

3D GRAPHIC ACCELERATOR

MANUAL

SIS

Model No.: SP6326

SIS 6326

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1. SIS 6326

Memory Size:

SP6326:Using 512*32MB & 1M*32 on Board with SGRAM

1.1 SIS 6326 Features

AGP Interface

- Supports AGP 1.0 compliant configuration setting
- Supports AGP 133 MHz

High Performance & High Quality 3D Accelerator

- Built-in a high performance 3D engine
- Built-in a high quality 3D engine

High Performance 2D Accelerator

- Built-in 42 double-words hardware command queue
- Built-in Direct Draw Accelerator
- Supports burst frame buffer read/write for SDRAM/SGRAM
- Built-in 64x64x2 bit-mapped hardware cursor
- Maximum 8M Bytes frame buffer with line address addressing
- Built-in 4 stages engine write-buffer
- Built-in 64x32 CRT FIFOs to support super high resolution graphics modes

Complete TV-OUT Solution(optional)

- Built-in complete NTSC/PAL video encoder
- Supports NTSC/PAL interlaced display in
- Supports under-scan and over-scan scaling

Video Accelerator

- Supports single frame buffer architecture
- Supports bi-linear video interpolation with integer increments of 1/64
- Supports Direct Draw Drivers

Display Memory Interface

- Supports SDRAM, and SGRAM timing
- Supports 8MB memory configurations
- Supports up to 1Mx16 SDRAM and 1Mx32 SGRAM types up to 90MHz

High Integration

- Built-in programmable 24-bit true-color RAMDAC up to 175MHz pixel clock
- Built-in two 196x64 video line buffers for MPEG video playback

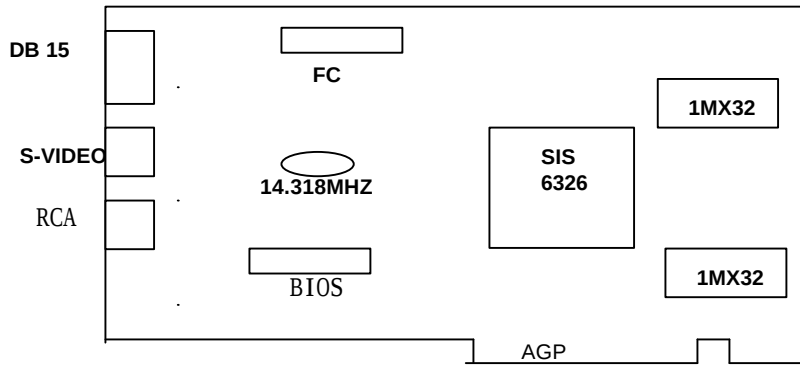
Full Software Support

- Windows 2000, Windows NT 4.0/5.0, Windows Me, Windows 98 and Windows 95

2. SIS 6326 Board Outline

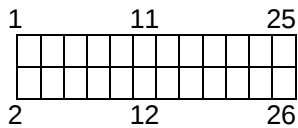
2.1 SIS using SGRAM(SP6326:A4)

8M On board



NOTE : TV output connector and encoder are reserved for optional.

2.2 Feature Connector Pin Out(26 Pin)



Pin [1,3,5,7,9,11,13,15]: D0-D7]

Pin [17]: VCK/LCK

Pin [19]: -BLANK

Pin [21]: HSYNC

Pin [23]: VSYNC

Pin [2,4,6,16,18,20,22,25]: GND

Pin [8]: VREQ/EVIDEO

Pin [10]: ESYNC

Pin [12]: CREQ/EVCLK

Pin [14,24,26]: NC

3. Resolutions and colors supported:

MODE	TYPE	DISPLAY SIZE	COLORS SHADES	ALPHA FORMAT	BUFFER START	BOX SIZE	MAX. PAGES
0	A/N	320x200	16	40x25	B800	8x8	8
0*	A/N	320x350	16	40x25	B800	8x14	8
0+	A/N	360x400	16	40x25	B800	9x16	8
1	A/N	320x200	16	40x25	B800	8x8	8
1*	A/N	320x350	16	40x25	B800	8x14	8
1+	A/N	360x400	16	40x25	B800	9x16	8
2	A/N	640x200	16	80x25	B800	8x8	8
2*	A/N	640x350	16	80x25	B800	8x14	8
2+	A/N	720x400	16	80x25	B800	9x16	8
3	A/N	640x200	16	80x25	B800	8x8	8
3*	A/N	640x350	16	80x25	B800	8x14	8
3+	A/N	720x400	16	80x25	B800	9x16	8
4	APA	320x200	4	40x25	B800	8x8	1
5	APA	320x200	4	40x25	B800	8x8	1
6	APA	640x200	2	80x25	B800	8x8	1
7	A/N	720x350	4	80x25	B000	9x14	8
7+	A/N	720x400	4	80x25	B000	9x16	8
0D	APA	320x200	16	40x25	A000	8x8	8
0E	APA	640x200	16	80x25	A000	8x8	4
0F	APA	640x350	2	80x25	B000	8x14	2
10	APA	640x350	16	80x25	A000	8x14	2
11	APA	640x480	2	80x30	A000	8x16	1
12	APA	640x480	16	80x30	A000	8x16	1
13	APA	320x200	256	40x25	A000	8x8	1

NOTE: 1. A/N: Alpha/Numeric
2. APA: All Point Addressable (Graphics)

MODE	DISPLAY SIZE	COLORS SHADES	FRAME RATE.	H-SYNC.	VIDEO FREQ.
0	320x200	16	70	31.5 K	25.1 M
0*	320x350	16	70	31.5 K	25.1 M
0+	360x400	16	70	31.5 K	28.3 M
1	320x200	16	70	31.5 K	25.1 M
1*	320x350	16	70	31.5 K	25.1 M
1+	360x400	16	70	31.5 K	28.3 M
2	640x200	16	70	31.5 K	25.1 M
2*	640x350	16	70	31.5 K	25.1 M
2+	720x400	16	70	31.5 K	28.3 M
3	640x200	16	70	31.5 K	25.1 M
3*	640x350	16	70	31.5 K	25.1 M
3+	720x400	16	70	31.5 K	28.3 M
4	320x200	4	70	31.5 K	25.1 M
5	320x200	4	70	31.5 K	25.1 M
6	640x200	2	70	31.5 K	25.1 M
7*	720x350	4	70	31.5 K	28.3 M
7+	720x400	4	70	31.5 K	28.3 M
0D	320x200	16	70	31.5 K	25.1 M
0E	640x200	16	70	31.5 K	25.1 M
0F	640x350	2	70	31.5 K	25.1 M
10	640x350	16	70	31.5 K	25.1 M
11	640x480	2	60	31.5 K	25.1 M
12	640x480	16	60	31.5 K	25.1 M
13	320x200	256	70	31.5 K	25.1 M

NOTE: i - interlaced mode
n - noninterlaced mode

3.1 Enhanced Video Modes

MODE	TYPE	DISPLAY SIZE	COLORS SHADES	ALPHA FORMAT	BUFFER START	BOX SIZE	MAX. PAGES
22	A/N	1056x352	16	132x44	B800	8x8	2
23	A/N	1056x350	16	132x25	B800	8x14	4
24	A/N	1056x364	16	132x28	B800	8x13	4
25	APA	640x480	16	80x60	A000	8x8	1
26	A/N	720x480	16	80x60	B800	9x8	3
29	APA	800x600	16	100x37	A000	8x16	1
2A	A/N	800x600	16	100x40	B800	8x15	4
2D	APA	640x350	256	80x25	A000	8x14	1
2E	APA	640x480	256	80x30	A000	8x16	1
2F	APA	640x400	256	80x25	A000	8x16	1
30	APA	800x600	256	100x37	A000	8x16	1
37	APA	1024x768	16	128x48	A000	8x16	1
38	APA	1024x768	256	128x48	A000	8x16	1
39	APA	1280x1024	16	160x64	A000	8x16	1
3A	APA	1280x1024	256	160x64	A000	8x16	1
3B	APA	1600x1200	16	200x75	A000	8x16	1
3C	APA	1600x1200	256	200x75	A000	8x16	1
40	APA	320x200	32K	40x25	A000	8x8	1
41	APA	320x200	64K	40x25	A000	8x8	1
42	APA	320x200	16.8M	40x25	A000	8x8	1
43	APA	640x480	32K	80x30	A000	8x16	1
44	APA	640x480	64K	80x30	A000	8x16	1
45	APA	640x480	16.8M	80x30	A000	8x16	1
46	APA	800x600	32K	100x37	A000	8x16	1
47	APA	800x600	64K	100x37	A000	8x16	1
48	APA	800x600	16.8M	100x37	A000	8x16	1
49	APA	1024x768	32K	128x48	A000	8x16	1
4A	APA	1024x768	64K	128x48	A000	8x16	1
4B	APA	1024x768	16.8M	128x48	A000	8x16	1
4C	APA	1280x1024	32K	160x64	A000	8x16	1
4D	APA	1280x1024	64K	160x64	A000	8x16	1

NOTE: 1. A/N: Alpha/Numeric
2. APA: All Point Addressable (Graphics)

MODE	DISPLAY SIZE	COLORS SHADES	FRAME RATE.	H-SYNC.	VIDEO FREQ.
22	1056x352	16	70	30.5 K	40.0 M
23	1056x350	16	70	30.5 K	40.0 M
24	1056x364	16	70	30.5 K	40.0 M
25	640x480	16	60	31.5 K	25.1 M
26	720x480	16	60	31.5 K	25.1 M
29	800x600	16	56	35.1 K	30.0 M
29*	800x600	16	60	37.9 K	40.0 M
29+	800x600	16	72	48.0 K	50.0 M
29#	800x600	16	75	46.8 K	50.0 M
29##	800x600	16	85	53.7 K	56.3 M
2A	800x600	16	56	35.1 K	36.0 M
2D	640x350	256	70	31.5 K	25.1 M
2E	640x480	256	60	31.5 K	25.1 M
2E*	640x480	256	72	37.9 K	31.5 M
2E+	640x480	256	75	37.5 K	31.5 M
2E++	640x480	256	85	43.4 K	36.0 M
2F	640x400	256	70	31.5 K	25.1 M
30	800x600	256	56	35.1 K	36.0 M
30*	800x600	256	60	37.9 K	40.0 M
30+	800x600	256	72	48.0 K	50.0 M
30#	800x600	256	75	46.8 K	50.0 M
30##	800x600	256	85	53.7 K	56.3 M
37i	1024x768	16	87	35.5 K	44.9 M
37n	1024x768	16	60	48.4 K	65.0 M
37n+	1024x768	16	70	56.5 K	75.0 M
37n#	1024x768	16	75	60.2 K	80.0 M
37n##	1024x768	16	85	68.7 K	94.5 M
38i	1024x768	256	87	35.5 K	44.9 M
38n	1024x768	256	60	48.4 K	65.0 M
38n+	1024x768	256	70	56.5 K	75.0 M
38n#	1024x768	256	75	60.2 K	80.0 M
38n##	1024x768	256	85	68.7 K	94.5 M
39I	1280x1024	16	87	48.8 K	80.0 M
39n	1280x1024	16	60	65.0 K	110.0 M
39n+	1280x1024	16	75	80.0 K	135.0 M
3Ai	1280x1024	256	87	48.8 K	80.0 M
3An	1280x1024	256	60	65.0 K	110.0 M
3An+	1280x1024	256	75	91.0 K	150.0 M

3Bi	1600x1200	16	87	75.6 K	135.0 M
3B	1600x1200	16	60	75.6 K	162.0 M
3Ci	1600x1200	256	87	75.6 K	135.0 M
3C	1600x1200	256	65	81.0 K	162.0 M
40	320x200	32K	70	31.5 K	25.1 M
41	320x200	64K	70	31.5 K	25.1 M
42	320x200	16.8M	70	31.5 K	25.1 M
43	640x480	32K	60	31.5 K	25.1 M
43*	640x480	32K	72	37.9 K	31.5 M
43+	640x480	32K	75	37.5 K	31.5 M
43++	640x480	32K	85	43.4 K	36.0 M
44	640x480	64K	60	31.5 K	25.1 M
44*	640x480	64K	72	37.9 K	31.5 M
44+	640x480	64K	75	37.5 K	31.5 M
44++	640x480	64K	85	43.4 K	36.0 M
45	640x480	16.8M	60	31.5 K	25.1 M
45*	640x480	16.8M	72	37.9 K	31.5 M
45+	640x480	16.8M	75	37.5 K	31.5 M
45++	640x480	16.8M	85	43.4 K	36.0 M
46	800x600	32K	56	35.1 K	36.0 M
46*	800x600	32K	60	37.9 K	40.0 M
46+	800x600	32K	72	48.0 K	50.0 M
46#	800x600	32K	75	46.8 K	50.0 M
46##	800x600	32K	85	53.7 K	56.3 M
47	800x600	64K	56	35.1 K	36.0 M
47*	800x600	64K	60	37.9 K	40.0 M
47+	800x600	64K	72	48.0 K	50.0 M
47#	800x600	64K	75	46.8 K	50.0 M
47##	800x600	64K	85	53.7 K	56.3 M
48	800x600	16.8M	56	35.1 K	36.0 M
48*	800x600	16.8M	60	37.9 K	40.0 M
48+	800x600	16.8M	72	48.0 K	50.0 M
48#	800x600	16.8M	75	46.8 K	50.0 M
48##	800x600	16.8M	85	53.7 K	56.3 M

49i	1024x768	32K	87	35.5 K	44.9 M
49n	1024x768	32K	60	48.4 K	65.0 M
49n+	1024x768	32K	70	56.5 K	75.0 M
49n#	1024x768	32K	75	60.2 K	80.0 M
49n##	1024x768	32K	85	68.7 K	94.5 M
4Ai	1024x768	64K	87	35.5 K	44.9 M
4An	1024x768	64K	60	48.4 K	65.0 M
4An+	1024x768	64K	70	56.5 K	75.0 M
4An#	1024x768	64K	75	60.2 K	80.0 M
4An##	1024x768	64K	85	68.7 K	94.5 M
4Bi	1024x768	16.8M	87	35.5 K	44.9 M
4Bn	1024x768	16.8M	60	48.4 K	65.0 M
4Bn+	1024x768	16.8M	70	56.5 K	75.0 M
4Bn#	1024x768	16.8M	75	60.2 K	80.0 M
4Bn##	1024x768	16.8M	85	68.7 K	94.5 M
4Ci	1280x1024	32K	89	48.8 K	80.0 M
4Di	1280x1024	64K	89	48.8 K	80.0 M

NOTE: i - interlaced mode
n - noninterlaced mode

- For the limitation of memory bandwidth in 1MB DRAM configuration, the following video modes is not supported in 1MB configuration: modes 45*, 45+, 46+, 46#, 47+, and 47#.

4. Hardware Installation

4.1 Package Contents

- 1. SIS 6326 3D Accelerator card.**
- 2. CD title or Software diskettes**
- 3. This manual.**

4.2 Installing the Card

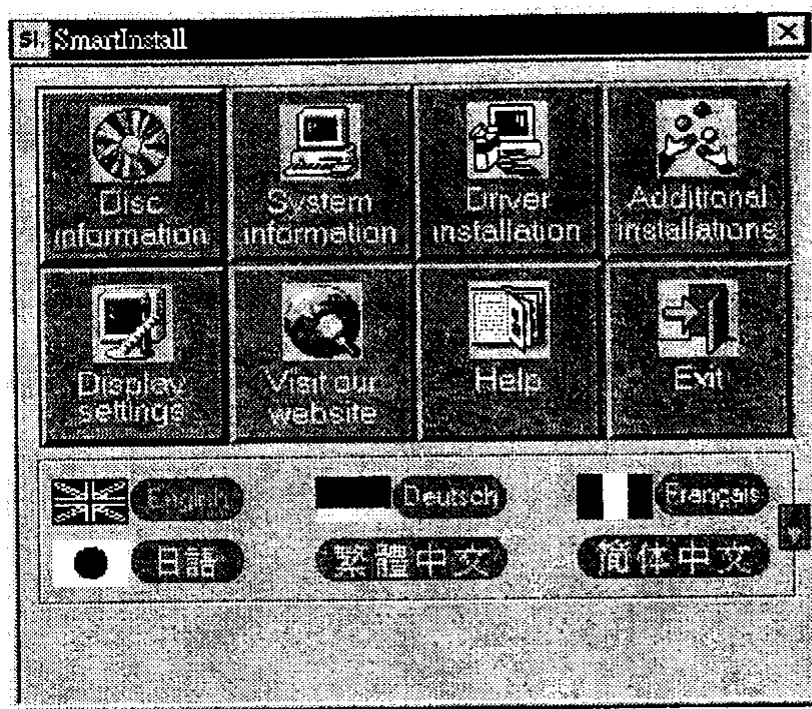
- 1. Turn off your computer.**
- 2. Remove the cover of the computer per the owner's manual.**
- 3. Install the card in the AGP bus slots**
- 4. Replace the cover.**

5. Smart Installation

For Windows 95 OSR2.1, Windows 98, Windows ME

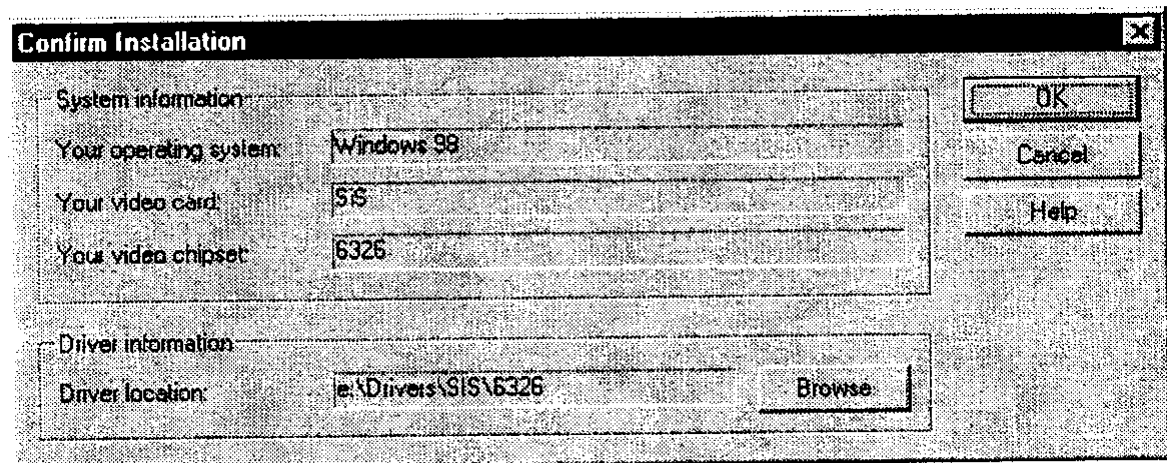
5.1 Put the DRIVERS CD in your CD-ROM

5.2 Click the Driver installation



5.3 If everything fine, screen will show Confirm Installation window.

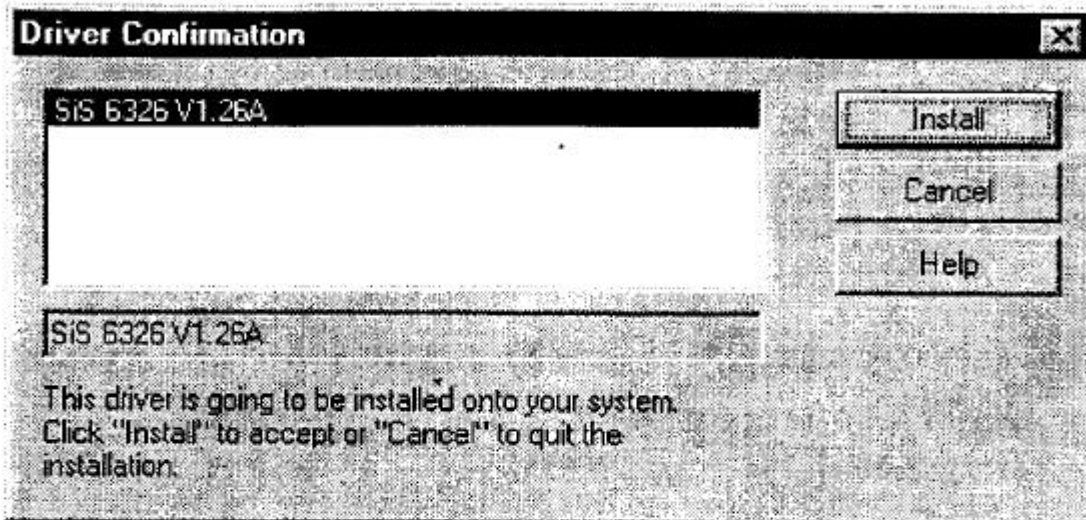
Then Select the OK (Here the picture shows SIS 6326 (for example)



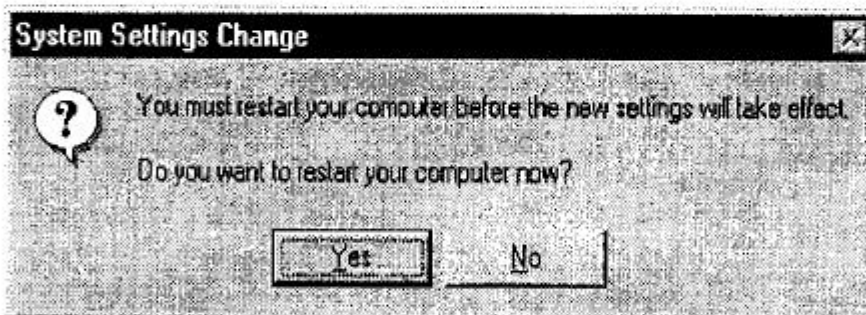
5.4 Now appears the Driver Confirmation window

Select the Install

(Here the picture shows SIS 6326 for example, if your are using SIS 6326, Driver Confirmation window will show SIS6326 drivers)



5.5 Then restart your computer.



6. Manually install Windows 95 & Windows 98 & Windows Me drivers

6.1 Installation and Setup

6.1.1 Windows95

The Windows setup program installs and modifies all of the necessary files. Follow these steps to install the Windows 95 drivers.

- Insert the DISC (CD Title Driver).
- Select **Control Panel** from **My Computer** group.
- Select the **Display** icon
- Double-click on the **Display** icon in the Setting -> **Control Panel** folder. You can also click the right mouse button anywhere on the desktop and select the Properties option from the pop-out menu.
- Click the **Settings** tab.
- Click the **change Display Type** button.
- Click the **Have Disk** button.
- Change directories and Select **NV4agp .inf**
Disc (CD Title) is E:\drivers\SIS\6326\WIN95

Note: "E:" -> CD Drive "Nvidia" -> VGA chip brand name "6326" -> VGA model name

- Select AGP driver from the list and click the OK button. If a message stating that one or more driver files is older than the files on the system respond YES to overwrite the files.
- Click the Close button and Apply button, and restart your computer.

6.1.2 Windows98 & Windows ME

The Windows setup program installs and modifies all of the necessary files. Follow these steps to install the Windows 98 drivers.

- Insert the DISC (CD Title Driver).
- Select **Control Panel** from **My Computer** group.
- Select the **Display** icon
- Double-click on the **Display** icon in the Setting -> **Control Panel** folder. You can also click the right mouse button anywhere on the desktop and select the Properties option from the pop-out menu.
- Click the **Settings** tab.
- Then show **[Unknown Device.] Properties** tab
Select **Adapter**
- Then show **Standard PCI Graphics....** tab
Select **Change**
- Then show **Update Device** tab
Select **Next**
- Then show **Update Device** tab
Select **Search for a better.....**
Then select **Next**.
- Then show **Update Device** tab
If the **Specify a location** is wrong
Please select **Brows**
- Then show **Browse for Folder** tab
Select E:\drivers\SIS\6326\WIN98 or WIN ME

Note: "E:"-> CD Drive "SIS"-> VGA chip brand name "6326"-> VGA model name
Then select **OK**

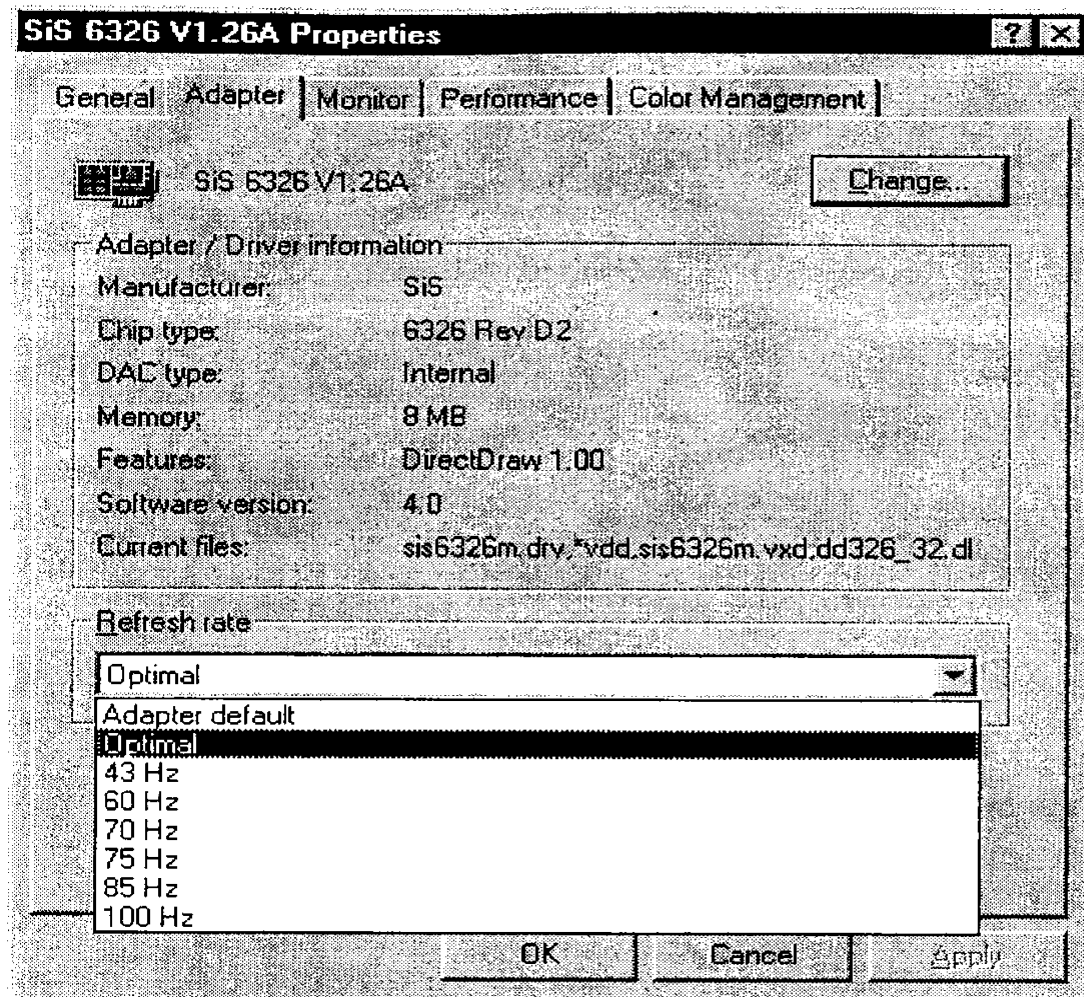
- Then show **Update Device Driver Wizard** tab
Select **CD-ROM driver**
Click the **Specify a locator**, if right
Then select **Next**
- Then show **Update Device Driver Wizard** tab
Select **Next**
- Then show **Update Device Driver Wizard** tab
Select **Finish**
- Then show **System Settings Change** tab
Select **OK**

6.2 How to Change Color Depth and Resolution

1. Make sure that you have installed windows95/98 Driver.
2. Click on the **Start** box in the lower left corner and proceed to **Control Panel**.
3. Inside the **Control panel** group , click on **Display** icon to open the **Display Properties** folder and select the **Setting table**
4. Click on the pull-down arrow from the **Color** palette area to select color depth or adjust the sliding bar to either **Less** or **More** from the **Desktop** area
5. Select **OK** to restart **WINDOWS95** and new color depth or the new resolution takes effect.

6.3 How to Change Refresh Rate

1. Make sure that you have installed windows95/98 Driver. Click on the **Start** box in the lower left corner and proceed to Setting, **Control Panel**
2. Inside the **Control panel** group , click on **Display** icon to open the **Display Properties** folder and choose **Settings** click the **Advance Settings** choose **Adapter**
3. Click on the **Refresh Rate** sub window to change refresh rate
4. Select **OK** and new refresh rate takes effect



Note: If your monitor is not Branded or Plug&Play, you will only see Adapter default and optimal. Please contact your monitor supplier to get right or compatible drivers for your monitor. Otherwise you can not select the refresh rate you wanted.

- Refresh Rate default is Optimal.
- If you change Refresh Rate from Optimal to another , you must be to restart WINDOWS 95 or 98 or ME

7. Windows NT 4.0

The following steps describe how to install Windows NT4.0 display drivers

1. Select **Control Panel** from the **Main** group.
2. Select the **Display** icon.
3. Select **Change Display Type**.
4. Select Change from the **Adapter Type** area.
5. Select **Other**.
6. Place the Disc (CD Title) into Driver. Click **OK**.
7. Select **Install** and click "**YES**" when the Installing Driver dialog box appears.
8. When the Windows NT **Setup** dialog box appears select CDROM, and click "**Continue**".

8. Windows 2000

The following steps describe how to install Windows NT4.0 display drivers

9. Select **Control Panel** from the **Main** group.
10. Select the **Display** icon.
11. Select **Change Display Type**.
12. Select Change from the **Adapter Type** area.
13. Select **Other**.
14. Place the Disc (CD Title) into Driver. Click **OK**.
15. Select **Install** and click "**YES**" when the Installing Driver dialog box appears.
16. When the Windows NT **Setup** dialog box appears select CDROM, and click "**Continue**".

A message appears stating that drivers were successfully installed. Click **OK**. Another message appears stating that the driver could not be restarted dynamically. Restart **Windows NT** to run the new driver. Click **OK**.

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference. (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice:

- (1) An Unshielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.
- (2) Use only shielded cables to connect I/O devices to this equipment.
- (3) Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Trademark Acknowledgments

All brand names and trademarks are the property of their owners.