
**INTEL FX/ VİRGE/ YAMAHA
MULTIMEDIA ATX
PENTIUM-BASED BOARD**

451-60000000
REVISION: A
18-Feb-1997

PREFACE

This manual is prepared for the all-in-one mainboard, Aristo 6000. It contains three separate parts for System Board, Audio Subsystem, and Graphic Subsystem; and arranged as **SYSTEM SECTION**, **AUDIO SECTION**, and **GRAPHIC SECTION**, respectively.

PART 1: SYSTEM SECTION

PART 2: AUDIO SECTION

PART 3: GRAPHIC SECTION

PART

1

Aristo 6000
SYSTEM SECTION

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CHAPTER 1 INTRODUCTION

1.1 Overview

The *Aristo 6000* is an all-in-one mainboard. It consists of the system-level and board-level components. It integrates the system board with the VGA and audio chips, and thus become a multi-functional unit.

The *Aristo 6000* mainboard offers the outstanding I/O capabilities. Three PCI Local Bus slots provide a high bandwidth data path for data-movement intensive functions such as graphics acceleration. Three ISA slots complete the I/O mix.

The *Aristo 6000* mainboard provides the foundation for cost effective, high performance, and highly expandable platforms which deliver the latest CPU and I/O technologies.

1.2 System Features

The *Aristo 6000* has many performance and system features integrated into the mainboard, including the following:

- INTEL PENTIUM PRO 150/180/200 MHz CPU
- Six expansion slots (three 32-bit PCI slots, three 16-bit ISA slots)
- Using 72-pin SIMM Modules
- 2 Serial/1 Parallel/1 FDC on board
- 2-CHANNEL PCI IDE on board
- IrDA function supported
- Built-in S3 VGA chip
- Built-in YAMAHA Audio chip

1.3 System Specification

Processor: INTEL PENTIUM PRO 150/180/200 MHz CPU
CPU Clock Speed: 50/60/66 MHz
DRAM: 8MB to 128MB
BIOS type: AWARD BIOS
Slot types: Three 16-bit ISA slots
Three 32-bit PCI slots
Dimension: 30.5 x 24.4 cm (ATX layout)

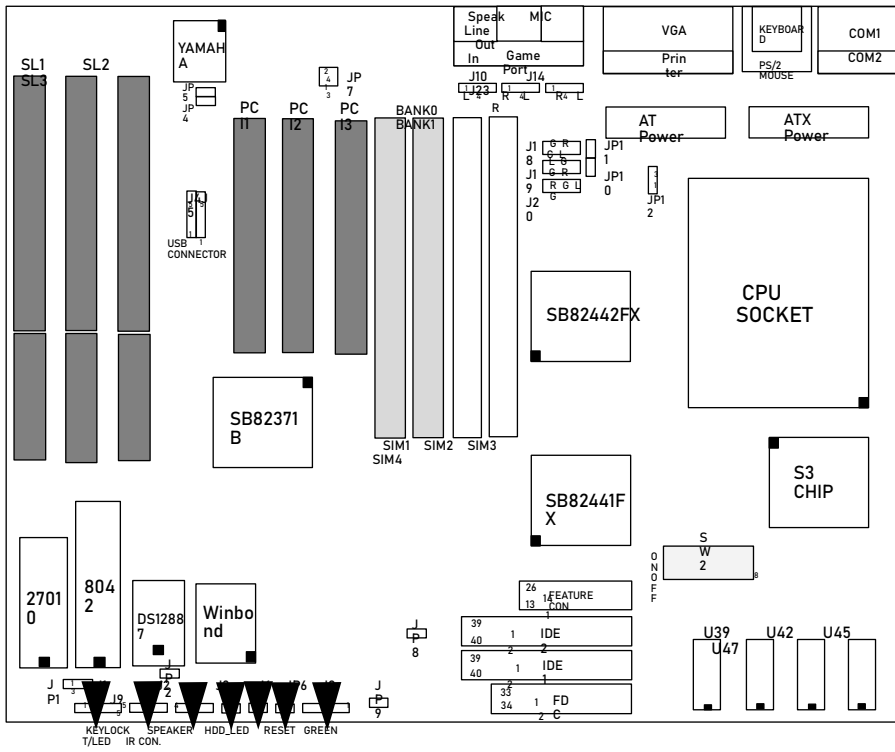
Additional Features

Miscellaneous Buttons: Reset button, Suspend button, ATX power switch button
Board Design: 4-layer Implementation for low noise operation

1.4 System Performance

SOFTW ARE CPU TYPE	LANDMARK V2.0	POWER METER V1.8 MIPS	NORTON V8.0 CPU SPEED
PENTIUM PRO 150	936.78 MHz	71.1 MIPS	376
PENTIUM PRO 180	1124.2 MHz	83.6 MIPS	451.2
PENTIUM PRO 200	1249.14 MHz	94.8 MIPS	501.4

1.5 Aristo 6000 Board Layout



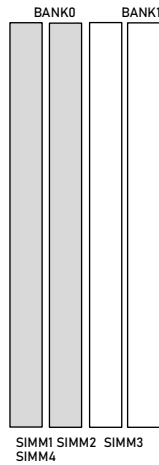
CHAPTER 2 INSTALLATION

The hardware must be set up for a variety of functions before the system is ready to operate. It is easy to set up the *Aristo 6000* mainboard. The user only has to adjust a few jumpers, connectors, and sockets.

2.1 Installing DRAM

The *Aristo 6000* mainboard can support extended memory of 8MB to 128MB.

■ The layout of the DRAM memory banks on board is shown below:



$$\frac{\text{SIMM1+SIMM2}}{2}$$

$$A \frac{\text{SIMM3+SIMM4}}{4}$$

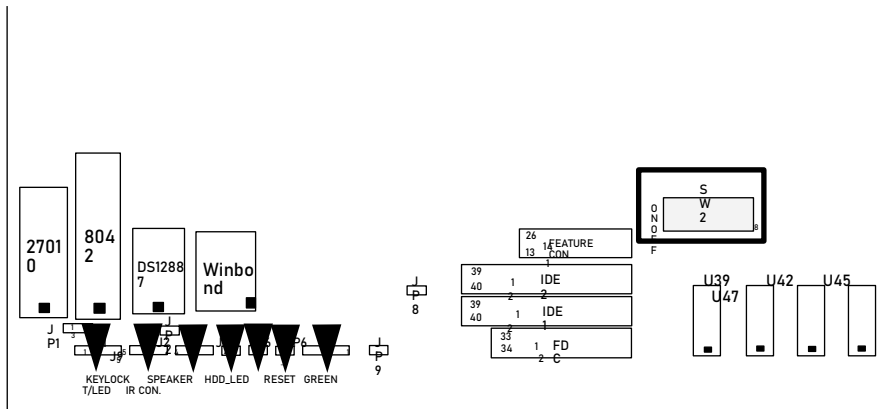
$$\frac{\text{TOTAL}}{L} =$$

The 72-pin group includes two SIMMs; each SIMM can be 4, 8,16, or 32MB in size. Please use the RAM modules of the same size in the group.

■ TABLE (SIMM)

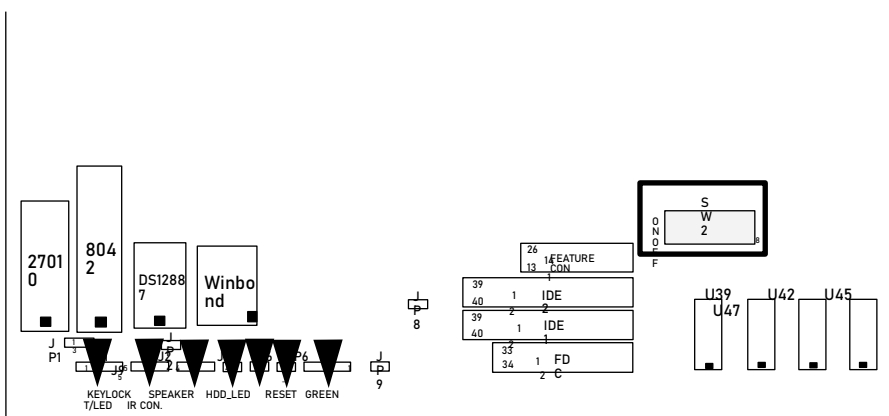
BANK 0		BANK 1		TOTAL MEMORY
SIMM1	SIMM2	SIMM3	SIMM4	
4MB	4MB	None	None	8MB
4MB	4MB	4MB	4MB	16MB
8MB	8MB	None	None	16MB
4MB	4MB	8MB	8MB	24MB
8MB	8MB	4MB	4MB	24MB
8MB	8MB	8MB	8MB	32MB
16MB	16MB	None	None	32MB
4MB	4MB	16MB	16MB	40MB
16MB	16MB	4MB	4MB	40MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	8MB	8MB	48MB
16MB	16MB	16MB	16MB	64MB
32MB	32MB	None	None	64MB
4MB	4MB	32MB	32MB	72MB
32MB	32MB	4MB	4MB	72MB
8MB	8MB	32MB	32MB	80MB
32MB	32MB	8MB	8MB	80MB
16MB	16MB	32MB	32MB	96MB
32MB	32MB	16MB	16MB	96MB
32MB	32MB	32MB	32MB	128MB

2.2 Setting CPU Type Jumper

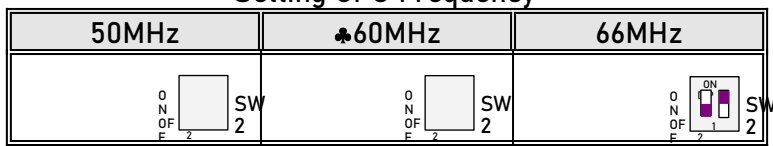


CPU type	Jumper Setting
INTEL PENTIUM PRO 150MHz	
INTEL PENTIUM PRO 180MHz	
INTEL PENTIUM PRO 200MHz	

2.3 Setting CPU Frequency

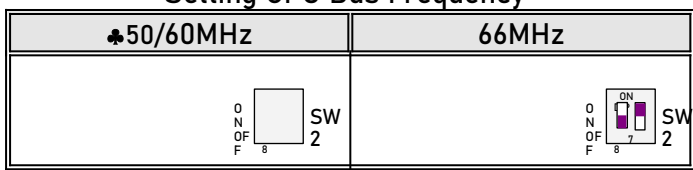


Setting CPU Frequency

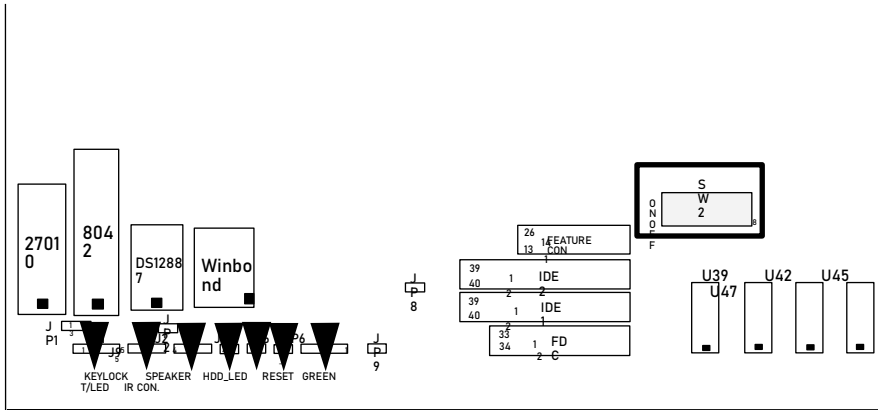


♣ Default Setting

Setting CPU Bus Frequency



♣ Default Setting

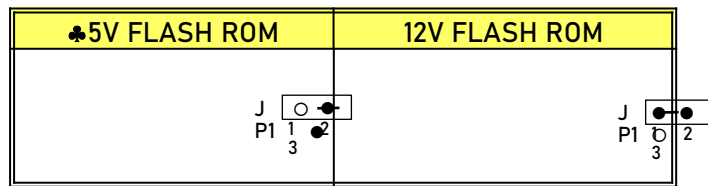
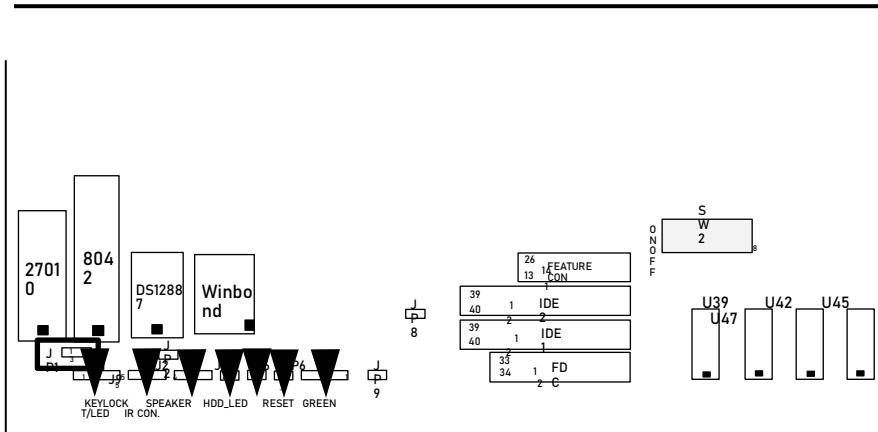


CPU Frequency Times

2	2.5	♣3	3.5	4

♣ Default Setting

2.4 Installing FLASH ROM

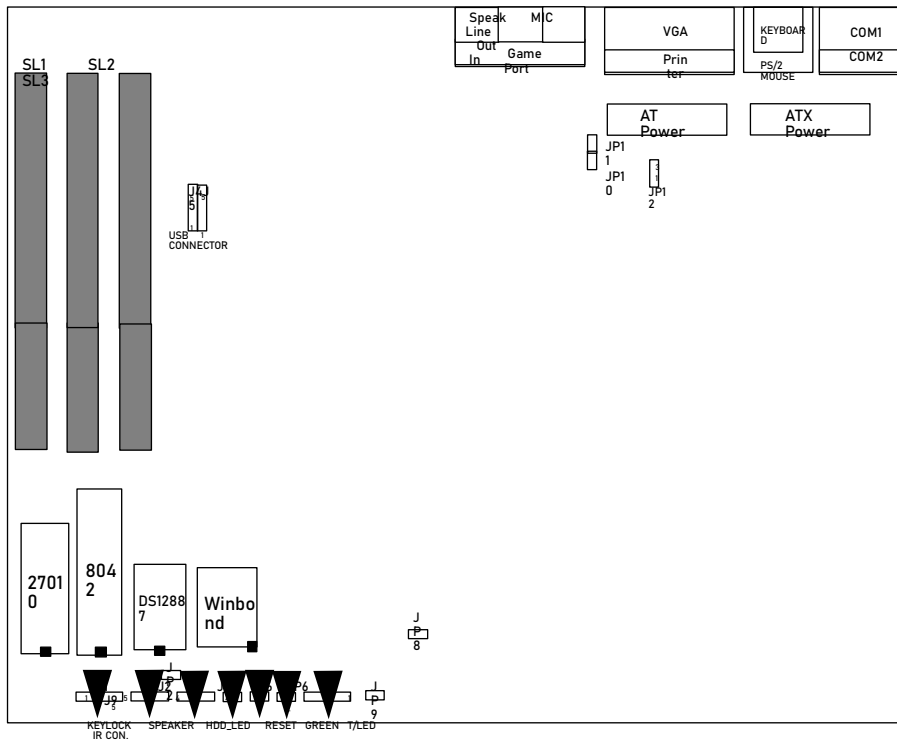


♣ Default Setting


Note: For Winbond 5V (W29EE011) Flash ROM: Set Jumper JP1: Pin2-3 closed.
 For Intel 12V (P28F001) Flash ROM Default: Set Jumper JP1: Pin2-3 closed.

To update 12V Intel Flash ROM:
 First set the Jumper JP1 as Pin1-2 closed for 12V Flash ROM.
 You can use the BIOS Flash utility to update the Flash ROM.
 After completion, set the Jumper JP1 as Pin2-3 closed (default setting).

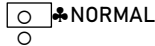

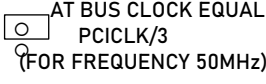
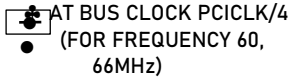

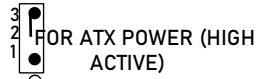
2.5 Installing Other Jumpers & Connectors



Connector Description

Connector	Pin Out	Signal Name
J1 KEYLOCK CONNECTOR	1	+5V DC
	2	NC
	3	GROUND
	4	KEYBOARD DATA
	5	GROUND
J2 SPEAKER CONNECTOR	1	DATA OUT
	2	NC
	3	GROUND
	4	+5V DC
J3 HDD_LED		IDE LED
J4, J5 USB CONNECTOR	1	+5V DC
	2	DATA OUT
	3	DATA OUT
	4	GROUND
	5	NC
J6 RESET	1	RESET IN
	2	GROUND
J8 TURBO LED	1	+5V DC
	2	GROUND
J9 IR CONNECTOR	1	VCC
	2	FIRRX
	3	IRRX
	4	GROUND
	5	IRTX
JP10, JP11 FAN	1	+12V
	2	GROUND

Other Jumper Description

Jumper	Description	
JP2	 NORMAL	 CLEAR CMOS
JP8	 AT BUS CLOCK EQUAL PCICLK/3 (FOR FREQUENCY 50MHz)	 AT BUS CLOCK PCICLK/4 (FOR FREQUENCY 60, 66MHz)
JP9	FOR ATX POWER SWITCH BUTTON (ON, OFF)	
JP12	 FOR ATX POWER (LOW ACTIVE)	 FOR ATX POWER (HIGH ACTIVE)

♣ Default Setting

CHAPTER 3 SYSTEM BIOS SETUP

This chapter will explain how to set up the system configuration (CMOS Setup) under AWARD BIOS. The SETUP utility program is stored in the system ROM rather than on disk.

3.1 Entering Setup

There are two ways to enter Setup. One is to restart the computer and press immediately; the other is to press <Ctrl> + <Alt> + <Esc> or when the following message appears at the bottom of the screen during POST (Power On Self Test):

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC> OR KEY

If the message disappears before you respond and you still try to enter Setup, restart the computer to try again or press the RESET button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and keys. If you don't press the keys in time and the system does not boot, an error message will be displayed:

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR TO ENTER SETUP

At this time, you should take the appropriate action.

3.2 Control Keys

Keystroke	Function
Up	Move to previous item
Down	Move to next item
Left	Move to the item in the left hand
Right	Move to the item in the right hand
Esc	Main Menu -- Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp / "+"	Increase the numeric value or make changes
PgDn / "-"	Decrease the numeric value or make changes
F1	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift) F2	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to

	select color backward
F3	Reserved
F4	Reserved
F8	Reserved
F9	Reserved
F10	Save all the CMOS changes, only for Main Menu

3.3 Getting Help

- **Main Menu**

The on-line description of the highlighted setup item is displayed at the bottom of the screen.

- **Status Page Setup Menu/Option Page Setup Menu**

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the help window, press <F1> or <Esc>.

3.4 The Main Menu

Once you run AWARD BIOS CMOS Setup Utility, the Main Menu will appear. The Main Menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter a sub-menu.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

- **Standard CMOS Setup**

This category includes all the items in a standard BIOS.

- **BIOS Features Setup**

This category includes all the items of Award special enhanced features.

- **Chipset Features Setup**

This category includes all the items of chipset special features.

- **Power Management Setup**

This category determines how much power consumption for system is activated after selecting the related items. Default value is Disable.

- **Plug and Play/PCI Configuration**

This category specifies the value (in units of PCI bus clocks) of the latency timer for this PCI bus master and the IRQ level for PCI device.

- **Load BIOS Defaults**

BIOS defaults indicates the most appropriate value of the parameter which makes the system in minimum performance. The OEM manufacturer may change the defaults through MODBIN before the binary image is burned into ROM.

- **Load Setup Defaults**

Chipset defaults indicates the values required by the system for maximum performance. The OEM manufacturer may change the defaults through MODBIN before the binary image is burned into ROM.

- **User Password**

Change, set, or disable password. It allows you to limit access to the System and Setup, or just to Setup.

- **IDE HDD Auto Detection**

Configure hard disk parameters automatically.

- **Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

- **Exit Without Saving**

Abandon all CMOS value changes and exit setup.

3.5 Standard CMOS Setup Menu

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one, or more than one setup items. Use the arrow keys to highlight the item and use the <PgUp>/<PgDn> key to select the value you want.

Date (mm:dd:yy) : Thu, Dec 26 1996								
Time (hh:mm:ss) : 10:21:21								
HARD DISKS		TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	
SECTOR	MODE							
Primary Master	: Auto	0	0	0	0	0	0	AUTO
Primary Slave	: Auto	0	0	0	0	0	0	AUTO
Secondary Master	: Auto	0	0	0	0	0	0	AUTO
Secondary Slave	: Auto	0	0	0	0	0	0	AUTO
Drive A : 1.44M, 3.5 in.								
Drive B : None								
Floppy 3 Mode Support : Disabled								
					Memory	Base	: 640K	
					Memory	Extended	: 31744K	
Video : EGA/VGA					Memory	Other	: 384K	
Halt On : All Errors					Memory	Total	: 32768K	
ESC : Quit					↓→← : Select Item		PU / PD /+ /- :	
Modify								
F1 : Help					(Shift) F2 : Change Color			

- **Date**

The date format is <day>,<month> <date> <year>. Press <F3> to show the calendar.

DAY	The day of week, from Sun to Sat, determined by the BIOS, is read only
MONTH	The month, Jan through Dec
DATE	The date, from 1 to 31 (or the maximum allowed in the month), can key in the numeric / function key
YEAR	The year, depending on the year of BIOS

- **Time**

The time format is <hour>:<minute>:<second>, which accepts both function key and numeric key. The time is calculated based on the 24-hour military-time format. For example, 1 p.m. is 13:00:00.

- **Drive C Type/Drive D Type**

The category identifies the type of hard disk drive C or drive D that has been installed in the computer. There are 45 predefined types and 2 user definable types for Normal BIOS. Type 1 to 45 are predefined. Type User is user-definable.

- **Primary Master/Primary Slave/Secondary Master/Secondary Slave**

The category identifies the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types for Enhanced IDE BIOS. Types 1 to 45 are predefined. Type User is user-definable.

Press PgUp/<+> or PgDn/<-> to select a numbered hard disk type, or type the number and press <Enter>. Note that your drive must match the drive specification table. The hard disk will not work properly if you enter improper information. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is required for the following items. Enter the information directly. This information should be provided in the documentation of your hard disk vendor or the manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".

If the controller of HDD interface is SCSI, the selection shall be "None".

If the controller of HDD interface is CD-ROM, the selection shall be "None".

CYLS.	Number of Cylinders
HEADS	Number of Heads
PRECOMP	Write Precomp
LANDZONE	Landing Zone
SECTORS	Number of Sectors
MODE	HDD Access Mode

If a hard disk has not been installed, select NONE and press <Enter>.

- **Drive A Type/Drive B Type**

The category identifies the type of floppy disk drive A or drive B that has been installed in the computer.

NONE	NO FLOPPY DRIVE INSTALLED
360K, 5.25 in.	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5.25 in.	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720K, 3.5 in.	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3.5 in.	3-1/2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3.5 in.	3-1/2 inch double-sided drive; 2.88 megabyte capacity

• **Video**

The category selects the type of adapter used for the primary monitor that must match your video display card and monitor. Although secondary monitors are supported, you do not need to select the type in Setup.

You have two ways to boot up the system:

1. When VGA is primary and monochrome is secondary, select the video type as "VGA Mode".
2. When monochrome is primary and VGA is secondary, select the video type as "Monochrome Mode".

EGA/VGA	Enhanced Graphics Adapter/video Graphics Array. For EGA, VGA, SEGA, or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode
CGA 80	Color Graphics Adapter, power up in 80 column mode
MONO	Monochrome adapter, includes high resolution monochrome adapters

• **Error Halt**

The category determines whether the computer will stop when an error is detected during power up.

No Errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.
All Errors	The system boot will not be stopped for any error that may be detected.

• **Memory**

The category is for display only, which is determined by BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The size of the base memory is typically 512K for systems with 512K memory installed on the mainboard, or 640K for systems with 640K or more memory installed on the mainboard.

Extended Memory

The BIOS determines how much extended memory is present during POST. This is the amount of memory located above 1MB in the CPU's address map.

Other Memory (Upper Memory)

It refers to the memory located in the 640K to 1024K address space. This is the memory that can be used for different applications. DOS uses this area to load device drivers to leave as much base memory available as possible for application programs. Some of this area is used for shadow RAM.

- **Total Memory**

System memory is the sum of base memory, extended memory, and other memory.

3.6 BIOS Features Setup Menu

The BIOS Features Setup menu provides a list of system configuration options. Some are defaults required by the mainboard's design. The other can improve your system's performance or let you set up some features according to your preference.

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	: C ,A	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		
Boot Up System Speed	: High		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled		

Chapter 3: System BIOS Setup

Typematic Rate (Chars/Sec) : 6 Typematic Delay (Msec) : 250 Security Option : Setup PCI/VGA Palette Snoop : Disabled OS Select For DRAM > 64MB : Non-OS2	ESC : Quit F1 : Help F5 : Old Values F6 : Load BIOS Defaults F7 : Load Setup Defaults ↓ → ← : Select Item PU/PD/+/- : Modify (Shift) F2 : Color
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- **Virus Warning**

This category protects the boot sector and partition table of your hard disk. Any attempt to write to the boot sector or partition table of the hard disk will halt the system and the following warning message will appear. At this time, you can run an anti-virus program to solve the problem.

<p style="text-align: center;"><i>! WARNING !</i> Disk boot sector is to be modified. Type "Y" to accept write or "N" to abort write. Award Software, Inc.</p>

Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table
Disabled	No warning message to appear when anything attempts to access the boot sector or hard disk partition table

Note: This function is only available for DOS and other OSes that do not trap INT13.

- **CPU Internal Cache/External Cache**

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is Enable. If your CPU has no Internal Cache then this item "CPU Internal Cache" will not be shown.

Enabled	Enable cache
Disabled	Disable cache

- **Quick Power On Self Test**

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enable quick POST
Disabled	Normal POST

- **Boot Sequence**

This category determines which drive the computer first searches for an operating system. Default value is A,C.

A,C	System will first search for floppy disk drive then hard disk drive
C,A	System will first search for hard disk drive then floppy disk drive
C, CD-ROM, A	System will first search for hard disk drive, CD-ROM then floppy disk drive
CD-ROM, C, A	System will first search for CD-ROM, hard disk drivethen floppy disk drive

Note: This function is only available for IDE type. As for SCSI type, the boot sequence starts from A.

- **Boot Up Floppy Seek**

During POST, BIOS will determine if the floppy disk drive installed has 40 or 80 tracks. 360K type is 40 tracks while 720K, 1.2M and 1.44M are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K

- **Boot Up NumLock Status**

The default value is On.

On	Keypad is number keys
Off	Keypad is arrow keys

-
-

- **Boot Up System Speed**

It selects the default system speed the speed that the system will run immediately after power up.

High	Set the speed to high
Low	Set the speed to low

- **Gate A20 Option**

Normal	The A20 signal is controlled by keyboard controller or chipset hardware
Fast	Default : Fast. The A20 signal is controlled by Port 92 or chipset specific method

- **Typematic Rate Setting**

It enables or disables the typematic control.

Enabled	Enable typematic rate and typematic delay programming
Disabled	Disable typematic rate and typematic delay programming. The system BIOS will use default value of this 2 items and the default is controlled by keyboard

- **Typematic Rate (Chars/Sec)**

It controls the keyboard repeat rate (how fast a key repeats if you hold it down).

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

- **Typematic Delay (Msec)**

It controls the keyboard repeat delay (how long it takes for a key to start repeating after you press it).

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

- **Security Option**

This category allows you to limit access to the System and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
--------	---

Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.
-------	--

Note: To disable security, select PASSWORD SETTING from Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>. It will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

- **Video BIOS Shadow**

It determines whether video BIOS will be copied to RAM; however, it is optional from chipset design. Video Shadow can increase the video speed.

Enabled	Video shadow is enabled
Disabled	Video shadow is disabled

3.7 Chipset Features Setup

This screen controls the settings for the mainboard's chip set.

Auto Configuration	: Enabled	8 Bit I/O Recovery Time	: 1
DRAM Speed Selection	: 60 ns	16 Bit I/O Recovery Time	: 1
DRAM RAS# Precharge Time	: 3	Memory Hole At 15M-16M	: Disabled
MA Additional Wait State	: Enabled	DRAM Fast Leadoff	: Disabled
RAS# To CAS# Delay	: Disabled	Passive Release	: Disabled
DRAM Read Burst (B/E/F)	: x2 / 2 / 3	Delayed Transaction	: Disabled
DRAM Write Burst (B/E/F)	: x2 / 2 / 3		
ISA Bus Clock	: PCICLK/4		
DRAM Refresh Queue	: Enabled		
DRAM RAS Only Refresh	: Enabled		
DRAM ECC/PARITY Select	: Disabled		
Fast DRAM Refresh	: Disabled		
Read-Around-Write Combine	: Enabled		
PCI Burst Write Combine	: Enabled		
PCI-To-DRAM Pipeline	: Enabled	ES : Quit	↓→← : Select
CPU-To-PCI Write Post	: Enabled	F1 : Help	PU/PD/ +/- : Modify
CPU-To-PCI IDE Posting	: Enabled	F5 : Old Values	(Shift) F2 : Color
System BIOS Cacheable	: Disabled	F6 : Load BIOS Defaults	
Video RAM Cacheable	: Disabled	F7 : Load Setup Defaults	

3.8 Power Management Setup

The Power Management Setup will appear on your screen like this:

Power Management : User Define	** Power Down & Resume Events **
PM Control by APM : Yes	IRQ3 (COM2) : ON
Video Off Method : V/H SYNC+ Blank	IRQ4 (COM1) : ON
MODEM Use IRQ : 3	IRQ5 (LPT2) : OFF
Doze Mode : Disable	IRQ6 (Floppy Disk) : OFF
Standby Mode : Disable	IRQ7 (LPT1) : ON
Suspend Mode : Disable	IRQ8 (RTC Alarm) : OFF
HDD Power Down : Disable	IRQ9 (IRQ2 Redir) : OFF
	IRQ1 (Reserved) : OFF
	0
** Wake Up Events In Doze & Standby **	IRQ11 (Reserved) : OFF
IRQ3 (Wake-up Event) : ON	IRQ1 (PS/2 Mouse) : ON
IRQ4 (Wake-up Event) : ON	2
IRQ8 (Wake-up Event) : ON	IRQ1 (Coprocessor) : ON
IRQ12 (Wake-up Event) : ON	3
	IRQ1 (Hard Disk) : ON
	4
	IRQ1 (Reserved) : ON
	5
	ES : Quit ↓→← : Select
	C
	F1 : Help PU / PD / : Modify
	+ / -
	F5 : Old Values (Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

- Power Management**

This category determines how much power consumption for system is activated after selecting the below items. Default value is Disable. The following will tell you the options of each item and describe its meanings.

Item	Options	Description
A. Power Management	1. Disable	Global Power Management will be disabled
	2. Min Saving	Pre-defined timer values are used such that all timers are in their MIN value
	3. Max Saving	Pre-defined timer values are used such that all timers are in their MAX value
	4. User Define	Users can configure their own power management

B. PM Control by APM	1. No	System BIOS will ignore APM when power managing the system
	2. Yes	System BIOS will wait for APM's prompt before it enter any PM mode e.g. DOZE, STANDBY or SUSPEND Note: If APM is installed and if there is a task running, even the timer is time out, the APM will not enable BIOS to put the system into any power saving mode! Note: If APM is not installed, this option has no effect
C. Video Off Method	1. Blank Screen 2. V/H SYNC+Blank 3. DPMS	

3.9 PLUG and PLAY/PCI Configuration Setup

You can manually configure the PCI Device's IRQ. The following will tell you the options of each item and describe its meanings.

Resources Controlled By	: Manual	PCI IRQ Activated By	: Level
Reset Configuration Data	: Disabled	PCI IDE IRQ Map To	: PCI-AUTO
IRQ-3 assigned to	: Legacy ISA	Primary IDE INT#	: A
IRQ-4 assigned to	: Legacy ISA	Secondary IDE INT#	: B
IRQ-5 assigned to	: PCI/ISA PnP	Used MEM base address	: N/A
IRQ-7 assigned to	: Legacy ISA		
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 assigned to	: PCI/ISA PnP		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP		
DMA-3 assigned to	: PCI/ISA PnP	ESC : Quit	↓→← : Select Item
DMA-5 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-6 assigned to	: PCI/ISA PnP	F5 : Old Values	(Shift) F2 : Color
DMA-7 assigned to	: PCI/ISA PnP	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

3.10 Integrated Peripherals

IDE HDD Block MODE : Enabled	USB Controller : Disabled
IDE Primary Master PIO : Auto	
IDE Primary Slave PIO : Auto	
IDE Secondary Master PIO : Auto	
IDE Secondary Slave PIO : Auto	
On-Chip Primary PCI IDE : Enabled	
On-Chip Secondary PCI IDE : Enabled	
PCI Slot IDE 2nd Channel : Enabled	
Onboard FDD Controller : Enabled	
Onboard Serial Port 1 : Auto	
Onboard Serial Port 2 : Auto	
UART 2 Mode : Standard	
Onboard Parallel Port : 378/IRQ7	ES : Quit ↓→← : Select
Onboard Parallel Mode : SPP	C : Help PU/ : Modify
	PD/+/- : Color
	F5 : Old Values (Shift) : Color
	F2

	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

If you want to use IrDA function, you must change CMOS setting as following:

IDE HDD Block MODE : Enabled IDE Primary Master PIO : Auto IDE Primary Slave PIO : Auto IDE Secondary Master PIO : Auto IDE Secondary Slave PIO : Auto On-Chip Primary PCI IDE : Enabled On-Chip Secondary PCI IDE : Enabled PCI Slot IDE 2nd Channel : Enabled Onboard FDD Controller : Enabled Onboard Serial Port 1 : Auto Onboard Serial Port 2 : Auto UART 2 Mode : HPSIR IR Function Duplex : Half RxD, TxD Active : Hi, HI Onboard Parallel Port : 378/IRQ7 Onboard Parallel Mode : SPP	USB Controller : Disabled ES : Quit ↓→← : Select C F1 : Help PU/ : Modify PD/+/ - F5 : Old Values (Shift) : Color F2 F6 : Load BIOS Defaults F7 : Load Setup Defaults
---	--

3.11 Password Setting

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIRURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULT	Enter Password: <input style="width: 150px; height: 15px;" type="text"/>
	T SETUP

Chapter 3: System BIOS Setup

LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Change /set /Disable Password	

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters, and press <Enter>. The password typed will overwrite any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the operation and enter no password.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, you can enter Setup freely.

PASSWORD DISABLED:

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password entry when the system is rebooted or you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

3.12 IDE HDD Auto Detection

The Enhanced IDE features are included in all Award BIOS. Below is a brief description of the features.

If your computer has an IDE hard disk, you can use this ability to detect its parameters and enter them into the Standard CMOS Setup automatically.

- BIOS setup will display all possible modes that are supported by the HDD including NORMAL, LBA & LARGE.
- If HDD does not support LBA mode, no 'LBA' option will be shown.
- If the number of cylinders is less than or equal to 1024, no 'LARGE' option will be shown.
- Users can select a mode which is appropriate for them.

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								
Primary Slave :								
Select Primary Slave Option (N = Skip) : N								
OPTIONS	SECTOR	SIZE	MODE	CYLS	HEADS	PRECOMP	LANDZ	SECTOR
1(Y)		516		1120	16	65535	1119	59
NORMAL	2	516		524	32	0	1119	63
LBA	3	516		560	32	65535	1119	59
LARGE								

Note: Some OSes (like SCO-UNIX) must use "NORMAL" for installation

ESC: |
Skip

PART

2

Aristo 6000
AUDIO SECTION

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CHAPTER 1 INTRODUCTION

The Aristo 6000's Sound component contains a single audio chip that integrates with OPL3 and its DAC, 16-bit Sigma-Delta CODEC, MPU401 MIDI interface, and joystick with the timer function, which is very suitable for multi-media applications. It is fully compliant with Plug and Play ISA 1.0a and supports all the necessary features (eg.16-bit address decoding, more IRQs, and CD-ROM interface in a Plug and Play manner).

1.1 Features

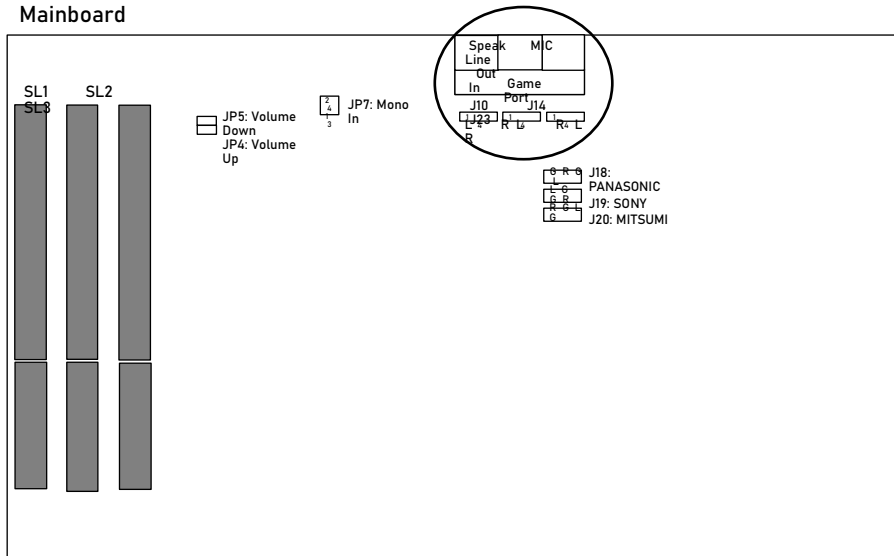
- Supports industry standard PC game compatibility.
- Supports Sound Blaster Pro and Windows Sound System compatibility.
- Supports Plug and Play ISA 1.0a compatibility.
- Register compatible with YMF262 (OPL3) and YMF289 (OPL3-L).
- Built-in 16-bit Sigma-Delta Stereo CODEC.
- Programmable sampling rates from 5.5 KHz to 48KHz for recording / playback.
- Hardware and software master volume control.
- Dual DMA (supporting DMA Demand Mode) with FIFO for Full Duplex.
- Supports IMA ADPCM, A-Law and μ -Law Compression / Decompression.
- MPU-401 Compatible MIDI Interface.
- Joystick port with the timer function (NE558).
- Supports 3D surround effects.
- Supports the Soft Synthesizer (hereafter referred to as SoftSynth).

CHAPTER 2 HARDWARE INSTALLATION

2.1 Sound Layout

The layout of the Sound component on the Aristo 6000 is as follows:

Aristo 6000
Mainboard



The devices can be included as follows:

- One or two joysticks, or a MIDI device
- Speakers/Headphones
- An audio cable (audio in)
- A microphone (stereo is recommended)

CHAPTER 3 WINDOWS 3.X & DOS SOFTWARE INSTALLATION

3.1 Introduction

The sound card driver and associated software are supplied on a 3.5-inch floppy disk or CD-ROM.

The sound card requires MS-DOS 6.2. Operation with other operating systems is not guaranteed. Installation from MS-DOS leads to installation of Windows 3.x & DOS driver.

Along with the sound card driver, the following applications are installed.

Typing an optional command leads to set up DOS environment only. See the following writing for details.

There are two processes in this setup, no matter if Configuration Manager is in your system. See the following writing about "SETUPSA" for details.

3.2 YAMAHA Station

The YAMAHA STATION application is installed in a new program group named YAMAHA. See the Yamaha Audio Rack Software Guide for more information about the YAMAHA STATION.

3.2.1 Installing the Driver

To install YAMAHA station, please run it from the DOS prompt, not from the Run Command in Windows. The Installer will modify the existing AUTOEXEC.BAT and Windows SYSTEM.INI files.

To cancel the installation process, press Esc at any time.

-
1. Insert Disk "DOS/Win3.x driver" into your floppy disk drive or select the appropriate MED3700\Win31\English directory of CD-ROM.
 2. At the C: DOS prompt, type
A:
then press Enter.

If your floppy disk or CD-ROM drive is the B or D drive, type B: or D: instead of A:

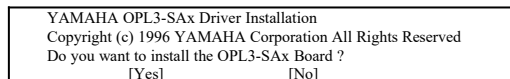
3. Type "Install" (for Windows) or "Install -d" (for DOS only), and press Enter.

As the installer asks whether it makes a temporary directory that is named "OPL3TEMP", press "Y" key.

If you change the directory name:

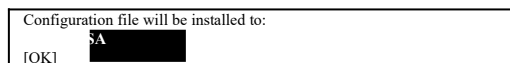
- a. Press "N" key and make a new directory for yourself.
- b. Copy the archive files "INST31.EXE" (for Windows 3.x) or "WINST95.EXE" (for Windows 95) from the floppy disk to the directory which you just made.
- c. Type "INST31.EXE" or "WINST95.EXE" to do self-extracting files.
- d. Then, type "Install" (for Windows) or "Install -d" (for DOS only), and press Enter.

The following dialog box appears.



4. Select and click YES.
If you're not using a mouse, press the Return key for YES, or the Esc key to Cancel.

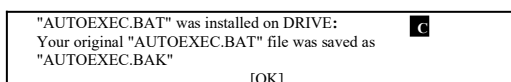
The following dialog box appears.



5. Specify the installation directory for the sound card Configuration File or accept the default, then click OK.

Aristo 6000 Audio Section

The files are copied to the hard disk and the following dialog box appears, informing you that parameter settings for the sound card have been added to the AUTOEXEC.BAT file and a copy of the original AUTOEXEC.BAT file has been saved as AUTOEXEC.BAK.



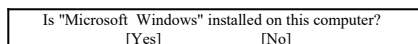
- SET BLASTER (Setting the BLASTER environment variable)
- SETUPSA.EXE (that is written into the directory assigned at "Configuration file will be installed to:")

After restarting PC, these settings become valid.

6. Click OK to continue.

Note: The installation is for DOS only; the message that indicates the installation is completed is displayed. Then, click OK to finish the installation.

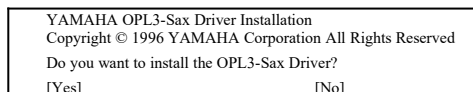
The following dialog box appears, asking whether or not you have Windows installed on your computer.



7. Click Yes if Windows 3.x is installed on your computer.

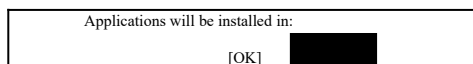
The following dialog box appears, asking whether or not you want to install the sound card driver.

If you click Yes, the sound card driver for Windows is installed.



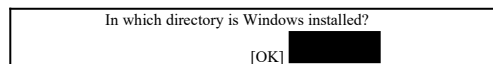
8. Click Yes to install, or No to cancel.

The following screen appears.



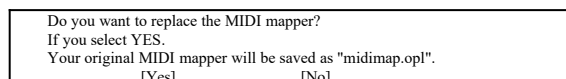
9. Specify the installation directory for the Applications or accept the default, then click OK.

The following dialog box appears, asking where Windows is installed.



10. Click OK if Windows is installed in the directory C:\Windows, which is the default directory for Windows. Or specify a different directory.

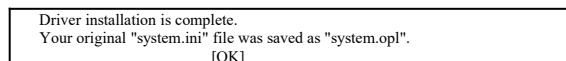
After the Windows setting has been changed, the following dialog box appears, asking whether you want to replace the MIDI Mapper.



11. Select Yes to replace the current MIDI Mapper. Select No not to replace it.

If a MIDI Mapper has already existed and you replace it with the sound card MIDI Mapper, the original is saved as MIDIMAP.OPL. See your Windows documentation for more information about MIDI Mapper.

The following dialog box informs you that the installation is complete and the original SYSTEM.INI file was saved as SYSTEM.OPL.



12. Click OK to finish.

"YAMAHA OPL3-SAx Mixer" dialog opens automatically. If Configuration Manager is in your system, see section 3.3.1. If is not, see section 3.3.2.

The installer asks whether it deletes a temporary directory. If you want to delete, press "Y" key, and if you don't, press "N" key.

13. Restart Windows.

When Windows is restarted, the application (YAMAHA STATION) is extracted.

Aristo 6000 Audio Section

1. When this installation is finished, please do not delete the temporary directory "OPL3TEMP".
2. Launch "FILE MANAGER", and double-click the "WINSTALL.EXE" in the directory "OPL3TEMP".
3. Follow the on-screen instructions to complete the installation.
4. After this installation, you can delete the temporary directory "OPL3TEMP".

3.3 SETUPSA

SOUND MASTER		WSS	
Base I/O Adr	220h 240h	WSS Base Adr	570h E80h F40h 600h
IRQ	disable 7 9 10 11	IRQ	disable 7 9 10 11
DMA Channel	disable 0 1 3	DMA Channel	disable 0 1 3
Other Device		MPU ,Ctrl, Adlib, Game	
MODEM I/O	OFF 2F8h 2F0h 2E8h	MPU base I/O	330h 332h 334h 300h
MODEM IRQ	OFF 3	Ctrl I/O	320h 100h 102h 104h
IDE1 I/O	OFF 1E8h 168h 1E0h	Adlib	388h
IDE2 I/O	OFF 3EEh 36Eh 3E6h	Game Port	OFF 201h
IDE IRQ	OFF 3 5 7 9 10 11	WSS Mixer	
SB Mixer		WSS MONO IN	[08] [DOWN] [UP]
FM VOL L	[04] [DOWN] [UP]	WSS LINE L	[16] [DOWN] [UP]
FM VOL R	[04] [DOWN] [UP]	WSS LINE R	[16] [DOWN] [UP]
WAUE VOL L	[04] [DOWN] [UP]	WSS AUX1 L	[16] [DOWN] [UP]
WAUE VOL R	[04] [DOWN] [UP]	WSS AUX1 R	[16] [DOWN] [UP]
CD VOL L	[04] [DOWN] [UP]	WSS AUX2 L	[16] [DOWN] [UP]
CD VOL R	[04] [DOWN] [UP]	WSS AUX2 R	[16] [DOWN] [UP]
LINE VOL L	[04] [DOWN] [UP]	WAUE VOL L	[60] [DOWN] [UP]
LINE VOL R	[04] [DOWN] [UP]	WAUE VOL R	[60] [DOWN] [UP]
SB VOL L	[04] [DOWN] [UP]	INPUT VOL L	[08] [DOWN] [UP]
SB VOL R	[04] [DOWN] [UP]	INPUT VOL R	[08] [DOWN] [UP]
Mic		MASTER VOL L	[15] [DOWN] [UP]
MIC	[16] [DOWN] [UP]	MASTER VOL R	[15] [DOWN] [UP]
[O K] [CANCEL]			

3.3.1 Configuration Manager is in your system:

1. Type "SETUPSA"
Open the dialog box, and display the information of OPL3-SAx I/O address, DMA and IRQ assigned by Configuration Manager or Plug and Play BIOS. Set the value of master volume that is written into OPL3SA.INI.
When you change the master volume and click "OK", the value is set and written into OPL3SA.INI.
2. Type "SETUPSA /S"
Do not open the dialog box, but display the configuration of OPL3-SAx on the screen. Set the value of master volume that is written into OPL3SA.INI.

3.3.2 Configuration Manager is not in your system:

1. Type "SETUPSA"

Open the dialog box "YAMAHA OPL3-SAx Mixer", and set the contents of OPL3SA.INI. When you change the configuration and the master volume and click "OK", they are set and written into OPL3SA.INI.

If you're not using a mouse, use the Tab key to move between the parameters.

Set unique values for the SB (Sound Blaster) and WSS (Windows sound system) Base I/O Address, IRQ, and DMA Channel. The MPU401 IRQ parameter is automatically set to the IRQ that you chose for the Sound Blaster. The default settings, shown below, should work fine. You may need to change them, however, if you have other cards installed in your computer.

	I/O	IRQ	DMA
SB	220h	5	1
WSS	530h	5	0
MPU401	330h	5	---

In the SB and WSS Mixer sections, use the left cursor key to raise the volume and the right cursor key to decrease it. If you are using a mouse, click the [UP] and [DOWN] buttons to adjust the volume level.

In SB mode, pressing the S key plays a WAVE sound. Pressing the F key plays an FM sound.

In WSS mode, pressing the W key plays a WAVE sound.

The settings that you make here are written to the AUTOEXEC.BAT file, so they are active every time you switch on your computer.

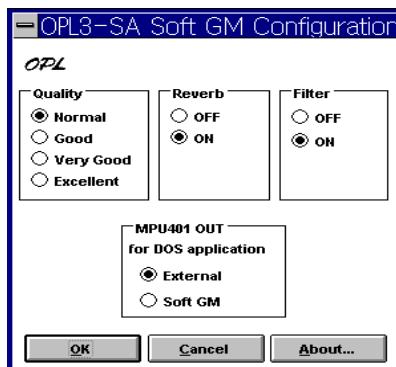
To change these settings after installation, run the "SETUPSA" program again from the directory you specify for installation.

2. Type "SETUPSA /S"

Do not open the dialog box, but display and set the contents into OPL3SA.INI.

3.4 OPL SoftSynth Control Panel

The Soft Synthesizer supports GM System Level 1 MIDI data. Its volume is adjusted by the Wave volume control. The OPL SoftSynth Control Panel, shown below, is used to setup the Soft Synthesizer.



3.4.1 Quality

These four options determine the sound quality (i.e., sampling rate) and the number of voices that the SoftSynth can produce simultaneously. Select a mode appropriate for the CPU performance of your computer. If you choose a higher quality mode and your computer does not have adequate processing performance, the SoftSynth may not produce sound fluently. In this case, select a lower quality mode.

Mode	Sampling Rate (KHz)	Max Voices
Normal	11.025	16
Good	22.050	16
Very Good	22.050	24
Excellent	22.050	32

3.4.2 Reverb

If you choose ON, you can add reverb to the sound of the SoftSynth.

3.4.3 Filter

If you choose ON, the SoftSynth sound is more fluent. This, however, requires CPU resources.

3.4.4 MPU401 OUT

These settings allow you to select an External MIDI instrument or the SoftSynth for use with DOS-based games that are played on Window box. The MS-DOS Prompt item in the Main Program Group can open an MS-DOS window. Select General MIDI in the game settings to enable this function.

Note: SoftSynth/WaveOut of sound card is cooperative mode; you can play Wave data and SoftSynth MIDI simultaneously.

CHAPTER 4 WINDOWS 95 SOFTWARE INSTALLATION

4.1 Introduction

The sound card driver is supplied on a floppy disk or CD-ROM. Please install the Windows 95 driver when used with Windows 95.

4.2 Installing the Driver

The sound card supports Windows 95 Plug and Play. When you start Windows 95, the automatic search option for the Add New Hardware Wizard works as described below.

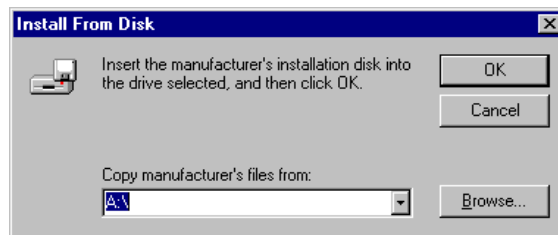
1. The following dialog box appears. Select "Driver from disk provided by hardware manufacturer", then click OK.



Note: As the resource data is that of OPL3-SA3, the dialog box represents as OPL3-SA3. When OPL3-SA2 is mounted, it shows "OPL3-SA2" Sound Board.

The following dialog box appears.

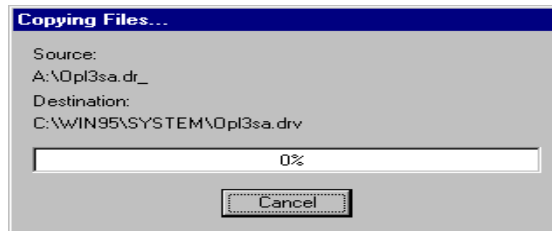
Chapter 4: Windows 95 Software Installation



Aristo 6000 Audio Section

Insert the Driver floppy disk into the disk drive and click OK, or identify the appropriate MED3700\WIN95\English directory on the CD-ROM disk.

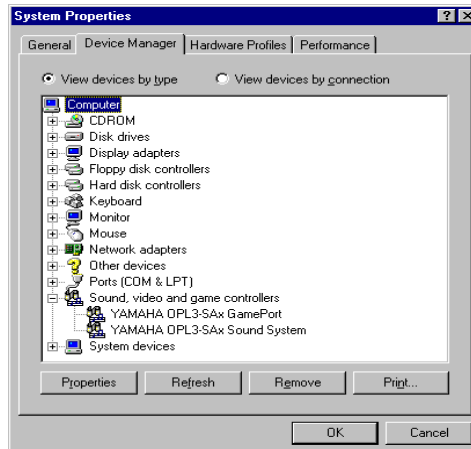
The drivers will be installed into your hard disk.



This is for the sound system installation. The game port joystick driver is detected and installed automatically.

2. To make sure the sound card driver has been installed correctly, open the System Properties dialog box in the Control Panel.

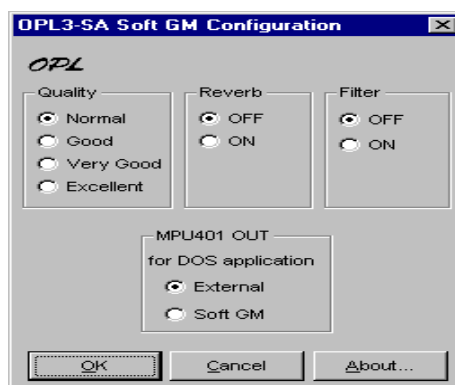
Consider Sound System & Game port Joystick.



If "YAMAHA OPL3-SAx GamePort" and "YAMAHA OPL3-SAx Sound System" appear, the installation is complete.

4.3 OPL SoftSynth Control Panel

The Soft Synthesizer supports GM System Level 1 MIDI data. Its volume is adjusted by the Wave volume control. The OPL SoftSynth Control Panel shown below is used to setup the Soft Synthesizer.



4.3.1 Quality

These four options determine the sound quality (i.e., sampling rate) and the number of voices that the SoftSynth can produce simultaneously. Select a mode appropriate for the CPU performance of your computer. If you choose a higher quality mode and your computer does not have adequate processing performance, the SoftSynth may not produce sound fluently. In this case, select a lower quality mode.

Mode	Sampling Rate (KHz)	Max Voices
Normal	11.025	16
Good	22.050	16
Very Good	22.050	24
Excellent	22.050	32

4.3.2 Reverb

If you choose ON, you can add reverb to the sound of the SoftSynth.

4.3.3 Filter

If you choose ON, the SoftSynth sound is more fluent. This, however, requires CPU resources.

4.3.4 MPU401 OUT

These settings allow you to select an External MIDI instrument or the SoftSynth for use with DOS-based games that are played on Window box. The MS-DOS Prompt item in the Main Program Group can open an MS-DOS window. Select General MIDI in the game settings to use this function.

Note: SoftSynth/WaveOut of sound card is cooperative mode; you can play Wave data and SoftSynth MIDI simultaneously.

4.4 Installing the Application (YSTATION) And/Or the Configuration Utility (SETUPSA)

If you install both the Audio Rack application "YSTATION" (YAMAHA Station) and the configuration utility (SETUPSA) for DOS MODE of Win95 simultaneously, please refer to section 4.4.1.

If you install only the Audio Rack application "YSTATION", please refer to section 4.4.2.

If you install only the configuration utility (SETUPSA) for DOS MODE of Win95, please refer to section 4.4.3.

Note: "DOS MODE" means the status in which you select "Shutdown" from the Windows 95 Start menu and "Restart the computer in MS-DOS mode".

4.4.1 Installing the Application (YSTATION) and the Configuration Utility (SETUPSA)

To install the Audio Rack application "YSTATION" and configuration utility (SETUPSA) for DOS MODE of Win95:

1. Insert Disk DOS/Win3.x driver into your floppy drive or select the appropriate (MED3700\Win31\English) directory of CD-ROM drive.
2. Launch the MS-DOS prompt.

-
3. At the C:\ DOS prompt, type
A:
then press Enter.
If your floppy disk or CD-ROM drive is the B or D drive, type B: or D: instead of A:, then press Enter. (For installation from CD-ROM, go to the directory "MED3700\Win31\English")
 4. Type "WINSTALL -a", and press Enter.
(Type "WINSTCD -a" , and press Enter, when installing from CD-ROM)
 5. Follow the on-screen instructions to complete the installation.

Note: If you go to DOS-MODE from Win95, press "Start" button, select "Shut down...", and select "Restart the computer in MS-DOS mode?". Then you can run the configuration utility (SETUPSA).

4.4.2 Installing the Application (YSTATION)

To install the Audio Rack application:

1. Insert Disk DOS/Win3.x driver into your floppy drive or select the appropriate MED3700\Win31\English directory of CD-ROM drive.
2. Launch the MS-DOS prompt.
3. At the C:\ DOS prompt, type
A:
then press Enter.
If your floppy disk or CD-ROM drive is the B or D drive, type B: or D: instead of A:, then press Enter. (For installation from CD-ROM, go to the directory "MED3700\Win31\English")
4. Type "WINSTALL", and press Enter.
(Type "WINSTCD", and press Enter, when installing from CD-ROM)
5. Follow the on-screen instructions to complete the installation.

4.4.3 Installing the Configuration Utility (SETUPSA)

To install the configuration utility (SETUPSA) for only DOS MODE of Win95:

1. Insert Disk DOS/Win3.x driver into your floppy disk drive or select appropriate directory of CD-ROM.
2. Launch the MS-DOS prompt.

Aristo 6000 Audio Section

3. At the C:\ DOS prompt, type

A:

then press Enter.

If your floppy disk or CD-ROM drive is the B or D drive, type B: or D: instead of A:, then press Enter. (For installation from CD-ROM, go to the directory "MED3700\Win31\English")

4. Type "WINSTALL -d", and press Enter.

(Type "WINSTCD -d", and press Enter, when installing from CD-ROM)

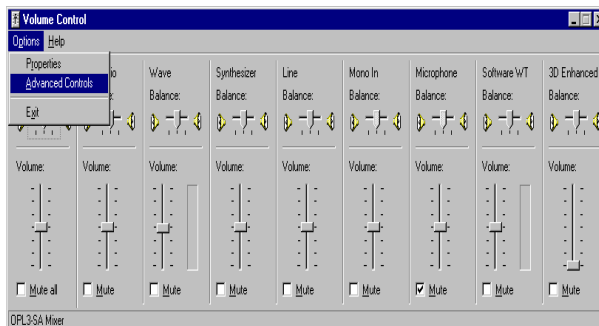
5. Follow the on-screen instructions to complete the installation.

Note: If you go to DOS-MODE from Win95, press "Start" button, select "Shut down...", and select "Restart the computer in MS-DOS mode?". Then you can run the configuration utility (SETUPSA).

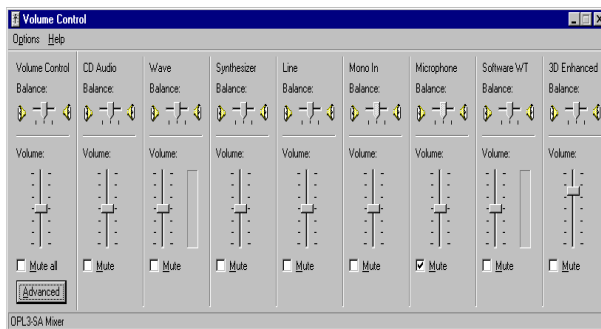
4.5 Ymersion Control Supported by Sound Card

Ymersion, on-chip Yamaha 3D sound enhancement, can be controlled by the Windows 95 standard volume control.

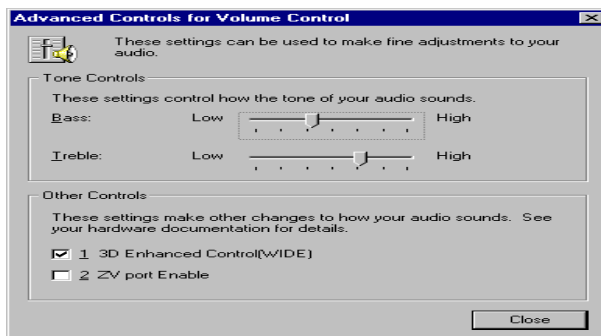
1. Click "Options", and select "Advanced Controls".



2. Click the bottom left "Advanced" button.



3. Then the following dialog box appears.



Bass, Treble and 3D Enhanced Control (WIDE) are independently controlled.

Check the button of 3D Enhanced Control to activate 3D enhancement on (WIDE).

When "3D Enhanced Control (WIDE)" is checked, wide control of 3D Enhancement on the volume control is valid.

Note: Do not check "2 ZV port Enable" while ZV port is not supported.

Aristo 6000 Audio Section

CHAPTER 5 YAMAHA AUDIO RACK SOFTWARE

5.1 Introduction

The Yamaha Audio Rack software consists of CD, MIDI, and WAVE players. The WAVE component can record and play back WAV format files.

There are six components: Power Control, CD, MIDI, WAVE, Multi, and Mixer. They can be arranged in any order, and it is not necessary for all components to be open at all times.

The green LED blinks while a component is playing.

You can play WAVE and MIDI (.WAV and .MID) files simply by dragging and dropping them from the File Manager.

- **Power Control Component**

This component manages and launches the other components.



- **WAVE Component**

This component plays and records WAVE format files. The recording source can be CD (AUX), MIC, LINE, or LOOP.

LOOP is the internal circuit of the OPL3-SA2 (i.e. MIDI play source).

The window display shows the file name, format, and time.



- **MIDI Component**

This component plays Standard MIDI Files (SMF).

The window display shows the file name, tempo, and time.



- **CD Component**
This component plays audio CDs.

The window display shows the track, title, song name, and time.



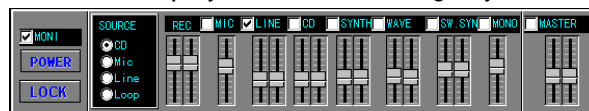
- **MULTI Component**

This component controls simultaneous playback of the CD, MIDI, and WAVE components.



- **MIXER Component**

This component controls playback and recording of your sound card.



From left to right, the buttons are:

Management buttons

MONI When this box is checked, you can monitor the sound at the external LINE, CD, or MIC input while recording.

POWER Power ON

LOCK The left and right channel faders are locked together.

SOURCE Select the recording source (the MONI function is not available when LOOP is selected).

Recording faders

REC CD, MIC, LINE, or LOOP recording level. LOOP is the internal circuit of the OPL3-SA2 (i.e. MIDI play source).

MIC Available fader.

Playback faders

LINE Line-In
 CD CD or AUX
 SYNTH FM or Wavetable Synthesizer
 WAVE WAVE Playback
 MONO MONO IN
 SW.SYN Soft Synthesizer
 MASTER When this box is checked, the component is muted.



The following screen shot shows all six components together.



5.2 System Requirements

- IBM-PC compatible computer with an 80386 as a minimum
 - At least 1MB of available hard disk space
 - Windows 3.x, Windows 95 or higher
 - Sound board and its Windows driver
 - MCI Extensions must be installed in the Windows driver section
-

5.3 How to Play

The YAMAHA Audio Rack software provides for CD, MIDI, WAVE, and MULTI components. Each component has the following basic functions: Play, Stop, Pause, Fast Forward, Rewind. The CD player also has Next and Previous functions.

Component buttons are marked with symbols commonly found on audio players. So if you've ever used an audio player you will find Audio Rack operation straightforward.

Symbol	Meaning
Square	Stop
Double Bars	Pause
Single Right Arrow	Play
Double Left Arrows	Scan backward
Double Right Arrows	Scan forward
Left Arrow & Square	Go to beginning of previous song
Right Arrow & Square	Go to beginning of next song
Power	Show or remove component
Open	Open File Open dialog box. Drag & Drop is supported via File Manager

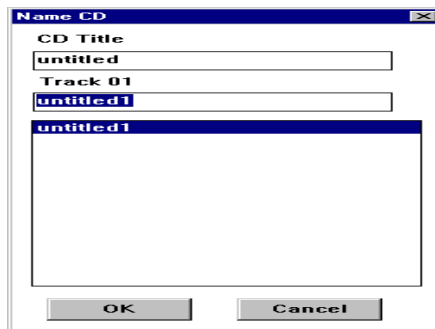
CD player only functions:

Eject	Open and close the CD-ROM drive
Repeat	Repeat playback indefinitely

If your CD-ROM drive does not support the Eject function, nothing will happen when you click the Eject button.

5.4 Titling CDs

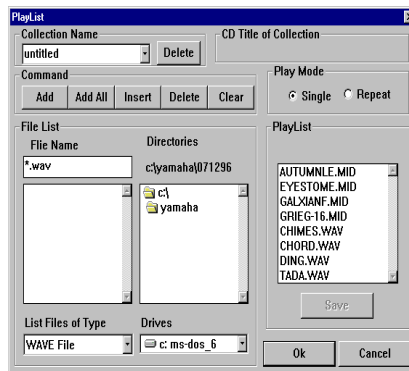
Clicking the Name button on the CD Component opens the Name CD dialog box shown below. This allows you to enter the CD title and track names. The CD title can be up to 26 characters long. Track names can be up to 28 characters long, although, only the first 19 characters are displayed on the CD Component's display



Please click the buttons and experiment with the Audio Rack!

5.5 Playlist

The Playlist allows you to arrange CD tracks, MIDI songs, and WAVE sound files into a program of your choice. Playback starts with the first item in the playlist and continues until all items have been played. The Play Mode can be set to Repeat so that the playlist items are played repeatedly. Click the LIST button on the Power Control component. In the Playlist dialog box, shown below, arrange your CD, MIDI, and WAVE data as desired. You can enter the title of your CD.



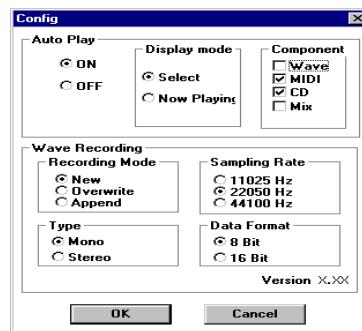
- **Play Mode**
-

When set to Single, the data in the play list is played once. When set to Repeat, the data in the play list is played repeatedly.

Clicking the OK button saves the play list in the \Windows\System\Audioruk.ini file. If the currently loaded CD is different to the one specified in the play list, an error message appears. This means that the song name on the CD does not match that in the play list. In this case you should edit the play list. Otherwise the error message will appear repeatedly.

5.6 Config

Click the CONFIG button on the Power Control component. In the Config dialog box you can configure the Audio Rack.



- **Auto Play**

When Auto Play is OFF, the WAVE, MIDI, CD, and MIX components open when the Audio Rack is started.

When Auto Play is ON, data registered in the play list plays sequentially when the Audio Rack is started.

If Play Mode on the PlayList dialog box is set to Repeat and Auto Play is ON, data registered in the play list plays repeatedly when the Audio Rack is started.

- **Display mode**

When Auto Play is ON, you can decide which components are displayed.

When set to Select, components whose box in the Component Select section are checked are displayed.

When set to Now Playing, only the component currently playing is displayed.

- **Component Select**

The Component Select check boxes allow you to select which components are used for Auto Play. Components whose box is checked are used for Auto Play. These settings are active only when the Display mode is set to Select.

- **Recording Mode**

New	Create a new file
Overwrite	Overwrite the existing file
Add	Append to the current file

- **Sampling Rate**

These buttons allow you to set the sampling rate for recording Wave files.

- **Type**

These buttons allow you to choose either mono or stereo Wave file recording.

- **Data Format**

These buttons allow you to set the data format to either 8 or 16 bit.

By default, WAVE files are recorded in Mono, with a Sampling Rate of 22050Hz, and an 8-bit resolution.

5.7 Ymersion

This function can be controlled by using YMF71X-S.

Click the 3D button on the Power Control component.



- **Preset**
This can make Yamaha original sound field.
HALL1 makes sound field like hall.
HALL2 makes sound field like hall.
CHURCH makes sound field like church.
DISCO makes sound field like disco.
- **MANUAL**
When this button is checked, you can adjust the effect of bass, treble and Ymersion. The controller appears at the bottom of this dialog box.
- **Ymersion OFF**
The effect is turned OFF.

5.8 Error Messages

Following is a list of Audio Rack error messages:

Can't open window

This message appears if a window cannot be opened when Audio Rack is started.

Disc not loaded

This message appears if you click the NAME button on the CD Component and no CD is loaded.

The Wave data has changed. Save current changes?

This message appears if you attempt to quit with unsaved changes.

A Wave file with this name already exists. Overwrite?

This message appears if you attempt to save a Wave file using a name that is already used.

Can't get timer

This message appears during playback if the Timer resources are insufficient.

The CD loaded is different to that in the Playlist

This message appears when you click the LIST button on the Power Component and the currently loaded CD is different to that specified in the Playlist.

Note that error messages related to MCI are also supported.

PART

3

Aristo 6000

GRAPHIC SECTION

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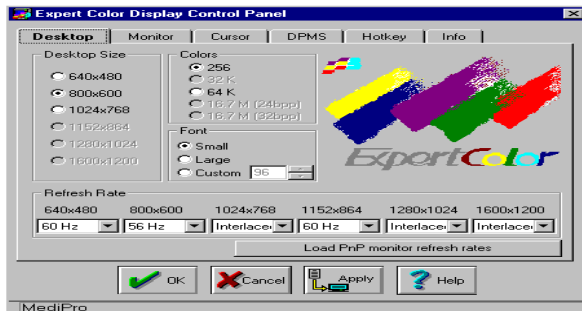
QUICK START (for experienced users)

About The ExpertColor MediPro...

The *ExpertColor* MediPro is an integrated set of utilities which you can use to configure your graphics display card for optimal usage under Microsoft Windows 3.x and Windows 95. The MediPro provides the Plug and Play monitor support, on-the-fly resolution switching, on-the-fly refresh rate changing, monitor centering, custom cursor coloring and a variety of other enhanced features. It also provides auto-detection support for multi-language translation under Windows 3.x and Windows 95.

Installing on Windows 3.x/Windows 95

To install the MediPro and support files, run "MSSETUP.EXE" (on CD-ROM disk) or SETUP.EXE (on floppy disk) from the Program Manager (Windows 3.x) or Start menu (Windows 95). The Setup program will detect the Windows version you use and copy the MediPro tool, Windows driver and support files to your hard disk, create a Program Manager group, and add the MediPro display manager program to the 'load' section of 'WIN.INI' file which Windows automatically loads each time it starts. The Setup program will place an 'Uninstaller' icon in the program group which you can run to un-install this package. The *ExpertColor* Display Control Panel presents its information in a tabbed dialog box. On each page, a miniature screen shows you the changes before you actually apply them.



- **Desktop**
Configures your desktop size, color depth, font size, and refresh rate.
- **Monitor**
Detects or selects monitor type, monitor centering, and refresh rate.
- **Cursor**
Selects multi-color cursor types.
- **DPMS**
Sets up VESA Display Power Management System.
- **Hotkey**
Provides Zoom-in, Zoom-out, Desktop size, and Screen-off.

Note: Load Plug and Play Monitor Refresh Rates (for Windows 95 only)
This button will load maximum refresh rates for all resolutions detected by DDC monitor or by the monitor you selected. In general, these refresh rates will work fine. These refresh rates are only as a suggestion; you are allowed to choose a different refresh rate if you like.

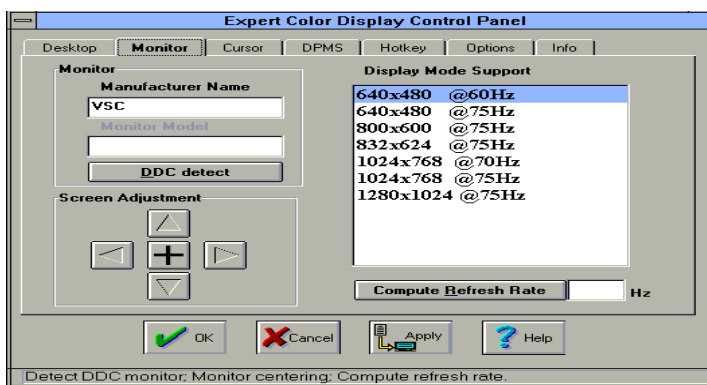
- **Info**
Views the desktop driver, chipset information.
 - **Help**
-

Multi-language support, including English, Chinese, Japanese, Korean, German, French, Italian, and Spanish.

Aristo 6000 Graphic Section

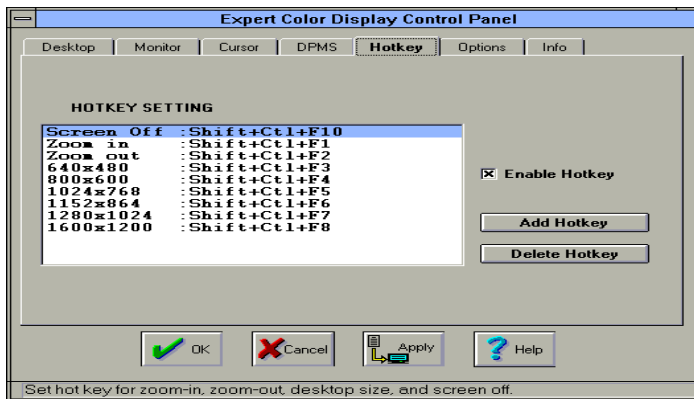
- **Monitor**

The built-in DDC function allows the MediPro to interact with Plug and Play monitors. MediPro will examine your monitor for capabilities and list the answer in the monitor information box whenever you enter Windows or keep the monitor type you selected previously.



- **Hotkey**

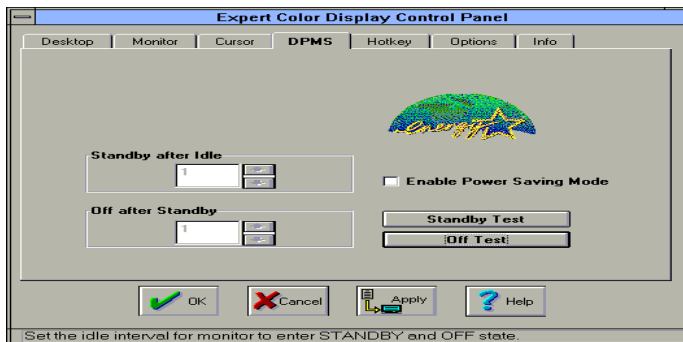
You can specify a Hotkey sequence to perform a particular action by using the combination key. Hotkeys can be used to blank the screen, zoom in, zoom out, lock the viewport, and switch on the fly among various supported viewports.



- **DPMS**

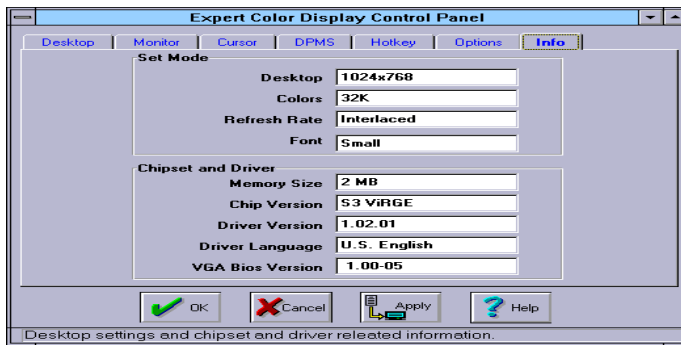
The DPMS tab shows the current power management settings. Inactivity time-out values are shown for Standby, Suspend, and Off. You can adjust these settings by clicking on the DPMS tab.

Display Power Management Services work in conjunction with EPA Energy Star compliant monitors. The DPMS screen allows you to enable, configure, and test these services.



- **Info. (Information)**

This screen shows the resolution and color-depth for current desktop setting, the graphics chipset, the version of BIOS and Windows driver, and also the total video memory size on your graphics card.



CHAPTER 1 INTRODUCTION

The Aristo 6000 integrates the S3 ViRGE (AFX440A) or Trio64V2/DX (AFX440C) chip to provide excellent graphics performance at high resolutions and at a low cost. The following features provide a great deal of flexibility to meet a wide range of user needs.

Distinctive Features of AFX440A and AFX440C

AFX440A

- High-performance 64-bit 2D/3D graphics engine, ViRGE
- Integrated RAMDAC with 135 MHz output pixel and clock synthesizer
- S3 scenic highway for direct interface to MPEG-1 peripherals and live video
- Support for local peripheral bus (LPB) mode
- Support for on-the-fly stretching and blending to primary RGB stream and RGB or YUV secondary stream
- Supports 2MB frame buffer
- 3D texture mapping, MIP-Mapping, Video texture mapping
- Bi-linear and trilinear texture filtering, Z buffering

AFX440C

- High-performance 64-bit 2D graphics engine, Trio64V2/DX
- Single cycle CPU writes to video memory
- Integrated 24-bit RAMDAC and programmable dual-clock synthesizer with 170 MHz output pixel rate
- Unique S3 Streams Processor for hardware-assisted video playback
- Horizontal and vertical interpolation for smooth upscaling
- High-quality hardware-assisted video playback (up to 1024x768x16 bits/pixel)
- Support for Indeo, Cinepak, and software-accelerated MPEG-1 video playback
- 2-D scrolling and sprite plane support
- Supports 1, 2MB frame buffer (2MB optional)
- Support for glueless PCI 2.1 Local Bus

- Full hardware and BIOS support for VESA[®] Display Power Management Signaling (DPMS)
- Support for DDC monitor communications

1.1 Performance

The S3 VGA is a graphics accelerator. Computer functions like disk access and numerical calculation are not accelerated by the S3 VGA. Since these operations also occur as Windows programs are running, the overall speed will depend on the mix of graphics operations and the other types of operations. It is not unusual to obtain an overall system speed increase of 2 times after installing the S3 VGA. The speed of pure graphics operations, like dragging objects with a mouse, scrolling, and resizing, will be remarkably improved.

1.2 Software Compatibility

The key function of the S3 VGA is its VGA compatibility. Unlike coprocessor-based, or IBM[®] 8514A-type display cards, the S3 VGA is 100% compatible with your DOS computer. This means that all DOS software will run fine with the S3 VGA without modification.

The VGA compatibility includes backward compatibility with the EGA, CGA and MDA standards. All DOS software will include drivers for at least one of these display types and will be fully compatible with the S3 VGA. The S3 VGA is also fully compatible with PCI BIOS extensions for resolutions higher than 640x480.

When the S3 VGA is used in VGA, backward compatibility, 16-color PCI modes, or the graphics engine of the S3 VGA is not supported. The speed in these modes will be comparable to the fastest type of standard VGA card.

1.3 Monitor Compatibility

The S3 VGA will work with any VGA, Super VGA or Multisync monitor.

Super VGA monitors are monitors that support IBM standard VGA plus the 800x600 extended mode used by most VGA cards, and the 1024x768 interlaced mode used by most VGA cards and the IBM 8514A.

Multisync monitors are more expensive and will work at all Super VGA resolutions plus additional higher resolutions or refresh rates. The most useful multisync monitor specification for determining maximum resolution and refresh capability is the horizontal frequency range. For PC usage, the lower limit of the range must be no less than 30KHz. The upper limit is usually 48 KHz, 57 KHz, or 64 KHz. These correspond to a maximum resolution of 1024x768, 60Hz refresh rate; 1024x768, 72Hz refresh rate; and 1280x1024, 60Hz refresh rate, respectively.

By default, the S3 VGA will drive your monitor at a screen refresh rate of 60Hz. In other words, it completely repaints the screen 60 times per second. If the screen is not displayed properly when you boot your system, your monitor may not support this refresh rate for the resolution chosen. In this case, you must either lower the resolution to one that can be supported at 60Hz or lower the refresh rate. The maximum refresh rate supported by your monitor is specified with the Refresh Rate utility. See the Windows 3.x Driver Installation section for instructions on the installation and use of this utility.

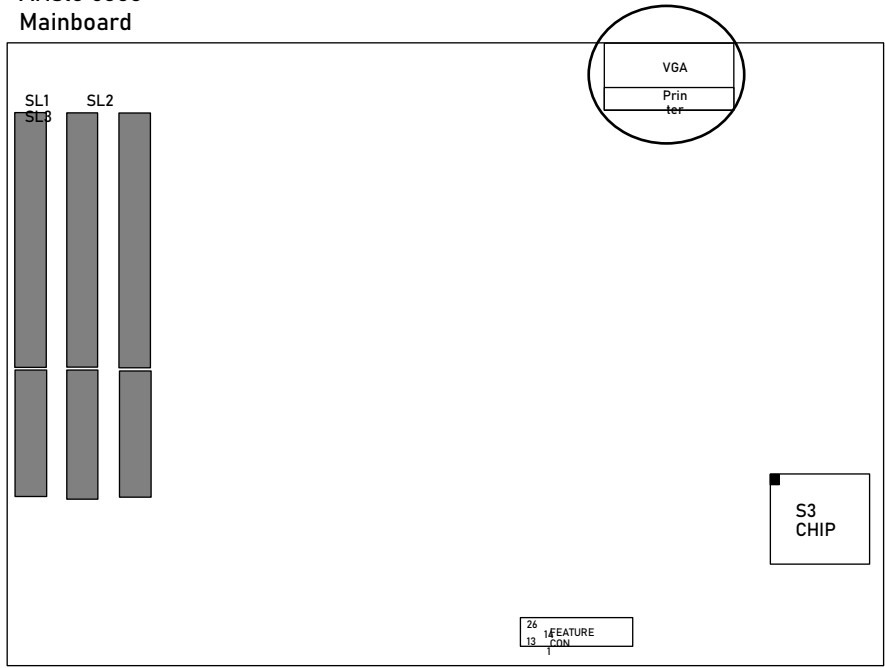
Refer to your monitor manual for information on the monitor capabilities. If you are not sure what refresh rate is supported, you can always try a higher rate. If the screen looks good, the rate is supported (and will be easier on your eyes).

CHAPTER 2 HARDWARE INSTALLATION

2.1 VGA Layout

The layout of the VGA component on the Aristo 6000 is as follows:

**Aristo 6000
Mainboard**



CHAPTER 3 SOFTWARE INSTALLATION

The S3 VGA is 100% VGA compatible and as such needs no special display drivers to run application software at standard VGA resolutions and color depths. However, enhanced display drivers are supplied with the S3 VGA because they provide accelerated performance, higher color depths and higher resolutions for software applications. The S3 VGA supports resolutions as high as 1600x1200 pixels, and color depths of up to 24 bits (ViRGE) or 32 bits (Trio64V2/DX) per pixel. Higher graphics resolutions and higher color depths provide greater clarity and detail when using the supplied drivers for graphics programs. When configuring your software to work with the board, it may help to bear in mind that the drivers compatible with the S3 VGA fall into four categories.

3.1 Installing on DOS

To facilitate the installation of the enhanced display drivers and utilities, you should read the instructions in this chapter prior to the installation. The enhanced display drivers for the Aristo 6000 are located on the software installation disk. You must install most of the drivers and utility software by running INSTALL.EXE under DOS .

Before you begin, it is important to note that most display drivers need to have the relevant software application already installed prior to installing the enhanced display drivers. In addition, many of the installation procedures assume that you are familiar with both the relevant software application and certain operating system commands. Please review the relevant commands and the related sections of your application software user's manual before performing the installation.

To install the enhanced display drivers and utilities, follow these steps:

1. If you have not already done so, make a backup copy of the software installation diskette and keep the original in a safe place. Refer to your operating system manual for details on how to duplicate a diskette. You should use the backup copy you have made for all subsequent steps. Alternatively, you can copy all the files on the software installation diskette to your hard disk and install the drivers from there—the steps which follow assume you are installing from a diskette. The distribution diskette is not copy-protected.
2. Insert the backup copy of the software installation diskette in drive A: or B:
 - *DOS* - If you are installing a DOS application or drivers, run the "INSTALL.EXE" program from the DOS command line by typing A:\INSTALL [Enter] (or B:\INSTALL [Enter] as appropriate). You will be presented with a list of options similar to the one illustrated below.

<input checked="" type="checkbox"/>	S3 VGA DOS Utilities
<input type="checkbox"/>	Autodesk Device Interface 4.2
<input type="checkbox"/>	Microstation 4.0 / 5.0
<input type="checkbox"/>	Exit Installation

3. Press the <↑ ↓> key to toggle and press the <Space> key to select the menu item.

3.2 Application Notes

Autodesk ADI

After using SETUP to install the ADI driver(s) for Autodesk products, be sure to run the appropriate batch files to configure your environment so that your Autodesk product can find the ADI driver. These batch files are created automatically for you when you install ADI driver(s) from the software installation diskette, and must be run before you load your Autodesk product.

3D Studio

If you plan to use the ADI driver with Autodesk 3D Studio, you must delete the 3DS.CFG file and make the following changes to the 3DS.SET file in your 3D Studio directory:

- Change the line that starts with RENDER-DISPLAY=VGA320X200 to read RENDER-DISPLAY=RCPADI.
- Change the line that reads MAIN-DISPLAY= to read MAIN-DISPLAY=RCPADI. Delete any leading semicolon(;) that may be present.
- Change the line that reads MATERIAL-DISPLAY=VGA320X200 to read MATERIAL-DISPLAY=RCPADI. Delete any leading semicolon that may be present.

3.3 Installing on Windows

Microsoft Windows

After installing the enhanced display drivers for Microsoft Windows, you can switch among supported display modes in the conventional manner. The way of installing it is to run "MSSETUP.EXE" on CD-ROM disk or "SETUP.EXE" on floppy disk. When Windows notifies you that the requested display driver is already present on the system, and asks if you want to use the current driver or install a new one, answer [Current]. If you need to re-install the drivers, run "MSSETUP.EXE" on CD-ROM disk or "SETUP.EXE" on the software installation diskette supplied with the Aristo 6000. Note that the Windows setup program cannot read the compressed files on the Aristo 6000 software installation diskette.

Windows NT

To install enhanced display drivers for Windows NT, you must be running NT. Please follow Microsoft's standard display driver installation procedure as documented in the NT user's manual. From the NT Program Manager, double-click on the NT Control Panel program in the Main program folder. Then select the Display applet in the Control Panel to Change the display driver. Select a supported display mode from the drive and directory containing the NT drivers, e.g., A:\Winnt35. If separate drivers are provided on the software distribution disk (or CD-ROM disk) for different versions of NT, be sure to enter the drive and directory where the appropriate NT drivers are located. Refer to your NT user's manual for further information.

CHAPTER 4 SOFTWARE MPEG PLAYER

4.1 Introduction

Software Requirements

- Microsoft Windows 3.x, Windows for Workgroups, or Windows 95
- Media Player 2.0 (from Video for Windows 1.1e)
- S3 Windows driver

Hardware Requirements

- Pentium-100MHz (Cyril 6x86-P120+) or above
- At least 2MB of free hard disk space
- 4x speed or above CD-ROM drive
- Sound card with a Windows wave audio driver installed
- 256 (or above) color VGA card is required. A VGA card with DCI or DirectDraw support is recommended
- 8MB of system memory is required

4.2 Installing Software MPEG Player

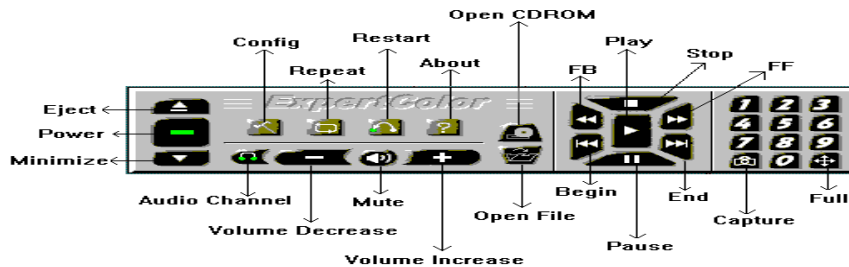
Installing on Windows 3.x

1. Start Windows 3.x
2. Insert the VCD PowerPlayer setup disk into drive A (or CD-ROM drive).
3. Open the Windows Program Manager and choose the Run command.
4. In the Run dialog, type "A:\setup"(or D:\Mplay\Setup) and click the "OK" button.
5. The VCD PowerPlayer setup program will begin the execution.
6. Follow the on-screen prompts until the installation is complete.

Installing on Windows 95

1. Start Windows 95.
2. Insert the VCD PowerPlayer setup disk into drive A (or CD-ROM drive).
3. Choose Run from the Start menu.
4. In the Run dialog, type "A:\setup" (or D:\Mplay\Setup) and click the "OK" button.
5. The VCD PowerPlayer setup program will begin the execution.
6. Follow the on-screen prompts until the installation is complete.

The control panel of the VCD PowerPlayer is shown in the following diagram:



Some important buttons which deserve greater detail are as follows:

- Config:** Set up the device options.
- Repeat:** Repeat the playback continuously.
- Restart:** Resume the playback from the beginning of the current track.
- Number:** Choose a particular track.
- Capture:** Grab the image on the screen and store it into a file.
- Full:** Maximize to the full-screen size.
- Audio Channel:** Select the left and/or right audio channel.

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APPENDIX A HARDWARE SPECIFICATIONS

Generic Classification:

Video Display Adapter/Fixed Function Graphics Accelerator

Bus Type:

32-bit PCI Bus

Video Connector:

VGA standard 15-pin analog RGB

Graphics Accelerator:

AFX440A (with S3 ViRGE);

AFX440C (with S3 Trio64V2/DX)

Display Memory:

2 MB for AFX440A;

1 or 2 MB for AFX440C

Monitor Compatibility:

All VGA, Super VGA and Multisync. The resolutions of 1280x1024 and 1600x1200 require a multisync monitor with a 48 and 57 KHz maximum horizontal scan rate, respectively.

APPENDIX B RESOLUTION TABLE

The following table shows the resolutions for ViRGE Chips:

GRAPHICS RESOLUTION	COLOR DEPTH	FRAME BUFFER SIZE
640X480	256	2MB
640X480	64K	2MB
640X480	16.7M	2MB
800X600	256	2MB
800X600	64K	2MB
800X600	16.7M	2MB
1024X768	256	2MB
1024X768	64K	2MB
1280X1024	256	2MB
1600X1200	256	2MB

The following table shows the resolutions for Trio64V2/DX Chips:

GRAPHICS RESOLUTION	COLOR DEPTH	FRAME BUFFER SIZE
640X480	256	1MB
640X480	32K/64K	1MB
800X600	256	1MB
800X600	32K/64K	1MB
1024X768	256	1MB
640X480	16.7M	2MB
800X600	16.7M	2MB
1024X768	32K/64K	2MB
1280X1024	256	2MB
1600X1200	256	2MB