

P O W E R E D B Y



matrox

Matrox G400 Flat Panel

• User Guide •

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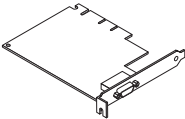
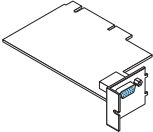

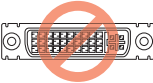

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Requirements

Requirement type	Requirement
Matrox graphics card model	G400-based card with support for your Matrox digital flat panel add-on.* Compatible models include: Millennium G400, Millennium G400 MAX, Marvel G400
Graphics card form factor	ATX or NLX <div style="display: flex; justify-content: space-around; align-items: center; text-align: center;"> <div data-bbox="448 319 658 453">  <p data-bbox="474 470 632 493">ATX graphics card</p> </div> <div data-bbox="728 319 902 467">  <p data-bbox="736 470 895 493">NLX graphics card</p> </div> </div>
Monitor while installing	Until Matrox software is installed, you may need to use an analog computer monitor (a standard CRT monitor) to view the output of your graphics card.
Monitor	Digital flat panel monitor supporting TMDS PanelLink and DDWG DVI standards.
Connector type on your digital flat panel monitor	<div style="display: flex; justify-content: center; align-items: center; text-align: center;">    </div> <p data-bbox="350 715 493 736">DVI-D connector</p> <p data-bbox="553 715 681 736">P&D connector</p> <p data-bbox="729 715 888 736">MDR-20 connector</p> <p data-bbox="283 754 917 819">If your flat panel monitor and your Matrox flat panel add-on don't use the same connector type, contact the vendor of your digital flat panel monitor to obtain a connector adapter.</p>
Operating system	Windows 3.1, 95, 98, NT 3.51, or NT 4.0, or OS/2 Warp 3.0/4.0

* Matrox DualHead/TV output and digital flat panel add-ons can't be used at the same time.

Installation

The installation procedure for your add-on depends on the form factor (ATX or NLX) of your Matrox graphics card, and whether your Matrox graphics card already has a second connector. This section describes the installation procedure for each possible configuration. For information specific to your computer, like how to remove its cover, see your system manual.

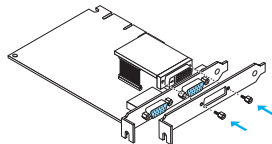
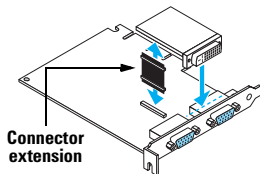
WARNING: Static electricity can severely damage electronic parts. Before touching any electronic parts, drain the static electricity from your body. You can do this by touching the metal frame of your computer. When handling a card, hold it by its edges and avoid touching its circuitry.

WARNING: Pressing together incorrectly aligned connectors can damage them. Before pressing connectors together, make sure all pins and holes are correctly aligned. After pins and holes are aligned, make sure connectors are firmly pressed together.

WARNING: To help prevent personal injury, allow your computer to cool before touching any of its internal parts.

ATX graphics cards *with* a second connector

- 1** Turn off your computer and remove its cover.
- 2** If your Matrox graphics card is installed in your computer, remove it.
- 3** Use the longest of the three connector extensions included with your add-on. Attach the connector extension and the add-on to the connector on the top surface of your graphics card. The monitor connector of your add-on should be above the bracket of your graphics card.
- 4** Attach the bracket included with your add-on and fasten it to the flat panel module with the 2 hexagonal nuts included with your add-on.



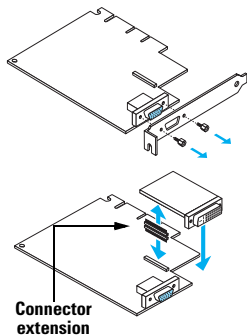
- 5** Remove the cover from the expansion slot next to the slot for your Matrox graphics card.
- 6** Reinsert your Matrox graphics card (with the attached add-on) into the slot you removed it from. Fasten the brackets to the computer with the screws you removed earlier. If this is the first time you're installing your Matrox graphics card, see your Matrox graphics card manual for more information.

- 7 Connect your flat panel monitor to the connector you just added to your Matrox graphics card. You can also connect a standard (CRT) monitor to the first monitor connector on your graphics card.

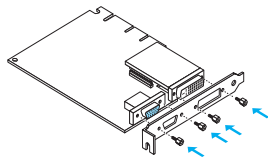
Note: Your graphics card can use no more than two types of displays (standard (CRT) monitor, digital flat panel monitor, or TV) at the same time. If, when you restart your computer, your digital flat panel monitor is connected to your graphics card, the second connector on your graphics card won't be used for output.

ATX graphics cards *without* a second connector

- 1 Turn off your computer and remove its cover.
- 2 If your Matrox graphics card is installed in your computer, remove it.
- 3 Remove the bracket from your Matrox graphics card by using pliers to unscrew the hexagonal nuts on either side of the monitor connector.
- 4 Use the shortest of the three connector extensions included with your add-on. Attach the connector extension and the add-on to the connector on the top surface of your graphics card. The monitor connector of your add-on should be level with the connector on your graphics card.



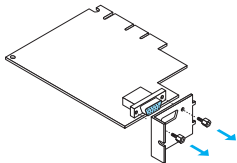
- 5 Attach the bracket included with your add-on and fasten it with the 4 hexagonal nuts (the 2 you removed earlier and the 2 included with your add-on).



- 6 Reinsert your Matrox graphics card into the slot you removed it from. Fasten the bracket to the computer with the screw you removed earlier. If this is the first time you're installing your Matrox graphics card, see your Matrox graphics card manual for more information.
- 7 Connect your flat panel monitor to the connector you just added to your Matrox graphics card. You can also connect a standard (CRT) monitor to the first monitor connector on your graphics card.

NLX graphics cards

- 1 Turn off your computer and remove its cover.
- 2 If your Matrox graphics card is installed in your computer, remove it.
- 3 Remove the bracket from your Matrox graphics card by using pliers to unscrew the hexagonal nuts on either side of the monitor connector.

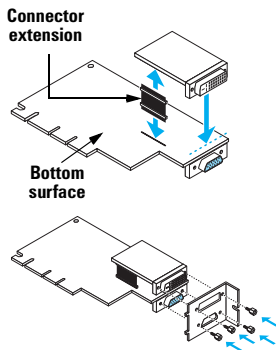


4 Use the medium of the three connector extensions included with your add-on. Attach the connector extension and the add-on to the connector on the bottom surface of your graphics card. The monitor connector of your add-on should be slightly above the monitor connector of your graphics card.

5 Attach the bracket included with your add-on and fasten it with the 4 hexagonal nuts (the 2 you removed earlier and the 2 included with your add-on).

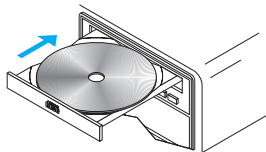
6 Reinsert your Matrox graphics card into the slot you removed it from. Fasten the bracket to the computer with the screw you removed earlier. If you're installing your Matrox graphics card for the first time, see your Matrox graphics card manual for more information.

7 Connect your flat panel monitor to the connector you just added to your Matrox graphics card. You can also connect a standard (CRT) monitor to the first monitor connector on your graphics card.



Software installation

If you have an installation CD-ROM that came with your graphics card in addition to the CD-ROM included with your add-on, use the most recent of these CD-ROMs for the software installation. To find out which is more recent, see the date at the top of each CD-ROM *Readme* file. Otherwise, use the one included with your add-on.



After your computer has restarted, insert your Matrox installation CD-ROM in your CD-ROM drive. If you're using Windows 95, 98, or NT 4.0, the setup program automatically starts.* Follow the on-screen instructions.

For more information on software support for your flat panel add-on, see the *Readme* file in the *Fpanel* folder of the CD-ROM.

* If Windows doesn't start the setup program automatically, you can start it manually from the root folder of the CD-ROM.

Product information

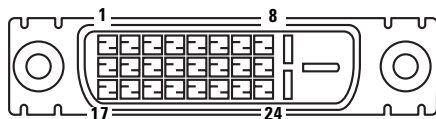
Technical features

- Silicon Image 164 transmitter
- TMDS (Transition Minimized Differential Signaling) encoding based on the Silicon Image PanelLink standard
- The following maximum simultaneous display settings are supported:
 - 112 MHz pixel clock
 - 1280 × 1024*† display resolution (SXGA)
 - 60 Hz vertical refresh rate (with standard VESA monitor timings)
 - millions of simultaneous display colors
- DDWG (Digital Display Working Group) compliant DVI-D connector
- EDID (Extended Display Identification Data) 1.2 and 2.0 support

* With flat panel monitors that don't support display scaling, if you use a display resolution lower than the maximum display resolution, the display is centered in the screen with a black border around its edges.

† DOS display modes may not be supported with some 1280 × 1024 digital flat panel monitors that don't support display scaling. For a possible work-around or fix for this problem, contact Matrox.

DVI-D connector pinouts (DDWG compliant)



Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2 -	9	TMDS Data 1 -	17	TMDS Data 0 -
2	TMDS Data 2 +	10	TMDS Data 1 +	18	TMDS Data 0 +
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4 -	12	TMDS Data 3 -	20	TMDS Data 5 -
5	TMDS Data 4 +	13	TMDS Data 3 +	21	TMDS Data 5 +
6	DDV Clock	14	+5V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground (for +5V)	23	TMDS Clock +
8	No connect	16	Hot Plug Detect	24	TMDS Clock -

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