4MB*2	NONE	NONE	16MB
4MB*2	4MB*2	4MB*2	NONE	24MB
4MB*2	4MB*2	4MB*2	4MB*2	32MB
16MB*1	NONE	NONE	NONE	16MB
16MB*1	16MB*1	NONE	NONE	32MB
16MB*1	16MB*1	16MB*1	16MB*1	64MB
16MB*2	NONE	NONE	NONE	32MB
16MB*2	16MB*2	16MB*2	16MB*2	128MB

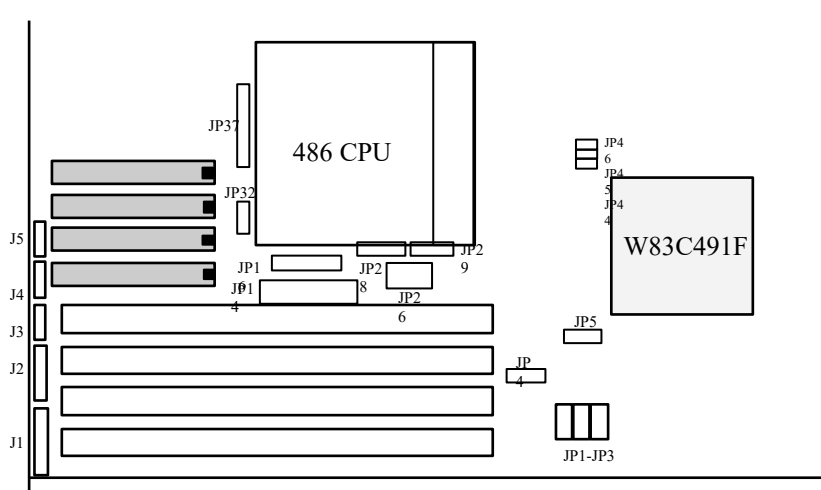
1.5 SRAM INSTALLATION



CACHE CONFIGURATION SIZE

128K		256K		512K	
TAG RAM (U13)	DATA RAM (U9,U10,U14,U15)	TAG RAM (U13)	DATA RAM (U9,U10,U14,U15)	TAG RAM (U13)	DATA RAM (U9,U10,U14,U15)
8K*8	32K*8	32K*8	64K*8	32K*8	128K*8
<p>Diagram for 128K and 256K configurations: JP34 (2x2 grid), JP35 (1x2), JP36 (1x2), and JP33 (1x2) are shown with '1' indicating they are present.</p>			<p>Diagram for 512K configuration: JP34P34 (2x2 grid), JP35P35 (1x2), JP36P36 (1x2), and JP33P33 (1x2) are shown with '1' indicating they are present.</p>		

1.6 CPU INSTALLATION



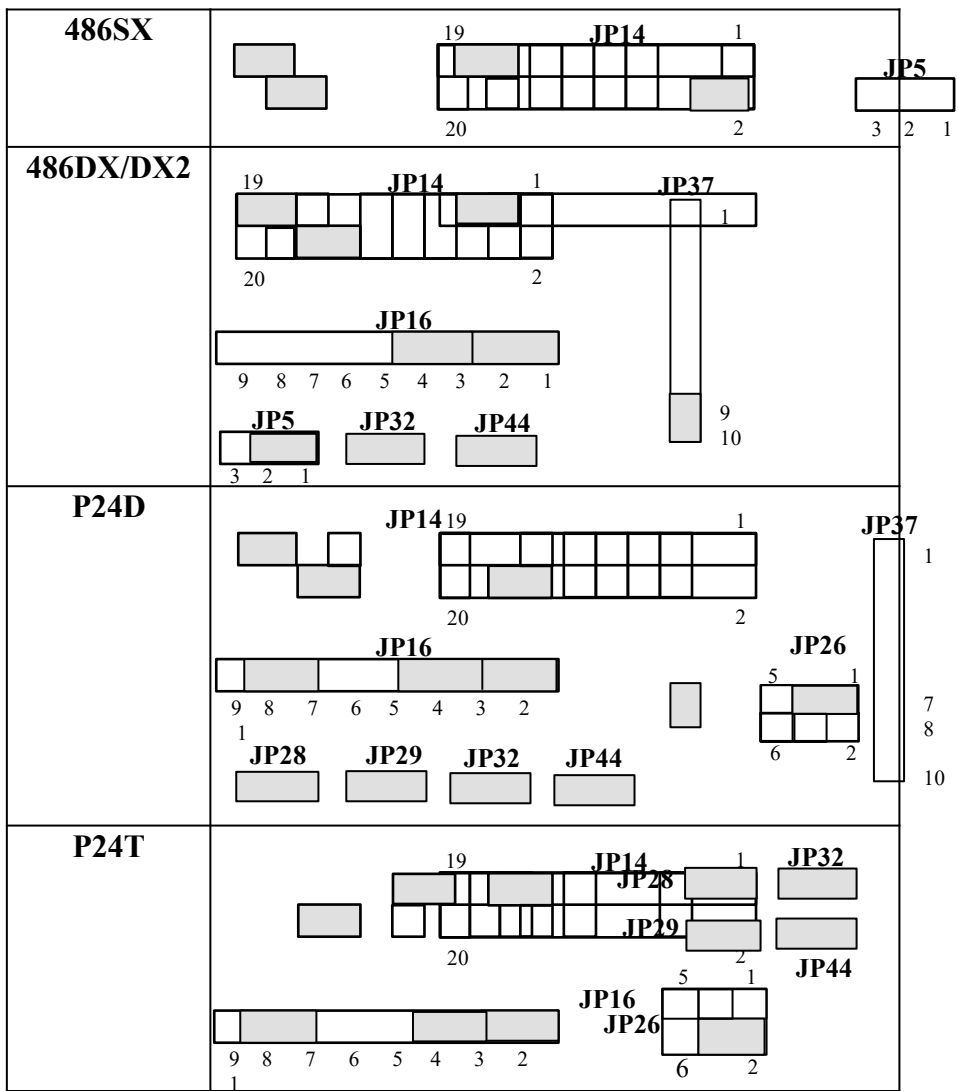
CPU CLOCK

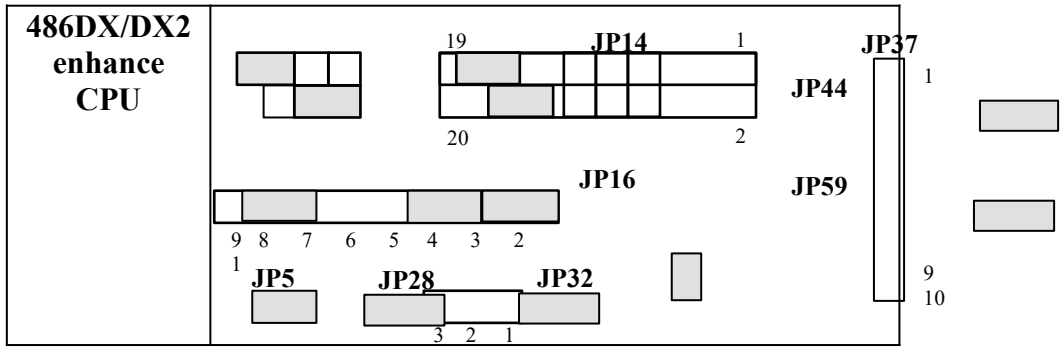
20 MHz	25 MHz	33 MHz	40 MHz
JP1, JP2, JP3	JP1, JP2, JP3	JP1, JP2, JP3	JP1, JP2, JP3

J1: POWER LED & K/B LOCK

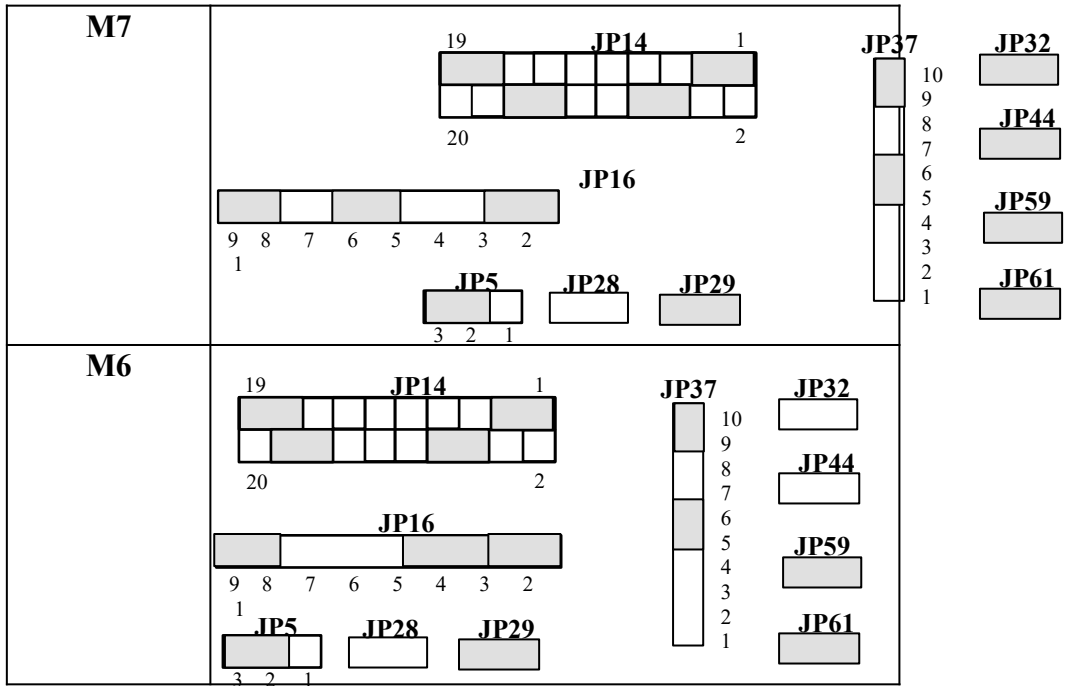
J2: SPEAKER (3-4 SHORT)

- **INTEL/AMD CPU TYPE SELECT**


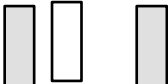






• **CYRIX CPU TYPE SELECT**



CPU POWER VOLTAGE

3.3V FOR DX4	5V FOR NORMAL
<p>JP17 JP31</p> 	<p>JP17 JP</p> 

OTHER JUMPER DESCRIPTION

JUMPER	DESCRIPTION
JP45	 <p>SUSPEND RESUME</p>
JP66	 <p>CMOS CLEAR</p>

CONNECTOR DESCRIPTION

CONNECTOR	PIN OUT	SIGNAL NAME
J1: KEY LOCK	1	LED POWER
	2	NOT USED
	3	GROUND
	4	KEYBOARD INHIBITOR
	5	GROUND
J3: TURBO/SW	1	GROUND
	2	SELECT PIN <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 20px; height: 10px; display: inline-block;"></div> TURBO SPEED <div style="background-color: black; width: 20px; height: 10px; display: inline-block;"></div> NORMAL SPEED </div>
J4: LED	1	+ANODE
	2	-CATHODE
J5: RESET	1	GROUND
	2	RESET IN
KB: KEYBOARD CONNECTOR	1	KEYBOARD CLOCK
	2	KEYBOARD DATA
	3	SPACE
	4	GROUND
	5	+5V
PS: POWER CONNECTOR	1	POWER GOOD
	2	+5V DC
	3	+12V DC
	4	-12V DC
	5,6,7,8	GROUND
	9	-5V DC
	10,11,12	+5V DC

***1.7 AWARD BIOS SYSTEM CONFIGURATION
SETUP***

This section will explain how to set up the system configuration (CMOS) under the AWARD BIOS. The SETUP program is contained in the system's Read-Only-Memory rather than on a diskette. To enter SETUP, press the key when the system is booting up. The following menu appears:

Please enter " STANDARD CMOS SETUP " to enter the next screen.

ROM ISA BIOS (2C4J6000)
 CMOS SETUP UTILITY
 AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
 STANDARD CMOS SETUP
 AWARD SOFTWARE,INC.

Date (mm:dd:yy) : Mon, Nov 14 1994	
Time (hh:mm:ss) : 11 : 26 : 2	
	CYLS. HEADS PRECOMP LANDZONE SECTORS
	MODE
Drive C : User (365Mb)	929 16 0 929 48
Drive D : None (0Mb)	NORMAL
	0 0 0 0 0

Drive A : 1.44M , 3.5 in.	Base Memory : 640K
Drive B : 1.2M, 5.25 in.	Extended Memory : 15360K
Video : EGA/VGA	Expanded Memory : 0K
Halt On : ALL Errors	Other Memory : 384K
	Total Memory : 16384K
Esc : Quit	↓→← : Select Item
F1 : Help	(Shift)F2 :Change Color
	PU/PD/+/- : Modify
	F3 : Toggle Calender

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
BIOS FEATURES SETUP
AWARD SOFTWARE,INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A, C	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On	E0000-E3FFF Shadow	: Disabled
Boot Up System Speed	: High	E4000-E7FFF Shadow	: Disabled
IDE HDD Block Mode	: Disabled	E8000-EBFFF Shadow	: Disabled
Gate A20 Option	: Fast	EC000-EFFFF Shadow	: Disabled
Memory Parity Check	: Enabled	Esc : Quit	↓→← : Select Item
Typematic Rate Setting	: Disabled	F1 : Help	PU/PD/+/- : Modify
Typematic Rate (Chars/Sec)	: 6	F5 : Old Values	(Shift) F2 : Color
Typematic Delay (Msec)	: 250	F6 : Load BIOS Default	
Security Option	: Setup	F7 : Load Setup Default	

ROM ISA BIOS (2C4J6000)
 CMOS SETUP UTILITY
 AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
 CHIPSET FEATURES SETUP
 AWARD SOFTWARE,INC.

Auto Configuration	: Enable	
AT Bus Clock	: CLKIN/5	
Extended ALE	: Disable	
Internal Cache Burst WB	: Enable	
Internal Cache WB/WT	: Write Back	
External Cache WB/WT	: Write Back	
Keyboard A20 Emulation	: Disable	
Keyboard RC Emulation	: Disable	
DRAM Wait State	: 40Mhz, 1WS	
DRAM Decouple Refresh	: Disable	
DRAM Slow Refresh	: Disable	
	Esc : Quit	↓→← : Select Item
	F1 : Help	PU/PD/+/- : Modify
	F5 : Old Values	(Shift) F2 : Color
	F6 : Load BIOS Default	
	F7 : Load Setup Default	

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
POWER MANAGEMENT SETUP
AWARD SOFTWARE,INC.

Power Management	: Max Saving	VL Bus Master detect	: Disable
PM Control by APM	: No		
Doze Timer	: 1 Sec	*** Wakeup Event ***	
Global Standby Timer	: 1 Min	IRQ 1&3 as Wakeup	: IRQ 1&3
Suspend Timer	: 4 Min	Event	: IRQ 4&5
HDD Standby Timer	: Disable	IRQ 4&5 as Wakeup	: IRQ 6&7
Video Off Option	: Susp, Stby -> Off	Event	: IRQ 8
Video Off Method	: V/H	IRQ 6&7 as Wakeup	: IRQ B
	SYNC+Blank	Event	: IRQ D
Global Standby General I/O	: Enable	IRQ 8&9 as Wakeup	: IRQ F
	: Enable	Event	: Disable
Suspend General I/O	: Enable	IRQ A&B as Wakeup	Event : Disable
		IRQ C&D as Wakeup	Event : Disable
*** Activity Detect ***		IRQ E&F as Wakeup	: Disable
Video activity detect	: Disable	Event	
Hard Disk activity detect	: Enable	IRQ 0&1 as Wakeup	
		Event	
		IRQ 2&3 as Wakeup	
		Event	
		IRQ 4&5 as Wakeup	
		Event	

Floppy Disk activity detect	: Enable	IRQ 6&7 as Wakeup	
Keyboard activity detect	: Enable	Event	
Serial Port activity detect	: Disable	Esc : Quit	↓→← : Select Item
Parallel Port activity detect	: Disable	F1 : Help	PU/PD/+/- :
VL Bus activity detect	: Disable	Modify	
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Default	
		F7 : Load Setup Default	

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULT	Enter Password:
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC

STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP LOAD BIOS DEFAULTS LOAD SETUP DEFAULTS	PASSWORD SETTING IDE HDD AUTO DETECTION SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	↓→← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

ROM ISA BIOS (2C4J6000)
CMOS SETUP UTILITY
AWARD SOFTWARE,INC.

STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT LOAD BIOS DEFAULTS LOAD SETUP DEFAULT	PASSWORD SETTING IDE HDD AUTO DETECTION SAVE & EXIT SETUP SAVE to CMOS and EXIT (Y/N) : Y
Esc : Quit F10 : Save & Exit Setup	↓→← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

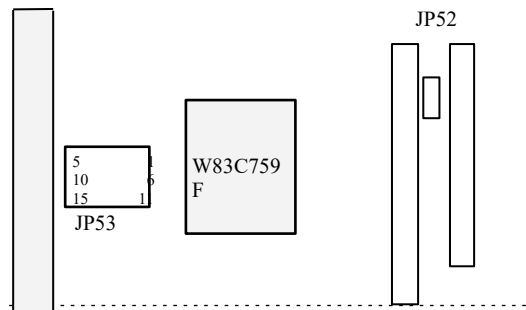
1.8 ALTERNATIVE SYSTEM SPEED

After booting the system, hold down <Ctrl> and <Alt> keys, then press <-> to select low-speed, press <+> to select high-speed.

Please review the following configuration :

HOLD DOWN <Ctrl> AND <Alt> KEYS, PRESS <+>	CPU SPEED NORMAL ⇒ TURBO
HOLD DOWN <Ctrl> AND <Alt> KEYS, PRESS <->	CPU SPEED TURBO ⇒ NORMAL

CHAPTER 2 IDE



IDE MODE (JP53)	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>																					ENABL E	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>																					DISABLE
	<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>																																											

CPU SPEED (JP53)	
HDD MODE (JP53)	
I/O CHECK READY (JP52)	<p>ENABLE DISABLE </p>

2.1 SPECIFICATIONS

- Compatible with HOST VESA bus standard
- I/O address 1F0 to 1F7
- Floppy Disk Controller
 - Support up to two 3.5" or 5.25" floppy disk drives
 - 360K/720K/1.2M/1.44M
- Serial port and Parallel port
 - Two serial ports, COM1/COM2/COM3/COM4 selectable
 - parallel port, 378H/3BCH/278H selectable

2.2 SOFTWARE INSTALLATION

1. DOS Driver

WBIDE.EXE [Options]

(A) The WBIDE.EXE is two in one exceptional program:
A DOS Device Driver and a Configuration Utility.

1) A Device Driver on DOS.

To edit the line -

DEVICE=[d:\path\]WBIDE.EXE [/S] [/L] [/C]
into the CONFIG.SYS file, and reboot the DOS.

[Note]: The WBIDE.EXE driver will detect automatically the IDE disk configuration data : Xfer-bit & best multiple sector. Those parameters are used only when a trouble was encountered.

The parameters, [/S] [/L] and [/C] are optional.

[/S] parameter is selected to indicate that the WBIDE.EXE does not use the “ multiple sector read/write” functions to access all IDE disks.

[/L] parameter is selected to indicate hat the WBIDE.EXE does use 16-bit data transfer between IDE disks and CPU.

[/C] parameter is valid only when WBIDE BIOS was existed. It is selected to indicate that the WBIDE.EXE will replace WBIDE BIOS functions. If WBIDE BIOS was present, the WBIDE.EXE will not work unless the parameter [/C] was specified.

*** Normally setting as follows :**

DEVICE=C:\path\WBIDE.EXE

2) A Configuration Utility on DOS.

To run the WBIDE.EXE directly on the DOS prompt-

d:\> [d:\path\]WBIDE.EXE <enter>

(B) Functional Description:

- 1) WBIDE DOS Device Driver supports up to four IDE disks. They are 1FXH I/O port address and 17XH I/O port address.

The IDE disks, where are attached into 17XH port connector, do not specify CYL/HD/SECT parameters in ROM BIOS SETUP.

The WBIDE.EXE Device Driver will ask you to correct CYL/HD/SECT value to match the pre-setting in ROM BIOS SETUP, when the IDE disk was first time attached to WBIDE Device Driver on 17XH connector.

- 2) WBIDE Configuration Utility will show you the current configuration of IDE disks, and easy to modify the CYL/HD/SECT configuration.

[Note]: The CYL/HD/ECT setup of WBIDE Device Driver was set only one time, when the IDE disk was first time attached. If a wrong CYL/HD/SECT value is set to WBIDE Device Driver, you need to execute WBIDE Configuration Utility on DOS to correct the value and reboot.

2. Windows 3.1 Driver

There are six files in subdirectory WINDRV:

SETUP.EXE
SETUPKIT.DLL
VBRUN200.DLL
VER.DLL
WIDE310.386
README.TXT

You should install Windows 3.1 first. And then execute SETUP.EXE in subdirectory WINDRV on DOS prompt, it will install Windows 3.1 driver WIDE310.386 automatically.

-OR-

You can refer README.TXT in subdirectory WINDRV to install Windows 3.1 driver WIDE310.386 by yourself.

[NOTE] Before you execute Windows 3.1 with WIDE310.386 Driver, the DOS device driver - WBIDE.EXE must be run first.

3. Netware driver

(A) Netware V2.15 and V2.2

Label this diskette as DSK_DRV_003 and follow the installation procedure of Netware.

(B) Netware V3.1 and V3.11

At server prompt
load NWIDE310 for V3.1
or load NWIDE311 for V3.11

then select the proper I/O port and interrupt number.

Options supported

/CS force master IDE drive to be single sector access

/DS force slave IDE drive to be single sector access

(C) Netware 4.00

Follow the Netware 4.00 installation procedure

4. OS/2

Refer to the OS2IDE2X.DOC in OS2 subdirectory for OS2 driver installation

CHAPTER 3 VGA

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AutoCAD and AutoShade are trademarks of Autodesk Inc.

IBM[®], OS/2, VGA and PS/2 are trademarks of International Business Machines Corporation.

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Windows, Word, MS-DOS and Microsoft are trademarks of Microsoft Corporation.

WordPerfect is a trademark of WordPerfect Corporation.

VESA is a trademark of Video Electronics Standards Association.

MultiSync is a trademark of Nippon Electric Company(NEC).

ImgDAC, photoDAC, and GUI-ULTRA are trademarks of Avance Logic Inc.

All other trade names are trademarks of their original Vendors.

3.1 INTRODUCTION

AIO-4045 is an all purpose single-chip graphics controller based adapter which excels in GUI, CAD and DOS application environments. It delivers high speed, high resolution display with true color support at 16.7 million colors. It is a cost effective and ideal graphics solution for desktop PC users. To take full advantage of the AIO-4045 hardware functions, it comes with a complete set of software drivers such as for MS Windows 3.1, AutoCAD, and more.

AIO-4045 is fully backward compatible with the IBM and Hercules video standards (i.e. IBM MDA, CGA, EGA, VGA and Hercules). It protects users of their early software investment. AIO-4045 is designed to work with VESA VL-BUS platforms with high speed CPU support. AIO-4045 is the graphics solution which offers you quality, performance and advanced features all in one card.

3.2 FEATURES

- * VESA Revision 2.0 Compliance.

- * Full 32-bit , GUI Acceleration.
- * Green PC support, VESA DPMS Power Saving.
- * 24-bit DAC included (Support 16.7M True Colors).
- * Displays up to 1280×1024 resolution at 16 colors.

JP57: IRQ9

Enable

Disable (default)

3.3 SOFTWARE DRIVERS

Utility Programs

- 1 Insert AIO-4045 driver disk 1 into the floppy drive A and type:
A:\INSTALL [Enter]
- 2 The INSTALL program will display a list of options. Select the option for installing Utility Programs and press [Enter].
Note: MS Windows 3.1 has its own install program. Details refer to "Installing MS Windows 3.1".
- 3 Provide the correct drive path where you would like to install the AIO-4045 utility programs.

-
- 4 The INSTALL program will automatically copy all available AIO-4045 utility programs into the specified drive path.

1. Using VMODE.EXE

VMODE is a menu-driven program to help you select the AIO-4045 video modes which are available for display. With a few simple keystrokes, you can switch the display into one of the many extended high resolution modes listed.

VMODE can be run directly from the DOS command line or from a menu.

The following table provides the detailed instructions on how you can work with VMODE.EXE:

VMODE COMMAND LINE	DESCRIPTION
VMODE	Window-screen VMODE
VMODE?	VMODE Help screen
VMODE Vn {n=0 to 13 (hex)}	Switch to VGA modes
VMODE n {n=valid hex number}	Set video modes with a valid mode number. See Video mode table for detail.

2. MS Windows

If you have never installed MS Windows before, please refer to MS Windows User's Manual for detailed installation procedures. When it comes to the section where you need to select Display options, choose VGA for your display. After you have completed the MS Windows installation, go through the following steps to install high resolution drivers for your AIO-4045 VGA. Or, if you have already installed MS

Windows with the option of another VGA card, do the following steps to re-configure MS Windows to support the AIO-4045 VGA.

- 1 Enter MS Windows directory and run MS Windows SETUP program by typing "SETUP".
- 2 A display with the current settings will appear on the screen. Use the arrow key to highlight the Display Settings and press [Enter].
- 3 A list of the display options will appear on the screen. Select the "VGA" option and press [Enter].
- 4 Follow the remaining instructions to complete Windows SETUP. Exit Windows SETUP and start Windows by typing "Win".
- 5 Under Windows Program Manager, go to heading option "File" and select "RUN".
- 6 There will be a Windows menu asking for command file. Insert the AIO-4045 Driver Disk 2 into your floppy drive A and enter "A:\WIN31UL". Press [Enter]. Warning: Do not copy the files to your hard disk (installation errors will result). The software will do this automatically.
- 7 Windows should start copying all necessary files for you to display high resolution using AIO-4045.
- 8 Once all the files have been down loaded from the AIO-4045 Software Diskette, there should be a small Windows menu with heading "ALG2228 Resolutions...". Select the desired resolution and press [Enter].
- 9 Restart Windows if you want to change the resolution, otherwise, cancel the option.

Note: It is necessary to restart Windows if you select a different display resolution than the one you are currently using.

- 10 Should you select a different display resolution in the future, simply select the new resolution by double-clicking on the Avance Logic logo icon and restart Windows.

3. OS/2 Ver. 2.1

NOTE!

OS/2 Ver 2.1 and windows NT drivers are available upon request. Please contact your vendor for details.

To successfully install OS/2 driver, please make sure you have the AIO-4045 OS/2 2.1 Display Driver Disk 3.

For first time installation of AIO-4045 OS/2 Drivers Disk 3, please follow steps 1 to 11. On subsequent installation of drivers, you may skip steps 1-4.

The OS/2 installation procedure is as follows:

- 1 Under OS/2 desktop select icon: OS/2 System and then icon: Command Prompts.
- 2 Select OS/2 or DOS Window (either Desktop or FullScreen).
- 3 Insert the driver diskette into the floppy drive. (e.g. drive A:)
- 4 Run INSTALL.BAT or INSTALL.CMD. (e.g. if the floppy drive is A: and OS/2 is installed on C: then type "A:\install a: c:"). For help on INSTALL.BAT, just type "A:\install". This will load necessary files needed for OS/2 installation on the hard disk.

Steps 1-4 are required only for the first time installation of Avance Logic drivers. On subsequent installation of drivers you may skip the steps 1-4.

- 5 On OS/2 window (under Command Prompt) run DSPINSTL.
- 6 Select "Primary Display" and click "OK".
- 7 Select "Avance Logic, Inc." on the driver selection menu.
- 8 Select "Install Using Defaults for Monitor Type" on the menu "Monitor Configuration/Selection Utility".
- 9 User will be prompted for Video Refresh Rate Selection Menu. If you are not sure about the monitor type, select "NO". Selecting wrong refresh rate not supported by monitor could hang OS/2 system and you may be required to load the OS/2 system all over again. If you select "YES", utility: AScanOS2 is invoked which will present the available scan rates. If you are still not sure about which scan rates to choose, select the lowest scan rates in each of the four columns. For information on AScanOS2 read Help provided in the program.
- 10 Select desired display resolution.
- 11 Use Disk: Display Driver Diskette when prompted.

NOTE

- Please note that the volume label of “Display Driver Diskette” is “DISP 1”. If you make copies of this disk, make sure you give correct volume label. (Use DOS command “LABEL” to change the volume label of a disk.)
- Close all Windows Seamless and FullScreen applications before you use DSPINSTL.
- Under OS/2 desktop, if you are running Windows Seamless session it is possible that the shades of colors may change in the OS/2 desktop. This may happen because of palette change and it is quite O.K. To refresh the screen click mouse on OS/2 desktop with Button 2 (just like you do the system shutdown) and choose menu item "Refresh Now". This will refresh the OS/2 desktop with correct color shades. However, this will not correct any palette problem for applications running under Windows Seamless.
- On screen resolution of 1024x768x256 colors, under Windows session if you open “Color” (“Control Panel”) you may not get correct “Custom Color Selector”. This has been observed in video boards by other manufacturers. We are contacting IBM in regards to this.

- Once you have successfully installed Avance Logic Inc. SVGA drivers, you can easily change Video Refresh rate (without changing screen resolution) by performing steps 5 thru 9. Select "CANCEL" when prompted at step 10 and onward still you exit from DSPINSTL. Do system shutdown immediately.

DE-INSTALLING DISPLAY DRIVERS:

- If you want to remove Avance Logic, Inc. display drivers, follow steps 5-11 and select "Super VGA (SVGA)" instead of "Avance Logic, Inc." when prompted at step 7. Use IBM's OS/2 original disks during this installation. During this installation you may get a message saying "... File BVHCSVGA is newer than source file ...". Press O.K. to this dialogue box. It is not necessary to perform shutdown at this point.

Open either DOS or OS/2 window. Insert Avance Logic's driver diskette in the floppy drive and run "DEINSTAL". For instance, if OS/2 has been installed on drive C then type: "A:\deinstal c". This will restore the original files changed during installation of Avance Logic drivers. For help on "DEINSTAL" just type "A:\deinstal".

Do system shutdown for the changes to take effect.

NOTE

If your system has not been installed for "Dual Boot" feature, then step 1 will not work for you. You should then re-boot system with DOS from the floppy drive and continue on with steps 2 to 10.

4. Windows NT

- 1 Enter Windows NT.
- 2 Select Windows NT SETUP, click on the option "Change System Settings".
- 3 Go to the option "Display" and select "Others". Insert ALG 2228 windows NT drivers disk into A drive.
- 4 Select the display resolution of your choice then reboot your system. You have now installed high resolution Windows NT driver.

5. Memory Address Segments

ITEM	SPECIFICATION
RAM	A0000h-BFFFFh
ROM	C0000h-C7FFFFh
I/O ADDRESS	3B0h--3DFh (IBM standard)
DMA	No DMA channels exist
Interrupt	interrupt 9 is used to indicate vertical retrace in some modes (software programmable)

6. Configure AutoCAD Release 11 for High Resolution Display Driver

To install high resolution display driver successfully, please first make sure that your ACAD R11 runs with the VGA display first.

- 1 Insert command "SET DSPADI=DSPEGA41" onto the AUTOEXEC.BAT file. Re-boot system to activate the new AUTOEXEC.BAT file.

- 2 Insert the ALG2228 driver disk 2 and type "Install". Select "AutoCAD/R11".
- 3 Start ACAD.
- 4 Select option 5, "Configure AutoCAD from the Main Menu".
- 5 Select Option 3, "Configure Video Display and select device number. For Example, "ADI P386 v4.0/4.1 display".
- 6 Select display mode.
- 7 Finish the rest of the setups and save all changes.

7. Configure AutoCAD Release 12 for High Resolution Display Driver

To install high resolution display driver successful, please first make sure that your ACAD R12 runs with the VGA display first.

- 1 Insert the ALG 2228 driver disk 2 and type "Install". It will copy all drivers into the "DRV" directory of your ACAD R12 directory.
- 2 Begin AutoCAD by entering "ACAD -R". Select option 3 "Configured Video Display".
- 3 Answer "Yes" when prompted "Do you want to select....." message to display the available video options for AutoCAD.

-
- 4 Select "Avance VGA P386 ADI V4.2 32-bit Display List, by Avance Logic".
 - 5 Select the display resolution you desire.
 - 6 Follow the directions provided by the ACAD program to complete the configuration.
 - 7 Save new changes and you have completed the installation.

8. VersaCAD/5.X

The AIO-4045 VGA supports the following high resolution software drivers for VersaCAD/5.X:

AC16.COM for 16-color modes, and

- 800x600 16-color
- 1024x768 16-color
- 1280x1024 16-color (1MB DRAM)

AC256.COM for 256-color modes, and

- 640x480 256-color
- 800x600 256-color
- 1024x768 256-color (1MB DRAM)

"--": Please refer to the screen display for the selection number that is associated with the display resolution.

- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

A:\INSTALL [Enter]

- 2 Select the option for Driver Installation and select the option for VersaCAD.
- 3 Provide the correct drive path for the VersaCAD directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Go to your VersaCAD directory and run ENVIRO program by typing "ENVIRO".
- 5 Press a series of N's to bring up the Screen Device Menu.
- 6 Press keystroke [S] to select the desired display resolution for your VersaCAD.
- 7 Once you have selected the display driver, type "X" to exit.
- 8 While inside the VersaCAD directory, type AC16 or AC256 to load high resolution VersaCAD drivers.
- 9 You have now completed the installation. Start VersaCAD as usual and you will be able to work with the high resolution display that you have just configured.

Installing High Resolution Protected Mode ADI Display List Drivers for AutoCAD R11, AutoShade V2.0

Unlike Real Mode ADI Drivers, AVANCE LOGIC GRAPHICS Protected Mode ADI Drivers are not TSR programs and will not occupy your system memory. AutoCAD Release 11 and AutoShade 2.0 will automatically load these protected mode ADI drivers into protected mode memory space (high memory) not only at run time but also at the configuration time.

Setting Proper ADI Environment for AutoCAD Protected Mode Display List Drivers

To allow successful installation, first you will need to setup your ADI environment properly by using the following steps:

- 1 Insert the AIO-4045 Driver Disk 2 into your floppy drive A. At the DOS prompt, simply type:

```
A:\INSTALL [Enter]
```

- 2 Select the option for Driver Installation and select "PADI386".
- 3 Provide the correct drive path for the AutoCAD directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Use DOS editor or any other editor to place the following commands to be the first two line commands of your AUTOEXEC.BAT file:

```
SET DSPADI=drv:\path\filename  
SET RDPADI=drv:\path\filename
```

NOTE

"DSPADI": The environment name recognized by AutoCAD.
"RDPADI": The environment name recognized by AutoShade.
"drv:\path" Enter the drive ID and path name where you have stored your AVANCE LOGIC GRAPH ICS high resolution protected mode ADI display List drivers.

"filename": **Select the following filenames:**

RCPVGA41.EXP (w/o Display List)
DSPEGA41.EXP (with Display List)
SDSP.EXP (Display List with Linear
Address)

- 5 Reboot your system to activate the new AUTOEXEC.BAT file.

NOTE!

Do not install Display List with Linear Address driver(SDSP.EXP) if you have a system which contains 16 MB of the memory. Due to the limitation on the ADI4.1 and AT bus, installing SDSP.EXP will create memory conflicts between your system and the video memory.

9. Configure AutoShade Version 2.0 for High Resolution Protected Mode ADI Display List Driver

Before configuring AutoShade Version 2.0, set environment variables

RDPADI as described in the section Setting Proper ADI Environment; then do the following steps:

- 1 At the DOS prompt, type the following command:

SHADE -r [Enter]

This command allows AutoShade to run the configuration screen first.

- 2 You will now be prompted to select the pointing device:

Select pointing device:

1. Autodesk Device Interface pointer.
2. P386 Autodesk Device Interface pointer.

.

Pointer selection:

Enter the option number to choose the appropriate pointing device.

- 3 Select the display device driver:

Select display device:

1. Autodesk Device Interface display driver.
2. P386 Autodesk Device Interface display driver.

.

.

Display selection:

NOTE!

Select option 1:

If you have installed AVANCE LOGIC GRAPHICS ADI 4.0 Display List driver, follow the installation procedures under Installing High Resolution Real Mode ADI Display List Drivers for AutoCAD Release 9 and 10.

If you have installed AVANCE LOGIC GRAPHICS ADI 4.1 Display List driver, follow the installation procedures under Installing High Resolution Real Mode ADI Display List Driver for AutoCAD Release 11.

Select option 2:

If you have installed AVANCE LOGIC GRAPHICS Protected Mode ADI Display List driver, follow the installation

procedures under Installing High Resolution Protected Mode ADI Display List Drivers for AutoCAD R11, AutoShade V2.0.

NOTE!

The dual screen feature will not be supported if you are using the Protected Mode ADI Display List driver.

4 Select display resolution by entering the option number.

5 Select the rendering device:

Select rendering display device:

1. Autodesk Device Interface rendering driver.
2. P386 Autodesk Device Interface rendering driver.

.

Rendering selection:

Select option 2, then press [Enter].

6 Select the Rendering resolution:

Select rendering resolution:

1. 640 x 400 x 256 color
2. 640 x 480 x 256 color

.

Select the resolution you wish to use and press [Enter].

7 You will now be prompted with the following message:

"Choose Bresenham polygon fill from scan conversion polygon fill. Select Bresenham polygon fill algorithm [Y/N]? <Y>"
Answer Y or N depending on your application.

-
- 8 When you are prompted "Does the display and AutoShade rendering devices share a single screen? (default = NO):"
 - 9 When you are prompted with the message "Does the display and Autodesk RenderMan rendering devices share a single screen? (default = NO):"

Type Y and press [Enter]

- 10 When you are prompted "Does FLIP SCREEN require a redraw? (default = NO):"

Type Y and press [Enter].

- 11 Select Rendering hard copy device:

Select Rendering hard copy device:

1. Autodesk Device Interface Rendering driver.
2. P386 Autodesk Device Interface Rendering driver.

Rendering hard copy selection:

If you have any rendering hard copy devices installed in your system, select the option number associated with the device that you are using. Otherwise, select the number associated with item "none".

You have now completed the configuration of AVANCE LOGIC GRAPHICS Protected Mode ADI driver for AutoShade.

10. CADKEY/3

The AIO-4045 VGA Card supports the following high resolution software drivers for CADKEY/3:

AC16.EXE for 16-color modes, and

--	640x480	16-color
--	800x600	16-color
--	1024x768	16-color
--	1280x1024	16-color (1MB DRAM)

AC256.EXE for 256-color modes, and

--	640x480	256-color
--	800x600	256-color
--	1024x768	256-color (1MB DRAM)
--	1280x1024	16-color (1MB DRAM)

"--": Please refer to the screen display for the selection number that is associated with the display resolution.

- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:
A:\INSTALL [Enter]
- 2 Select the option for Driver Installation and select the option for CADKEY.
- 3 Provide the correct drive path for the CADKEY directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Go to your CADKEY directory and list out the contents of the ALCK3.DAT file on screen by entering:

Type ALCK3.DAT [Enter]

NOTE!

Use [Ctrl]-[S] to pause for reading and press [Enter] to continue
(You may want to print out the contents of the ALCK3.DAT).

- 5 Use line editor to append the entire contents of the ALCK3.DAT into the filename "GRDEV.DAT".
- 6 Inside the CADKEY directory, type "CONFIG" to re-configure ADKEY.
- 7 Select option (1) "Set graphics options" from the CADKEY Main menu.
- 8 Select option (1) "Select graphics device" from the Set Graphics options. You should see the following display:
 - * ALGXXXX 16-color display
 - * ALGXXXX 256-color display
- 9 Choose option (1) "Graphics Device Mode Selection" to select the desired display resolution.
- 10 At the Display Monitor Selection choose the option for your monitor.
- 11 You will now be prompted "Enter the X & Y size for the CADKEY graphics cursor." Simply press [Enter] to select the default configuration.

- 12 Again, you will be prompted "Enter the size for the CADKEY graphics marker". Simply press [Enter] again to select the default configuration.
- 13 Continue with the rest of the installation procedure until you are able to select option (9) "Exit and save changes".
- 14 While you are in the CADKEY directory, type "AC16" or "AC256" to load the CADKEY drivers.
- 15 You have now completed the installation. Start CADKEY by typing "CKGR" and you will be able to work with the high resolution display that you have just configured.

11. EASYCAD/2.72

The AIO-4045 VGA supports the following high resolution software drivers for EASYCAD/2:

Driver name	Resolution
DSA800.BIN --	800x600/16 color
DSA1024.BIN --	1024x768/16 color
DSA1280.BIN --	1280x1024/16 color (1MB DRAM)

- 1 Insert the DSP-2228 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

A:\INSTALL [Enter]
- 2 Select the option for Driver Installation and select the option for EASYCAD.

-
- 3 Provide the correct drive path for the EASYCAD directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
 - 4 Select the driver name with the resolution you would like to display and copy the driver to filename DSDRV.BIN. For example, select DSA1024.BIN for your 1024 x 768 display and type "COPY DSA1024.BIN DSDRV.BIN" at the DOS prompt.
 - 5 Run the program "ADJUST.EXE" to reconfigure your EASYCAD environment and select option 2 for display driver. Follow through the instructions on the screen to complete the configuration.
 - 6 Save the new configurations and a display message "INSTALLATION COMPLETED SUCCESSFULLY" will appear on screen.
 - 7 Start EASYCAD by typing "ECAD".

12. Framework III

- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

```
A:\INSTALL [Enter]
```
- 2 Select the option for Driver Installation and select the option for Framework III.
- 3 Provide the correct drive path for the Framework III directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Enter the Framework III directory and type "SETUP" at the DOS prompt.

- 5 When the SETUP screen appears, choose option 2, "All other uses of the setup program".
- 6 Choose option 2 for running Framework III from your hard disk drive.
- 7 Select option 2 again for CONFIGURATION.
- 8 Choose option 1 to select the "PRIMARY HARDWARE" configurations.
- 9 Enter number 1 to indicate that you wish to select the Screen Driver. Enter number 7 for "I want to enter my own driver file name" and enter the name of the desired driver from the following list.

<u>SCREEN</u>	<u>FORMAT</u>	<u>ZOOM SCREEN</u>	<u>FILENAME</u>
80Cx30R	Text	640Hx480V	AF240.SC
80Cx43R	Text	640Hx480V	AF250.SC
80Cx60R	Text	640Hx480V	AF260.SC
132Cx25R	Text	640Hx480V	AF200.SC
132Cx43R	Text	640Hx480V	AF220.SC
132Cx60R	Text	640Hx480V	AF230.SC
80Cx30R	Text	800Hx600V	AF241.SC
80Cx43R	Text	800Hx600V	AF251.SC
80Cx60R	Text	800Hx600V	AF261.SC
132Cx25R	Text	800Hx600V	AF201.SC
132Cx30R	Text	800Hx600V	AF211.SC
132Cx43R	Text	800Hx600V	AF221.SC
132Cx60R	Text	800Hx600V	AF231.SC
640Hx480V	Graphics	640Hx480V	AF12.SC
800Hx600V	Graphics	800Hx600V	AF2B.SC

- 10 After you have entered the driver name, type "M" to return to the Main menu.

-
- 11 From the Main Menu, type "7" to save all your settings.
 - 12 Save the new configuration. Choose option "2" for running Framework III from the hard disk drive. Once you have made the choice, strike any key to exit to DOS.
i.e. : To configure 132x60-column display with 800x600 resolution for the "Zoom Screen" function, choose the driver named AF1E1.SC

13. LOTUS/123 and Symphony

Installing extended display drivers for Lotus/123 Release 2.x, and Symphony Release 1.x.

- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

```
A:\INSTALL [Enter]
```

- 2 Select the option for Driver Installation and select the option for Lotus 123 and Symphony.
- 3 Provide the correct drive path for the Lotus and Symphony directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Change to your Lotus/123 directory and delete old SINGLE.LIB by typing:

```
Del SINGLE.LIB [Enter]
```


- 5 Type "Lotus" to open the Lotus Main menu.
- 6 Select "Install" from the Lotus Main menu.
- 7 Select "Advanced options" from the Install menu.
- 8 Select "Add new driver to library" from the Advanced Options menu.
- 9 Select "Modify current driver set" from the menu.
- 10 Select either Text or Graphics display.
- 11 Select the following display resolutions:

ALGXXXX (132x25) Rel.2	<--	Text
ALGXXXX (132x30) Rel.2.	<--	Text
ALGXXXX (132x43) Rel.2.	<--	Text
ALGXXXX (132x60) Rel.2.	<--	Text
ALGXXXX (640x480/16) Rel.2.	<--	Graphics
ALGXXXX (800x600/16) Rel.2.	<--	Graphics
- 12 Choose "Save Changes" to keep the changes you have made and exit the Lotus/123 installation program.
- 13 Use the same procedures to setup Lotus/Symphony.

14. PCAD

- 1 Insert the AIO-4045 Driver Disk1 into your floppy drive A. At the DOS prompt, simply type:

```
A:\INSTALL [Enter]
```

-
- 2 Select the option for Driver Installation and select the option for PCAD.
 - 3 Provide the correct drive path for the PCAD directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.

- 4 Available display drivers for PCAD version 4.0.
800x600/16 : AP800.DRV
1024x768/16 : AP1024.DRV
1280x1024/16 : AP1280.DRV (required 1MB)

Available display drivers for PCAD version 4.5.
800x600/16 : AP800.DRV
1024x768/16 : AP1024.DRV
1280x1024/16 : AP1280.DRV (required 1MB)

Use line editor to modify the "display" line in the PCADDRV.SYS file to the selected display driver name.
For example, PCADDRV.SYS can be modified to select 800x600 16-color driver as:

```
DISPLAY \ PCAD \ AP800.DRV
```

- 5 Reboot your system and you are able to run PCAD in high resolution display.

15. Ventura Publisher Rel. 2

- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

```
A:\INSTALL [Enter]
```

- 2 Select the option for Driver Installation and select the option for Ventura Publisher.
- 3 Provide the correct drive path for the VP directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Start VP installation program by typing:

A:\VPDRV2_0 [Enter]
- 5 Select high resolution display mode a by choosing option A, B, C, etc.:
A. ALGXXXX 800x600/16 colors display
B. ALGXXXX 1024x768/4 colors display
C. ALGXXXX 1024x768/16 colors display
D. ALGXXXX 1280x1024/16 colors display (1MB)
6. Complete the installation procedures by following the screen instructions and responding to the remaining questions.

16. WordPerfect

- 1 Configure WordPerfect/4.2 for extended text display:
 - 1) Enter the directory where you have installed the ALG 2228 Driver Disk 1 utility programs. Run VMODE.EXE program to select the extended text mode that you wish to use (i.e. 132 column mode). For convenience, you may copy "VMODE.EXE" program to your WP or root directory.

-
- 2) Go to the directory where you have stored WordPerfect or insert the WordPerfect program diskette into floppy drive A if you are using a floppy system and type:

WP/S [Enter]

- 3) Select option 3, "Set Screen and Beep options".
- 4) Enter the numbers for the column and row to match the one you have selected with the VMODE.EXE program.
- 5) Choose option 0 to accept the new configuration and enter WordPerfect.

NOTE!

When you exit from WordPerfect, type the command line "VMODE 3" and press [Enter] to return to the standard 80x25 VGA text display.

Each time you run WordPerfect for extended text mode display, you will need to type "VMODE" and select the option that matches the columns and rows that you had set previously in your WordPerfect setup (WP/S).

Once you have configured WordPerfect for a particular extended text mode, you need not repeat steps 1 through 5 unless you want to change to a different display mode.

- 2) Configure WordPerfect/5.0 for Extended Graphics display:
 - 1) Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

- A:\INSTALL [Enter]
- 2) Select the option for Driver Installation and select the option for WordPerfect/5.0.
- 3) Provide the correct drive path for the WP50 directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4) Start WordPerfect program by typing "WP".
- 5) Setup new display by pressing keystroke [SHIFT-F1].
- 6) Select option "(2) Display".
- 7) Select new Screen driver. Select option "(5) Graphics Screen Type".

Ext. 16 colors - -
 - 1024x768
 - 1280x1024

- 8) Save the new configuration.
- 3) Configure WordPerfect/5.1 for extended text/graphic display:
- 1) Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

A:\INSTALL [Enter]
 - 2) Select the option for Driver Installation and select the option for WordPerfect/5.1.
 - 3) Provide the correct drive path for the WP51 directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.

-
- 4) Start WordPerfect program by typing "WP".
 - 5) Setup new display by pressing keystroke "SHIFT-F1".
 - 6) Select option "(2) Display".
 - 7) Select new Screen driver. Select option "(2) Graphics Screen Type".

Ext. 16 colors -
- 1024x768
- 1280x1024 (required 1MB)

Ext. 256 colors -
- 640x480
- 800x600
- 1024x768 (require 1MB)

Select (3) Text Screen Type. 132 column TEXT
-
- 132x30
- 132x43
- 132x60
-

- 8) Save the new configuration.

17. WordStar Release 3

- 1 Check your DOS system disk or directory to see if you have the file named "DEBUG.COM" or "DEBUG.EXE".
- 2 Make a backup copy of the WS.COM file from your WordStar diskette or the WordStar directory on your hard drive, and give it a new filename "WS132.COM".
- 3 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:
A:\INSTALL [Enter]
- 4 Select the option for Driver Installation and select the option for WordStar .
- 5 Provide the correct drive path for the WS3 directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 6 Go to WordStar directory and modify WordStar to work with the 132 column text mode (i.e. 132x25) by typing:
MAKEWS 13225 WS132.COM [Enter]
- 7 Run VMODE.EXE to select the video mode you wish to display. (i.e. Select the 132x25 mode)
- 8 Go to your WordStar directory and run WordStar Release 3 at 132x25 text display by typing:
WS132 [Enter]

18. WordStar Release 4

-
- 1 Insert the AIO-4045 Driver Disk 1 into your floppy drive A. At the DOS prompt, simply type:

A:\INSTALL [Enter]

- 2 Select the option for Driver Installation and select the option for WordStar 4.
- 3 Provide the correct drive path for the WS4 directory and press [Enter]. The INSTALL program will automatically copy all available driver files into the specified directory.
- 4 Go to your WordStar Professional Release 4 directory and start WordStar's installation program by typing:

WSCHANGE

- 5 Type "WS.EXE" as the filename of your WS program file, and type "WS132.EXE" as the filename for new changes.
- 6 Select option A for "Console options".
- 7 Select option A for "Monitor options".
- 8 Choose option C for "Screen Sizing".
- 9 Choose option A for "Height" at the Screen Sizing Menu and enter a desired row number for the screen format (i.e. 25, 30, 43 or 60).
- 10 Choose option B for "width" at the Screen Sizing Menu and enter a desired column number (i.e. 132 or 80) for the screen size.
- 11 Once you have selected the screen format, return to the Main Installation Menu by typing a series of "X"s.

12 Run VMODE.EXE to select the extended video mode (be sure that the mode you selected is the same as the one you have chosen earlier in the WordStar configuration).

13 Start WordStar Release 4 by typing:

WS132 [Enter]

You won't need to repeat this installation procedure unless you want to configure WordStar Release 4 with a different display mode.

NOTE

Do the following steps whenever you start WordStar Release

4:

- 1) Run VMODE.EXE to select the extended display mode (same as the one you have previously saved in the WordStar Release 4 configuration.)
- 2) Type "WS" or "WS123" to start WordStar.
- 3) When you exit WordStar, type "VMODE 3" return to the standard VGA display mode.

CHAPTER 4 LAN

4.1 OVERVIEW

The Jumperless LAN, referred to as W89C904AX Series, are designed in one type of boards as described below:

INET2000B: Equipped with BNC ports, which allow connecting to thin coaxial cables.

Featuring a high data transmission rate of 10 mega bits per second, the Cards conform to the IEEE 802.3 standard protocol.

The Jumperless LAN use the software program named **LANSTART.EXE** to set up the hardware parameters (such as IRQ, I/O address...etc.) or the configurations, and to test/diagnose the condition of the boards.

Designed with menu-driven screens, the **LANSTART.EXE** software program is user-friendly and easy to use. The cards can be installed directly without running the software when users use the default settings of the cards. In other words, to configure the cards is necessary only when non-default parameters are required. Notice that if multiple cards are to be used, you should install and configure one at a time.

The LAN series are fully hardware and software compatible with Novell's NE2000, which can be used in a file server or a workstation under Novell's Netware operating system.

The LAN series also support various network system, such as Artisoft's LANtastic, Microsoft's Windows for Workgroups, IBM OS/2 etc.

4.2 FEATURES

- * 16 Bit Ethernet adapter.
- * Novell NE2000 Ethernet AT hardware compatible board.
- * Compliant with IEEE 802.3 Ethernet Standard.
- * The board with 10Base-2 BNC Interface.
- * Supports Netware, TCP/IP, NDIS, ODI and NetBIOS etc.
- * Supports 16K/64K multi-packet RAM buffer.
- * IEEE registered NODE ID.
- * No jumpers or switches, Software configuration for:
 - ;X IRQ Lines
 - ;X I/O base address
 - ;X Boot ROM size and address
 - ;X Cable type 10Base-2
- * A remote reset Boot ROM chip is available that allows a diskless workstation to boot from the file server or ChipAway AntiVirus chip, that detects the hard disk virus.

NOTE : If you want to create a new or modify the partition for hard disk, disable the Boot ROM function first.

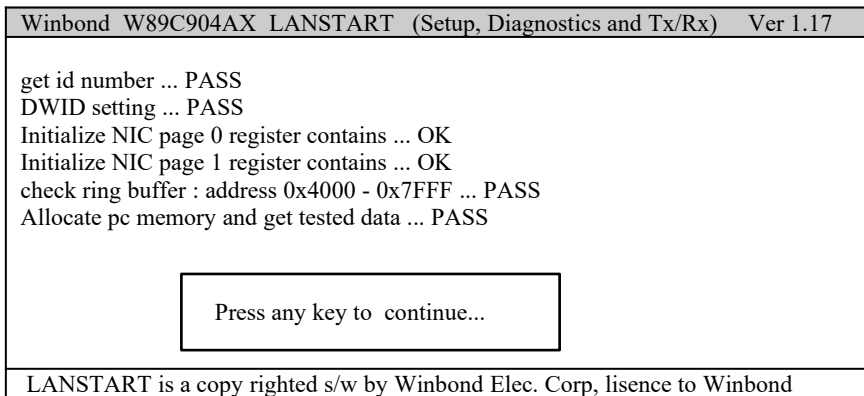
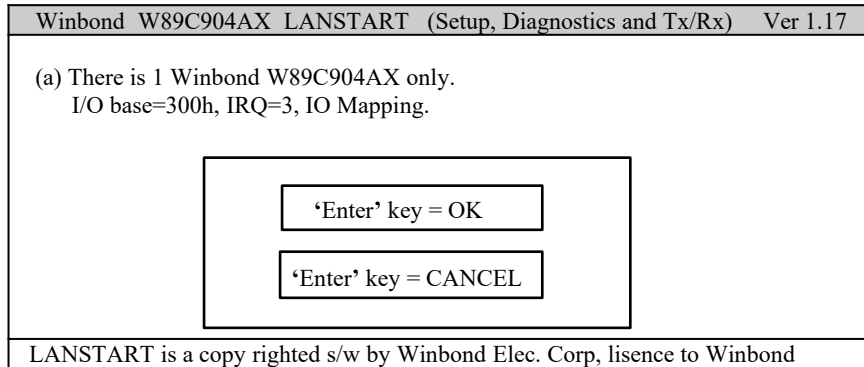
4.3 SOFTWARE SETUP

1. CONFIGURATION

The LAN is jumperless. Settings are controlled entirely through menu choices and entries in the SETUP program, supplied on the diskette. The LAN card must be installed when the setup program is run. But, network drivers should not be installed. To start the program, place the diskette in your floppy drive, for example, drive A. Then type:

A:>LANSTART ↵(Enter)

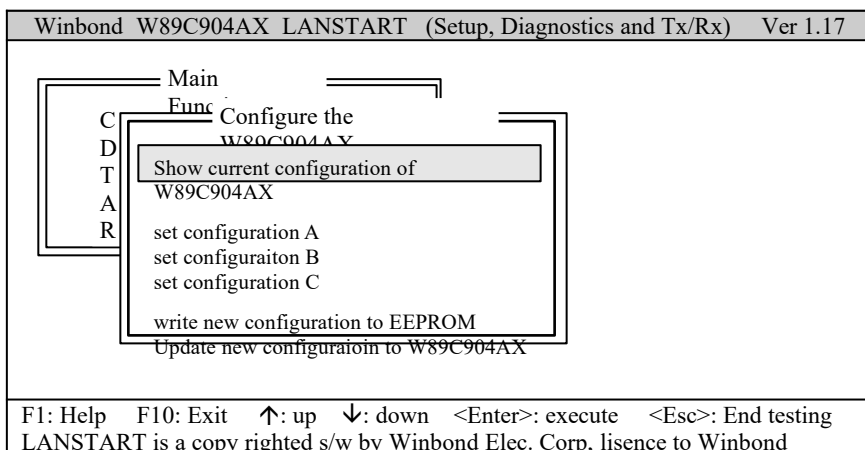
The main menu will appear:



2. CONFIGURING THE CARD

Press <Enter> to open the “Configure the W89C904AX” when this option is high-lighted in the main menu of the software. Refer to the figure below:

⏏¹ Configure the W89C904AX ⏏¹



Press <enter> to open the current configuration of W89C904AX when the “Show current configuration of W89C904AX” option is highlighted in the sub-menu of the “Configure the W89C904AX” of the software.

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17	
Configuration A	Configuration C
IOBASE : 300H	BPBASE : No BOOT
INT : 000 IRQ3	COMP : Compatible mode
FAST : Normal Remote DMA	INTM : Coded mode
	CLKSEL : Clock from 20MHz
	SOFTTEN : Software Enable

Configuration B

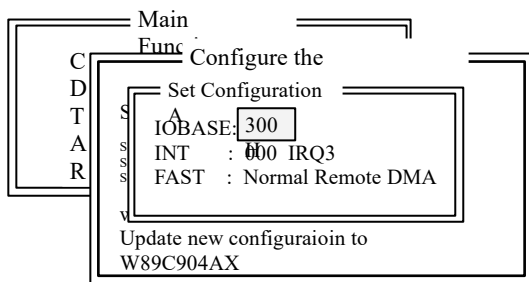
Thick : Thin Ethernet
GDLINK : Enable GDLINK
EIO16 : Normal IO 16
ECHRDY : Normal IOCHRDY
BPWE : Boot PROM Write Enable

Press any key to exit...

LANSTART is a copy righted s/w by Winbond Elec. Corp, liscence to Winbond

OPEN THE SET CONFIGURATION A:

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17

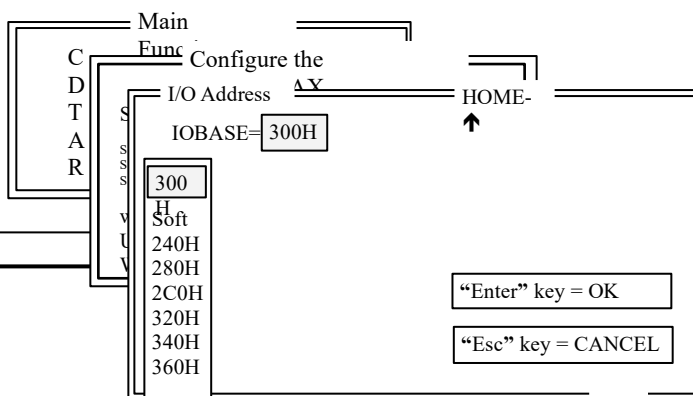


F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing

LANSTART is a copy righted s/w by Winbond Elec. Corp, liscence to Winbond

IOBASE : I/O ADDRESS

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17

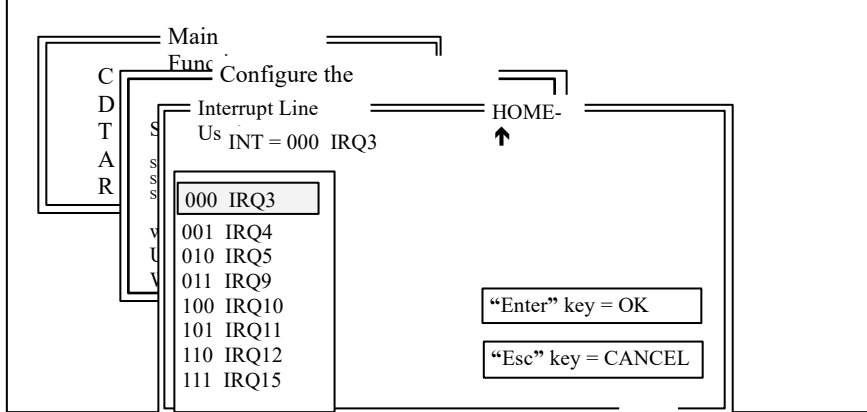


END

F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
 LANSTART is a copy righted s/w by Winbond Elec. Corp, lisencc to Winbond

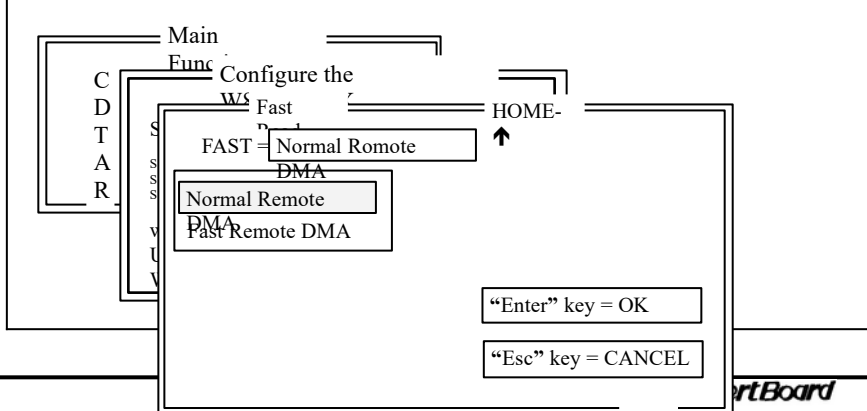
INT : Interrupt Request (IRQ)

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17



F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
 LANSTART is a copy righted s/w by Winbond Elec. Corp, lisencc to Winbond

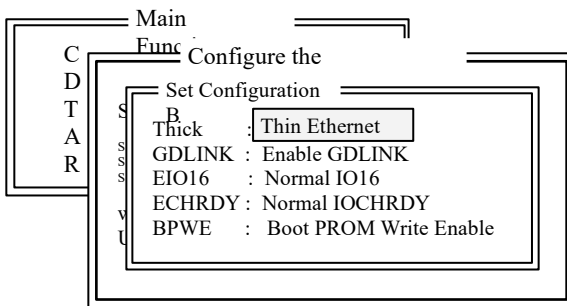
Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17



END

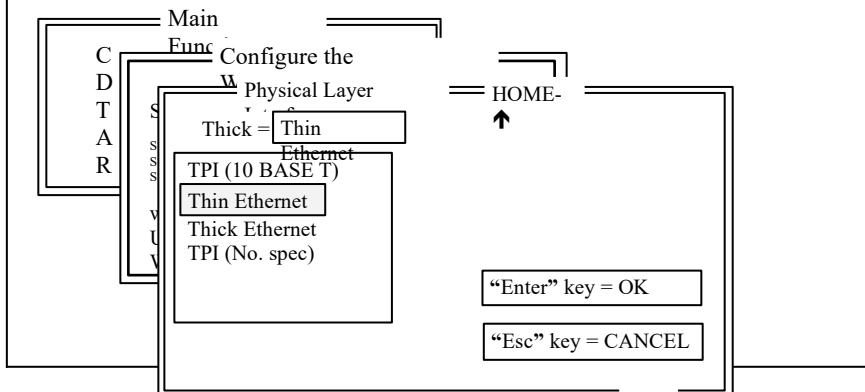
F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
LANSTART is a copy righted s/w by Winbond Elec. Corp, liscence to Winbond

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17



F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
LANSTART is a copy righted s/w by Winbond Elec. Corp, liscence to Winbond

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17



F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
 LANSTART is a copy righted s/w by Winbond Elec. Corp, lisenca to Winbond

Boot ROM Address

The “disable” and a list of Boot ROM addresses will be displayed when this option is selected. The default Boot ROM setting is “disable” which indicates the remote boot function is disabled. You are able to enable the remote boot by selecting one of Boot ROM addresses.

Note

Each time when the setup software is run, the Boot ROM setting is always “disabled” whether the Boot ROM is installed or not; even if the Boot ROM setting has been “enabled” last time.

Therefore, each time when the software is run, the Boot ROM address should be reselected if you need the remote boot function.

For the list of boot ROM address, refer to the table on the next page.

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17

Main
Func Configure the

Set Configuration

BPBASE No BOOT

COMP : Compatible mode

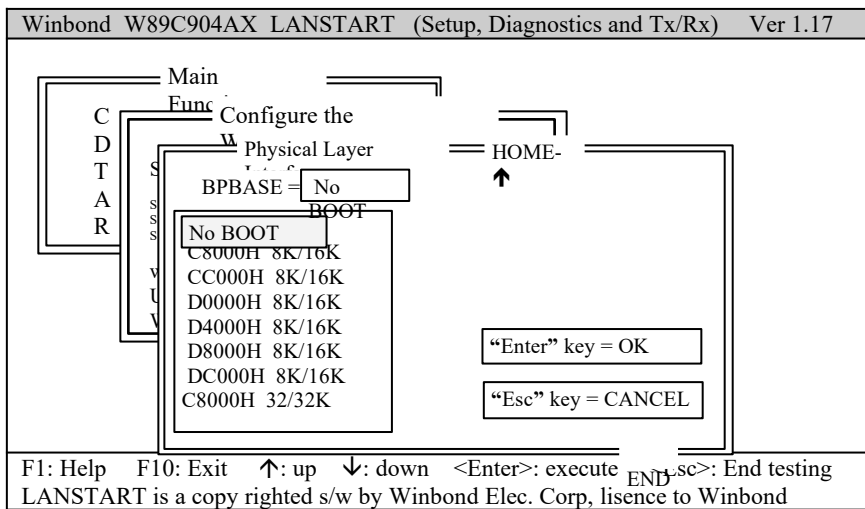
INTM : Coded mode

CLKSEL : Clock from 20MHz

SOFTTEN : Software Enable

Note:

There are no mapping limitations between Boot ROM address and I/O base address. Yet you should be careful not to let the conflict happen between your Shared RAM address and Boot ROM address:

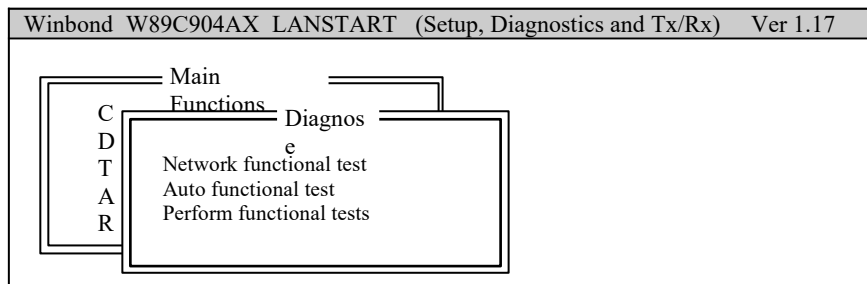


Save the Settings

In the “Configure the W89C904AX”, select the “Update new configuration to W89C904AX” option allowing you to save the settings.

3. Diagnosing the Card

Select the “Diagnose” option in the main menu and press <Enter> to open the “Diagnose”. You are allowed to do the tests from the Diagnose. To perform one of tests, press <Enter> after the option is high-lighted.



F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
LANSTART is a copy righted s/w by Winbond Elec. Corp, lisencc to Winbond

Internal Test:

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17

```

Main
├── Functions
│   ├── Diagnose
│   │   └── Network functional test
│   │       ├── register read/write test :
│   │       │   PASS
│   │       ├── remote DMA read/write test :
│   │       │   PASS
│   │       ├── send packet test :
│   │       │   PASS
│   │       └── loopback mode 1 test :
│   │           PASS
│   └── loopback mode 2 test :
│       PASS
└── C
    ├── D
    ├── T
    ├── A
    └── R

```

F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
LANSTART is a copy righted s/w by Winbond Elec. Corp, lisencc to Winbond

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17

```

Main
├── Functions
│   └── Access physical address
│       ├── physical address = 00 c0 4c 3 50
│       ├── check ring buffer : address 0x4000 - 0x7FFF...
│       ├── PASS
│       └── press <ESC> to continue...
└── C
    ├── D
    ├── T
    ├── A
    └── R

```

F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing
LANSTART is a copy righted s/w by Winbond Elec. Corp, lisencc to Winbond

Exit the Software

By pressing the <Esc> key allows you to leave the software and return to the Main Menu as the table below:

Winbond W89C904AX LANSTART (Setup, Diagnostics and Tx/Rx) Ver 1.17
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">Main</p> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 60%;"> <p>Configure the W89C904AX</p> <p>Diagnostics</p> <p>Transmit/receive p</p> <p>Access physical ad</p> <p>Read W89C904AX</p> </div> <div style="border: 1px solid black; padding: 5px; width: 35%; text-align: center;"> <p>Press "X" to confirm exit.</p> <p>Press "C" to continue</p> </div> </div> </div>
<p>F1: Help F10: Exit ↑: up ↓: down <Enter>: execute <Esc>: End testing LANSTART is a copy righted s/w by Winbond Elec. Corp, liscence to Winbond</p>

By pressing <C> button to continue or by pressing <X> button to confirm exit and return to the DOS prompt.

APPENDIX A AWARD POST CODE

When the system is powered on, the BIOS will perform diagnostics and initialize all system components, including the video system. All errors found by the BIOS will be put in I/O port 80H. (By installing the post code display card, the post codes can be displayed.)

POST	Name	Description
C0	Turn Off Chipset Cache	OEM Specific-Cache controller.
1	Processor Test 1	Processor Status (1FLAGS) Verification. Tests the following processor status flags carry, zero, sign, overflow. The BIOS will set each of these flags, verify they are set, then turn each flag off and verify it is off.
2	Processor Test 2	Read/Write/Verify all CPU registers except SS, SP, and BP with data pattern FF and 00.
3	Initialize Chips	Disable NMI, PIE, AIE, UEI, SQWV.

		<p>Disable video, parity checking, DMA. Reset math coprocessor. Clear all page registers, CMOS shutdown byte. Initialize timer 0, 1, and 2, including set EISA timer to a known state. Initialize DMA Controllers 0 and 1. Initialize interrupt controllers 0 and 1. Initialize EISA extended registers.</p>
4	Test Memory Refresh Toggle	<p>RAM must be periodically refreshed in order to keep the memory from decaying. This function assures that the memory refresh function is working properly.</p>
5	Blank video, Initialize keyboard	Keyboard controller initialization.
6	Reserved	
7	Test CMOS Interface and Battery Status	Verifies CMOS is working correctly, detects bad battery.
BE	Chipset Default Initialization	Program chipset registers with power on BIOS defaults.
C1	Memory presence test	OEM Specific-Test to size on-board memory.
C5	Early Shadow	OEM Specific-Early Shadow enable for fast boot.
C6	Cache presence test	External cache size detection.

8	Setup low memory	<p>Early chip set initialization. Memory presence test. OEM chip set routines. Clear low 64K of memory. Test first 64K memory.</p>
9	Early Cache Initialization	<p>Cyrix CPU initialization. Cache initialization.</p>
A	Setup Interrupt Vector Table	Initialization first 120 interrupt vectors with SPURIOUS_INT_HDLR and initialize INT 00h-1Fh according to INT TBL.
B	Test CMOS RAM Checksum	Test CMOS RAM Checksum, if bad, or insert key pressed, load defaults.
C	Initialize keyboard	Detect type of keyboard controller (optional) Set NUM_LOCK status.
D	Initialize Video Interface	<p>Detect CPU clock. Read CMOS location 14h to find out type of video in use. Detect and Initialize Video Adapter.</p>
E	Test Video Memory	Test video memory, write sign-on message to screen. Setup shadow RAM - Enable shadow according to Setup.
F	Test DMA	BIOS checksum test.

	Controller 0	Keyboard detect and initialization.
10	Test DMA Controller 1	
11	Test DMA Page Registers	Test DMA Page Registers.
12-13	Reserved	
14	Test Timer Counter 2	Test 8254 Timer 0 Counter 2.
15	Test 8259-1 Mask Bits	Verify 8259 Channel 1 masked interrupts by alternately turning off and on the interrupt lines.
16	Test 8259-2 Mask Bits	Verify 8259 Channel 2 masked interrupts by alternately turning off and on the interrupt lines.
17	Test Stuck 8259's Interrupt Bits	Turn off interrupts then verify no interrupt mask register is on.
18	Test 8259 Interrupt Functionality	Force an interrupt and verify the interrupt occurred.
19	Test Stuck NMI Bits (Parity/IO Check)	Verify NMI can be cleared.
1A		Display CPU clock.
1B-1E	Reserved	
1F	Set EISA Mode	If EISA non-volatile memory checksum is good, execute EISA initialization. If not, execute ISA tests and clear EISA mode flag. Test EISA Configuration Memory Integrity (checksum & communication interface).
20	Enable Slot 0	Initialization slot 0 (System Board).
21-2F	Enable Slots 1-15	Initialize slots 1 through 15.
30	Size Base and Extended Memory	Size base memory from 256K to 640K and extended memory above 1MB
31	Test Base and Extended Memory	Test base memory from 256K to 640K and extended memory above 1MB using various patterns. NOTE: This will be skipped in EISA mode and can be "skipped" with ESC key in ISA mode.
32	Test EISA Extended Memory	If EISA Mode flag is set then test EISA memory found in slots initialization. NOTE: This will be skipped in ISA mode and can be "skipped" with ESC key in EISA mode.
33-3B	Reserved	
3C	Setup Enabled	
3D	Initialize & Install Mouse	Detect if mouse is present, initialize mouse, install interrupt vectors.
3E	Setup Cache	Initialize cache controller.

	Controller	
3F	Reserved	
BF	Chipset Initialization	Program chipset registers with Setup values.
40		Display virus protect disable or enable.
41	Initialize Floppy Drive & Controller	Initialize floppy disk drive controller and a drives.
42	Initialize Hard Drive & Controller	Initialize hard drive controller and any drives.
43	Detect & Initialize Serial/Parallel Ports	Initialize any serial and parallel ports (also game port).
44	Reserved	
45	Detect & Initialize Math Coprocessor	Initialize math coprocessor.
46	Reserved	
47	Reserved	
48-4D	Reserved	
4E	Manufacturing POST Loop or Display Messages	Reboot if Manufacturing POST Loop pin is set. Otherwise display any messages (i.e., any non-fatal errors that were detected during POST) and enter Setup.
4F	Security Check	Ask password security (optional).
50	Write CMOS	Write all CMOS values back to RAM and clear screen.
51	Pre-boot Enable	Enable parity checker. Enable NMI, Enable cache before boot.

52	Initialize Option ROMs	Initialize any option ROMs present from C8000h to EFFFFh. NOTE: When FSCAN option is enabled, will initialize from C8000h to F7FFFh.
53	Initialize Time Value	Initialize time value in 40h: BIOS area.
60	Setup Virus Protect	Setup virus protect according to Setup.
61	Set Boot Speed	Set system speed for boot.
62	Setup NumLock	Setup NumLock status according to Setup.
63	Boot Attempt	Set low stack. Boot via INT 19h.
B0	Spurious	If interrupt occurs in protected mode.
B1	Unclaimed NMI	If unmasked NMI occurs, display. Press F1 to disable NMI, F2 reboot.
E1-EF	Setup Pages	E1-Page 1,E2-Page 2, etc.
FF	Boot	

APPENDIX B BEEP CODE

During the POST (Power On Self Test) routines, which will be performed each time when the system is powered on, errors may occur.

Non-fatal errors are those which, in most cases, allow the system to continue the boot-up process. The error messages normally appear on the screen. See Appendix B for BIOS Error Messages.

Fatal errors are those which will not allow the system to continue the boot-up procedure. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These fatal errors are usually communicated through a series of audible beeps. The numbers on the fatal error list below correspond to the number of beeps for the corresponding error. All errors listed, with the exception of #8, are fatal errors.

No. of Beeps

1. **Refresh Failure**- The memory refresh circuitry of the motherboard is faulty.
2. **Parity Error**- A parity error was detected in the base memory (the first block of 64KB) of the system.
3. **Base 64KB Memory Failure**- A memory failure occurred within the first 64KB of memory.
4. **Timer Not Operational**- Timer #1 on the system board has failed to function properly.
5. **Processor Error**- The CPU on the system board has generated an error.
6. **8042-Gate A20 Failure**- The keyboard controller (8042) contains the Gate A20 switch which allows the CPU to operate in virtual mode. This error message means that the BIOS is not able to switch the CPU into protected mode.
7. **Processor Exception Interrupt Error**- The CPU on the motherboard has generated an exception interrupt.
8. **Display Memory Read/Write Error**- The system video adapter is either missing or its memory is faulty. PLEASE NOTE: This is not a fatal error.
9. **ROM Checksum Error**- The ROM checksum value does not match the value encoded in the BIOS.
10. **CMOS Shutdown Register Read/Write Error**- The shutdown register for the CMOS memory has failed.

RMA FORM

When M/B can't work well, please fill this form to describe related situations. If the space is not enough to use, you can attach separate paper.

MODEL:

MODEL NO.:

HARDWARE:

CPU: Brand _____, Model _____, Speed _____ MHz
CO-PROCESSOR: Brand _____, Model _____, Speed _____ MHz
SIMM: Brand _____, Speed _____ ns, Q'ty _____ pcs, Total _____ MB
CACHE: Brand _____, Speed _____ ns, Total _____ K
TAG RAM: Brand _____, Speed _____ ns
BIOS DATE CODE: _____
SYSTEM SPEED RUNNING _____ MHz
VIDEO CARD: Chip _____, RAM _____, Masker _____ VGA Mode
OTHER ADD-ON CARDS:

SOFTWARE:

OPERATION SYSTEM _____ VERSION _____
SOFTWARE PROGRAM _____
BIOS SETUP: DRAM wait _____ CACHE wait _____
If you change BIOS SETUP, please describe the changes:

<A> ERROR

- HANG UP NO SCREEN FLOPPY R/W ERROR
 HARD DISK R/W ERROR PARITY MEMORY ERROR
 OTHER _____

** ERROR MESSAGES ON YOUR SCREEN (PLEASE SHOW US THE WHOLE SENTENCE)**

<C> PROBLEM DESCRIPTION