

# **Hawk 3D DX/GX**

## **User's Guide**

*Rev. 1.0 - 2/97*

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DX/GX

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- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
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## **System Requirements**

To run the Hawk 3D DX/GX you need the following equipment:

1. An IBM or fully compatible 486 PC or above which complies with the PCI local bus specification and which has a spare PCI bus slot.
2. A high-resolution analogue RGB monitor (multi-sync recommended).
3. MS-DOS 5 or later, or equivalent.

You may find it helpful to have to hand the user's guide of the operating system used and any other documentation supplied with your PC and computer monitor.

## Chapter 1: Introduction

Congratulations on choosing Hawk 3D DX/GX, California Graphics' new video card designed to offer the ultimate in performance and reliability. Our products ensure the highest level of quality and sophistication, and we make sure we provide you with the compatibility, stability and support necessary to ensure that your system will work at its best in a wide variety of applications and environments.

This guide is written for distributors, PC technicians and PC users familiar with digital circuits, microcomputers, and system programming. It provides informations on how to install and use your Hawk 3D DX/GX card and software.

### Product Overview

Equipped with the new S3 Virge DX™/GX™ graphics/video accelerators, the Hawk 3D DX/GX provides high-performance graphic and high-quality video acceleration. It incorporates an enhances 64-bit graphics accelerator core and a high-performance 170 MHz true-colour RAMDAC.

All display applications that require high-quality video playback (from a CD-ROM or hard drive), or live video input capability, can take advantage of this card's new features. The HAWK 3D DX/GX accelerates and enhances MPEG-1/Indeo/Cinepak video playback softwares by providing arbitrary scaling with high quality bilinear (X and Y) interpolation and colour space conversion (RGB to YUV). Since these tasks

are performed in hardware, the CPU is relieved of a substantial overhead which produces a considerable performance improvement.

The Hawk 3D DX/GX is fully Microsoft Direct 3D compatible and offers a full-featured set of 3D functions and effects such as the bi-linear and tri-linear texture filtering, depth cueing and fogging, alpha blending, video texture mapping, Z-buffering, MIP-Mapping, flat shading, Gouraud shading, perspective correction.

The Hawk 3D comes in the following two versions :

**Hawk 3D /DX** : this card uses EDO (Extended Data Output) RAM, a type of DRAM that is faster than conventional DRAM. which only allows to read one byte at a time. EDO DRAM, in fact, can copy an entire block of memory to its internal cache. While the processor is accessing this cache, the memory can collect a new block to send.

**Hawk 3D /GX** : this version uses SGRAM (Synchronous Graphics RAM) which offers the high performance of Synchronous Memory combined with wide data path and other enhancements that make the product ideal for graphics applications. This type of memory is designed to provide high speed, wide I/O requirements for graphics applications such as games, multimedia and frame buffers for 2D and 3D applications.

## Technical features:

- S3 Virge/DX™/GX™ 64-bit high-performance graphics/video accelerators.
- 2MB(exp. to 4MB) EDO DRAM (Hawk 3D/DX) - 2MB (exp. to 4MB) SGRAM (Hawk 3D/GX).
- Integrated 170 MHz 24-bit RAMDAC.
- PCI 2.1 Local Bus.
- High-quality video playback with horizontal and vertical interpolation.
- Support for Indeo™, Cinepak™ and software-accelerated MPEG-1 video playback.
- Improved 3D Graphics Engine  
*Flat and Gouraud shading. Perspective correction. Bi-linear and tri-linear texture filtering. MIP-Mapping. Depth cueing and fogging. Alpha blending. Video texture mapping. Z-buffering.*
- Fully Microsoft Direct 3D compatible.
- VESA DPMS, DDC 1, DDC 2B support for Plug-and-Play operation.
- VESA Standard Feature Connector.
- Drivers for Windows 95, Windows NT 4.0, AutoCAD 10/11/12/13 (including 3D Studio and AutoShade), DOS utilities.
- Drivers available on CGP WEB site ([www.calgraph.com](http://www.calgraph.com)): Windows 3.11, Windows NT 3.51, OS/2.
- CGP Reality 95 for Windows 95.

Resolution	2MB	4MB	Refresh Rates
640x480x8	<input type="checkbox"/>	<input type="checkbox"/>	60,70,72,75,85
640x480x16	<input type="checkbox"/>	<input type="checkbox"/>	60,72,75,85
640x480x32	<input type="checkbox"/>	<input type="checkbox"/>	60,72,75,85
800x600x8	<input type="checkbox"/>	<input type="checkbox"/>	56,60,72,75,85
800x600x16	<input type="checkbox"/>	<input type="checkbox"/>	56,60,72,75,85
800x600x32	<input type="checkbox"/>	<input type="checkbox"/>	56,60,72,75,85
1024x768x8	<input type="checkbox"/>	<input type="checkbox"/>	43i,60,70,75,85
1024x768x16	<input type="checkbox"/>	<input type="checkbox"/>	43i,60,70,75,85
1024x768x32	<input type="checkbox"/>	<input type="checkbox"/>	43i,60,70,75,85
1280x1024x8	<input type="checkbox"/>	<input type="checkbox"/>	43i,60,75,85
1280x1024x16	<input type="checkbox"/>	<input type="checkbox"/>	43i
1600x1200x8	<input type="checkbox"/>	<input type="checkbox"/>	48i,60

*Modes shown are BIOS supported and might not be available with all operative systems.*

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### **Contents of the disks**

- Disk 1: Windows 95, CGP Reality 95 for Windows 95.
- Disk 2: Windows NT 4.0, AutoCAD 10/11/12/13, DOS utilities.

## Handling the Hawk 3D DX/GX

Static-sensitive electricity discharge can damage electronic components. To prevent any damage to your card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from static discharge.

Precautions :

- Keep the board in its anti-static bag until you are ready to install it.
- Touch a grounded metal object before you remove the board from the anti-static bag.
- Handle the board by its edges only; do not touch the printed circuit board.
- Do not place the card on top of your computer or 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 fragile electronic components mounted on the circuit board.

*Note : The card is shipped in anti-static packaging to avoid static damage. When unpacking the card, be sure the person handling the board is static-protected.*

## Chapter 2 : Quick Hardware Installation

If you are familiar with installing cards in your computer, follow the quick User's Manual below for instructions on how to install the Hawk 3D DX/GX in your PC.

If you have never installed a card in your computer before, or if you are in any way not sure of how to do this, refer to the instructions of the next pages.

1. Check that your monitor and system work fine.
2. Switch off your computer and other cards in the system.
3. Remove the system unit cover.
4. Put the VGA card in a spare PCI bus expansion slot and connect it to your monitor.
5. Ensure that all cables are properly connected, and that all the plugs are firmly seated in their sockets.
6. Replace the system unit cover and switch your computer back on.

## Chapter 3 : Hardware Installation

This guide is thought for those who are familiar with the installation of PC peripherals and software applications, and as a reference for experienced users. If you are new to installing PC peripherals and software applications, follow the step-by-step instructions and figures in this manual to guide you through the installation procedure.

If you are already experienced in hardware and software installation, you may only use this guide when you need a detailed explanation about specific steps in the installation procedure. If you still have questions after using this manual, you may need to seek assistance from California Graphics or consult your dealer or computer operations guide.

### Before you begin

1. Before you start the installation procedure, please make sure that your computer meets the computer requirements previously specified. If you are not sure whether your computer meets the minimum requirements, contact your dealer before unpacking the HAWK 3D DX/GX package.
2. Once you are sure your system meets the necessary requirements, prepare a clean workspace, and gather the tools you will need. For the installation of the kit components, you will need a screwdriver, and a container to hold the loose screws.
3. Carefully unpack the box contents. Leave the video board in its static-resistant packaging until later in the installation procedure. This protective packaging has been specially designed to protect the card from potential damages caused by static electricity.

## Installation procedure

1. Switch off your computer and any hardware devices such as printers connected to your computer.
2. While the cables are still connected to your computer, you may want to label them in order to reconnect them properly once the installation process is finished.
3. Disconnect your monitor cable from your computer. Some cables may be attached to their connectors by small screws. Make sure to unscrew any secured cables before attempting to disconnect the cable from the back of the computer.
4. Remove the computer's cover. You may need to refer to the documentation supplied with your computer for instructions on how to do this. Keep the screws as you will need them later to secure the card.
5. If this is the first time you have opened up your computer, take a moment to familiarise yourself with the layout of the inside of the computer.
6. Remove any existing graphics adapters that may be in the system 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.
7. Locate an empty PCI expansion slot where you wish to install your video card.
8. With your finger follow the expansion slot to the end closest to the outside of the computer. You will find there is a metal or plastic cover on the expansion slot where the edge of the card will eventually be attached. The slot cover will be attached by at least one screw. Unscrew the expansion slot cover and place the screws and slot cover in a container so as not to lose them.

9. 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.
10. Align the Hawk 3D DX/GX with the slot you have chosen. Firmly press the card into the slot. You will need to use some pressure to push the card into position, but do not use excessive force. The PCI connectors should be on the bottom edge of the card that will be inserted into the PC expansion slot.
11. Once in the slot, secure the video card using the screws removed previously.
12. Replace the cover of your computer.
13. Connect your monitor cable to the Hawk 3D DX/GX card. All cables connected to Hawk 3D DX/GX should be properly shielded and comply with radio frequency interface standards.
14. Switch on your computer and your monitor.

## Chapter 4 : Software Installation

### Windows 95 (Ver. 4.00.950) Video Drivers Installation

This procedure applies when installing Windows 95 for the first time.

During the installation procedure, a hardware detection process will detect an "S3". There is no cause for alarm - your computer will reboot in standard VGA mode (640x480 with 16 colours) which is supported by the Hawk 3D DX/GX.

The easiest way to install the software for Windows 95 is using the "Display Properties" windows:

1. Insert Disk 1 into your computer.
2. Click on "Start", point to "Settings", and then click "Control Panel".
3. Double click on the "Display" icon to open the "Display Properties" window.

*Note : You can go directly to the "Display Properties" window by clicking on the Windows 95 background with the right mouse button and choosing "Properties" from the menu.*

4. Click on "Settings".
5. The "Display" window will appear warning that the display adapter is not configured properly. Click on "Cancel".
6. Select the "Change Display Type" button.

7. Make sure that the "Monitor Type" line contains the name of your monitor. If not, click the "Change" button and select the name of the monitor from the list.
8. Click on the "Change" button in the "Adapter Type" window.
9. Insert the diskette containing the Windows 95 driver and select "Have Disk" from the "Select Device" menu.
10. Specify the directory typing A:\win95 and press Enter.
11. Select "Hawk 3D DX/GX" from the list and choose OK.
12. When the Hawk 3D DX/GX files have been copied to your PC, the "Change Display Type" window is displayed again. Choose "Close".
13. The "Display Properties" window will be displayed again. Choose "Close".
14. A message will appear telling you that you will have to restart Windows 95 for the new display type to take effect. Choose "Yes".
15. Windows 95 restarts with the new Hawk 3D DX/GX Windows 95 drivers. You are now ready to install the CGP Reality 95 for Windows 95 utility.

### **Installing the Hawk 3D DX/GX (Windows 95 is already installed)**

The following procedure applies to those who are installing the Hawk 3D DX/GX on a computer with Windows 95 already configured for VGA (or other display adapter):

1. Shut down the system and install the Hawk 3D DX/GX (remove any other VGA card or disable any on-board VGA if you plan to use a single display screen).
2. Start Windows 95. The system will detect that a "PCI VGA-Compatible Display Adapter" was added.

3. A window will be displayed indicating the detection of the disk drivers provided by the hardware manufacturer.
4. Insert Disk 1 into the floppy drive and click "OK".
5. Type A:\win95 and select "OK".
6. The drivers will be copied.
7. A message appears telling you that you will have to restart Windows 95 for the new display type to take effect. Choose "Yes".
8. Windows 95 restarts with the new Hawk 3D DX/GX Windows 95 drivers. You are now ready to install the CGP Reality 95 for Windows 95 utility.

If after the installation of your Hawk 3D DX/GX a conflict with a PCI-VGA compatible display adapter occurs, follow the procedure described below :

1. Click on "Start", point to "Settings" and then click "Control Panel".
2. Choose "System" and open "Device Manager".
3. Click "Display Adapters" and then select "Virtual V2/DX/GX".
4. Click "Remove", then choose "OK".
5. When prompted if you want to restart your computer, choose "No".
6. Choose "Other Devices" and then choose "PCI-VGA compatible Display Adapter".
7. Click on "Remove", then choose "OK".
8. The dialogue box "PCI-VGA compatible display adapter has a ROM" will be displayed. Click "Test".
9. Restart the system.
10. Windows 95 will restart. It will detect a PCI-VGA compatible adapter and the Hawk 3D DX/GX. When prompted if you want to restart your computer, click "Yes".

11. The installation is now complete and you are ready to install the CGP Reality 95 utility.

## **Windows NT 4.0 Video Drivers Installation**

(Driver Version 1.03.08)

1. If you are installing Windows NT 4.0 for the first time, the system will detect the Hawk 3D DX/GX as an S3 compatible display adapter.

Note : It is not possible to change the video drivers during the installation procedure.

2. If Windows NT 4.0 is already installed, boot your system and enter Windows NT (VGA mode) from the Boot Manager. When the system boots up, the following message will appear : "The currently selected display resolution is invalid". Click "OK" to enter the "Display Properties" screen.

3. In the "Settings" screen, click on the "Display Type..." button.

4. From the "Display Type" screen, and in the "Adapter Type" section, click on the "Change..." button.

5. In the "Change Display" screen, click on the "Have Disk..." button.

6. Insert the Disk 2 into the floppy drive (we suppose A is the drive used), then type A :\NT40 and click on the "OK" button.

7. From the list of displayed S3 devices, select "S3 Incorporated Trio32/Trio64/TrioV+/Trio64V2" and click "OK".

8. From "Third-party Drivers", click on the "Yes" button to proceed.

9. If a message appears stating the driver is already installed on the system, and asks if you want to use the current or new drivers, be sure to select the "New" button.

10. If prompted for the driver diskette a second time, click on

the "Continue" button.

11. When the message "The drivers were successfully installed" is displayed, remove the display driver diskette, then click on the "OK" button.
12. Back at the "Display Type" window, click on the "Close" button.
13. Back at the "Display Properties" window, click on the "Close" button.
14. When you see the "System Settings Change" window, asking if you wish to restart your computer, click on the "Yes" window to reboot now.
15. When Windows NT starts (not in VGA mode), the system will inform you that a new graphics driver has been installed. When prompted, click "OK" to enter the Display Property Screen" and follow the usual procedures to select the desired video mode. (Refer to Microsoft NT User's Guide).

**Note:** If installing Windows NT 4.0 with the S3 device currently installed in the system:

Proceed through the Windows NT installation as normal. The installation program will prompt the user to choose a display mode. Choose the "Cancel" button from the "Display Settings" screen to ignore this step for now. The installation will now finish. Once Windows NT has started for the first time, proceed to follow the steps outlined above to install the driver for your Hawk 3D DX/GX device.

## AutoCAD Video Drivers Quick Installation

The Hawk 3D DX/GX includes the drivers for AutoCAD (ver. 10-11 and 12-13). To install the drivers for AutoCAD follow the instructions given below:

1. Launch the DOS prompt (C:\).
2. Insert the Disk 1 into the drive.
3. Type A: and press Enter.
4. Type CD AUTOCAD and press Enter.
5. Type Install and press Enter.
6. Press any key to continue the installation.
7. A screen will be displayed. Press any key to continue.
8. Select the correct drive (in this manual we assume you are using C:).
9. Select the AutoCAD version you are currently installing.
10. You will be asked to enter the sub-directory where you want to install the drivers.
11. If necessary, change the name of the sub-directory.

**Note:** *If you create a sub-directory which does not exist, the program will ask you if you want to create it automatically. Click on "Yes continue". If the sub-directory exists, the program will ask you if you want to confirm it.*

10. The installation program will show you the path where AutoCAD will be installed. Press Enter to confirm and any key to continue.  
The installation will be finished in few seconds.

If you installed the drivers for **AutoCAD Ver. 10** or **11**, before running them you will have to run the FASTACAD.BAT file in the

directory where you installed the drivers. Once executed the file, launch AutoCAD and choose "ADI P386 v.4.0/4.1 display"

from the video driver list. Then, follow the instructions on the screen.

If you installed **AutoCAD Ver. 12** or **13** drivers you will have to configure AutoCAD again before running them. To do so, launch AutoCAD by typing "ACAD - r" and change the video device currently used. Select "TurboDLD - Classic" from the available video driver list and follow the instructions on the screen.

**Important:** Refer to the *READ.ME* file in AutoCAD directory to know how to install 3D Studio drivers.

## Software Utilities (DOS)

The DOS directory of the Hawk 3D DX/GX Disk 2 includes the following utilities:

**S3REFRSH.EXE** - This program configures the display adapter for the highest vertical refresh rates supported by the monitor. Higher refresh rates are less likely to cause eye fatigue due to screen flicker. The configuration settings the user selects can optionally be written to the AUTOEXEC.BAT file so that the display adapter will "remember" the selection each time the user starts the system.

**SMODE.EXE** - It can be run whenever the user needs to configure the card for a specific video mode.

To install these utilities :

1. Insert the Disk 2 into the drive.
2. At the DOS prompt, enter the root directory.
3. Type :

copy a :\ .\*

3. Press "Enter".

The programs will be copied in the main directory (root).

### ***Using S3REFRSH.EXE***

This program can be run with or without the mouse. With the mouse not installed, entering the program the resolutions and refresh rates supported will be displayed. A command line will be automatically added to the AUTOEXEC.BAT file. If the mouse is enabled, a graphics interface will be displayed and it will be possible to select a video mode using the mouse. A window will appear asking if the user wants to save the changes into the AUTOEXEC.BAT file.

### ***Using SMODE.EXE***

To set the desired video mode, look at Appendix A. In the table, refer to the "Video Mode" column and type : SMODE n (where "n" is the selected video mode). Then, press "Enter".

## Chapter 5 : CGP Reality 95

The Hawk 3D DX/GX software includes “CGP Reality 95” which helps you to control your display in Windows 95. This chapter contains the most recent informations regarding CGP Reality 95 and will guide you through the installation and use of the software.

### System's Requirements

Before you install CGP Reality95 , please confirm that your system is equipped with the following software and hardware:

- Microsoft Windows 95.
- An 80486 microprocessor (CPU).
- Approximately one megabyte of hard disk space.
- A supported multi-resolution display adapter and an appropriate multiple-frequency monitor. The resolutions and colour depths you will be able to obtain will depend on your display adapter and monitor.

### Installation

First, check CGP Reality 95 requirements in the preceding section to ensure that your system has the appropriate resources to run CGP Reality 95. Next, start Windows 95 as you normally would and proceed as follows:

- (i) Place the CGP Reality 95 diskette in the diskette drive A).

(ii) Open the "CGPReal" folder and double-click the INSTALL file

or

Click on the "Start" menu and click on "Run". Type a:\CGPReal\install, then press "Enter".

(iii) The installation program will display the version of CGP Reality 95 that it will install, and the directory in which it will install it. The "Automatic Execution" box, when ticked, enables to run the program automatically when Windows is run. The default is C:\CGPReal, but you may specify a different drive and/or directory using the "Browse" function. To accept the default directory click OK.

(iv) The CGP Reality 95 files will be copied to the directory that you specified. CGP Reality 95 is self-contained in its directory.

The installation is now complete.

To run the program, click on the "Start" menu, followed by the "Programs" menu. From there, the "CGP Real" icon will be in the "CGP Reality" menu.

### **To uninstall**

To uninstall CGP Reality 95, click on the "Start" menu, and then on the "Programs" menu and on "CGP Deins" on the CGP Reality menu. When the uninstallation is confirmed it will be

necessary to restart the system; if that is the case all the informations not saved will be lost.

## **How to use Reality 95**

The "CGP Reality Utilities" dialogue box allows you to access and customise all the CGP Reality 95 features. You can bring up the dialogue by selecting "CGP Reality Utilities" and clicking the first button on the toolbar.

## The "Display" page



The "Display" page allows you to change resolution and colour depth "on the fly".

To change a resolution and/or colour depth using the "Display" page, simply change the sliders under "Configuration" and click on "OK" or "Apply". Choosing either button has the same effect; however, "OK" will also close the CGP Reality Utilities dialogue.

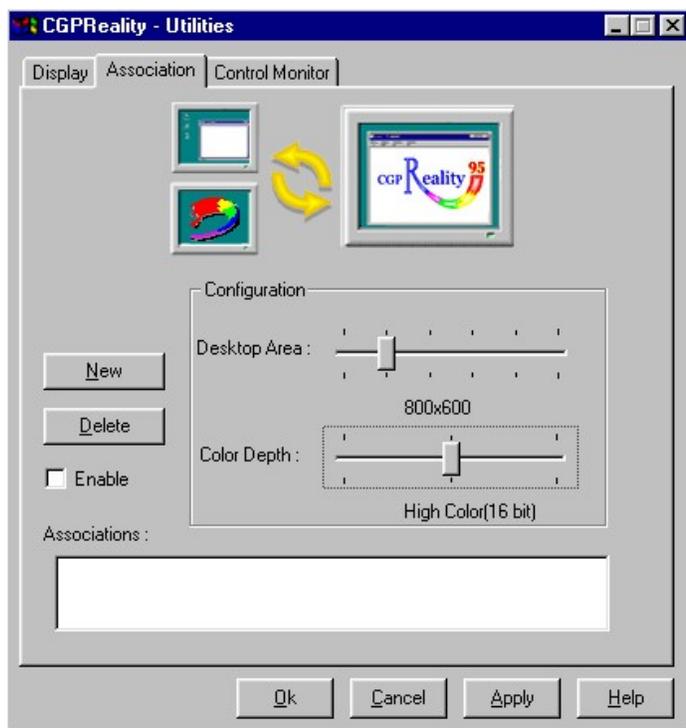
The "Control Panel" button in *Use Windows Method* allows the

user to modify the resolution and colour depth using the appropriate option in Windows '95.

In this case, it is necessary to restart the system.

The CGP Reality 95 provides an hot key to use in the event that an erroneous configuration has been selected. Clicking simultaneously the [CTRL]+[ALT]+[F4] buttons the system will be set back on the resolution 640x480, colour depth 256, with a 60 Hz refresh rate. It is possible to customise the hot-key choosing a different button from F4 among those listed. The F1 keyboard command will give access to the help on-line.

### The "Association" Page



The Association page allows you to link a particular application with a specific resolution and colour depth. To create an association proceed in this way:

1. Use the sliders to select the preferred resolution and/or colour depth.
2. Click on the New button. Use this box to select the application with which you want to compose an association. You can type a files name or select one from

DX/GX

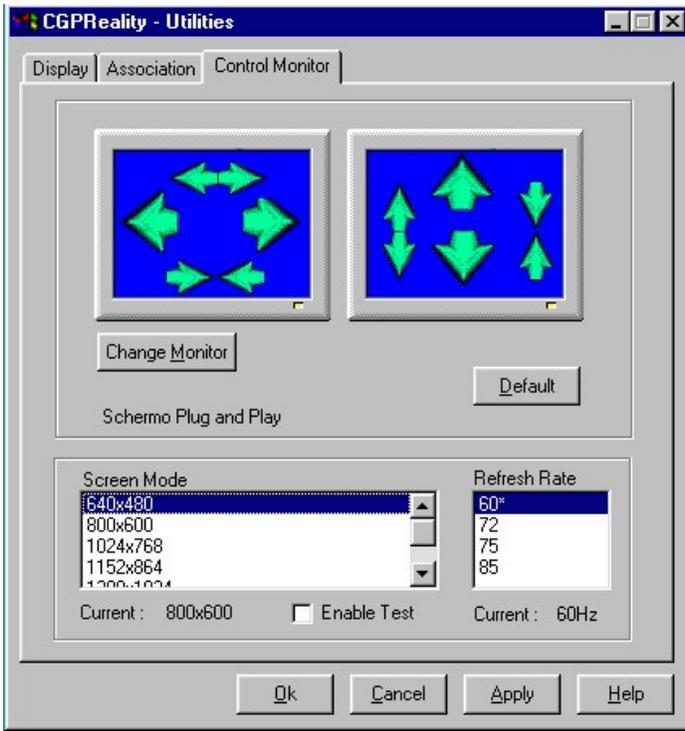
3. the list box. You can change the drive and directory if necessary using the drive and directory selection boxes.
4. Once you have selected the application, click on OK to return to the main Association dialogue box.

It is possible to create several associations repeating the described procedure. The associations will be listed in the Associations window.

To use the associations you have created, simply select the Enable item. *CGP Reality 95* automatically sets the appropriate screen resolution and colour depth whenever you carry out or switch to the associated application.

You can't change the settings related to a particular association. Therefore, if you want to modify the resolution with which you run a program it is necessary to delete the association and then to recreate it with the desired parameters.

## The "Monitor" Page



The Control Monitor page allows you to centre and size the visible region of the screen and to set the refresh rate for each resolution that your monitor supports.

The refresh rate value refers to the number of times per second that your display adapter refreshes the video image. The higher you set the refresh rate, the less your screen will flicker. However, depending on the capabilities of your display

adapter and monitor, some of the higher resolutions and refresh rates may not be supported. There may be no display, or the display may be squashed or not properly centred. You may be able to correct the images using the screen centring buttons.

To set a refresh rate value, select in the Screen Mode window the resolution you wish to correct and then select a refresh rate for that resolution. After selecting Apply or OK the resolution and the refresh rate will be modified *on the fly*. Selecting a resolution in the Screen Mode window will show the current refresh rate setting for that resolution marked with an asterisk.

When you choose resolution values and refresh rates not supported, and when you have not ticked the Enable Test check box before clicking on Apply or OK, you will need to use the hot-key which will reset the systems resolution, colour depth and refresh rate on the basic values; if the Enable Test check box is ticked the screen will darken for 15 seconds, and then will set on the selected values.

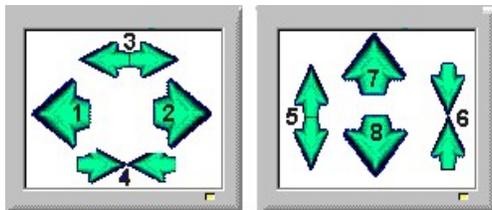
When the resolution and colour depth values chosen are supported, the Enable Test check box, if ticked, will simply allow the parameters selection.

Clicking on the arrows in the left hand monitor image adjusts the monitors horizontal size and position; the arrows in the right hand image adjust the vertical size and position.

The Default button allows you to restore the original settings of Windows 95.

The Control Monitor button allows you to modify the current

monitor setting using the standard Windows 95 method.



Key	Function
1	Moves the screen to the right
2	Moves the screen to the left
3	Enlarges the screen horizontally
4	Shrinks the screen horizontally
5	Enlarges the screen vertically
6	Shrinks the screen vertically
7	Moves the screen upwards
8	Moves the screen downwards

The “Default” button allows you to restore the original settings of Windows 95.

The “Control Monitor” button allows you to modify the current monitor setting using the standard Windows 95 method.

## CGP Reality Console



"CGP Reality Console" toolbar allows access to the various *CGP Reality '95* functions. Each text is associated with a brief tool-tip.

The first button brings up the "*CGP Reality '95 Properties*" dialogue, if it is not already displayed.

The second button is the "*Zoom*" button; it allows the user to magnify the selected screen portion in a resizable window. The slider position determines the zoom factor.

The third button is the "Help" button which calls up the documentation for the program.

The fourth and the fifth buttons are respectively the "*MS DOS Prompt*" and the "*Shut down*" buttons.

The following buttons allow to rapidly modify the appropriate resolution to the selected colour depth.

Since the colours available are set in the "Display" page, clicking on a corresponding little monitor not supported by the monitor will have no effect. The toolbar displays the current

values for the selected resolution, colour depth and refresh rate (set in the "Control Monitor" page).

## **Chapter 6: If you experience problems**

### **Contacting Technical Support**

If you experience some technical problems, we recommend that you follow one of the procedures given below:

1. Contact your dealer - this is usually the quickest and most effective method since your dealer may know the hardware where the video card is installed. In the case of a hardware warranty assistance, the product must be returned to the dealer who will return it to California Graphics.
2. Call California Graphics Technical Support at the number: +39/81/661459 (ITALY). Before doing so, make sure you have all the following informations in order to help our staff solve the problem:
  - ⇒ Name and Serial Number of the product
  - ⇒ BIOS and PCB version of the product
  - ⇒ Software driver version
  - ⇒ Motherboard maker, BIOS version and Chipset
  - ⇒ Speed and type of microprocessor
  - ⇒ Amount of memory installed
  - ⇒ Brand and model of monitor (in case the problem is video-related)
  - ⇒ Contents of AUTOEXEC.BAT and CONFIG.SYS files
  - ⇒ A list of installed hardware peripherals in your machine
  - ⇒ A detailed description of the problem

DX/GX

3. Send a fax to +39/81/662839 (ITALY) listing all the information specified at step 2.
4. Send an e-mail to [support@mail.calgraph.com](mailto:support@mail.calgraph.com) describing the problem.
5. Link to our WEB site at the address: [www.calgraph.com](http://www.calgraph.com)

### **Retuning the board**

If you must return the board, leave the configuration as it was when you were using it. Pack the product in its original box and bring it to your dealer who will return the board to California Graphics for you.

## APPENDIX A : VGA (Standard VGA Mode Table)

Video Mode	Colour	Alpha MODE	Format	Box Size	Screen Format	Buffer Start	Max. Page
0	16/256k	TEXT	40x25	8x8	320x200	B800	8
0*	16/256k	TEXT	40x25	8x14	320x350	B800	8
0+	16/256k	TEXT	40x25	9x16	360x400	B800	8
1	16/256k	TEXT	40x25	8x8	320x200	B800	8
1*	16/256k	TEXT	40x25	8x14	320x350	B800	8
1+	16/256k	TEXT	40x25	9x16	360x400	B800	8
2	16/256k	TEXT	80x25	8x8	640x200	B800	8
2*	16/256k	TEXT	80x25	8x14	640x350	B800	8
2+	16/256k	TEXT	80x25	9x16	720x400	B800	8
3	16/256k	TEXT	80x25	8x8	640x200	B800	8
3*	16/256k	TEXT	80x25	8x14	640x350	B800	8
3+	16/256k	TEXT	80x25	9x16	720x400	B800	8
4	4/256k	GRAPH	40x25	8x8	320x200	B800	1
5	4/256k	GRAPH	40x25	8x8	320x200	B800	1
6	2/256k	GRAPH	80x25	8x8	640x200	B800	1
7	Monoch	TEXT	80x25	9x14	720x350	B000	8
7+	Monoch	TEXT	80x25	9x16	720x400	B000	8
D	16/256k	GRAPH	40x25	8x8	320x200	A000	8
E	16/256k	GRAPH	80x25	8x8	640x200	A000	4
F	Monoch	GRAPH	80x25	8x14	640x350	A000	2

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10	16/256k	GRAP H	80x25	8x14	640x350	A000	2
11	2/256k	GRAP H	80x30	8x16	640x480	A000	1
12	16/256k	GRAP H	80x30	8x16	640x480	A000	1
13	256/256 k	GRAP H	40x25	8x8	320x200	A000	1

## Lifetime Warranty Terms

The California Graphics' products are warranted against manufacturing and components defects without any limit of time. California Graphics will fulfill the warranty conditions by repairing or replacing the defective product either with the same or with an equivalent or superior product whether the original is out of manufacture. All the replacements and the defective products will become CGP's property.

California Graphics will not be liable for direct, indirect, accidental, or consequential damages caused by the use or inability to use the product and the documentation provided. Moreover, California Graphics will not be responsible for any damage caused to the hardware, software, stored or used data with the product, neither for the costs of repairing, replacing, or recovering hardware, software, or data.

To take advantage of this warranty the users have to:

- Show a document (invoice or receipt) proving the purchase of the product.
- Fill in the "User Registration Card" which is at the back of this products users Guide and send it to the address specified in it within 15 days from the date of the purchase.

**ATTENTION**: *This registration is the NECESSARY CONDITION to take benefit from the Lifetime Warranty.*

This warranty is valid for the original purchaser only and does not apply if the product is sold or given to a third party.

This warranty is exclusively practised by California Graphics at its headquarters, or at its authorised support centres.

California Graphics will not be liable for any compensation for damages and any contractual or extra-contractual liability for direct or indirect damages to persons or things.

### **Limited Liability**

California Graphics or its suppliers will not be liable to the user for incidental, consequential damages, included profit losses, non-earnings or eventual compensation requests from third parties, even if a CGP representative or its suppliers have been warned of the possibility of such damages.



