# S3375B

## *S3 375 virge/DX VGA*

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# CHAPTER 1 INTRODUCTION

The S3375B incorporates the S3 ViRGE/DX integrated graphics accelerator to provide excellent graphics performance at high resolutions and at a low cost. The following features provide the flexibility to meet a wide range of user needs.

**Features**

- High-performance 64-bit 2D/3D graphics engine
- Integrated 170 MHz RAMDAC
- High quality 3D texture mapping
- Horizontal and vertical interpolation for video playback
- Brightness, hue, saturation control for video
- I2C serial communications bus
- Glueless PCI 2.1 local bus support

## *1.1 Performance*

The S3375B is a graphics accelerator. Computer functions like disk access and numerical calculation are not accelerated by the S3375B. Because 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 S3375B. 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 S3375B is its VGA compatibility. Unlike coprocessor-based or IBM® 8514A-type display cards, the S3375B is 100% compatible with your DOS computer. This means that all DOS software will run correctly with the S3375B 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 S3375B. The S3375B is also fully compatible with PCI BIOS extensions for resolutions higher than 640 by 480 .

When the S3375B is used in VGA, backward compatibility, 16-color PCI modes, or the graphics engine of the S3 ViRGE/DX is not used. The speed in these modes will be comparable to the fastest type of standard VGA card.

## *1.3 Monitor Compatibility*

The S3375B will work with any VGA, Super VGA or Multisync monitor.

Super VGA monitors can 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 use, 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 1024 x 768, 60 Hz refresh, 1024 x768, 72 Hz refresh rate; and 1280x1024, 60 Hz refresh rate, respectively.

By default, the S3375B will drive your monitor at a refresh rate of 70Hz. In other words, it 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 70Hz 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 how to use this utility.

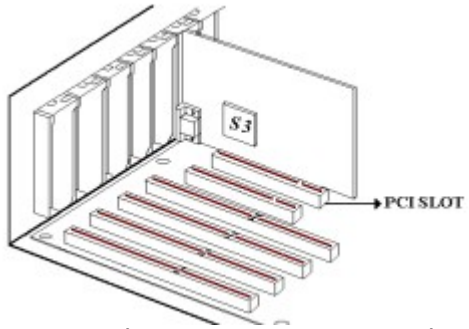
Refer to your manual for information on the monitor capabilities. If you are not sure what refresh rate is supported, you can try a higher rate. If the screen looks good, the rate is supported (and will be easier on your eyes).

# CHAPTER 2 HARDWARE INSTALLATION

## *2.1 Installing the VGA Card*

To install your S3375B into the computer, follow the procedures listed below :

1.Turn off your computer and disconnect all peripherals.




1.Remove the computer cover and make sure there is a system expansion slot (PCI) available.
2.Install the S3375B into one of the empty PCI bus slots.
3.Make sure the card is correctly seated in the slot.
4.Replace and secure the computer cover. Reconnect the peripherals.
5.Plug your color monitor into the 15-pin video connector of the S3375B.

Then, you can power up your system and see if the card is inserted properly.

# CHAPTER 3 SOFTWARE INSTALLATION

The S3375B is 100% VGA compatible and as such needs no special display drivers to run application software correctly at standard VGA resolutions and color depths. However, enhanced display drivers are supplied with the S3375B because they provide accelerated performance, higher color depths and higher resolutions for software applications. The S3375B supports resolutions as high as 1600x1200 pixels, and color depths of up to 24 bits 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 S3375B fall into four categories.

## *3.1 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 program. 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 floppy disk program on the software installation diskette supplied with the S3375B. Note that the Windows setup program cannot read the compressed files on the S3375B software installation diskette.

## *3.2 Installing on Windows NT3.51/NT4.0*

To install enhanced display drivers for Windows NT3.51/NT4.0, 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:\Winnt40. 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 full instructions.

# CHAPTER 4 SOFTWARE MPEG PLAYER

## *4.1 Introduction*

### *Software Requirements*

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

### *Hardware Requirements*

- Pentium-100MHz (Cyrix 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*

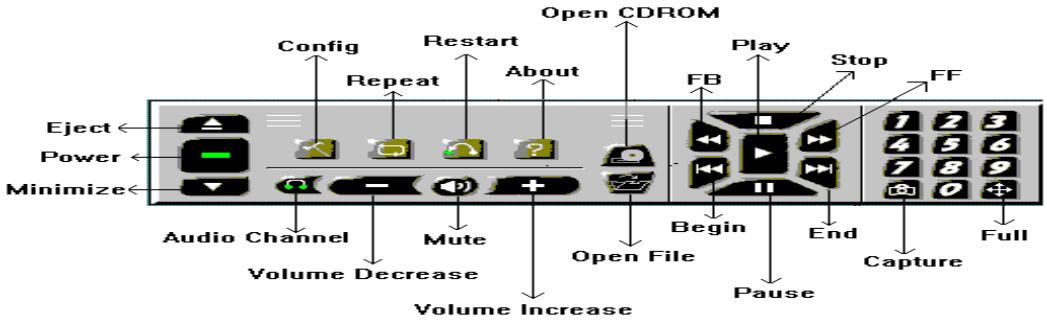
### *Installing on Windows 3.x*

1.Start Windows 3.x
2.Insert the VCD PowerPlayer setup disk into drive D: (For CD-ROM drive).
3.Open the Windows Program Manager and choose the Run command.
4.In the Run dialog, type "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 software MPEG Player is shown in the following diagram:




Some important buttons which deserve greater detail are described as follows:
**Config:** Set up the device options.
**Repeat:** Repeat the playback continuously.
**Restart:** Resume the playback from the beginning.
**Number:** Choose a particular track.
**Capture:** Clicking on this icon will capture the image on the video screen into the Clipboard. To get the image, you can save it to a .BMP file using MS Paint or take advantage of typical Windows cut/copy/paste features.
**Full:** Switch the playback screen at 1x, Maximize, Full screen.
**Audio Channel:** Select the left and/or right audio channel.

# APPENDIX A SPECIFICATIONS

## *A.1 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*

S3 ViRGE/DX

### *Display Memory*

2 or 4 MBytes

### *Monitor Compatibility*

All VGA, Super VGA and Multisync. The resolutions of 1280 x 1024 and 1024 x 768 require a multisync monitor with a 48 and 57 KHz maximum horizontal scan rate, respectively.

## *A.2 Programming Information*

The S3375B supports all VGA modes. This is the default configuration of the VGA BIOS.

The extended VGA graphics mode is invoked by the normal INT 10 mode call. All the VGA extended modes can be invoked with the VESA defined select extended mode BIOS call.

## *A.3 Resolution Table*

| *GRAPHICS* | *RESOLUTION* | *COLOR DEPTHFRAME BUFFER SIZE* |
|---|---|---|
| *640X480* | *256* | *2MB/4MB* |
| *640X480* | *64K* | *2MB/4MB* |
| *640X480* | *16.7M* | *2MB/4MB* |
| *800X600* | *256* | *2MB/4MB* |
| *800X600* | *64K* | *2MB/4MB* |
| *800X600* | *16.7M* | *2MB/4MB* |
| *1024X768* | *256* | *2MB/4MB* |
| *1024X768* | *64K* | *2MB/4MB* |
| *1024X768* | *16.7M* | *4MB* |
| *1280X1024* | *256* | *2MB/4MB* |
| *1280X1024* | *64K* | *4MB* |
| *1280X1024* | *16.7M* | *4MB* |
| *1600X1200* | *256* | *2MB/4MB* |
| *1600X1200* | *64K* | *4MB* |