

Matrox PowerDesk for Windows NT 4.0

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Using this guide

This guide assumes you're familiar with basic functions like click, right-click and

double-click, and that you're familiar with the basics of the operating system you're using. Also, we use the following conventions:

- **Bold** for text that appears on-screen, subheadings and labels.
- *Italics* for file names, paths, publication titles, and new terms.
- ***Bold italics*** 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.
- Arrows ("↔") to separate ordered directions. For example, "click **OK** ↔ **Close** ↔ **OK**" is the same as "click **OK**, then click **Close**, then click **OK**".

Online documentation

For context-sensitive help where available, click the "?" icon on the title bar, then click the item you want help on. Right-click a help topic for a pop-up menu that lets you print or copy it.

Overview

Matrox PowerDesk for Windows NT includes

- **Fast** display driver with:
 - ⇒ Multi-display support to use up to 17 monitors at a time.
 - ⇒ Accelerated DirectDraw and OpenGL support so programs can have direct access to Matrox hardware.
 - ⇒ Plug-and-Play (DDC-2B) monitor support.
- **Settings** property sheet to change your display settings. Use this sheet to access Matrox PowerDesk features such as:
 - ⇒ Desktop mode buttons for a proportional, horizontal or vertical *virtual desktop*.
 - ⇒ Display schemes to easily switch to a pre-defined display setting.
- **Monitor** property sheet to inform the Matrox display driver of your monitor's capabilities.
- **DualHead** property sheet to configure DualHead options.
- **PowerDesk** property sheet to configure Matrox PowerDesk options.
- **Performance** property sheet to configure advanced driver settings.

- **Information** property sheet for information on your display hardware and software.
- **Matrox DeskNav** program to quickly change the view area of your desktop and give you quick access to the PixelTOUCH zoom and CenterWINDOW features.
- **Matrox QuickDesk** menu to quickly switch to a saved display scheme, and to access other Matrox PowerDesk features.

Note: Access Matrox display property sheets through the **Matrox Display Properties** dialog box. To open this dialog box, click **Start** \llcorner **Settings** \llcorner **Control Panel** \llcorner **Matrox Display Properties** (double-click).

Settings property sheet

Use this property sheet to change your display settings. With this sheet you can:

- Control your display area, color palette, and system font size.
- Set up your desktop area to be larger than your display area. This extends the Windows work area beyond the limits of your display.
- Save settings as display schemes.

This section describes the various parts of the Matrox **Settings** property sheet.

Desktop preview



The desktop preview reflects your selected desktop and display area. Your *desktop area* is your entire Windows work space while your *display area* is your on-screen work space. You have a *virtual desktop* when your desktop area is larger than your display area.

Desktop or display area *resolution* is measured in pixels. (A *pixel* is the smallest element that can be drawn on your display.) For example, a 640 x 480 resolution is 640 pixels wide by 480 pixels high.

Note: When you apply changes to your display settings, you may be prompted to confirm that your monitor supports the new settings. Your screen may flicker for a few seconds while the settings are being changed. If your screen image becomes garbled or unusable, simply wait, and your original settings will be restored.

Desktop mode buttons

Click one of these buttons to set the type of desktop area you want. Pause your mouse pointer over a desktop mode button to see a pop-up tooltip identifying it. The desktop mode buttons are:



No Virtual Desktop

Click this button for your desktop area to be the same size as your display area. The **Desktop area** slider is unavailable when this button is pressed.



Proportional Virtual Desktop

Click this button to have a desktop area proportionally larger than your display area. To adjust a proportional virtual desktop, move the **Desktop area** and **Display area** sliders.



Horizontal Virtual Desktop

Click this button to have a desktop width approximately twice your display width. To adjust a horizontal virtual desktop, move the **Display area** slider.



Vertical Virtual Desktop

Click this button to have a desktop height approximately twice your display height. To adjust a vertical virtual desktop, move the **Display area** slider.



Multi-Display Desktop

Click this button to enter multi-display mode. In multi-display mode, move the **Desktop area** slider to cycle through all your possible desktop configurations. This button is only available if you have more than one Matrox graphics card (or a Matrox multi-monitor graphics card) installed in your computer. For more information, see ["Multi-display desktop"](#).

Desktop area

Move this slider to change your desktop area. Your *desktop area* is your whole Windows work space. This includes everything you see on-screen (display area) and includes off-screen area when you're using a virtual desktop. Your desktop area is always equal to or larger than your display area.

This slider is unavailable when the **No Virtual Desktop**, **Horizontal Virtual Desktop** or **Vertical Virtual Desktop** mode button is selected. For more information, see ["Desktop mode buttons"](#).

In multi-display mode (see "[Multi-display desktop](#)"), use this slider to cycle through all your possible desktop area configurations.

Display area

Move this slider to increase or decrease your display area. Your *display area* is your on-screen work area and it's always equal to or smaller than your desktop area. In multi-display mode (see "[Multi-display desktop](#)"), this slider is unavailable.

WARNING: If no monitor, or an incorrect monitor, is selected in the software, you may be able to apply a display area resolution that is too high for your monitor. If this happens, your screen image may become garbled or unusable while in that resolution. For information on how to apply the proper monitor settings, see "[Monitor property sheet](#)".

Color palette

Click this list box to select your color palette. The *color palette* is the number of simultaneous colors the Matrox display driver can show. This number is based on the *pixel depth* -- the number of bits used to store the color information for each pixel. You can select **256 Colors**, **High Color (16-bit)**, **True Color (24-bit)** or **True Color (32-bit)**.

In general, the smaller your currently selected color palette, the larger your maximum display area resolution.

Note: Matrox 3D acceleration only works with 16- and 32-bit color palettes. Also, 24- and 32-bit color palettes both have 16 million simultaneous colors, but the 32-bit color palette lets you use 3D acceleration and can offer better performance when playing AVI or MPEG video files.

Font size

Click this box to select your system font size. You can select **Small Fonts** or **Large Fonts**. You have to restart your computer for a change in your system font size to take effect. This box is unavailable if your currently selected display area resolution is 640 x 480, because Windows only supports small fonts at this resolution.

Click the **Custom** button to open the **Custom Font Size** dialog box. Here, you can select a custom system font size from a drop-down list box of pre-defined scaling percentages, 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 size you create is listed in the **Font size** box. If you later return to a standard system font size (100% or 125%), the custom font size you created is removed from the list.

Note: The first time you apply large fonts, you may have to install system fonts from your Windows NT installation CD-ROM. Matrox PowerDesk software will prompt you if

this is necessary.

Display scheme

Click this box to select from a list of pre-defined display schemes. A *display scheme* is a saved profile with a specific desktop area, display area, color palette and font size setting. Click the **Save As** button to save your currently selected display settings under a new scheme name. These display schemes also appear in the Matrox QuickDesk menu (see "[Matrox QuickDesk](#)").

Refresh frequency

If the **VESA settings** button on the **Monitor** property sheet is selected (see "[Monitor property sheet](#)"), click this box to select monitor settings by vertical refresh rate. These settings are based on standards defined by the Video Electronics Standards Association (VESA).

The *vertical refresh rate* is the number of times your graphics card redraws the entire screen in one second, expressed in Hertz (cycles per second). A higher vertical refresh rate results in less noticeable flicker in your display.

When using a monitor setting selection method other than **VESA settings**, this box shows only the current vertical refresh rate.

For multi-display desktops (see "[Multi-display desktop](#)"), changes in this box affect all monitors.

WARNING: If a refresh rate that's too high for your monitor is applied, your display may become garbled or unusable. For more information, see "[Monitor property sheet](#)".

Matrox 3D acceleration



You'll see a rotating cube on the **Settings** property sheet when your display settings are set up to support Matrox 3D acceleration. Matrox 3D acceleration is available if all of the following conditions are met:

- The **Use 3D acceleration** check box is enabled (**Performance** property sheet). For more information, see context-sensitive help.
- You're using a 16- or 32-bit color palette (see "[Color palette](#)").
- There's enough graphics memory available. Generally, higher resolutions use up more memory.

Note: Matrox 3D acceleration is unavailable in multi-display mode (see "[Multi-display desktop](#)").

Monitor property sheet

Use this property sheet to inform the Matrox display driver of your monitor's capabilities. Monitor settings affect your display resolution and refresh rate.

The *vertical refresh rate* is the number of times the monitor redraws the entire screen in one second. A higher refresh rate produces less noticeable flicker in your display.

This section shows you how to:

- Select the Windows NT method of changing monitor settings.
- Select the Plug-and-Play method of changing monitor settings.
- Use the Matrox monitor selection method.
- Test a Matrox monitor profile.
- Modify a Matrox monitor profile.

WARNING: If no monitor, or an incorrect monitor, is selected in the software, you may be able to apply a display area resolution that's too high for your monitor. If this happens, your display becomes garbled or unusable while in that resolution.

Also, if incorrect software monitor settings are applied, **some** monitors can be permanently damaged. For more information, see your monitor manual.

Note: When you change monitor settings, you may be prompted to confirm that your monitor supports the new settings. When settings are applied, your screen may flicker for a few seconds while the settings are being changed. If your display becomes garbled or unusable, simply wait 15 seconds, and your original settings will be restored.

Monitor settings selection

VESA settings

To change your monitor settings with the **Refresh frequency** box on the **Settings** property sheet (see "**Refresh frequency**"), select this button.

Note: You can't test monitor settings when this button is selected. Also, if this button is selected and you're using a multi-display desktop (see "**Multi-display desktop**"), the same monitor settings are applied to all the displays in your system.

Plug-and-Play (DDC) monitor

If you have a Plug-and-Play (DDC) monitor, select this button. (This button is available **only** if you're using a Plug-and-Play monitor.) The Matrox display driver will **automatically** use the correct settings, as reported by your monitor.

Note: Many Plug-and-Play monitors don't automatically report if they're capable of 1152 x 864 or 1600 x 1200 and higher display resolutions. To use these resolutions, or higher refresh rates than those reported by the monitor, you can use the Matrox monitor selection method.

Default monitor

If this button is selected, the Matrox display driver uses a 60 Hz vertical refresh rate for your display. (This button is **not** available if you're using a Plug-and-Play monitor.) To inform the display driver of your monitor's true capabilities, use the Matrox monitor selection method.

WARNING: The **Default monitor (60 Hz)** setting lets you select all the resolutions the Matrox driver supports, even those your monitor may not be capable of. If you select a display area resolution that's too high for your monitor, your display will become garbled or unusable.

Matrox monitor

Click this button to use the Matrox method of monitor selection. Use the Matrox monitor selection method to inform the display driver of your monitor's true capabilities, to test monitor settings, or if you have a Plug-and-Play monitor but don't want to use its default settings. For instructions on how to use Matrox monitor selection, see "[Matrox monitor selection](#)".

Output to TV

If your Matrox graphics card supports TV output, you can record or view your computer display on a video recorder or TV connected to your computer. To use TV output mode, click one of the following buttons (these buttons are only available if your Matrox graphics card has TV output support):

- ☰ **Output to TV (NTSC)** -- The NTSC standard is used in North America and Japan, among other places.
- ☰ **Output to TV (PAL)** -- The PAL standard is used in most of Western Europe and in China, among other places.

If you're not sure what standard your video recorder or TV uses, check its documentation.

While in TV output mode, your computer display uses TV settings. TV settings have lower resolutions and refresh rates than typical computer monitor settings. Lower refresh rates may result in more noticeable flicker. To turn off TV output mode, select a monitor settings button.

WARNING: Because **some** computer monitors don't support TV settings, a computer monitor may become garbled or unusable while TV output mode is used. If this happens, simply turn off your computer monitor and use your TV to view your

computer display. Your computer monitor will work normally when you disable TV output mode.

Also, **some** computer monitors may be damaged if they use the 50 Hz vertical refresh rate used with European TV settings. For more information, see your monitor manual.

Matrox monitor selection

- 1 Click **Start** \llcorner **Settings** \llcorner **Control Panel** \llcorner **Matrox Display Properties** \llcorner **Monitor** (tab) \llcorner **Matrox monitor** (option button).

A list of monitor manufacturers appears in the Matrox monitor list box.

- 2 Click the plus sign next to the manufacturer of your monitor.

This expands the list of models Matrox supports for this manufacturer. If the manufacturer of your monitor doesn't appear in the monitor list, use "**(Standard monitor types)**".

- 3 Click the model name you want to try.

You should be able to find the manufacturer and model of your monitor, or a monitor that is similar to yours. To find out the model of your monitor, check your monitor manual or see if it's written somewhere on your monitor.

- 4 Click **OK** to apply your selection and close the dialog box.

Your monitor setup is complete, and you can stop at this point. To test monitor settings before applying them, or to see detailed monitor settings, see "[Monitor testing](#)".

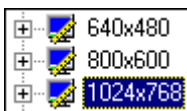
Monitor testing

With the **Monitor** property sheet, you can test a Matrox monitor selection.

To test a monitor profile:

- 1 Select a monitor profile from the Matrox monitor list box. For instructions on how to select a monitor profile, see "[Matrox monitor selection](#)", steps 1-3.
- 2 Click the **Properties** button.

When you click this button, the Matrox monitor list box turns into a list of resolutions supported by the selected monitor profile.



Resolutions with plus or minus signs next to them have different settings for different color palettes or zoom factors (for information on Matrox zoom, see

"Zoom-in").

- 3 Select the resolution, color palette or zoom factor mode you want to test.

If there are any plus signs associated with the mode you want to test, click them to expand the list, then click one of the expanded branches. When you select a mode that can be tested (one that can't be expanded), some of the settings associated with it appear next to the list box.

- 4 Click **Test** & **OK**.

Your monitor may flicker for a moment, then a test screen appears.

The test screen includes:

- ⊞ A border to check size and position.
- ⊞ Several circles to check aspect ratio.
- ⊞ Red, green and blue rectangles to check an RGB signal connection.
- ⊞ A color rainbow to check the color palette.

Matrox PowerDesk asks if you want to edit the settings of the monitor profile you selected. If the test screen looks okay, click **No**. To access advanced monitor settings, click **Yes** (see "[Monitor adjustment](#)").

Note: If the screen image is garbled or unusable, your monitor doesn't support the settings for the current display mode.



(Back button)

Press [Esc] to return to the **Monitor** property sheet, then click the **Back** button to return to the monitor list and select another monitor profile (see "[Matrox monitor selection](#)").

- 5 Repeat steps 3 and 4 to test another mode for the selected monitor profile. If you're not sure whether all the display modes of the selected monitor profile work with your monitor, we recommend you test **all** its associated modes before applying it.

When you're done testing, click **OK** to apply the selected monitor profile and close the dialog box.

WARNING: If you don't test all the display modes for a monitor profile, your display may become garbled or unusable the first time you use an untested display mode.

Monitor adjustment (for advanced users)

When you test a monitor profile, Matrox PowerDesk asks if you want to edit the profile settings (see "[Monitor testing](#)", step 4). To access advanced monitor settings, click

Yes.

Note: If setting controls are available on your monitor, we recommend you use them *instead* of the advanced Matrox monitor test controls -- this is usually easier. For information on your monitor's hardware controls, see your monitor manual.

Use Matrox monitor test controls if your monitor doesn't have hardware controls to adjust your display size or position, or you want to adjust a monitor profile. Your screen image may flicker during some adjustments. Adjustments you make here affect only the selected monitor profile mode. The following describes the various parts of the **Matrox Monitor Test Controls** dialog box:

Display Dimension

Click these buttons to horizontally or vertically expand or shrink the display.

Display Position

Click these buttons to adjust the position of the display.

Standard Refresh (Hz)

Click this box to select from a list of standard VESA settings. VESA settings are based on the vertical refresh rate. If you want to try higher refresh rates, we recommend you select from this box. When you select a new standard refresh, it immediately takes effect on the test screen.

Command buttons

- ☰ **Undo** -- Click this button to undo the last change you made. Click it repeatedly to undo changes one step at a time. (Using this button, you can only undo changes you made after the test screen was opened.) Pressing [Ctrl]+[Z] is the same as clicking this button.
- ☰ **Reset** -- Click this button to restore the settings to what they were just before you opened the test screen.
- ☰ **OK** -- Click this button to save settings, close the test screen and return to the **Monitor** property sheet. Pressing [Enter] is the same as clicking this button.
- ☰ **Cancel** -- Click this button to restore settings to what they were just before you opened the test screen, close the test screen and return to the **Monitor** property sheet. Pressing [Esc] is the same as clicking this button.
- ☰ **Details** -- Click this button to show or hide detailed monitor settings (see "[Video parameters](#)").

Video parameters panel

Click the **Details** button to see the **Video parameters** group box. Use the controls in this box to adjust monitor settings in detail. When you change one of these settings, Matrox PowerDesk may adjust other settings to respect hardware and software restrictions. Changes in this group box don't take effect until you click the **Apply** button.

Custom monitor profiles (for advanced users)

To save and apply adjustments you make in the test screen:

- 1 Make your adjustments in the Matrox test controls dialog box, then click **OK** to save the current monitor mode settings. Repeat this for each mode of the selected monitor profile you want to adjust.
- 2 Click **Save** on the **Monitor** property sheet.
- 3 Type the name you want to use for your customized monitor profile (or you can leave the default name), then click **Save**.

All monitor profiles you save are added to the Matrox monitor list under a "manufacturer" called "**(User-Defined)**".

- 4 Click the **Back** button to return to the Matrox monitor list.
- 5 In the Matrox monitor list box, select the name of the monitor profile you just created, then click **Apply**.

To create or merge color palette or zoom factor settings, right-click a monitor mode in the Matrox list box, then select from the pop-up menu.

DualHead property sheet

Use this property sheet to change settings for DualHead options. For more information, see context-sensitive help.

This property sheet is only available if your Matrox graphics hardware has DualHead support.

PowerDesk property sheet

Use this property sheet to change settings for Matrox PowerDesk options. For more information, see context-sensitive help.

Performance property sheet

Use this property sheet to change performance settings for the Matrox display driver. For more information, see context-sensitive help.

Information property sheet

Use this property sheet to get specific information about your display hardware and software, including version numbers. For information on each entry on this sheet, see context-sensitive help.

Matrox QuickDesk



Use this program to quickly switch between your saved display schemes. It also launches the Matrox DeskNav program or the **Matrox Display Properties** dialog box.

When QuickDesk is running, its icon appears on the taskbar. Pause your mouse pointer over this icon to see a pop-up tooltip identifying what display scheme you're currently using.

Click the taskbar monitor icon to see the QuickDesk pop-up menu. The top part of this menu lists all your saved display schemes (see "[Display scheme](#)"). Click a scheme name to change to its display settings.

The bottom three items of the QuickDesk menu let you open the **Matrox Display Properties** dialog box, start Matrox DeskNav (see "[Matrox DeskNav](#)"), and close Matrox QuickDesk, respectively.

Matrox DeskNav



Use this program to quickly move the view area of your desktop and to access the PixelTOUCH zoom and CenterWINDOW features. Click **Matrox QuickDesk** \llcorner **Matrox DeskNav** to run DeskNav.

Use DeskNav's desktop preview to "navigate" when you're using Matrox zoom feature or a virtual desktop. The desktop preview shows you an image of your current desktop, including what's off-screen. You can move your view area simply by clicking or dragging on the desktop preview. A rectangle in the desktop preview shows you where your current view area is relative to your desktop area.

Feature buttons

Pause your mouse pointer over a toolbar button to see a pop-up tooltip identifying the button.

Zoom-in

Click this button to magnify part of your desktop area. Click again to magnify it even more. There are two zoom factors available, x2 and x4. The x4 zoom factor is unavailable at display area resolutions 800 x 600 and smaller. This button is unavailable if you're currently at the maximum zoom factor. When you magnify part of your desktop area, other parts of it are outside your view area. Clicking this button is similar to using the PixelTOUCH hot key.

Zoom-out

Click this button to zoom out from your view area. Click again to zoom out more. This button is unavailable if you're not currently zoomed in on part of your desktop.

CenterWINDOW

Click this button to see a menu of currently active programs, then click a menu item to center that program window inside the visible part of your display area (view area). This is useful if you're using a virtual desktop or the PixelTOUCH zoom feature and the currently active program window is not in your view area. The CenterWINDOW feature does not center windows larger than the current view area. Clicking this button is similar to using the CenterWINDOW hot key.

Options

Right-click the DeskNav title bar to access these menu items:

Update Screen

Click this to update the image of your desktop in the DeskNav desktop preview. This menu item is unavailable if the DeskNav desktop preview is disabled (see below).

Preferences

Click this to open the DeskNav **Preferences** dialog box with these options;

- ☰ **Show desktop preview** -- Click this option button to enable the DeskNav desktop preview (without the toolbar).
- ☰ **Show toolbar** -- Click this option button to enable the DeskNav toolbar (without the desktop preview).

- ☰ **Show both** -- Click this option button to enable both the DeskNav desktop preview and toolbar.
- ☰ **Snap to corner** -- Enable this check box to have the DeskNav window stay in a corner of your view area as you pan across your desktop. Click a corner box on the rectangle representing your view area to select which corner DeskNav snaps to.
- ☰ **Dynamic corner snap** -- Enable this check box to have the DeskNav window "snap" to the closest corner when you reposition it. This check box is unavailable if the **Snap to corner** check box is cleared.

Center Cursor on Panning

Click this to center your mouse pointer on your view area after you move the view area rectangle of the desktop preview. Click this menu item to change its setting (a "📍" appears next to it when it's enabled).

Matrox Display Properties

Click this to open the **Matrox Display Properties** dialog box.

Multi-display desktop

Matrox PowerDesk for Windows NT supports multi-display desktops. A multi-display desktop includes the display areas of more than one monitor. You can use a multi-display desktop only if you have more than one Matrox graphics card (or a Matrox multi-monitor graphics card) installed in your computer. (The model of each Matrox graphics card installed in your computer must be supported by the display driver. Matrox display drivers don't necessarily support all models of Matrox graphics cards.)

Monitor property sheet

If you're connecting a Plug-and-Play monitor to an additional Matrox graphics card, connect it **before** restarting your computer -- otherwise the Matrox display driver will not detect it.

The settings you choose on the **Monitor** property sheet apply only to the monitor for the currently selected display. To select a display, use the **Current display** box. (This box is unavailable if the **VESA settings** button is selected.) When you select a number, it appears briefly on the corresponding display.

Settings property sheet



Click the **Multi-Display Desktop** mode button to enter multi-display mode. In

multi-display mode, move the **Desktop area** slider to cycle through all your possible desktop configurations (the **Display area** slider is unavailable). Changes you make to the **Settings** property sheet affect all the displays on your system. Matrox 3D acceleration is unavailable in multi-display mode.

Matrox PowerDesk features

For information on how a multi-display desktop affects advanced Matrox PowerDesk features, see context-sensitive help.