MGA PowerDesk for Windows 95

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Using this document

Document conventions

This manual assumes you're familiar with basic functions like click, right-click and double-click. In addition, we use the following conventions:

- **Bold** for text that appears on-screen and for **subheads**.

- *Italics* for file and path names.

- ***Bold Italic*** for emphasis.

- **Green** for cross-references.

- Keyboard keys in square brackets, with a plus sign separating keys that you press simultaneously. For example: press [Ctrl]+[Alt]+[Del] to restart your computer.

- Directed arrows to separate ordered directions. For example: Click **Start** button → **Programs** → **MGA PowerDesk** folder to access Windows 95 software.

On-line documentation

- You can access MGA PowerDesk for Windows 95 on-line documentation through the **MGA PowerDesk** folder.

- A *readme* file is also in the MGA PowerDesk folder.

- For context sensitive help where available, press [F1] or click the "**?**" icon in the title bar and then the item you want help on.

Overview

Use the MGA PowerDesk driver instead of the MGA driver provided by Windows 95, which does not support MGA PowerDesk and is not as optimized.

MGA PowerDesk for Windows 95 includes:

- **Display driver** for Matrox Mystique and Matrox Millennium *(Fast!)*

- **DirectDraw/DirectVideo** driver   *(Faster games and video!)*

- **DDC-2b and Windows 95** monitor support   *(Plug and Play!)*

- **MGA Monitor** sheet lets you change your monitor settings. It lets you optimize the settings for your monitor through interactive testing and adjustment. You can use this sheet in place of the standard Windows 95 monitor selection process. The setup program adds this sheet to the Windows 95 **Display Properties** dialog box.

- **MGA Settings** sheet lets you change your display settings. The setup program adds this sheet to the Windows 95 Display Properties dialog box. This sheet provides access to MGA PowerDesk features such as:
  - **Desktop Mode buttons** to configure a desktop area of varied shapes (proportional, horizontal, vertical) that goes beyond the limits of the display.
  - MGA PowerDesk hotkey settings for:
    - **PixelTOUCH** to zoom (×2 and ×4) and pan in your view area.
    - **PanLOCK** to lock the view area of your virtual desktop.
    - **CenterWINDOW** to bring the active dialog box or program window into your view area.
  - **Display Schemes** to easily switch between your pre-defined display settings.
  - **Information** sheet to display hardware and software version numbers and capabilities
  - **Performance** sheet to configure driver performance settings.

- **MGA Color** sheet lets you change your display's color balance. The setup program adds this sheet to the Windows 95 **Display Properties** dialog box.

- **MGA Desktop Navigator** program lets you quickly change the view area of your desktop and gives you quick access to the PixelTOUCH zoom, PanLOCK and CenterWINDOW features.

- **MGA QuickDesk** applet lets you quickly switch between your saved display schemes, open the **Display Properties** dialog box or launch **MGA Desktop Navigator**. It presents itself as a monitor icon in the right corner of the Windows 95 taskbar.

Installation

With these installation procedures you can install the MGA PowerDesk for Windows 95 display drivers, software and on-line documentation.

Before installing MGA PowerDesk for Windows 95

- If you're upgrading from an older version of MGA PowerDesk for Windows 95, skip to the "**Installing MGA PowerDesk for Windows 95**" section.

- If you're installing MGA PowerDesk for Windows 95 for the first time, select the description below that applies to you, follow the pre-installation steps, and then follow the instructions in the "**Installing MGA PowerDesk for Windows 95**" section.

You're running Windows 95

1. Switch your display adapter to standard VGA:
   a) Right-click on the desktop background and click on the **Properties** menu item for the Windows 95 **Display Properties** dialog box.
   b) Click **Settings** tab → **Change Display Type** button → **Change** (**Adapter Type**) button → **Showalldevices** option button.
   c) In the **Manufacturers** pick list, click on "**(Standard display types)**".
   d) In the **Models** pick list, click on "**Standard display adapter (VGA)**".
   e) Click **OK** → **Close** → **Close** → **Yes** buttons to restart your computer in VGA mode.

2. If your Matrox board is not already installed, turn off your system and install it. See the MGA Installation Guide for complete instructions on this procedure.

3. Re-start your computer.

4. Go to the "**Installing MGA PowerDesk for Windows 95**" section and follow the driver installation instructions.

You're running Windows 3.1

1. Switch your display adapter to standard VGA (through the Windows 3.1 **Windows Setup** program).

2. If Windows 3.1 MGA PowerDesk is installed on your system, remove it using the **MGA Uninstallation** program in the MGA PowerDesk group window.

3. If your Matrox board is not already installed, turn off your system and install it. See the MGA Installation Guide for complete instructions on this procedure.

4. Re-start your computer.

5. Run the Windows 95 *setup* program to install Windows 95.

   During Windows 95 installation, a hardware detection process will detect an **Oak Technology Super VGA** board. There's no cause for alarm – your computer will reboot in standard VGA mode (640 × 480 with 16 colors), which is supported by the MGA PowerDesk. After installing Windows 95, follow the driver installation instructions in the next section.

Installing MGA PowerDesk for Windows 95

This section assumes you've read and followed the instructions in the preceding section.

1. Insert the Matrox CD-ROM in your CD-ROM drive.
   The CD-ROM's autorun facility will present you with a list of install options.

2. Click on "**MGA PowerDesk for Windows 95**" to launch the MGA PowerDesk setup program.
   (The other install options are covered in the MGA Installation Guide and CD-ROM booklet.)

3. Follow the on-screen instructions. You'll be prompted for a destination directory (*C:\ProgramFiles\Matrox MGA PowerDesk* is the default), and what options you want to install. You can choose to install:

   ☑ **MGA Color Control Panel** (**MGA Color** sheet) – to modify your display's color balance.

☑ **MGA Monitor Selection** (**MGA Monitor** sheet) – to optimize the settings for your monitor.

☑ **MGA Desktop Navigator** – to quickly change the viewing area of your desktop.

☑ **MGA QuickDesk** – to quickly switch between your saved display schemes. If you choose to install this applet, you also have the option of having it launch every time you run Windows 95.

By default, all these options are selected.

4. **If you're upgrading from an earlier MGA PowerDesk for Windows 95**, the setup program will also ask if you want to overwrite the Matrox *mga.mon* monitor file. We recommend that you choose **Yes**. If you customized *mga.mon* for your monitor and want to continue to use it, choose **No**. If you choose **No**, we recommend that you re-select your monitor through the **MGA Monitor** sheet after installing MGA PowerDesk.

Note that 1152 × 864 resolution in Windows 95 replaces the 1152 × 882 resolution in Windows 3.1 for the Matrox Millennium.

5. Once the setup program installs files on your hard disk, **Matrox Wizard** guides you through the steps to change the display adapter type from VGA to MGA mode. This is done in the Windows 95 **Display Properties** dialog box. You'll be prompted to reboot your system at the end of the installation procedure. (This step does not apply if you're upgrading from an earlier version of MGA PowerDesk for Windows 95.)

After rebooting, your display will be at 640 × 480 resolution with 256 colors (unless you were upgrading from an older MGA PowerDesk for Windows 95). At this point you should:

1. Select a monitor profile through the **MGA Monitor** sheet. (See "MGA Monitor sheet" section.)

2. Select your display resolution, color palette and other MGA PowerDesk settings through the **MGA Settings** sheet. (See "MGA Settings sheet" section.)

Right-click on the desktop background and click on the **Properties** menu item to access the **MGA Monitor** and **MGA Settings sheets**.

MGA PowerDesk folder

The MGA setup program creates in the **Start** button → **Programs** folder, the **MGA PowerDesk** folder. This folder gives you access to **MGA Desktop Navigator** program, **MGA QuickDesk** applet, **On-line doc** file and **readme** file.

MGA Monitor sheet

The MGA Windows 95 driver supports monitor profiles from either the Windows 95 monitor list or Matrox's own monitor list. It also supports Plug-and-Play monitors at the VESA DDC-2b level.

You have two monitor selection methods in the Windows 95 **Display Properties** dialog box; the Windows 95 **Settings** sheet or the **MGA Monitor** sheet. Use the **Monitor Type** option buttons on the **MGA Monitor** sheet to choose the monitor selection method. When you first install MGA PowerDesk version3.x, **Windows 95 Monitor** is selected.

Windows 95 monitor selection

• **To use the Windows 95 monitor selection method:**

1. Right-click on the desktop background and click on the **Properties** menu item for the Windows 95 **Display Properties** dialog box.

2. Click **MGA Monitor** tab → **Windows 95 Monitor** option button**.**

3. Click **Settings** tab → **Change Display Type** button → **Change** (**Monitor Type**) button → **Showalldevices** option button.

4. Click on the manufacturer of your monitor in the **Manufacturers** pick list.

5. Click on the model of your monitor in the **Models** pick list.

6. Click **OK** → **Close** → **Close** buttons to accept the changes you've made.

The **MGA Monitor** sheet displays your monitor selection and the MGA monitor list is left blank.

- **If you have a Plug-and-Play monitor**, use the Windows 95 monitor selection process to use its VESA DDC monitor data. To do this:

  1. Do steps 1-3 above.

  2. In the **Manufacturers** pick list, click on "**(Standard monitor types)**".

  3. In the **Models** pick list, click on "**Plug and Play Monitor (VESA DDC)**".

  4. Click **OK** → **Close** → **Close** buttons to accept the changes you've made.

  Note that older Plug-and-Play monitors may not report their support of 1152 × 864 resolution to Windows 95, even if they're capable of it. If you want to use this resolution, use MGA monitor selection (see the "**MGA monitor selection**" section).

- For monitors that are not Plug and Play, Windows 95 does not provide detailed timings to the display driver, only refresh rate ranges. The MGA driver will use the best match within a set of VESA refresh rates ranging from 60 to 85 Hz. The monitor display will sync, but may not have the proper position and size.

- When you use the Windows 95 selection method, you can't test the monitor display beforehand, or make adjustments to the refresh rate or any other monitor timing parameters. Use the MGA monitor selection method (see the "**MGA monitor selection**" section) to see timing details, perform testing and even interactively adjust your display. With the MGA monitor selection method, you may get higher and better tuned timings.

MGA monitor selection

1. Right-click on the desktop background and click on the **Properties** menu item for the Windows 95 **Display Properties** dialog box.

2. Click **MGA Monitor** tab → **MGA Monitor** option button**.**
   A list of monitor manufacturers appears in the MGA monitor list window. This list is a tree structure you can expand.

3. Click on the plus sign next to the manufacturer of your monitor.
   This expands the list of models we support for this manufacturer. If the manufacturer of your monitor does not appear in the monitor list, use "**(Standard monitor types)**".

4. Click on the model name you want to try.
   A list of resolutions and their associated refresh rates appears to the right.

   You should be able to find the manufacturer and model of your monitor, or at least a monitor that is similar to yours. With some monitors, you might need to check the back of your monitor for the exact model.

5. Click **OK** to confirm your selection.

Your driver configuration is complete, and you can stop at this point.

- Upon confirmation, the display driver will use the new monitor data immediately. MGA PowerDesk will prompt you to confirm that your monitor supports your new selection. If your new selection doesn't work, wait 15 seconds at the prompt and MGA PowerDesk will restore your previous selection.

- To test other resolutions before confirming your choice, or get more details about timings, proceed to the next section.

Monitor details and testing

The **MGA Monitor** sheet allows you to test all the resolutions of the monitor before confirming your choice. However, testing is reserved to resolutions that are supported by the current pixel depth. To be able to test the full range of resolutions, we recommend that you switch your display driver to 8-bit (256 color) mode.

1. To get to the details and testing facility of the **MGA Monitor** sheet, click on a monitor and then click on the **Properties** button. You can also right-click on a monitor and click on the **Properties** menu item that appears. A list of resolutions supported by the monitor will appear.

   - Some resolutions have a plus sign to the left. This indicates the monitor description uses multiple video timings for different pixel depths or zoom factors.

   - If a resolution uses the same refresh rate for all pixel depths and zooms, there is no plus sign to the left, and you'll see (to the right) the vertical refresh rate, horizontal refresh rate and pixel clock associated with this resolution when you highlight that resolution.
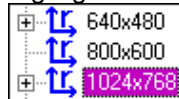
2. Click on the plus sign to reveal levels, until the refresh rate information gets displayed. The MGA driver most often uses different timings for various *pixel depths* at high resolutions (1280 × 1024 and up) to account for video bandwidth limitations. It uses different timings for various *zoom factors* when the precise horizontal timings for the monitor preset do not work well during a hardware zoom. (Without these different timings, your display would shift to the left or right when zooming.)

3. After you select a resolution, a test pattern is also available (for the current pixel depth only) to confirm, and possibly adjust the timings further. When you click on the **Test** button, your monitor will flicker for a second, and then a test screen will appear in the resolution you specified. The test screen features:

   - A border (for size and position adjustment)

   - Several circles (for aspect ratio adjustment)

   - Red, green, and blue rectangles (to verify proper connection of the color and sync lines to your monitor)

   - A color rainbow, to help you assess changes in resolution versus changes in the number of colors of a display

   - A test pattern control dialog box, to adjust the size and position of the display, and to edit video timings.

4. If your monitor does not sync at all, it's because the refresh rate is too high for its capabilities. Press the [Esc] key to return to the previous dialog box. Then click on the "Back" button to return to the monitor list and select another monitor.

    (Back button)

5. If your monitor syncs but is not well adjusted, *first* try to use the adjustment controls of your monitor before starting to use the MGA Monitor Test controls. On some monitors, you may need to follow a specific procedure to save your adjustments for future use.

6. If you are satisfied with the testing and wish to confirm your choice without any modifications, click on **OK** to get out of the test pattern, then click on the **OK** button at the bottom of the **Display Properties** sheet. Otherwise, either select a new monitor type or proceed with the software monitor adjustments.

◆ *WARNING: Setting timing parameters beyond a monitor's capacity could damage some monitors. Therefore, the following section is reserved for advanced users only.*

Monitor adjustment (for advanced users)

If your monitor lacks hardware controls to adjust the your display size and position, you can use the **MGA Monitor Test Controls** dialog box (**MGA Monitor** sheet → **Properties** button → **Test** button). It's normal for your monitor to flicker during some adjustments.

The controls are grouped into four sections: One to modify the size of the display, one to modify the position of the display, one to select standard video timings, and the command buttons (**Details**, **Reset**, **Undo**, **Cancel**, and **OK**).

> **Display Dimension:** Use these controls to expand or shrink the display horizontally or vertically.

> **Display Position:** Use these controls to adjust the position of the display on your screen.

> **Standard Refresh:** Use this drop down list box to select a known standard refresh rate for the current resolution. The VESA standard timing "sets" are used in this case. This selection is recommended for those who wish to try a higher refresh rate that uses standard timings. The new timings will be in use immediately. Press [Ctrl]+[Z] to **Undo** this action if your monitor looses its sync and stays black (a short blanking period is normal).

Command buttons

> **Undo:** Will undo any of the **Position, Dimension,** or **Standard Refresh** changes, one step at a time. Multiple Undo is supported.

> **Reset:** Returns all the video parameters to the original settings when you first entered the test screen. This also clears the Undo buffer of previous actions.

> **OK:** Saves the video parameters in the selected branch of the monitor mode tree.

> **Cancel:** Discards all changes made and reverts back to the video parameters in use before the **Test** button was clicked.

> **Details:** Calls up the **Video parameters** panel that displays video timing details.

Video parameters panel

When you click on the **Details** button, a **Video parameters** panel is added to the **MGA Monitor Test Controls** dialog box. This panel displays the video timings for the current mode, and dynamically shows changes in parameter values when you use the **Display Position**, **Display Dimension** and **Standard Refresh** controls.

To modify parameters, you can use the arrows buttons in each box, or type in the values you want for a particular parameter. MGA PowerDesk will check your numbers and may adjust other values so that the parameters respect certain hardware and software constraints. The changes will not be tested until you click on the **Apply** button.

Monitor creation (for advanced users)

As soon as you modify a mode, you can save the changes. Just click on **OK** to exit the monitor adjustment mode, and then click on **Save** in the **Properties** dialog box. All the monitors you create (modify) go into a monitor "manufacturer" called **User-Defined**. The new timings apply immediately after exiting the **MGA Monitor** sheet.

It's possible to re-edit your monitor timings, but we recommend you test all resolutions *before* using a monitor. You must be in 8-bit (256 colors) mode to test all resolutions.

To create (or cancel) special zoom or pixel depth timings for a specific resolution, right-click on the desired resolution. You'll see a menu allowing you to either merge or split modes.

It's not possible to create a monitor description "from scratch". You must select a monitor with similar capabilities, and then modify it. If your monitor is not in our list, use a VESA monitor (**Standard monitor types**). Most popular monitors support 75 Hz at least up to 1024 × 768. Some monitors support 1280 × 1024 only at 60 Hz, while others can perform at 75 Hz.

If you want the maximum refresh rate for your monitor:

1. Select one of the VESA monitors, then once in the monitor test mode, try selecting higher timings in the **Standard Refresh** pick list.

2. Click on **Details** to fine tune the vertical refresh rate in the **Video parameters** panel. Click the **Apply** button after each change.

3. Press [Ctrl]+[Z] to return to the previous setting if the refresh rate exceeds your monitor's capabilities and your screen goes blank.

MGA Settings sheet

Access the **MGA Settings** sheet by clicking on its tab in the Windows 95 **Display Properties** dialog box. This sheet supersedes the Windows **Settings** sheet, whose display controls are grayed out (dimmed, and unavailable) when a MGA PowerDesk is present.

The **MGA Settings** sheet has an enhanced **Desktop area** feature where you can create a desktop area that's larger than the current display area. This effectively expands your working area beyond the limits of your monitor. This sheet also has the usual settings for the **Display area**, **Color Palette**, and **Font Size**.

This sheet gives you the ability to save settings as display schemes. Additionally, **Advanced** sheets are available for driver configuration, hotkey setup, and information about your board.

 When your driver and display settings are configured to support 3D acceleration, you'll see a rotating cube labeled **3D** on the **MGA Settings** sheet. (See "**Modes supporting 3D**" in the "**Advanced Settings**" section.)

Controls

Desktop Mode buttons

These buttons let you select a virtual desktop configuration. Going from top to bottom (left to right above), these buttons offer you a choice of:

- No virtual desktop

- A virtual desktop area proportional to your display area

- A horizontal virtual desktop approximately twice the display width

- A vertical virtual desktop approximately twice the display height

For each configuration, certain controls on the **MGA Settings** sheet may be changed or not available, according to the constraints of that configuration.

Desktop/Display Preview

To the right of the desktop mode buttons is a preview image that changes dynamically to reflect desktop and display area settings currently selected.

Desktop area slider

This control lets you select the size of your desktop area. When you move this slider, the desktop portion of the Desktop/Display Preview reflects the change. The **Desktop area** slider is subject to the following constraints:

- The desktop sizes available depend on current setting of the **Display area** slider.

- This slider is not visible when you select no virtual desktop (the first desktop mode button).

- If you select a horizontal or vertical virtual desktop (the third and fourth desktop mode buttons), **Desktop area** displays a pre-defined desktop size for current setting of the **Display area** slider. The desktop width or height is usually twice the width or height of the display area, to a maximum of 2048 pixels. Some desktop

resolutions may not be available because of insufficient video memory. Refer to the "**Maximum Resolution Tables**" section at the end of this document for more information.

Display area slider

This control lets you set your display resolution. When you move the slider, the monitor portion of the Desktop/Display Preview reflects the change. You'll be prompted to restart Windows 95 *only* if you also change the font size or color palette. Note that only **Small Fonts** are available at 640 × 480 resolution.

Color palette panel

This control lets you select the number of displayable colors. There are four entries in the drop down list: **256 Colors**, **High Color (16bit)**, **True Color (24bit)**, **True Color (32bit)**. The smaller your palette, the more display area resolutions are available to you. You have to restart Windows for a change in the color palette to take effect.

- *If you use True Color often*, we recommend *32-bit* mode for applications using MGA 3D acceleration, or for getting the best performance when you're playing *AVI* or *MPEG* files. Otherwise, we recommend *24-bit* mode, which is faster and can support more resolutions on boards with 4 MB or more.

Font size

This control lets you select the system font size. (This control is unavailable if the display area size is set to 640 × 480.) The default entries in the drop down list are **Small Fonts** and **Large Fonts**. You can select a custom font size by clicking on the **Custom** button. You have to restart Windows for a change in the font size to take effect.

Click on the **Custom** button for the **Custom Font Size** dialog box. Here, you can you can select a font size from a drop down list of pre-defined font sizes (**75%**, **100%**, **125%**, **150%**, and **200%**) or by clicking and dragging on the ruler. A sample font under the ruler shows a preview of the size you're selecting. The new font sizes are reflected in the **Font size** list. If you return to a standard font size (**100%** or **125%**), the custom font size you created is removed from the list. You have to restart Windows for a change in **Font size** to take effect.

- **Note:** If you make your fonts too large through the **Custom Font Size** dialog box, you may not be able to access some dialog box buttons.

Display scheme

This control lets you quickly switch to a pre-defined display scheme through a drop-down list. A display scheme is a **Display area**, **Desktop area**, **Font Size**, and **Color Palette** setting saved under a particular name. These display schemes also appear in the QuickDesk menu (see "**MGA QuickDesk**" section). You can save the current settings under a new scheme with the **Save as** button. Default schemes are provided with MGA PowerDesk.

Advanced Settings

Click on the **Advanced** button to see the **MGA Advanced Settings** dialog box with tabs to access the **Performance**, **MGA PowerDesk**, and **Information** sheets.

Performance sheet

The **Performance** sheet has check boxes to enable or disable advanced option settings for the display driver. These options include:

☑ **Use Bus Mastering** (Matrox Mystique only) – When this check box is enabled, the Matox Mystique bus mastering capabilities are used to accelerate DirectDraw and Direct3D performance. Note that some older PCI systems may not be compatible with this feature, causing applications to malfunction.

☑ **Use Device Bitmaps caching** – When enabled, hardware acceleration is used to cache some bitmapped objects in the video memory. This feature improves overall performance, particularly on the slower Pentium-based systems.

☑ **Use Rectangle acceleration** – When enabled, hardware acceleration is used for drawing bordered rectangle objects.

☑   **Use Polygon acceleration** – When enabled, hardware acceleration is used for drawing complex polygon objects.

☑   **Use Circle and Ellipse acceleration** – When enabled, hardware acceleration is used for drawing circles and ellipses.

☑   **Use 3D acceleration** – When enabled, 3D hardware acceleration and double buffering are enabled for the modes listed below. If the current mode supports 3D and the option is enabled you'll see a rotating 3D cube on the **MGA Settings** sheet. If a mode doesn't support 3D, you won't see the cube even though this option is enabled.

Modes supporting 3D

2 MB on-board RAM:	640 × 480, 16 bpp (bits per pixel)
4 MB on-board RAM:	640 × 480, 16 bpp
	800 × 600, 16 bpp
	640 × 480, 32 bpp
8 MB* on-board RAM:	up to 1280 × 1024 in 16 bpp
(*Matrox Millennium only)	up to 1024 × 768 in 32 bpp

☑   **Use PowerGDI acceleration** – When enabled, this allows the driver to bypass Windows GDI (Graphics Device Interface) overhead for some of the frequently used graphics functions, resulting in better performance.

☑   **Analog joystick** – When enabled, the DirectDraw/Direct3D driver will give DirectInput higher priority for joystick reading. Select this check box only if you have an analog joystick **and** you are experiencing "jittering" problems (erratic display motion) with DirectX applications. Leave this check box clear if you have a digital joystick. Performance is generally better when this check box is cleared.

☑   **Use Filtering When Scaling** (Matrox Millennium only) – When this checkbox is enabled, filtering methods are used to enhance the image quality when playing video files with scaling.

⇔   **DirectDraw Scaling Quality** (Matrox Mystique only) – This slider control sets the level of quality used when playing video files with scaling. The lowest level uses simple pixel replication, with optimal speed. The other levels use various filtering methods to enhance the image quality.

•   You need to restart Windows for changes in any of the following performance settings to take effect: bus mastering, device bitmaps, rectangle accelleration, polygon accelleration, circle and ellipse accelleration, filtering when scaling, or DirectDraw scaling quality.

MGA PowerDesk sheet

This sheet lets you set the hotkey for **PixelTOUCH**, **CenterWINDOW**, and **PanLOCK**, and set the **ResSwitch** check box.

Hotkey settings: To set a hotkey, place the cursor in the option field, then press the key combination you want to use. The key combination will appear in the option field. Press the space bar to reset a hotkey setting to "None". See "**Feature buttons**" in the "**MGA Desktop Navigator**" section for information on the **PixelTOUCH**, **CenterWINDOW**, and **PanLOCK** features**.**

ResSwitch check box: Enabling the **ResSwitch** warning option causes the driver to prompt you before keeping any change of the display options. This allows you to "sample" the new setting for 15 seconds and then return automatically to the previous setting if you don't respond. This is useful if you happen to select a setting not supported by your monitor – your old setup will return after 15 seconds.

Information sheet

The **Information** sheet displays all the driver version numbers, hardware versions and capabilities, and DirectDraw driver status.

MGA Color sheet

You can use the **MGA Color** sheet to fine tune your monitor's color balance to:

- Compensate for your viewing environment.

- Match other monitors that you may be using with the same application.

This color sheet works with all monitors since it only manipulates the brightness and contrast controls. The main controls on the color page perform the following actions:

### Color Temperature control

Use this slider to adjust the color temperature of your monitor. A **Warm** setting causes a neutral gray to have a yellow-red tint; a **Cool** setting causes neutral gray to have a blue tint.

Contrast control

These slider controls let you alter the contrast of the three primary colors that your monitor uses. The contrast of a color is related to its gamma. **Gamma** in this case is a measure of the relationship between the brightness of a color on the screen and the amount of voltage the computer is sending to the monitor for that color. If you enable the **Link** check box, the RGB colors will remain equal in strength, so you can make uniform changes in contrast for the three primary colors. When **Link** is checked, you'll only see one curve, because gamma for all three colors follows the same path.

Click the **Reset** button to reset the **Contrast** and **Color Temperature** controls to their default values.

RGB Curves display
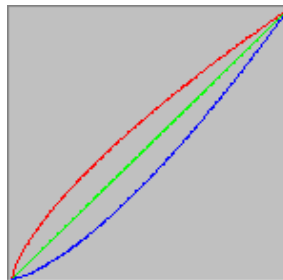
As you adjust the **Contrast** controls, this panel reflects changes made by the MGA driver to the tonal reproduction curve (gamma) of the red, green, and blue monitor colors.

Advanced program

You can upgrade the **MGA Color** sheet with Sonnetech's **Colorific**, a more advanced color calibration program which integrates printer output calibration and Kodak's Precision™ color management system.

MGA Desktop Navigator

MGA Desktop Navigator (DeskNav) lets you quickly change the viewing area of your desktop and gives you quick access to the PixelTOUCH zoom, PanLOCK and CenterWINDOW features. You can launch DeskNav from the QuickDesk menu or by **Start** button → **Programs** → **MGA PowerDesk** → **MGA Desktop Navigator**.

Use DeskNav's Desktop Preview to "navigate" when you're using PixelTOUCH zoom or a virtual desktop. The Desktop Preview shows you an image of your desktop, including what's not in your display area. You can move the display area simply by clicking or dragging in the Desktop Preview. A rectangle in the Desktop Preview shows you where your display area is relative to your virtual desktop.

Feature buttons

Pause your mouse cursor over a feature button icon to see a pop-up tooltip identifying it.

PixelTOUCH: Click the "**+**" and the "**-**" buttons to zoom in and out from the present view. DeskNav supports ×1 (normal view), ×2, and ×4 zoom levels. The ×4 zoom level is not available at 640 × 480 and 800 × 600 resolutions.

PanLOCK: disables panning when you are using the PixelTOUCH zoom or virtual desktop. Click on this button again to enable panning.

CenterWINDOW: Click this button for a menu of application windows you have open on your desktop. Choose a window from this menu to center it in your display area. If the window you select is larger than the visible part of your desktop, DeskNav lines up the top-left corner of the visible area with the top-left corner of the window.

Options

Right-click on the **MGA DeskNav** title bar to access its system menu and these options:

- **Update Screen** updates the image of your desktop in the DeskNav's Desktop Preview. This option is only available if **Desktop Preview** is enabled in **Preferences** (see below).

- **Preferences** brings up DeskNav's **Preferences** dialog box.

  - **Show Desktop Preview** displays the Desktop Preview without the Tool Bar in DeskNav's window.

  - **Show Tool Bar** displays the Tool Bar without the Desktop Preview in DeskNav's window.

  - **Show Both** displays both the Desktop Preview and the Tool Bar in DeskNav's window.

  - ☑ **Snap to corner** causes the DeskNav window to stay in a corner of the display area as you pan across your virtual desktop. To select which corner DeskNav snaps to, click on one of the corner boxes of the rectangle representing your display.

  - ☑ **Dynamic corner snap** causes the DeskNav window to "snap" to the closest corner when you reposition it. Select **Snap to corner** to make the **Dynamic corner snap** check box available.

- **Center cursor on Panning** centers the mouse cursor in your visible desktop when you move the display rectangle in the Desktop Preview. You can turn this option on (a "✓" appears to the left of it) or off by clicking on it in the system menu.

- **Display Properties** starts the Windows 95 **Display Properties** dialog box.

MGA QuickDesk

MGA QuickDesk is an applet that lets you quickly switch between your saved display schemes and launch the MGA Desktop Navigator or the **Display Properties** dialog box.

When you install MGA PowerDesk 3.x, you have the option of having Windows 95 start QuickDesk every time you start your computer, or choose **Start** button → **Programs** → **MGA PowerDesk** → **MGA QuickDesk** to run QuickDesk at any time.

When QuickDesk is running, its icon appears in the notification area of the taskbar (next to the clock). Pause your mouse cursor over this icon to see a pop-up tooltip identifying what display scheme you're currently using.

Click on the taskbar monitor icon with either the left or right mouse button to bring up the QuickDesk menu. The top part of this menu lists all your saved display schemes – to change your current display scheme, choose a scheme from the menu. You can create new schemes in the **MGA Settings** sheet of the Windows 95 **Display Properties** dialog box (see "**Display scheme**" in the "**MGA Settings sheet**" section).

The bottom three items of the QuickDesk menu let you bring up the Windows 95 **Display Properties** dialog box, **Launch MGA DeskNav**, and **Close MGA QuickDesk**, respectively.

Questions & Answers

Here are some common questions and some possible solutions.

Q: There's another Matrox Millennium driver on the Windows 95 CD-ROM. What is it?

A: This driver is part of the Windows Driver Library (WDL). In the **Adapter Type** field (**Display Properties** dialog box → **Settings** tab → **Change Display Type** button), this driver is called **Matrox MGA Millennium**, while the MGA PowerDesk one is called **Matrox MGA Millennium PowerDesk** or **Matrox MGA Mystique PowerDesk**. The WDL driver does not support MGA PowerDesk.

Q: I start Windows 95 and my monitor does not sync properly. What can I do?

A: The MGA driver may be trying to boot in a resolution your monitor does not support. This could occur if you never selected a monitor, or if you physically changed your monitor without informing the MGA adapter.

To recover from this problem:

1. Press [Ctrl]+[Alt]+[Del] twice to reboot your system.

2. When the screen displays "**Starting Windows 95**", press [F5] to enter Windows 95 in "**safe mode**". (Windows 95 will boot in standard VGA at 640 × 480.)

3. Change your display area to 640 × 480 with no virtual desktop. (See "**MGA Settings sheet**" section).

4. Select your monitor. (See "**MGA Monitor sheet**" section).

Q: I have a problem with an application that I suspect is caused by the display driver. What should I do?

A: Your application may not work properly with some MGA acceleration. You can disable specific types of acceleration, or bypass hardware acceleration altogether.

To turn off specific types of MGA acceleration:

1. Right-click on the desktop background and click on the **Properties** menu item for the Windows 95 **Display Properties** dialog box.

2. Click **MGA Settings** tab → **Advanced** button → **Performance** tab.

3. Uncheck one or more acceleration options starting with **Use Device Bitmaps Caching**. (See "**Advanced Settings**" in the "**Performance sheet**" section for more information.)

4. Click **OK** → **OK** buttons to accept the changes.

You may have to reboot your system for the changes to take effect.
If your problem persists, and you've turned off all the **Performance** acceleration options, try bypassing MGA hardware acceleration altogether. **To bypass MGA hardware acceleration:**

1. Click (or double-click) **Start** button → **Settings** → **Control Panel** → **System** icon (double-click) → **Performance** tab → **Graphics** button.

2. Move the **Hardware acceleration** slider to **None**.

3. Click **OK** → **OK** buttons to reboot with hardware accelerations turned off.

Q: Can I disable the MGA PowerDesk for Windows 95 software?
A: Yes, you can. Here's how (for advanced users only):

1. In the **Display Properties** dialog box → **MGA Settings** sheet, make sure your desktop area is *not* larger than your display area (disable virtual desktop).

2. To remove the **MGA Settings**, **MGA Monitor**, **MGA Color** sheets from the Windows 95 **Display Properties** dialog box:

   a) Click **Start** button → **Run** and enter *regedit* to run **Registry Editor**.

   b) Click **Registry** menu → **Import Registry File** and enter *C:\ProgramFiles\Matrox MGA PowerDesk\ PowerDeskOff.reg* in the **File name** field.
      (*PowerDeskOff.reg* may be in a different folder if you customized it in the MGA installation procedure.)

3. Delete the *C:\WINDOWS\Start Menu\Programs\StartUp\MGA QuickDesk* shortcut if it exists.

To restore MGA PowerDesk:

1. Click **Start** button → **Run** and enter *regedit* to run **Registry Editor**.

2. Click **Registry** menu → **Import Registry File** and enter *C:\ProgramFiles\Matrox MGA PowerDesk\ PowerDeskOn.reg* in the **File name** field.

   (*PowerDeskOff.reg* may be in a different folder if you customized it in the MGA installation procedure.)

3. Copy the *MGA QuickDesk* shortcut from *C:\WINDOWS\Start Menu\Programs\MGA PowerDesk* to *C:\WINDOWS\Start Menu\Programs\StartUp* if you want it to launch whenever you start Window95.

Maximum Resolution Tables

The following tables show the maximum resolutions for horizontal and vertical desktops according to on-board memory.

2 MB boards

	256 Colors (8 bpp)	High Color (16 bpp)	True Color (24 bpp)	True Color (32 bpp)
Maximum Display Resolution	1600 × 1200	1152 × 864	800 × 600	800 × 600
Maximum Proportional Desktop	1600 × 1200	1152 × 864	800 × 600	800 × 600
Horizontal Desktop	2048 × 864	1600 × 600	1280 × 480	N.A.
Vertical Desktop	1152 × 1728	800 × 1200	640 × 960	N.A.

4 MB boards

	256 Colors (8 bpp)	High Color (16 bpp)	True Color (24 bpp)	True Color (32 bpp)
Maximum Display Resolution	1600 × 1200	1600 × 1200	1280 × 1024	1152 × 864
Maximum Proportional Desktop	2048 × 1536	1600 × 1200	1280 × 1024	1152 × 864
Horizontal Desktop	2048 × 1200	2048 × 864	1600 × 600	1600 × 600
Vertical Desktop	1600 × 2048	1152 × 1728	800 × 1200	800 × 1200

8 MB boards *

	256 Colors (8 bpp)	High Color (16 bpp)	True Color (24 bpp)	True Color (32 bpp)
Maximum Display Resolution	1600 × 1200	1600 × 1200	1600 × 1200	1280 × 1024
Maximum Proportional Desktop	2048 × 1536	2048 × 1536	1600 × 1200	1600 × 1200
Horizontal Desktop	2048 × 1200	2048 × 1200	2048 × 1200	2048 × 864
Vertical Desktop	1600 × 2048	1600 × 2048	1280 × 2048	1152 × 1728

* Matrox Millennium only