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Introduction

GrafixStar 750 combines 2D and 3D multimedia acceleration, using the S3 ViRGE/VX 64-bit integrated graphics/video accelerator to give the range of color depths, resolutions and refresh rates necessary for large monitors and graphics-intensive applications. 4 MB of VRAM enables GrafixStar 750 to support your professional graphic design and CAD/CAM requirements, and you can upgrade with a further 4 MB of DRAM for enhanced 3D performance. To make you even more productive, GrafixStar 750 comes with free Windows 95 SmartTools software to give you complete control of your Windows desktop.

To run GrafixStar 750 you need an IBM or fully compatible 486 PC or above which complies with the PCI local bus specification and has a spare PCI bus slot.

Before installing the card, make sure you read the readme file on the VideoLogic Software Library CD-ROM. The readmes contain late-breaking and troubleshooting information that may be important.

- Windows NT - \gs750\winnt\disk1\gx750ant.doc
- Windows 95 - \gs750\win95\disk1\gx750a95.doc
- Other operating systems - \readme.txt

Handling GrafixStar 750

Follow these guidelines to minimize the risk of electrostatic charges damaging the card:

- Keep the card in its protective packaging until you are ready to install it.
- Just before handling the card, touch the metal frame of your PC with the back of your hand to discharge any static electricity which may have built up on you or your clothes.
- Hold the card by the adapter bracket or by its edges; do not touch the circuit board.
- Do not place the card on top of your computer or on any other metal surface.
- Make sure that the card is not accidentally touched by anyone else.
- Handle the card with care to avoid damage to the components on the circuit board.

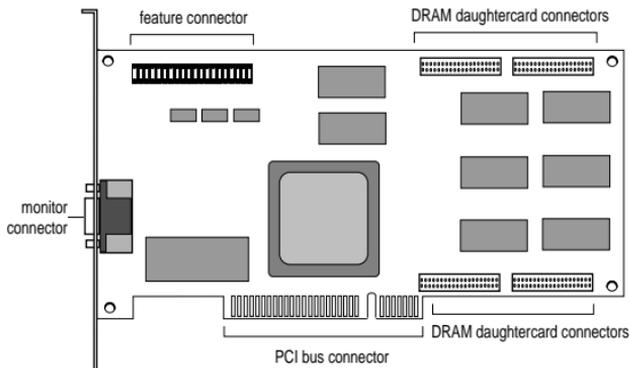
Installing GrafixStar 750

Installing the GrafixStar 750 hardware

Note: If you are installing GrafixStar 750 for Windows 3.1 or 3.11, make sure you have configured Windows to run with a standard VGA display before installation. You can do this by clicking the File menu in Program Manager, clicking Run, browsing to the file winsetup.exe in your Windows directory, and clicking OK. You can also run the Windows Setup program from DOS. See the *Windows User's Guide* for details on how to do this.

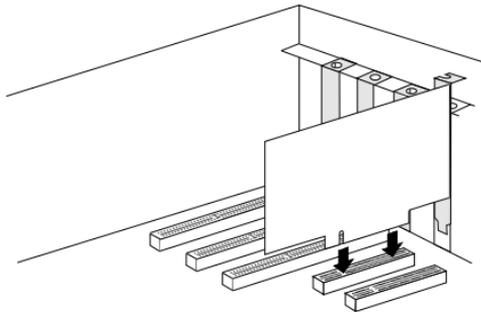
Warning: Always switch off your computer before removing the cover and observe the warnings specified in the manufacturer's documentation.

The diagram below shows the connectors on the card.



GrafixStar 750 User Guide

1. Switch off your computer, monitor, and any hardware devices such as printers connected to your computer. Leave the power cable connected to the power outlet so that your computer is grounded.
2. Disconnect the monitor cable from your computer.
3. Remove the computer's cover. You may need to refer to the documentation supplied with your computer for instructions on how to do this.
4. Remove your existing display card or disable your built-in graphics controller. Refer to the documentation supplied with your computer for instructions on how to disable a built-in graphics controller.
5. Locate an empty PCI bus expansion slot and remove the slot cover. Keep the screw, you will need it later to secure the card.
6. Touch the bare metal chassis of your computer with the back of your hand to discharge any static that may have built up on you or your clothes.
7. Align GrafixStar 750 with the slot you have chosen. Firmly press the card into the slot, as shown in the diagram below. You will need to use some pressure to push the card into position, but do not use excessive force.



- Secure GrafixStar 750 using the screw that you removed previously.
- Replace the cover of your computer.
- Connect the monitor cable to GrafixStar 750. All cables connected to GrafixStar 750 should be properly shielded and comply with radio frequency interference standards.
- Switch on your computer and your computer monitor.

You are now ready to install the GrafixStar Windows software.

- Windows NT - continue below
- Windows 95 - turn to page 6
- Windows 3.1 - turn to page 7

Installing the Windows NT software

- When your computer has restarted, the Display Properties page is displayed. Insert the VideoLogic Software Library CD-ROM into your CD-ROM drive.
- At the Display Properties page, click Display Type.
- At the Display Type dialog box, under Adapter Type, click Change.
- At the Change Display dialog box, click Have Disk.
- At the Install from Disk dialog box, browse to the folder `lg750\winnt\disk1` on your CD-ROM drive. After browsing, click OK.
- At the Change Display dialog box, select GrafixStar 750 from the list, and click OK.
- At the Third Party Driver dialog box click Yes to proceed. The drivers are copied from CD.
- When the drivers have been copied, at the Installing Driver dialog box, click OK.
- Close the Display Type dialog box, and close the Display Properties page.
- The System Settings Change dialog box is displayed. Click Yes to restart your computer.

The card is ready to use when your PC restarts. Before using the card, read the section on the Advanced page of the Display Properties Control Panel, on page 6 of this User Guide.

Installing the Windows 95 software

To install the GrafixStar 750 software for Windows 95:

1. When your computer has restarted, a message is displayed saying that Windows has found new hardware. Click Disk Provided by the Manufacturer, and click OK.
2. Insert the VideoLogic Software Library CD-ROM into your CD-ROM drive.
3. Browse to the folder \gs750\win95\disk1 on your CD-ROM drive. Click OK.
4. At the Install From Disk dialog box, click OK. The drivers are copied from the CD-ROM.
5. When asked if you want to restart the computer, click Yes.
6. When your computer has restarted, a dialog box is displayed asking whether you want to install SmartTools with DirectVideo, or just SmartTools, or neither.

SmartTools is desktop and display control software that enables you to fully exploit the capabilities of the card. If you want to set toolbars, hotkeys, customized display modes or virtual desktop sizes, click SmartTools to install SmartTools and DirectVideo.

DirectVideo is a set of drivers that optimize your computer's performance when running DirectDraw video applications. If you only want to install DirectVideo, click DirectVideo.

If you don't want to install either SmartTools or DirectVideo, click Cancel. Note that video playback performance will not be optimized without DirectVideo.

7. Follow the instructions that appear on the screen.

The Display Properties Advanced page

After installing the Windows NT drivers, as described on page 5, or if you install the Windows 95 drivers without installing SmartTools, an Advanced tab appears on your Display Properties Control Panel dialog box. For Windows NT, this enables you to center the screen, and, for Windows 95, also enables you to change the refresh rate. If you install SmartTools for Windows 95, this tab is replaced by SmartTools.

Installing the Windows 3.1 or 3.11 software

Note: If you are running Windows 3.1 or 3.11, Windows should be set for a standard VGA display **before** you install the hardware, as explained on page 3 of this guide.

To install the GrafixStar 750 software for Windows 3.1 or 3.11:

1. Insert the VideoLogic Software Library CD-ROM into your CD-ROM drive.
2. Start Windows, click the File menu in Program Manager, and click Run.
3. Browse to the file winsetup.exe in your Windows directory, and click OK.
4. In Windows Setup, click Options, then click Change System Settings.
5. In the Change System Settings dialog box, in the Display list, click Other Display.
6. Type **[drive]:\ags750\win31\disk1** where [drive] is your CD-ROM drive, and click OK.
7. A list of S3 drivers is displayed, showing the driver's description, then the version number, then the resolution, color depth, and font size - SF for Small Fonts, or LF for Large Fonts.

The font size you choose depends on your combination of resolution and monitor size. For example, to be legible, a high resolution on a small monitor may require large fonts.

Click the driver with the required resolution, color depth and font size, and click OK.
8. At the Change System Settings dialog box, click OK. When asked whether you want to restart Windows, click Restart Windows.

Changing the screen display in Windows 3.1 or 3.11

To change the resolution or color depth of your display:

1. Follow steps 1 to 7 of Installing the Windows 3.1 software to select the required driver.
2. When asked if you want to replace the current driver or install a new one, click Current.
3. When asked whether you want to restart Windows, click Restart Windows.

Installing GrafixStar 750 for other operating systems

There are a number of drivers supplied on the disk for operating systems other than Windows, such as OS/2 and AutoDesk AutoCAD. To install them, follow the instructions in the file \readme.txt on the VideoLogic Software Library CD-ROM.

SmartTools for Windows 95

The SmartTools software is a set of applications that enables you to get the most out of the powerful capabilities of your graphics card, giving you more control over the appearance and behavior of your Windows desktop.

The instructions in this chapter give you an overview of how SmartTools work. For more detailed instructions, refer to the online help supplied with SmartTools.

There are three Smart applications: SmartTools, SmartDisplay and SmartDesktop.

SmartTools

SmartTools enables you to create toolbars for quicker access to your applications and documents.

With SmartTools you can:

- Use toolbars for the other Smart applications, and customize these toolbars to suit your needs.
- Create toolbars for other applications, adding buttons for the programs, documents and files that you use most often.
- Assign hotkeys for the commands that you use most often.

SmartDisplay

SmartDisplay makes it easier and quicker for you to set up the properties for your monitor.

With SmartDisplay you can:

- Find the ideal display settings for the kind of work you are doing, helped by the SmartDisplay Wizard, which guides you through a step-by-step procedure.
- Select the display size, color palette, refresh rate, desktop size, connectivity and monitor alignment for your display, using a SmartDisplay set-up procedure for advanced users.

SmartDesktop

SmartDesktop controls the size and behavior of your desktop.

With SmartDesktop you can:

- Set a virtual desktop that is larger than the display size.
- Control the way you move around the desktop and reach an off-screen virtual desktop portion.
- Change the display size at the touch of a button, enabling you to zoom in and zoom out while you are working.

Using SmartTools

With SmartTools, you can customize the toolbars for the other Smart applications and create toolbars of your own.

Starting SmartTools

To start SmartTools, click the Start button, point to Programs, then VideoLogic SmartTools, then SmartTools, or click the SmartTools shortcut icon on the Windows 95 desktop.

The SmartTools window contains three pages, Toolbar Properties, Customize Toolbars and Customize Hotkeys.

Toolbar properties

With Toolbar Properties selected, you can:

- Open and close existing toolbars by checking and unchecking them.
- Set the properties (Name, On Top, Tool Tips, Status Bar and Lock) for each toolbar.

Customize Toolbars

With Customize Toolbars selected, you can:

- Create new toolbars and add them to the list of toolbars on the Toolbar Properties page by dragging applications from the Applications list onto the desktop, or by dragging one of the buttons in the commands list onto the desktop.
- Add buttons to toolbars by dragging them from the Commands list onto the toolbar, move buttons by holding down the SHIFT key and dragging them along the toolbar, or remove buttons by holding down the SHIFT key and dragging them off the toolbar.
- Add buttons for other applications to the Other Apps list and set properties for these buttons.

Assigning hotkeys

With Customize Hotkeys selected, you can assign hotkey combinations to the commands that you use most often, using combinations of SHIFT, CTRL and ALT, plus the other keys on the keyboard.

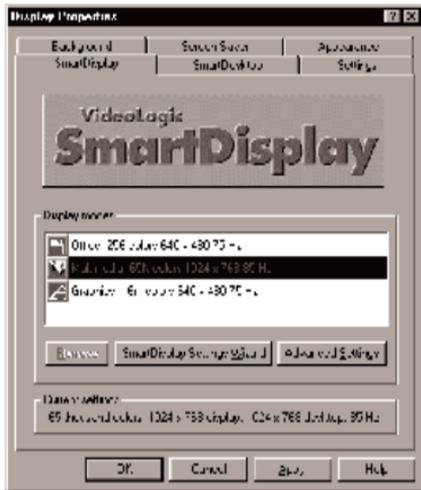
Using SmartDisplay

SmartDisplay is an application that enables you to select, customize and create display modes for your monitor. If you have never set a display mode before, or if you need help in choosing your settings, you should use the SmartDisplay Settings Wizard. If you are familiar with setting display modes, you should use the Advanced Settings button.

Starting SmartDisplay

1. Select the Display Properties Control Panel either by clicking the Start button and pointing to Settings, then clicking Control Panel, then double-clicking Display.

- Click the SmartDisplay tab. The following window appears:



Setting display modes using the Wizard

The Wizard takes you through a step-by-step procedure for setting up a display mode.

To use the Wizard:

- Click the SmartDisplay page on the Display Properties window.
- Click the display mode you want to modify from the Display Modes list.
- Click the SmartDisplay Settings Wizard button.
- Follow the instructions given by the Wizard.

Setting display modes using the Advanced Settings button

This procedure enables you to choose the settings for your display mode. You should only use it if you are familiar with setting display modes.

To set a display mode:

1. Click the SmartDisplay page on the Display Properties window.
2. Click the display mode you want to modify from the Display Modes list.
3. Click the Advanced Settings button.

This takes you to the SmartDisplay Advanced Settings window. This window has five pages:

- Display for setting the display size
- Desktop for setting the desktop size
- Connectivity for the type of connection to multimedia option cards
- Screen for centering the display on your monitor
- Properties for creating and naming display modes

Using SmartDesktop

SmartDesktop is an application which controls the appearance and behavior of your desktop. You can use SmartDesktop to set a virtual desktop, where the desktop size is larger than the display size, and you can change the display size at the touch of a button, enabling you to zoom in and zoom out while you are working.

You can use the SmartDesktop Properties page to set properties that control the way SmartDesktop works.

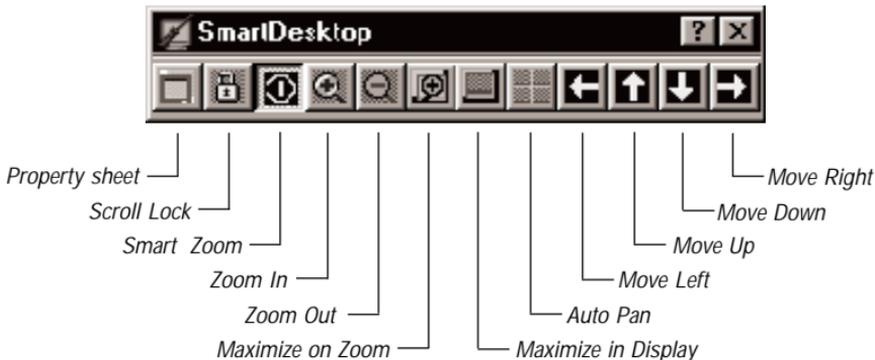
The SmartDesktop toolbar

Using SmartTools, you can create a toolbar for running SmartDesktop.

To create a SmartDesktop toolbar:

1. Start SmartTools.
2. Click the Customize Toolbars tab.
3. Click SmartDesktop in the applications list and drag it onto the desktop.

The SmartDesktop toolbar appears as follows:



Property Sheet accesses the SmartDesktop Display Properties page.

Scroll Lock disables scrolling functions. This is useful if you are using a virtual desktop and you want to work on a particular area of the desktop without accidentally moving to other areas.

When you have **Smart Zoom** selected, you can use all the virtual desktop functions. When you zoom in or zoom out with Smart Zoom selected, only the display size changes, the desktop size stays the same. You can also use the functions such as Scroll Lock, Auto Pan, Maximize on Zoom and Maximize on Display to control the way your desktop behaves. If Smart Zoom is not selected, you can only use Zoom In and Zoom Out.

Zoom In and **Zoom Out** are used to change the size of your display. You can click the Zoom In button until the display size reaches the smallest size available (640x480). You can click the Zoom Out button until the display size reaches the largest size, which is set in SmartDisplay.

You can also use the Zoom Display Fully In and Zoom Display Fully Out functions to zoom directly to the smallest and largest display sizes for your monitor. These functions are available as hot keys and menu items.

When **Maximize on Zoom** is selected, all maximized windows fit the new display size when you zoom in or zoom out.

When **Maximize in Display** is selected, maximized windows fit the display size. When this is not selected, maximized windows fit the desktop size.

If you have **Auto Pan** enabled, and you switch to a window which is currently off-screen (using ALT+TAB, or using the taskbar), the screen scrolls automatically to the window that you selected.

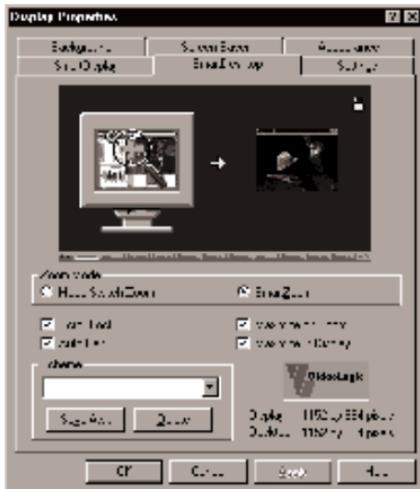
The **Move Up**, **Move Down**, **Move Left** and **Move Right** buttons on the toolbar move to the parts of the desktop which are currently off-screen (when the desktop size is larger than the display size). You can also move to these areas using the mouse.

The SmartDesktop Display Properties page

The SmartDesktop Display Properties page provides you with an alternative way of setting SmartDesktop's characteristics.

To open the Display Properties page, click the Display Properties Control Panel and click the SmartDesktop tab.

The following page appears:



By setting Schemes, you can save different combinations of SmartDesktop settings.

Display modes for Windows NT 4.0 and 95

GrafixStar 750 uses the General Timing Formula (GTF), so if your monitor is GTF-compatible, your screen is centered and correctly sized for any display mode. Display modes shown in bold are 3D-accelerated when you upgrade to 4 MB DRAM.

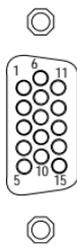
Resolution	Colors	2D/3D Refresh (Hz)	Accelerated 3D Refresh (Hz)
1800 x 1440	256	50,60	-
1600 x 1200	65,536	48,60,65,75,80	-
	256	48,60,65,75,80	-
1280 x 1024	16.7 mil	43,60,70,75,80	-
	65,536	43,60,70,75,85,90,100	-
	256	43,60,70,75,85,90,100	-
1280 x 960	16.7 mil	60,70,75,85	-
	65,536	60,70,75,85,90,100	-
	256	60,70,75,85,90,100	-
1152 x 864	16.7 mil	60,70,75,85,90	-
	65,536	60,70,75,85,90,100,120	-
	256	60,70,75,85,90,100,120	-
1024 x 768	16.7 mil	43,60,70,75,85,90,100,120	43,60,70,75,85,90,100
	65,536	43,60,70,75,85,90,100,120,135	43,60,70,75,85,90,100,120
	256	43,60,70,75,85,90,100,120,135	43,60,70,75,85,90,100,120
800 x 600	16.7 mil	56,60,72,75,85,90,100,120,150	56,60,72,75,85,90,100,120,150
	65,536	56,60,72,75,85,90,100,120,150	56,60,72,75,85,90,100,120,150
	256	56,60,72,75,85,90,100,120,150	56,60,72,75,85,90,100,120,150
640 x 480	16.7 mil	60,72,75,85,90,100,120,150	60,72,75,85,90,100,120,150
	65,536	60,72,75,85,90,100,120,150	60,72,75,85,90,100,120,150
	256	60,72,75,85,90,100,120,150	60,72,75,85,90,100,120,150

In Windows NT, you can also set 16-bit modes as 15-bits (32,768 colors).

Technical details

Monitor connector

GrafixStar 750 uses a standard 15-way high density 'D' socket. If your monitor uses a different connector your monitor dealer will be able to supply an adapter. The pin-outs are as follows:



PIN	SIGNAL	PIN	SIGNAL	PIN	SIGNAL
1	Red video	6	Red return	11	Unused
2	Green video	7	Green return	12	DDC2B-Data
3	Blue video	8	Blue return	13	Horizontal
4	Reserved	9	+5 V	14	Vertical
5	Ground	10	Sync return	15	DDC2B-Clock

Power and temperature specifications

GrafixStar 750 operates at a power rating of +5 volts (6.5 watts nominal), at temperatures between 10°C (50°F) and 50°C (122°F).

Memory upgrades

The 4 MB DRAM upgrade gives you increased texture memory, enhanced 3D rendering and faster frame rates, resulting in a high-end 2D system with advanced 3D design and gameplay capability. Order your upgrade through your GrafixStar 750 supplier. Instructions on installing the extra memory are included with the upgrade package.

Removing hardware and software

Removing GrafixStar 750

If you want to remove the card and software from your system, refer to the appropriate readme file on the VideoLogic Software Library CD-ROM for instructions:

- Windows NT - \gs750\winnt\disk1\gx750ant.doc
- Windows 95 - \gs750\win95\disk1\gx750a95.doc
- Other operating systems - \readme.txt

Removing SmartTools from Windows 95

Note: Save any open documents before removing SmartTools, as you must restart Windows.

To remove SmartTools:

1. Click the Start button, and point to Settings.
2. Click Control Panel.
3. Click Add/Remove Programs.
4. From the list of programs displayed, click VideoLogic SmartTools, and click Add/Remove.
5. Follow the instructions that appear on the screen.

Troubleshooting

This chapter provides solutions to problems that may happen when using GrafixStar 750. For more information, refer to the appropriate readme file on the VideoLogic Software Library CD:

- Windows NT - \gs750\winnt\disk1\gx750ant.doc
- Windows 95 - \gs750\win95\disk1\gx750a95.doc
- Other operating systems - \readme.txt

Troubleshooting for Windows NT

Problem: After installing GrafixStar 750, my computer does not start.

Solution: Your old graphics controller or graphics card is still active. Remove the old card or disable your graphics controller, referring to the documentation supplied with your computer for instructions on how to do this.

Your GrafixStar 750 card is not seated properly in your computer. Check that the connectors at the bottom of the card are fitted properly into the PCI slot. You may need to move the card into another slot.

Problem: My screen is blank (black), flickering, or corrupted.

Solution: You have selected a refresh rate that your monitor cannot support.

Restart your computer, and at the start-up menu, select Windows NT Workstation Version 4.00 (VGA mode). This starts your computer in the lowest available mode, i.e. 640 x 480 with a refresh rate of 60Hz. When Windows NT is loaded, go into Display Properties by clicking the Start button, pointing to Settings, clicking Control Panel and double-clicking the Display icon, and change to the required display mode, choosing a lower refresh rate than before.

Troubleshooting for Windows 95

Problem: After installing GrafixStar 750, my computer does not start.

Solution: Your old graphics controller or graphics card is still active. Remove the old card or disable your graphics controller, referring to the documentation supplied with your computer for instructions on how to do this.

Your GrafixStar 750 card is not seated properly in your computer. Check that the connectors at the bottom of the card are fitted properly into the PCI slot. You may need to move the card into another slot.

Problem: My screen is blank (black) when Windows 95 has loaded.

Solution: The Hardware Acceleration bar in the Graphics section of the System Properties Performance page has been set to None, and must be changed to Full.

Restart your computer in Safe Mode, then display your 'My Computer' group, point at the monitor icon at the top left corner of the group and click the right-hand mouse button to display the context-sensitive menu. Click Properties, then Performance, then Graphics, and then set the bar to Full.

Problem: My screen is blank (black), flickering, or corrupted.

Solution: You have the wrong monitor type selected in Display Properties, and it cannot support the selected refresh rate. To select the correct monitor type, shut down Windows 95, choosing Restart the computer. (If you can't see the screen, use ALT+F4, DOWN ARROW, ENTER.) When the 'Starting Windows 95' message appears, hold down the CTRL key until Windows 95 has started. When Windows 95 has started, choose a different monitor in Display Properties.

Technical support

If you have any problems while installing or using GrafixStar 750, go through the steps below.

1. Check the troubleshooting information in the readme files on the Software Library CD.
2. Contact us online using one of the following services:
 - Internet web site: <http://www.videologic.com>
 - Internet FTP site: <ftp://ftp.videologic.com>
 - e-mail ((USA, Canada & South America): support_usa@videologic.com
 - e-mail (Germany): support_gmbh@videologic.com
 - e-mail (UK & all other countries): support@videologic.com
 - bulletin board (USA, Canada & South America): +1 415 875 7748 (to 28.8, 8-N-1)
 - bulletin board (Germany): +49 (0) 61 03 37 12 57 (to 28.8, 8-N-1)
 - bulletin board (UK & all other countries): +44 (0) 1923 271301 (to 28.8, 8-N-1)
3. Contact your original supplier for technical help.
4. Call our customer support group. Try to have relevant details to hand, such as how much memory the card has, the PC make and model, the display mode used, other cards installed, and how to recreate the problem, as this will make it easier for us to help you.

USA, Canada & South America: 415 875 0606

Germany: +49 (0) 61 03 93 47 14

UK & all other countries: +44 (0) 1923 271300

The VideoLogic FaxBack service

The FaxBack service provides a listing of VideoLogic products, with summary descriptions and reviews. When you use this service you will be asked to provide your fax number. If calling from outside the USA, Canada and South America your number is 011, your country code, then your fax number. Use the # key when prompted to press the pound sign key.

USA, Canada & South America: 800 203 8587

Outside USA, Canada & South America: +1 800 203 8587

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