Colorgraphic

EVOLUTION SERIES

USER GUIDE

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

- Reorient or relocate the receiving antenna
- Increase the distance between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that which the receiver is installed
- Consult an experienced radio technician for help, if necessary.

The following booklet prepared by the FCC may be helpful:

"How to Identify and Resolve Radio/TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402 Stock No. 004-000-00345-4.

To comply with the limits for the Class B device, pursuant to Part 15 of the FCC Rules, this card must be installed in computer equipment certified to comply with the Class B limits. All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception. A typical supplied monitor cable with a shielded interface cable with a ferrite core must be used in order to comply with the emission limit.

EVOLUTION SERIES

USER GUIDE

FOR PCI LOCAL BUS
COMPATIBLE COMPUTERS

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OVERVIEW

The Evolution Series is Colorgraphic's third generation of multi-screen adapters for the PCI bus. A total of 4 MEG of SGRAM is standard on each section of the adapters. The Evolution 2 has a total of 8 MEG of video memory while the four port configuration, Evolution 4, has a total of 16 MEG of video memory for faster RAM interface. The entire Evolution Series is fully PC97 and PCI 2.1 compliant and conforms to existing standards. Using Colorgraphic's free drivers for Windows® 95/98 Windows NT and Windows 2000, an image can be spread across multiple monitors to create one large virtual display. The Evolution Series, in dual or quad configurations, gives you a high performance multi-screen adapter today to meet the system requirements of tomorrow.

HARDWARE INSTALLATION

System Requirements

Information presented in this section will help avoid potential hardware and software conflicts.

The Evolution Series is a high performance multi-screen video adapter. For the graphic card to function properly, make sure that your PC meets the following minimum requirements:

> IBM PC compatible Intel Pentium v2.1 compliant system
> Single PCI slot
> 2 VGA monitors: Multisync required for greater than 640x480 resolution
> 16MB of system RAM (32 MB recommended)
> 1 MB minimum free hard disk space
> Windows 95, Windows 98 or Windows NT 4.0

Installing the Video Adapter

(*If necessary, refer to the computer user manual for instructions regarding the removal of the computer cover*)

Turn the computer off as well as all other peripheral devices (printer, monitor, scanner, etc.) You may wish to disconnect all cables from the PC, **except** the power cable.

Remove the cover from your PC to expose the motherboard and expansion slots. **Remove the existing video adapter.**

Insert the **Evolution Series adapter** in any unused, PCI slot on the motherboard. Be sure to choose a slot that allows adequate clearance of the CPU fans and case. In some cases, installation may be facilitated by removal of the mounting bracket at the end of the adapter. Colorgraphic does not recommend the permanent removal of the bracket, as the adapter could be damaged if the PC happens to be moved.

Note: Multiple cards may be installed in a system by repeating the adapter installation procedure.
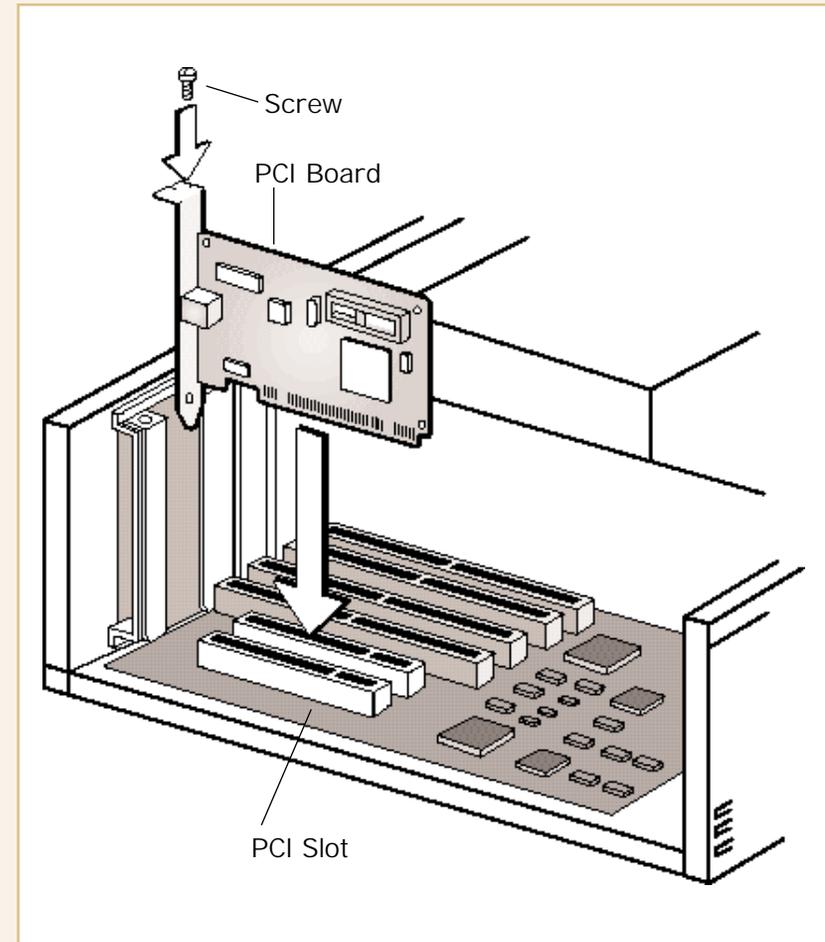
Video Adapter Diagram
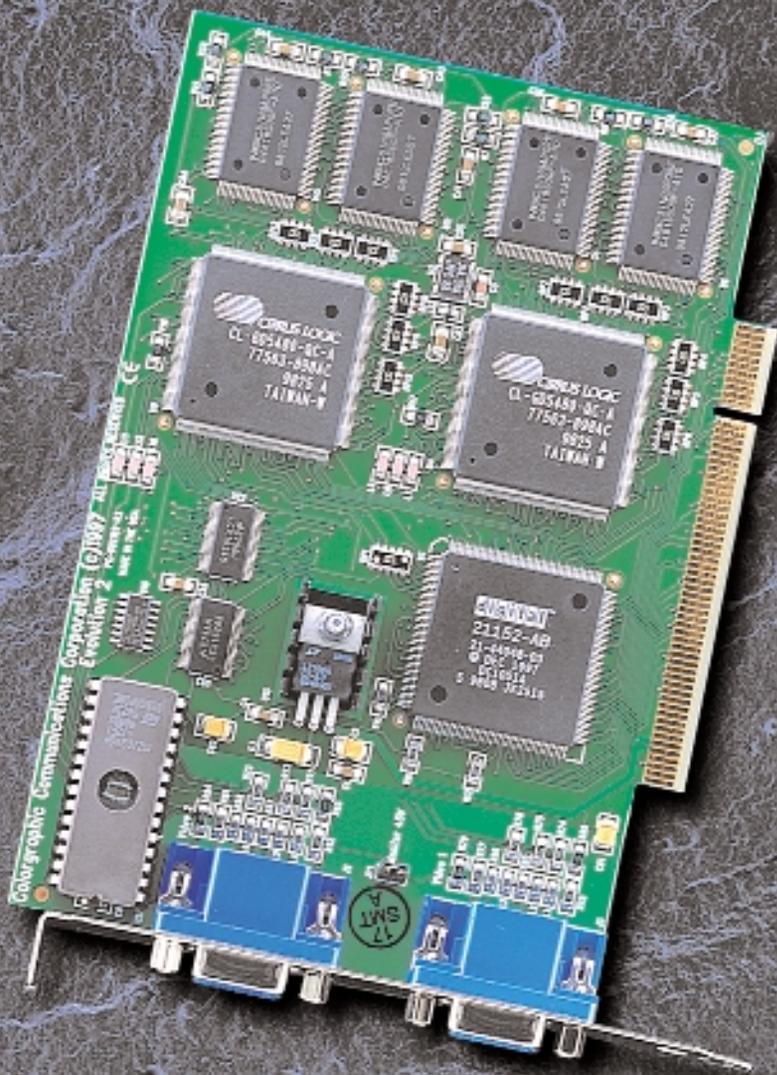
Evolution 2 • p/n 612182
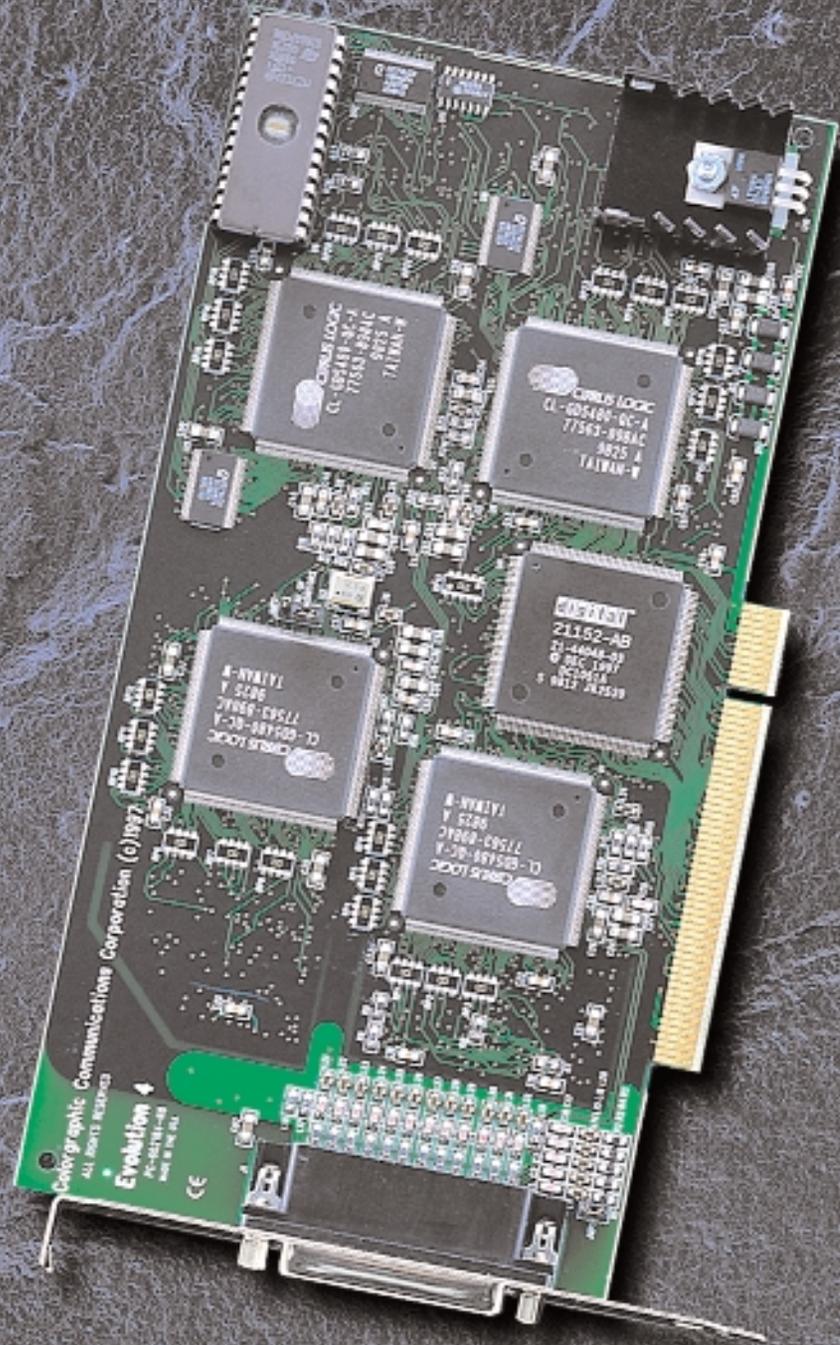
Evolution 4 • p/n 612184

5

6

Connecting the Evolution Series Adapter

The following directions pertain to the Evolution 2 graphic adapter: P/N 612182: Connect the monitors to both 15-pin connectors. In the default configuration, the LEFT monitor coincides with the bottom connector1 (closest to the PCI slot). See the image on page 4.

The following directions pertain to the Evolution 4 graphic adapter: P/N 612184: Attach the 44 pin A/V cable to the card. Connect the monitors to each of the 15-pin connectors. In the default configuration, the LEFT monitor coincides with the connector labeled "VGA Video 1" (VGA 1). Attach each additional monitor to the connector labeled "VGA Video 2" (VGA 2), "VGA Video 3" (VGA 3) and "VGA Video 4" (VGA 4).

After all connections have been made, including any that were disconnected prior to adapter installation, turn the computer on.

All boot up information should appear on Monitor 1, or the far left display. It is possible that your PC may use the last monitor as the boot screen. This is common in some PC's. You will need to look at your last screen for boot up information.
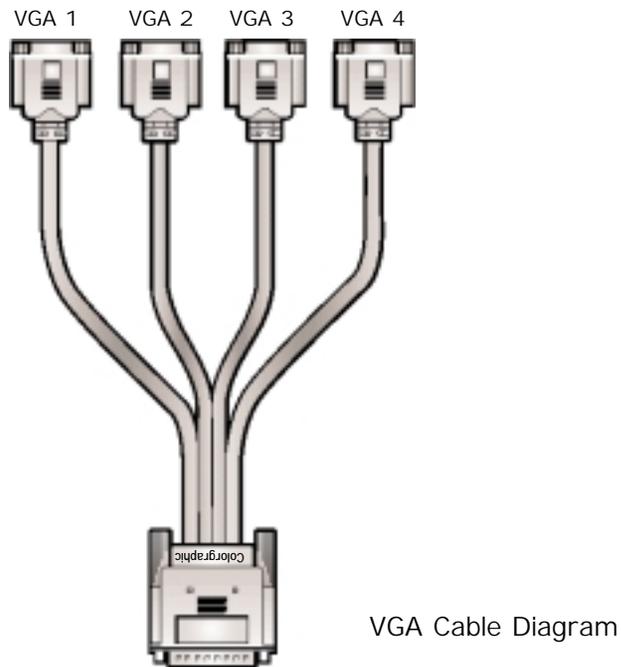
VGA Cable Diagram

SOFTWARE INSTALLATION

Device Driver Installation for Windows 95

NOTE: *Additional driver information will be in the README95.TXT file, located in the W95\Evolution directory.*

Windows 95 will autodetect the video card change. The following steps will be required to load the video driver.

1. After the PCI Bridge Chip has been detected the **New Hardware Found** window will appear. Select the option **Driver from disk provided by hardware manafacturer** and click **OK**.

2. The **Install From Disk** window will appear. In the **Copy manufacturer's files from:** drop down window, type in the path **"X:\W95\Evolution"** where **"X"** is the drive letter of the CD-ROM drive and click **OK**.

3. The **System Settings Change** window will appear, click **No**, so the system will not restart. *Depending on the number of Evolution video ports in the system, this step will repeat until all ports have been setup.*

4. Click on **Start->Shutdown** and restart the system. After reset, the monitor type will be detected. If the monitor is plug-n-play, autodetection will occur.

   The default setup will use all Evolution cards present in the system. To setup a specific monitor configuration, click on **Start->Settings->Control Panel**. Double click the **SetArray** icon. SetArray will allow you to specify the number of horizontal and vertical displays that make up your configuration. From SetArray you may also specify the vertical refresh rate.

5. The default multi-screen resolution will be 640x480x256 colors. Open the **Display Properties** window to adjust the resolution/refresh rate.

Device Driver Installation for Windows 98

NOTE: *Additional driver information will be in the README98.TXT file, located in the W98\Evolution directory.*

Windows 98 will autodetect the video card change. The following steps will be required to load the video driver.

1. The **PCI VGA Compatible Display Adapter is Detected** window will appear and the **Add New Hardware Wizard** will open. Click **Next**.

2. Select the option **Display a list of all drivers in a specific location, so you can select the driver you want**. Click **Next**.

3. Click the **Have Disk**… button.

4. In the **Copy manufacturers files from**: drop down window, type in the path "**X:\W98\Evolution**" where "**X**" is the drive letter of the CD-ROM drive and click OK.

5. The **Add New Hardware Wizard** window will appear, click **Next** and the files will be copied.

6. After the files are copied, click **Finish**.

7. The **System Setting Change** window will appear, click **No**, so the system will not restart. *Depending on the number of Evolution video boards in the system, this step will repeat until all ports have been setup.*

8. Click on **Start->Shutdown** and restart the system. After reset, the monitor type will be detected. If the monitor is plug-n-play, autodetection will occur.

   The default setup will use all Evolution cards present in the system with the resolution set to 640x480 256 colors. To setup a specific monitor configuration, click on **Start->Settings->Control Panel**. Double click the **SetArray** icon. SetArray allows you to specify the number of horizontal/vertical displays in your configuration and to specify the vertical refresh rate.

   The desktop resolution and color depth can be changed from the **Display Properties**. To open the Display Properties, Click on **Start->Settings->Control Panel**. Double click on the **Display** icon.

Device Driver Installation for Windows NT 4.0

NOTE: *Additional driver information will be in the README.TXT file, located in the NT4\Evolution directory.*

1. Make sure that NT 4.0 has been correctly installed on the host PC, **with a minimum of Service Pack 3**.

2. From the Taskbar, choose **START.** From the **START** menu, select **Settings,** then choose **Control Panel.**

3. Double-click the **Display** icon: this opens the **Display Properties** window. Click the **Settings** Tab, and then select **Display Type.** Click the **Change** button, under the **Adapter Type** section. This opens the **Change Display** window. Click **Have Disk** button.

4. Type "X:\NT4\Evolution" in the text box, where "X" is the drive letter for your NT CD ROM drive. Click **OK.** Highlight the Evolution graphics adapter from the **Display** list. Select **OK.**

5. A warning message will appear confirming your selection of a third-party driver. Click the **Yes** button.

6. After the driver software has been copied to the system, click on **Start->Shutdown** and restart the system.

   After the system has been rebooted, the **SetArray** icon will be added to your **Control Panel**. SetArray will allow you to specify the number of horizontal and vertical displays that make up your configuration. *Example: Two monitors sitting side-by-side would comprise a 2 (horizontal) X 1 (vertical) configuration.*

   Within **SetArray**, the **Full Screen Display** controls which screen will be used when the DOS prompt is configured for a full screen session.

   The default multi-screen resolution will be 640x480x256 colors. Return to the **Display Properties** window to adjust the resolution and refresh rate.

Device Driver Installation for Windows 2000

NOTE: *Additional driver information will be in the README.TXT file, located in the W2000\Evolution directory.*

Windows 2000 will autodetect the video card change. The following steps will be required to load the video driver.

1. After login the **Found New Hardware** window will appear stating the Cirrus Logic 5480 is detected. Click **Next** to continue.

2. Click on "**Display a list of the known drivers for this Device so that I can choose a specific driver**", click Next to continue.

3. Click on **Specify a location** and uncheck any drives than may be checked. Click **Next** to continue.

4. Type in the directory or click Browse to point to the location "**X:\W2000\Evolution**" where X is the location of the CD-ROM drive. Click **Ok** to continue.

5. Click **Next** to continue to the **Digital Signature Not Found** window, click **Yes** to continue and the files will be copied. Click **Finish**.

6. The remaining devices of the Evolution Series will be detected, click **No** so that a driver is not loaded for these as the first driver will operate all devices. Click **Finish** and repeat until all other Evolution Series devices have been prompted for.

7. Open the **Device Manager** by a right click on the **My Compter** desktop icon. Select **Properties** and click on the **Hardware Tab**. Click on the **Device Manager** button. Right click on each VGA compatible device and select **Disable**. Click **yes** to continue and repeat for all VGA devices

8. Exit the Device Manager and System Properties and restart the system.

Installation Notes

After loading the virtual screen drivers under Windows you will see multiple listings of the driver/hardware in device manager and some have yellow exclamation marks. This is normal and does not indicate a problem. (Windows 95/98 only)

Mover Software Installation

Mover is a utility that facilitates window placement within a multi-screen desktop. Features include dialog placement tracked by the cursor position, application placement based either on cursor position or user prompt for a specific screen.

To install the Mover Software, click the "**Install Mover**" button on the Software Installation program.

PRODUCT SPECIFICATIONS

Features

PC '97 Compliant
Two independently programmable Cirrus Logic CL-D5480 accelerators (Four on the Evolution 4)
Hardware-based graphic operations
200 MHz video DAC for extended resolutions up to 1600x1200x64k, non-interlaced @ 70 Hz
VGA compatible
Increased Windows performance
High color and True color support

Video Memory

800 Mbytes/sec. Peak memory bandwith
4 MEG SGRAM each section standard

Bus Architecture

32-bit PCI 2.1 compliant
Multiple boards can be installed in a single system
Evolution 2 dimensions: 6.0"L x 4.2"H
Evolution 4 dimensions: 8.0"L x 4.2"H

Graphics Accelerator Functions

64-bit high-bandwidth SGRAM interface
BitBlts
Font acceleration
Hardware cursor
Rectangle fills

Graphics Modes

All standard VGA compatible graphic modes as well as a number of enhanced graphics modes are supported. The following table list the enhanced graphic modes available and their respective vertical refresh rates.

	RESOLUTIONS SUPPORTED	REFRESH RATES
256 COLORS	1600X1200	48/60/70 Hz
	1280X1024	43/60/75/85/100 Hz
	1024X768	43/60/70/75/85/100 Hz
	800X600	56/60/72/75/85/100 Hz
	640X480	60/72/75/85/160 Hz
64k COLORS	1600X1200	48/60/70 Hz
	1280X1024	43/60/75/85/100 Hz
	1024X768	43/60/70/75/85/100 Hz
	800X600	56/60/72/75/85/100 Hz
	640X480	60/72/75/85/160 Hz
16.7M COLORS	1280X1024	48/60/75 Hz
	1024X768	60/70/75/85/100 Hz
	800X600	56/60/72/75/85/100 Hz
	640X480	60/72/75/85/160 Hz

Note: All standard VGA modes are supported.

TECHNICAL SUPPORT

Colorgraphic Communications Corporation supplies technical support free of charge to the end user or potential user. Contact may be made via mail, voice, facsimile or the Internet.

	DOMESTIC	EUROPEAN
Customer Service	(770) 455-3921	44 1202 747 044
Tech Support	(770) 455-3921	44 1202 747 044
Fax Support	(770) 458-0616	44 1202 747 114
Internet:	www.colorgraphic.net	www.colorgraphic.co.uk
FTP	ftp.colorgraphic.net	
Sales	sales@colorgraphic.net	sales@colorgraphic.co.uk
Voice	1-877-WIDE-VIEW	
	1-877-943-3843	
Tech Support	tech@colorgraphic.net	tech@colorgraphic.co.uk

European

Colorgraphic Communications Ltd.
Peachtree House
Acorn Business Park
Ling Road
Poole, Dorset BH12 4NZ
United Kingdom

Canadian

Forefront Graphics Corporation
125 Ashwarren Road
Downsview, Ontario M3J 3K7
Canada
Tel (416) 636-4444
Fax (416) 636-4454
email: ffsales@forefront.com

*Please refer to our web page for other distributors: www.colorgraphic.net

TROUBLESHOOTING

Cause:

1

I have installed a Colorgraphic video card. When I turn on my PC, I hear a series of beeps (typically, one long beep and three short beeps) and it does not boot. What does this mean?

Solution: The video card may not be fully inserted in the slot. Power down the PC, remove the card and reinsert it. Restart your PC.

A jumper may be missing. Call technical support for proper jumper configuration.

There may be another conflicting video adapter in your PC. Remove the extra adapter and restart your PC.

If your PC has integrated video (on the motherboard), disable the integrated video and restart your PC. (Check your PC manuals for instructions on disabling the integrated video.)

Cause:

2

There is no video on my monitor and my PC does not boot.

Solution: It is possible that your PC may be using another video adapter or integrated video (on the motherboard) as the primary display device. Disable the integrated video or remove the extra video adapter and restart your PC. (Check your PC manuals for instructions on disabling the integrated video.)

Cause:

3

Text is displayed on my monitor, but my PC doesn't appear to be booting.

Solution: The PC may be booting on a port that doesn't have a monitor connected. Connect monitors to all ports.

Your PC may not support PCI bridge devices, check with your PC manufacturer for a system BIOS upgrade.

Cause:

4

After installing the Colorgraphic video drivers under Windows NT, my PC still only comes up in single-screen VGA mode. How do I get my PC to come up in multi-screen mode?

Solution: In order to enable multi-screen support, Service Pack 3 or later must be installed.

If PCAnywhere32 has been installed, make sure that aw_host has been disabled in Control Panel / Devices.

Cause:

5

I have installed my Colorgraphic adapter and drivers, but all I see is a blue-green background. How do I get the Windows desktop to appear?

Solution: Try connecting monitors to all ports. The default setting uses all available ports. You may not be able to see the entire desktop with only one monitor connected.

Cause:

6

I have fewer than four monitors connected to my four port card. It appears that part of my desktop is missing. How do I make the entire desktop appear?

Solution: You will need to modify the display configuration. The default settings use all available ports in a horizontal array. Open Control Panel, double-click SetArray and modify the display array configuration. Set horizontal displays to the number of monitors that you have connected. Set vertical displays to 1. Click the save button to save your changes.

Cause:

7

I only have three monitors connected to my four port card. How can I configure my PC to use only three screens?

Solution: You will need to modify the display configuration. The default settings use all available ports in a horizontal array. Open Control Panel, double-click SetArray and modify the display array configuration. Set horizontal displays to the number of monitors that you have connected. Set vertical displays to 1. Click the save button to save your changes.

Cause:

8

After loading the Colorgraphic drivers under Windows 9x, I see multiple listings of the driver/hardware in device manager and some have yellow exclamation marks. Should there be multiple listings? Does the exclamation mark indicate a problem?

Solution: A listing will appear for each accelerator chip. An exclamation mark will appear next to all but the first listing. This is normal and will not affect operation of your PC.

Cause:

9

I have loaded the Mover software, but still have a single screen desktop.

Solution: A Colorgraphic multi-screen driver must be loaded in order to enable multi-screen support. Mover is a window placement utility that does not enable multi-screen support. For information on driver installation, please refer to the manual on the Colorgraphic CD.

Cause:

10

My dialog windows are split across multiple monitors. Is there a way to center them on a specific monitor?

Solution: Install the Mover software that is included with the Colorgraphic product. Please refer to online help for the Mover software configurations settings.

Cause:

11

The logon display window is split between two monitors. Is there a way to center the logon dialog box on a single monitor?

Solution: No. The Mover software cannot control window placement until after the logon is completed.

Cause:

12

When attempting to load the Mover software, I get a system beep (exclamation sound). What does this mean?

Solution: Mover is already loaded. Look for the Mover icon in the system tray near the clock.

If the PC is running in single screen mode or the Colorgraphic driver is not loaded, Mover will not run.

DISCLAIMERS

Life Support

Colorgraphic Communications Corporation does not sanction, authorize or certify any of its products for use in the design, construction or use in or as critical care components of life-support systems or devices. Products of this nature are defined as follows:

a) Life-support systems and/or devices are those that are used to support/sustain life or are used to the same effect when applied as a surgical implant and whose failure to perform may result in serious injury or fatality.

b) Critical components are those which are integral and essential to the design and construction of life-support devices which are used to sustain/support life, and whose failure to perform can be expected to significantly reduce the effectiveness of said devices, which may result in serious injury or fatality.

Incidental Damage

Colorgraphic Communications Corporation assumes no liability or responsibility for damage to any device(s) of any kind connected to the Evolution Series Adapters.

Damage to video display devices can sometimes occur if the wrong resolution and refresh rate are chosen. It is the responsibility of the user to know and understand the allowable resolution and refresh rates for the video display device in use.

Colorgraphic

1-877-WIDE-VIEW
1-877-943-3843