CANARIAS 2000

User's Manual

453-221200100
REVISION:B
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Table of Contents

CHAPTER 1 INTRODUCTION

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This chapter introduces the design and operation of the Canarias 2000 TV/graphics card. It is a PCI adapter card which uses the *ExpertColor* T2000 single chip 64-bit Multimedia Accelerator with integrated TV encoder. The TV output incorporates patented flicker free technology with 640x480 output to NTSC TV and 680x512 output to Full PAL TV.

The Canarias 2000 can support dual output capability. For example, you can play a MPEG video on TV while you are finishing a report or other application on your computer monitor. This level of versatility adds its value to this low-cost graphics card. It can also greatly enhance videoconferencing solutions on the PC.

The Canarias 2000 provides an easy installation solution. For economic reasons, using the Canarias 2000 card, your PC display will be on a large screen TV. Therefore, there will be no more need for an expensive, large VGA monitor.

1.1 Features

The Canarias 2000 TV/graphics card includes the following features:

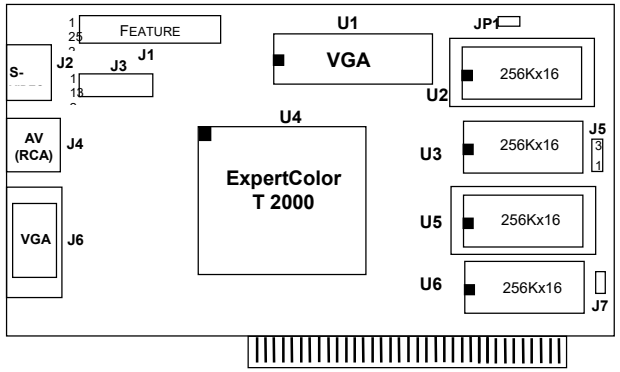
- ExpertColor T2000 64-bit high performance graphics accelerator
- High screen refresh rates up to 75Hz
- High resolution modes including 1024x768x64k Hi colors and 1600x1200x256 colors. (These modes require 2 MB of memory on board)
- On chip digital NTSC/PAL encoder provides S-video and Composite (CVBS) output to TV
- Dual output capability - on both PC and TV
- Proprietary non-linear flicker free hardware

- TV-out for 640x480 60Hz and Full PAL mode 680x512 50Hz
- MPEG-1 and live video playback
- Direct3D acceleration
- PC'97 compliance

1.2 Compatibility

The Canarias 2000 TV/graphics card is IBM PC compatible. It is designed for use with one PCI bus slot (at least).

1.3 Board Layout



Memory Configuration:
1MB memory - U3, U6.
2MB memory - U2, U3, U5, U6.

JP1: Open - NTSC
Close - PAL (default)

CHAPTER 2 HARDWARE INSTALLATION

2.1 What's Included in the Package

The Canarias 2000 package includes the following:

- The Canarias 2000 TV/graphics card
- Software installation disks which include drivers and utilities
- An RCA cable, which connects the graphics card to your TV
- This manual

2.2 Installing the Card

The Canarias 2000 card can be installed as follows:

1. Turn off your computer and remove the cover.
2. Make sure the jumper setting and memory configuration are correct.
3. Insert the card into one of the PCI slots available.
4. Replace the cover.
5. Connect CRT monitor to the 15-pin connector on the Canarias 2000 card.
6. Connect your TV to either the S-video or RCA connector. Note: you are recommended not to connect both at the same time, otherwise the TV brightness will be reduced.
7. Power up your computer.

If the system successfully powers up and has normal DOS boot-up messages appeared on the screen, the Canarias 2000 card is installed properly. If the system does not boot, you may check the troubleshooting tips below:

Troubleshooting Tips

1. Make sure the PCI bus connector gold-fingers are clean and the card is installed properly.
2. After rebooting, if the power supply vent does not work or you cannot hear any sound from the system, there may be a short bridge on the card. Turn off the system and take out the card. Check the back of the card (solder side) to see if there is any small piece of metal attached on the card and cause the short.
3. Check if all socketed devices are installed properly.
4. Make sure you turn on the power of your monitor and the screen brightness is adjusted correctly.

CHAPTER 3 SOFTWARE INSTALLATION

The installation disks (or CD-ROM disk) provide the drivers for the following operating systems:

- Windows 3.x
- Windows 95

After you have installed your TV/graphics card, you can begin to install the driver software. This chapter will guide you through the installation.

3.1 Installing on Windows 3.x

Before you install the Windows 3.x drivers, make sure that you have changed your display setting to standard VGA mode. Then, follow these instructions:

1. Copy IGS1.EXE from Disk #1 and IGS2.EXE from Disk #2 to a temporary directory (e.g., \TEMP) on your hard disk.
2. Since they are self-extracting files, type each filename at the command prompt to extract the files in the currect directory (e.g., \TEMP).
3. Start Windows 3.x.
4. Choose Run from the File menu in either the Program Manager or File Manager. Type in “C:\Temp\Setup” (or “D:\CA2000\Setup, if CD-ROM drive is appropriate), and click OK.
5. The Windows 3.x dirver installation menu will appear on the screen. Click on the “Start” icon to begin the installation.
6. Follow the on-screen prompts to finish the installation.

7. Finally, you'll be asked to restart your computer. Please choose Yes.
8. The IGA Resource Manager program group is then created in the Program Manager.

The installation is complete. For more information on using the IGA Resource Manager, see Chapter 4.

3.2 Installing on Windows 95

1. Start Windows 95.
2. Your newly inserted card will be detected and then you are prompted for inserting the installation disk.
3. Follow the on-screen instructions. Your will be asked to restart Windows 95 to effect the setting.
4. The driver installation is complete.
5. To install the Media Tools, choose Run from the Start button, and type in "A:\Setup" (or D:\CA2000\Win95\Setup, if CD-ROM drive is appropriate).
6. Follow the on-screen instructions.
7. The Media Tool item is then added to the Programs item of the Start menu.
8. The installation is complete.

For more information on using the Media Tools, see Chapter 5.

CHAPTER 4 WINDOWS 3.X UTILITIES

4.1 IGA Windows 3.x Driver Setup

After you have finished the installation in Chapter 3, you will find the IGA Resource Manager program group in the Program Manager. You can use this group to run the desktop utilities.

The Integrated Graphics Accelerator (IGA) is a 64-bit high-performance Windows graphical user interface (GUI) accelerator. Its powerful hardware drawing engine provides the fastest speed for Windows applications. The integrated RAMDAC provides 16.7 million colors at up to 1280x1024 resolution and 64 thousand colors at up to 1600x1200 resolution. However, you cannot take full advantage of those features unless you install and setup IGA Windows Accelerated Drivers properly.

The IGA Accelerated Windows Driver supports virtual desktop. This new feature allows users to further explore the powerful capabilities of the IGA graphics accelerator even on a small, low resolution monitor. The Windows Driver Setup program can also be used to configure your virtual desktop environment.

There are two ways to use the Setup program: **1. Normal Setup; 2. Configure Virtual Desktop Environment.** Please refer to the corresponding sections to configure your graphics controller.

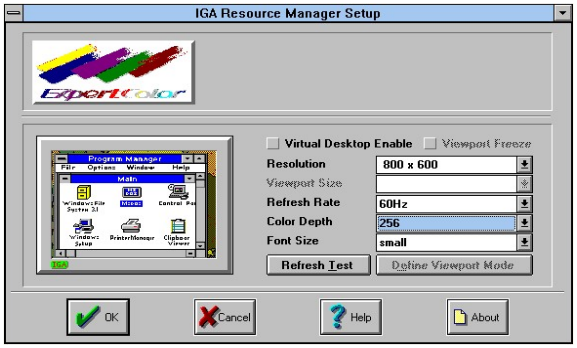
When you are finished, click the OK button to accept selection.

Normal Setup

To set up your IGA Graphics Accelerator without Virtual Desktop, you have to make sure that the "Virtual Desktop Enable" check box is unchecked. For normal setup, you have four parameters to select for configuring your IGA Graphics Accelerator: Resolutions, Refresh Rate, Color Depth and Font size.

The highest resolution you can choose is 1600x1200. The highest color depth is 16.7 million (True Color). The refresh rate selections are: interlaced and non-interlaced 60 Hz, 72 Hz, 75 Hz. For font sizes, you can choose "small" or "large" font. But, some combinations are not available, because they are either not feasible or due to hardware limitations, such as video memory size. The Setup program is designed to instruct you, and eliminate all non-feasible situations and combinations that your Graphics Accelerator does not allow. But, there is one important factor the program can not predict - that is, your monitor. To help solve this problem, a specific function button - "Refresh Test" is designed to verify whether your monitor can work under the desired combination.

Please follow these instructions:



1. Use the “Resolution” combo box to choose a resolution. For 14 or 15 inch monitors, recommended resolution is 800x600 or below. For 17 inch or other large monitors, you can choose 1024x768 or above.
2. Use the “Refresh Rate” combo box to choose a refresh frequency for your monitor. Normally, the higher refresh rate will give better display result. But, the refresh rate setting cannot go beyond your monitor‘s ability. Otherwise, the display monitor may lose sync (no image can be seen). The Setup program provides an easy way to help users verify whether your monitor can work at the selected resolution and refresh rate. When you click on the “Refresh Test“ button, the program will set the monitor to that resolution and refresh rate for the resolution- frequency combination.
3. Use the “Color Depth” combo box to choose a color depth. For most software and applications, 256 colors will be a good choice. If you need to display real video or photo, you may need 64k or even 16.7 million colors.

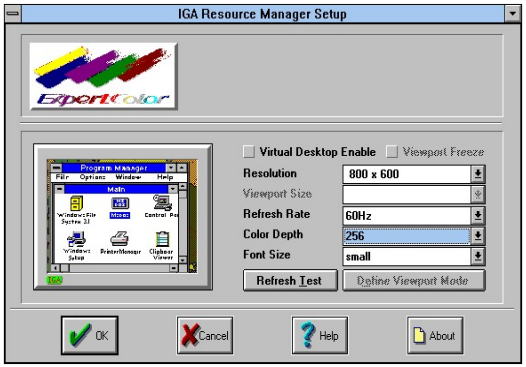
4. Use the “Font Size” combo box to choose small or large font for your system. For 640x480 resolution, you should use small font. For 1024x768 and above, you should choose large font. For 800x600 resolution, you can choose either font.
5. Click the OK button to accept selection.

Configuring Virtual Desktop Environment

The IGA Graphics Accelerator is a powerful graphics interface card. With on-board 2MB memory, it can support as high as 1600x1200 resolution in 256 colors. But, a monitor running at that high resolution may be very expensive. The Virtual Desktop of the IGA Graphics Accelerator provides a practical solution for the problem. By setting up Virtual Desktop, you can set your Windows to work in a much higher resolution than your monitor can support while setting up your monitor at a low resolution.

In a Virtual Desktop environment, you can see only a portion of the Windows desktop at one time. You can either use the mouse to move the viewport - your monitor screen, or you can freeze your viewport and use another program - “Virtual Desk,” provided with this program, to control your viewport position in the Virtual Desktop environment.

The following are the procedures to set up the Virtual Desktop environment:



1. Check the “Virtual Desktop Enable“ check box first.
2. Use the “Virtual Desktop” combo box to choose a resolution for your Virtual Desktop. This resolution is only limited by the memory on your Graphics Accelerator board. The Setup program is designed with this factor in mode. You can select any number provided by the program safely.
3. Use the “Viewport Size” combo box to choose a display mode for your monitor - a resolution and refresh rate combination. This is the actual resolution and refresh rate that your monitor will work on. The Setup program has a few default display modes. If those default display modes don’t meet your requirement, please refer to Define Viewport Mode for defining your own Viewport modes.
4. Use the “Color Depth” combo box to choose a color depth. For most software or applications, 256 colors will be a good choice. If you need to display real life video or photo, you may need 64k or even 16.7 million colors.

5. Use the “Font Size” combo box to choose small or large font for your system. For 640x480 resolution, you should use small font. For 1024x768 or above, you should choose large font. For 800x600 resolution, you can choose either font.
6. Click the OK button to accept selection.

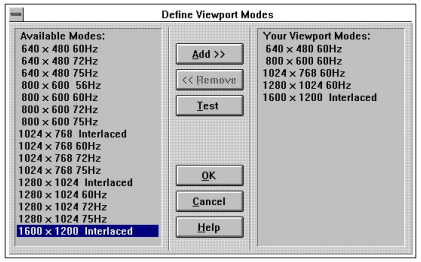
Accept Selection

When you finish your setup, you can simply click the OK button to accept your selection. The Setup program will modify SYSTEM.INI and WIN.INI files in the Windows directory (the driver and other font files should already be copied to your system by the installation program).

If you are running virtual desktop, you can use the Setup program to switch your Viewport from one resolution to another on the fly. You do not need to restart Windows.

If you are setting up your graphics accelerator without using virtual desktop or changing your virtual desktop’s colors or font, the Setup program may restart Windows.

Define Viewport Mode



The "Define Viewport Modes" button will bring you another dialog window to assist in defining Viewport modes for your virtual desktop.

The left list box of the dialog window has all the modes available for IGA graphics accelerator. In the right list box are the modes you define for your Viewport.

To add a mode to your Viewport modes, click on an available mode in the left list box. Then, click on the "**Add >>**" button. If the same resolution has already been defined, the higher refresh rate will replace the lower one. To remove a mode from your Viewport modes, click on the mode for your Viewport on the right list box. Then, click the "**<< Remove**" button.

To make sure that your monitor works for a specific mode, you can click a mode either in Available Modes or in Your Viewport Modes list box. Then, click the "Test" button. Your monitor will be set to that mode for a few seconds. In this way, you can easily verify that your monitor is working in the desired mode. When you finish defining Viewport modes, click the OK button to go back to the main dialog window. The defined mode will be available in the "Viewport Size" combo box. But, only those Viewport resolutions that are less or equal to the Virtual Desktop resolution will be displayed in that combo box. If you want to choose a higher resolution for your Viewport, just increase the resolution of your Virtual Desktop.

4.2 Virtual Desk

The "VD Control" (Virtual Desktop Control) program is a handy tool for virtual desktop users to do their daily work in virtual desktop environment.

When the program starts, it will freeze the Viewport even if you did not set your Viewport to freeze. By moving the small red rectangle in the control panel program, you can easily move your Viewport around the virtual desktop. In contrast with the regular way of using the mouse to move the Viewport, this will provide more stabilized screens and an easy, rapid solution to move your Viewport screen.

If you click on the system menu of the control panel program, you can get a menu of "Switch Resolution" and its submenu. Using this menu, you can switch your Viewport from one resolution to another on the fly.

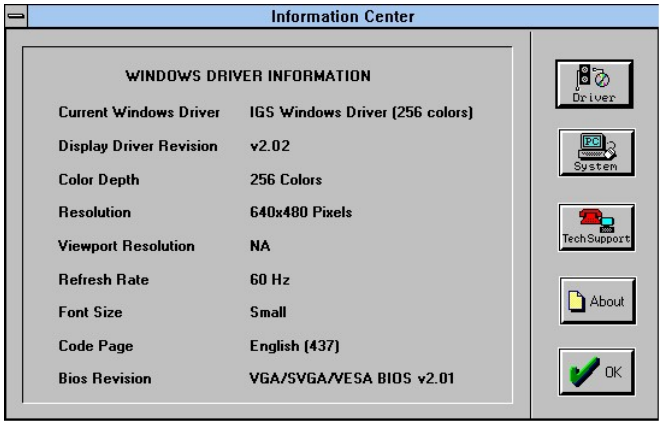
Please note that this program must be run exclusively with the "IGASetup" program. In other words, before you run this program, you have to quit the IGASetup program. Before you run the "IGASetup" program, please quit "VD Control" first.

4.3 Information Center

The Information Center icon gives you important information about your computer. Clicking on this icon will give you information about the driver, system, company address and telephone number.

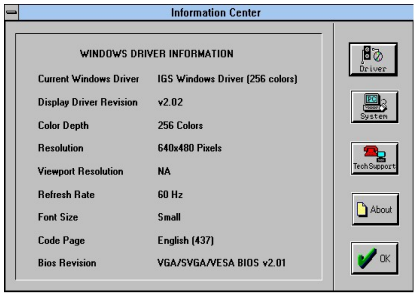
Driver Information

To view the IGA Windows driver information, please click on the "Driver" button.



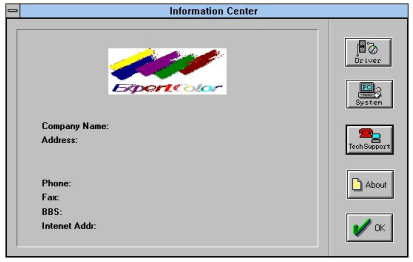
System Information

To view your system information, please click on the “System” button.



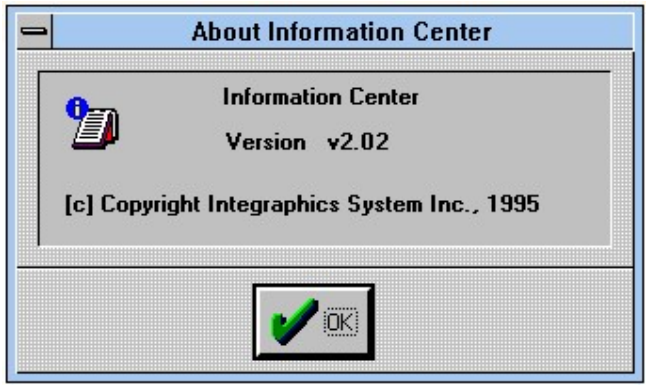
TechSupport Information

If the “TechSupport” contains no data, please contact your dealer for more information.



About Information

The "About" button shows the version information of this utility.

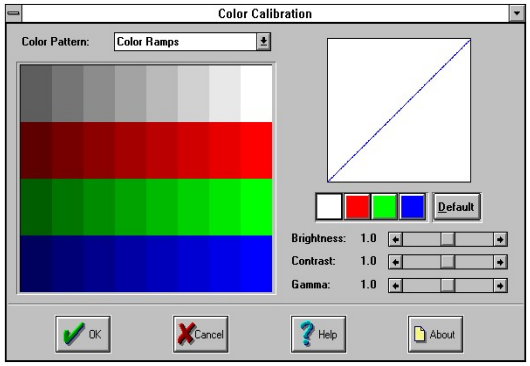


4.4 Uninstall

The Uninstall icon allows you to uninstall the IGA Resource Manager. Click on this icon if you are sure you want to delete the program group with all its features and drivers.

4.5 Color Calibration

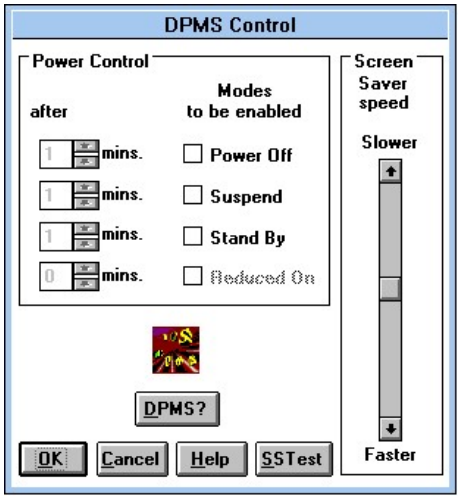
The Color Calibration icon allows you to adjust the brightness, contrast and color of your Windows screen display. Click on the arrows beside Brightness and Contrast to adjust them accordingly. To change the actual color hue, select one of the four colors (white, red, green, or blue) and click on the arrows beside Gamma to adjust the hues accordingly.



Once you are satisfied, click the OK button so that the changes may take effect.

4.6 Green PC

DPMS (Display Power Management System) is an energy-saving concept defined by the DPMS specification version 1.0 from VESA.



There are a total of 4 modes:

- Reduced On

- Stand By
- Suspend
- Power Off

The starting point for time settings is calculated as soon as the screen saver starts running. The overall DPMS operation requires support from both your VGA controller and your monitor. The following list defines each DPMS mode.

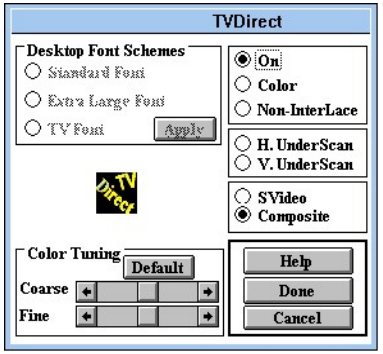
Reduced On:	This mode is only available for notebook PCs.
Stand By:	This defines an optional operation state of minimal power reduction with the shortest recovery time.
Suspend:	This refers to a substantial power reduction achieved by the display. The display can have a longer
recovery	time from this state than form the Stand By state.
Power Off:	This indicates that the display is consuming the lowest level of power and is non-operational. Recovery
from	this state may optionally require the user to manually power on the monitor.

Software Troubleshooting

The installation program can be run in standard VGA mode or ExpertColor T2000 mode. However, if you experience problems with installing, try setting the system back to VGA mode and re-install.

4.7 TV Direct

TV direct is a utility, which allows you to control some features of the TV output. It is installed automatically when the utilities are installed on your system. The utility is very easy to use and provides powerful control functions.



ON

Enables TV out when this radio button is checked. Click again to turn off TV output.

Color

If the computer is turned on with no TV connected and then one is connected it is possible for the color output to be wrong. Clicking on the Color button will fix it.

Non-Interlace

Some TV display quality might get flicker due to the interlace scan line; the Non-Interlace button provide the function to remove the flicker effect on TV display.

H-Underscan

Shrinks the TV picture in the horizontal direction to fit the TV screen. Note: The Computer monitor will also shrink.

V-Underscan

Shrinks the TV picture in the vertical direction to fit the TV screen. Note: The computer monitor will also shrink.

S-Video or Composite

Selects S-Video or Composite output. The selection should correspond to the TV output connector you installed. To determine the TV output connector, S-Video or Composite, please refer to the chapter "TV-out Features" in the Manual.

Color Tuning

These control the color output from the graphics board to the TV. The default setting will work for most televisions. However if black and white text appears to have color shadows or distortion around them you can adjust the "Coarse" and "Fine" sliders until you find the best text quality.

Desktop Font Schemes

This function allows users to just show the "Standard" font scheme on desktop text. The three of font schemes are "greyed" for this version of Windows 3.1 utility.

Help

Provides help information on how to use the utility.

Done

Exits with changes saved.

Cancel

Exits TV Direct without making any changes.

CHAPTER 5 WINDOWS 95 UTILITIES

Media Tools

After you finish the installation in Chapter 3, you will find the Media Tools icon is added to the Programs item of the Start button. Click it and the Media Tools menu will appear on the Windows 95 desktop.

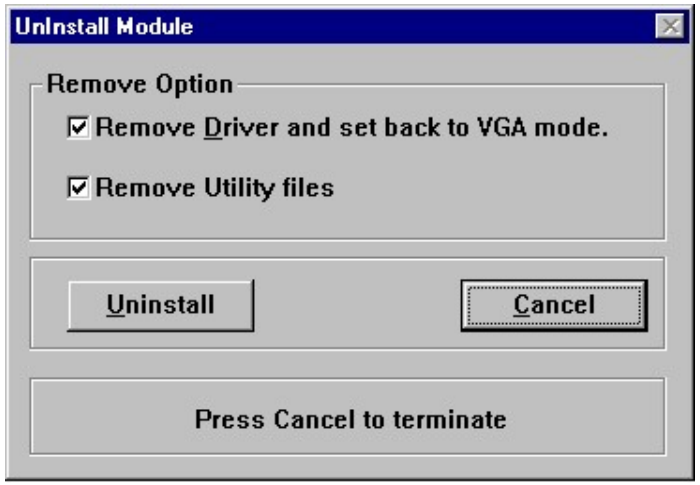
Media Tools is a powerful tool, which lets the user control the VGA card. It ranges from the basic functions such as Display Setting, Information, Measuring Refresh Rate to the special functions such as Virtual Screen, Adjust Screen and so on.

The modules are as follows:

- UnInstall Media Tools
- Display Setting
- Virtual Screen
- Color Calibration
- Measure Refresh Rate
- System and Display Configuration Information
- Online Help
- DPMS Control
- TV Direct

5.1 Uninstall Media Tools

This module allows you to uninstall the driver, utilities, or both. To uninstall them, click on the Uninstall icon. Then, select the option you want to remove and press Go. If the driver is uninstalled, the system will be set back to standard VGA mode and the utilities will be automatically removed.

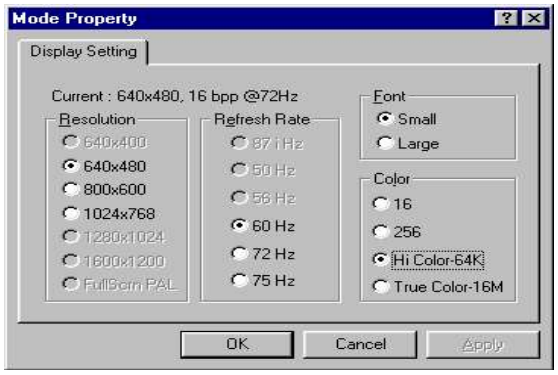


5.2 Display Setting

This module shows you the display modes first and then let you change them in the following window. If the user only changes resolutions, but still keeps color depth unchanged, the mode will switch without restarting Windows. Changing color depth or system fonts will require Windows to restart before the changes take effect.

If, when you change the resolution only, you select a refresh rate or resolution which is too high for your monitor to handle, it may lose sync (no image can be seen). In this case, simply press the Enter key to return to the old setting.

In the case of changing color depth, the program will provide a preview mode so that you can decide whether the mode is suitable for your system. After that, you can choose to restart Windows to make the change permanent.

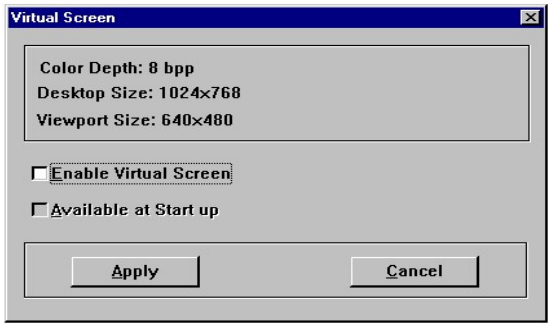


5.3 Virtual Screen

This module can create a larger desktop size for monitors which do not support higher resolutions such as 1600x1200 or 1280x1024. To enable this feature, click on the Virtual Screen icon. After setting the viewport size and maximum desktop size, you can use the mouse to pan the viewport.

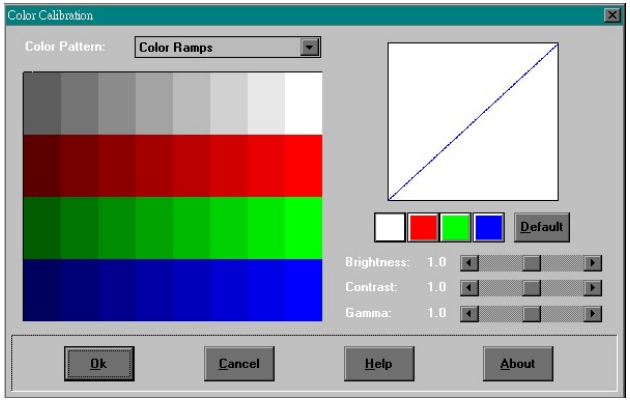
If the resolution is changed to this mode, virtual desktop will be disabled temporarily and must be re-enabled after the change is complete.

This module, however, conflicts with some software, for example, TDW.EXE and CVW.EXE. Therefore, it is advisable to disable the Virtual Desktop before using such software.



5.4 Color Calibration

Color Calibration is a tool for fine tuning monitor's colors. It is used to adjust monitors to match the environment, or to compensate for differences in monitors from various manufacturers. Users can also use it to adjust monitors to suit their personal preference.



Brightness Adjustments

Use the Color Pattern drop-down list box to select Color Ramps, Color Ramps with Dithering, or Color Map as your test pattern.

Place the mouse pointer over the Brightness slider button. Press and hold the left mouse button and move the slider to the left or right to adjust the brightness. Adjust the Brightness slider to the point where there is a linear transition from light to dark across the Color Ramps color pattern.

Click on the OK button to save your setting. Or, continue to do Contrast and Gamma Correction.

Contrast Adjustments

Use the Color Pattern drop-down list box to select Color Ramps, Color Ramps with Dithering, or Color Map as your test pattern. Place the mouse pointer over the Contrast slider button. Press and hold the left mouse button and move the slider to the left or right to adjust contrast. Adjust the Contrast slider to the point where there is a linear transition from light to dark acrross the Color Ramps color pattern. You may need to adjust Contrast together with Brightness to get the best result. Click on the OK button to preserve your setting. Or, continue to do Gamma Correction.

Gamma Correction

The characteristics of CRT monitors are not linear with increasing levels of input signals. Therefore, the video signals must be modified before transmission to the monitor. This is called ”gamma correction.” Normally, the output of your display driver will already have been corrected. However, as there are many different makes of monitors, you may need to fine tune your monitor’s Gamma.

To adjust your monitor’s Gamma, you need select the Color Ramps with Dithering color pattern first.

Then, place the mouse pointer over the Gamma slider button. Press and hold the left mouse button while moving the slider right or left to increase or reduce the monitor’s Gamma. From the curve above the color buttons, you can see that increasing Gamma will increase contrast in the dark tones of the display while decreasing contrast in the bright tones.

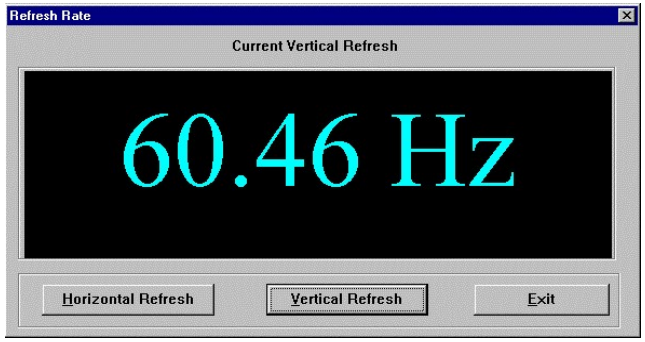
Adjust the Gamma slider to the point where the small dithered areas in the color pattern closely match the background color.

Click the OK button to save your setting.

The Gamma of three color components - red, green, and blue, can be adjusted separately. First select a color button, and follow the above procedure to adjust the Gamma for that individual color.

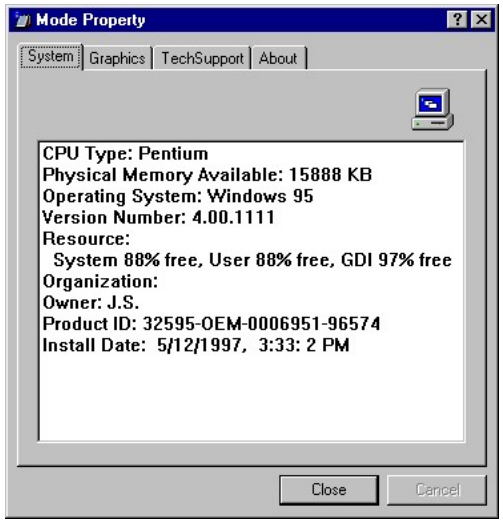
5.5 Measure Refresh Rate

This utility measures the vertical and horizontal refresh rate of the current mode. This utility can be useful for users to check the refresh rate after using the Set Resolution utility.



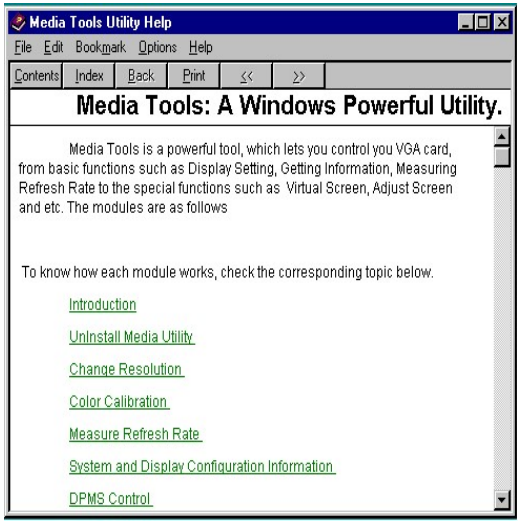
5.6 System and Display Configuration Information

Media Tool reports the current settings of your computer, including system and display settings. This information can be useful if you have to contact Technical Support.



5.7 Online Help

This online help contains information to help you use the Media Tools. You can click one of the topics to go to an explanation of that topic.



5.8 DPMS Control

DPMS (Display Power Management System) is an energy-saving concept defined by the DPMS specification version 1.0 from VESA.

There are a total of 4 modes:

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- Power Off

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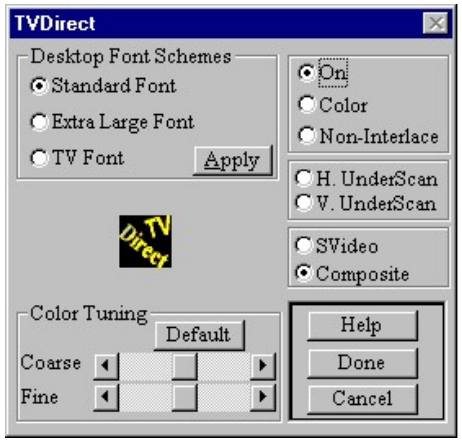
recovery	time from this state than form the Stand By state.
Power Off:	This indicates that the display is consuming the lowest level of power and is non-operational. Recovery
from	this state may optionally require the user to manually power on the monitor.

Software Troubleshooting

The installation program can be run in standard VGA mode or ExpertColor T2000 mode. However, if you experience problems with installing, try setting the system back to VGA mode and re-install.

5.9 TV Direct

TV direct is a utility, which allows you to control some features of the TV output. It is installed automatically when the utilities are installed on your system. The utility is very easy to use and provides powerful control functions.



ON

Enables TV out when this radio button is checked. Click again to turn off TV output.

Color

If the computer is turned on with no TV connected and then one is connected it is possible for the color output to be wrong. Clicking on the Color button will fix it.

Non-Interlace

Some TV display quality might get flicker due to the interlace scan line; the Non-Interlace button provide the function to remove the flicker effect on TV display.

H-Underscan

Shrinks the TV picture in the horizontal direction to fit the TV screen. Note: The Computer monitor will also shrink.

V-Underscan

Shrinks the TV picture in the vertical direction to fit the TV screen. Note: The computer monitor will also shrink.

S-Video or Composite

Selects S-Video or Composite output. The selection should correspond to the TV output connector you installed. To determine the TV output connector, S-Video or Composite, please refer to the chapter "TV-out Features" in the Manual.

Color Tuning

These control the color output from the graphics board to the TV. The default setting will work for most televisions. However if black and white text appears to have color shadows or distortion around them you can adjust the "Coarse" and "Fine" sliders until you find the best text quality.

Desktop Font Schemes

The function allows users to easily change pre-set font schemes, “Standard”, “Extra Large” or “TV font” on desktop text. This function is designed especially for TV display operation.

Help

Provides help information on how to use the utility.

Done

Exits with changes saved.

Cancel

Exits TV Direct without making any changes.

CHAPTER 6 TV-OUT FEATURES

The Canarias 2000 graphics chip contains an integrated NTSC/PAL encoder to translate computer graphics signals into a format compatible with worldwise television systems. This feature enables you to view the output of your computer on a standard TV equipped with either an RCA video input jack or S-video connector. Be sure to connect your TV as described in the hardware installation section of this manual before proceeding.

The following configurations are supported:

- Monitor only
- TV only
- Simultaneous monitor and TV

The resolutions available are:

- NTSC: 640x480
- Full PAL Mode 680x512 50Hz

Terms and Definitions

Overscan and Underscan

Although both televisions and monitors use CRTs (Cathode Ray Tubes) for displaying the video or graphics, they have a different way of displaying the images on the screen. TV uses overscan, which means that the displayed video extends farther than the sides and top and bottom. The TV casing then becomes the border to the video.

A computer monitor uses underscan, which means the displayed image does not extend to the screen edges but that there is a black border around it. If only a TV connection is made, then the computer will automatically boot up in underscan mode.

Therefore, in order to display the computer image correctly on a TV, it is necessary to make the TV underscan in the same way as a computer monitor. The utility software provided with the Canarias 2000 enables you to select which mode you want on TV: overscan or underscan (See TV Direct utility).

1. Normally the TV output will be either in S-Video or Composite mode, depending on the type of connector used. However, a small number of types of televisions, which automatically detect which kind of input it has, will make the TV output default to composite, even if an S-Video cable is connected to the board. If so, use the TV Direct Utility to switch to S-Video mode.
2. Do not use the S-video and RCA connectors at the same time, because the TV brightness will be reduced.

Note: By default, enabling the TV-Out function will make the font look smaller on the TV screen. You are recommended to choose larger fonts than the Windows default for optimum viewing on your TV. Most people view TV output at a greater distance than a computer monitor. You can follow the procedures as listed below:

1. Right-click on the blank area on the Windows 95 desktop.
2. Choose Properties from the pop-up menu.
3. Click on the Appearance tab in the Display Properties dialog box.
4. Choose the “Windows Standard (extra large)” item from the Scheme list box.
5. Click OK.

CHAPTER 7 SOFTWARE MPEG PLAYER

7.1 System Requirements

Software Requirements

- Microsoft Windows 3.x, Windows for Workgroups, or Windows 95
- Media Player 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

7.2 Installing Software MPEG Player

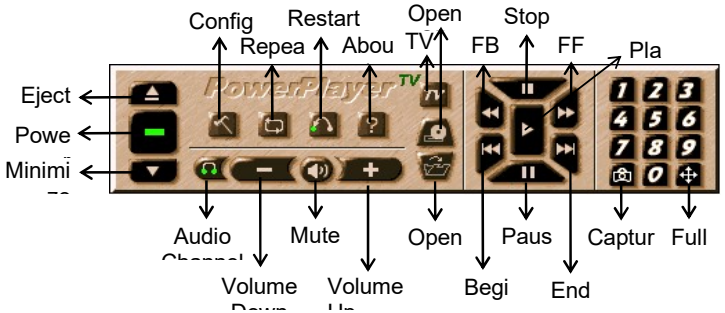
Installing on Windows 3.x

1. Start Windows 3.x
2. Insert the VCD PowerPlayer setup disk into drive A (or CD-ROM drive).
3. Open the Windows Program Manager and choose the Run command.
4. In the Run dialog, type "A:\Setup"(or D:\CA2000\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:\CA2000\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: Select 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 the typical Windows cut/copy/paste features.

Full: Switch the video screen among 1x, 2x, and Full.

Audio Channel: Select the left and/or right audio channel.

TV: Switch to the TV screen when TV-Out is enabled.

A APPENDIX A VIDEO MODES TABLE

IGS Mode (Hex)	Vesa Mode (Hex)	Resolution	Colors	Refresh Rate (Hz)	Memory Size
30	108	80x60 chars	16	60	256KB
31	109	132x25 char	16	70	256KB
32	10A	132x43 char	16	70	256KB
33	10B	132x50 char	16	70	256KB
34	10C	132x60 char	16	60	256KB
43	106	1280x1024	16	60	1MB
43	106	1280x1024	16	87 (I)	1MB
44	104	1024x768	16	60	512K
44	104	1024x768	16	72	512K
44	104	1024x768	16	75	512K
44	104	1024x768	16	87 (I)	512K
45	102	800x600	16	60	512K
45	102	800x600	16	72	512K
45	102	800x600	16	75	512K
46	101	640x480	256	60	512K
46	101	640x480	256	72	512K

(I) Interlaced

(Continued)

IGS Mode (Hex)	Vesa Mode (Hex)	Resolution	Colors	Refresh Rate (Hz)	Memory Size
46	101	640x480	256	75	512K
47	103	800x600	256	60	512K
47	103	800x600	256	72	512K
47	103	800x600	256	75	512K
48	105	1024x768	256	60	1MB
48	105	1024x768	256	72	1MB
48	105	1024x768	256	75	1MB
48	105	1024x768	256	87 (I)	1MB
49	107	1280x1024	256	60	2MB
49	107	1280x1024	256	87 (I)	2MB
4A	NA	1600x1200	256	47	2MB
4A	NA	1600x1200	256	87 (I)	2MB
50	111	640x480	64K	60	1MB
50	111	640x480	64K	72	1MB
50	111	640x480	64K	75	1MB
51	114	800x600	64K	60	1MB
51	114	800x600	64K	72	1MB
51	114	800x600	64K	75	1MB

(I) Interlaced

(Continued)

IGS Mode (Hex)	Vesa Mode (Hex)	Resolution	Colors	Refresh Rate (Hz)	Memory Size
52	117	1024x768	64K	60	2MB
52	117	1024x768	64K	72	2MB
52	117	1024x768	64K	75	2MB
52	117	1024x768	64K	87 (I)	2MB
55	112	640x480	16.7M	60	1MB
55	112	640x480	16.7M	72	1MB
55	112	640x480	16.7M	75	1MB
56	115	800x600	16.7M	60	2MB
56	115	800x600	16.7M	72	2MB
56	115	800x600	16.7M	75	2MB

(I) Interlaced