Matrox MGA Millennium Display Adapter

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Display Devices

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This PCI bus device driver automatically detects the target adapter.

Supported Hardware:
Matrox MGA Millennium display adapters, or compatible display adapters based on the Matrox MGA 2064W chip set, with 4MB memory.

This driver supports the following 4MB display modes.

8-bit Color or Gray	16-bit Color	32-bit color
640x480 60, 72, 75, 90 Hz	640x480 60, 72, 75, 90 Hz	640x480 60, 72, 75, 90 Hz
800x600 60, 72, 75, 90 Hz	800x600 60, 72, 75, 90 Hz	800x600 60, 72, 75, 90 Hz
1024x768 60, 72, 75, 90 Hz	1024x768 60, 72, 75, 90 Hz	1024x768 60, 72, 75, 90 Hz
1152X864 60, 72, 75, 90 Hz	1152X864 60, 72, 75, 90 Hz	1152X864 60, 72, 75, 90 Hz
1280x1024	1280x1024	

60, 72, 75, 90 Hz	60, 72, 75, 90 Hz
1600x1200 60, 66, 72 Hz	1600x1200 60, 66, 72 Hz

If the TVP3026 RAMDAC on your display adapter is the 220MHz version, the device driver supports the following additional display modes.   Do not select these modes if you don't have the 220MHz version of TVP3026 RAMDAC. See **Warning** below.

8-bit Color or Gray	**16-bit Color**
1600x1200 85 Hz	1600x1200 85 Hz

Configuring Multi-headed Displays

This driver provides multi-headed display support, if a few requirements are carefully observed.

Multi-headed support on OPENSTEP for Mach 4.0 provides useful features:

· Up to 8 displays may be used simultaneously.

· All Matrox display adapters need not be set to the same display mode.   This lets you use less expensive monitors for the secondary displays, or present a UI at different resolutions or under different color models by simply dragging a window to a different 'head'.

Configuring the Primary Display

Exactly one Matrox display adapter must have VGA compatibility enabled.   This adapter is the 'primary' display adapter and will be the display used for booting, the login panel, the Dock, alert panels, and SoftPC.

Configure the primary Matrox display adapter as the first instance of the Matrox display driver.   The easiest way to guarantee that this condition is met is to install the driver and configure the system for a single (primary) Matrox display adapter.

The Matrox display adapter has a jumper that is used to enable or disable VGA compatibility.   Consult the documentation provided with your Matrox display adapter for details.

Configuring the Secondary Displays

Once the configuration for the primary display is working, you can add secondary Matrox display adapters in any order.   All other Matrox display adapters in the system must set jumpers for VGA compatibility disabled.

These secondary adapters present additional screen real estate, and may be configured in any order after the primary, although the order in which you configure them dictates the order in which the displays build to the right of the primary.

Each instance of the Matrox display driver is mapped to a single Matrox display adapter through the "PCI Location" key in its instance table.   Each Matrox display driver instance must have an unique PCI location key.   Unpredictable results will occur if multiple driver instances share the same PCI location key.

When an instance of the Matrox display driver is inspected using Configure.app, the PCI location key is shown below the Display Mode box.   Before adding additional 'heads' or instances, take a note of all PCI location keys that are currently being used.   When you add an additional instance, choose one with a PCI location key that is not already in use.

Requirements or problems with multiheaded support are:
· All displays must be driven by Matrox MGA Millennium display adapters.
· Secondary displays only build to the right of the primary display.   No other alignment options are available.
· All the desktop UI components (the Doc, alert panels) appear on the primary display.
· Not all Backspace modules or screen dimmers may work correctly on secondary displays
· Secondary displays may not be blanked during shutdown of the system.
· Use of the added screen real estate requires additional system memory for suitable performance.   Avoid placing windows that straddle more than one display.

Supported Displays: NeXT designs and tests its display adapter device drivers using very high frequency displays that can support display modes with very high resolutions and non-interlaced refresh rates, such as the NEC 5FG, NEC 6FG, and Nokia Multigraph 445X. Read the owner's guide that comes with your display to ensure it can support the display mode you set in Configure.

Warning: Some vendors claim that you can use their display adapters at display modes with resolutions and refresh rates that exceed what their RAMDACs can support.   You can permanently damage your display adapter and computer by doing this.   Read the owner's guide that comes with your display adapter or contact its manufacturer to ensure that your adapter's RAMDAC can support the display mode you set in Configure.

Warning: If you plan to change display adapters, be sure to use the Configure application to change the display driver to Default VGA Adapter before you remove the old display adapter (see NeXTanswer 1824 for details on changing display adapters).

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See also

·   "Add a Device" in Configure's on-line help.

·   See NeXTanswer 1824 for general information on installing and configuring device drivers.