

User's Manual

For

**MVGA-NVTNT2MA
MVGA-NVTNT2MAL
MVGA-NVTNT2MAD**

DOC NO : 54-02M64-05 Rev.E

00/09/20

FCC Requirement



This device has been certified to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of the FCC Rules. See instructions if interference to radio reception is suspected.

WARNING: This equipment generates and uses radio frequency energy and, if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio or television reception.

It has been tested and found to comply with the limits for a Class B compliant device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer away from the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that the computer and the receiver are on different branch circuits
- Ensure that the card's mounting screws, attachment connector screws, and ground wires are tightly secured
- Ensure that slot covers are installed in all unused slots

If necessary, consult your dealer, service representative, or an experienced radio/television Technician for additional suggestions.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems.

This booklet is available from the Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

NOTE: You must use shielded interface cables with a ferrite bead in order to maintain compliance with the limits for a Class B device.

CAUTION:	CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT
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TABLE OF CONTENTS

1. Introduction	1
1.1 Features	1
1.2 System Requirements	2
1.3 Package Contents	2
2. Hardware Installation	3
2.1 Adapter Configuration.....	3
2.2 Installing the graphics adapter card.....	6
3. Software Installation	7
3.1 AutoRun Installation	7
3.2 Installing drivers on Windows 95/98.....	8
3.3 Installing DirectX on Windows 95/98.....	8
3.4 TV-OUT Function Instruction.....	9
3.5 Installing drivers on Windows NT 4.0	11
4. Display Information	12
4.1 Resolutions Supported.....	12
5. FAQ.....	14

1. Introduction

The 'MVGA-NVTNT2MA', 'MVGA-NVTNT2MAL' and 'MVGA-NVTNT2MAD' are highly integrated 3D/2D graphics card. Leveraging the RIVA TNT2 core technology, (TwiN-Textel) architecture, 24bit z-buffering, 8bit stencil buffer and per-pixel mapping precision delivers unsurpassed quality.

The graphics card delivers breakthrough 3D and 2D graphics performance. In addition to its outstanding graphics capabilities, the graphics card provides complete support for video, software DVD playback, as well as support for the latest system technology such as AGP 4X bus.

The graphics card are ideal for small business users who require high-performance 2D platform and for corporate users who also have data-intensive visualization demands. The graphics card exceeds the standards of the mainstream PC graphics market and Microsoft's PC 98, PC 99, and DirectX 6.0 initiatives.

1.1 Features

- ⌘ High performance 2D/3D processor nVIDIA TNT2 Model 64 VGA Chipset.
- ⌘ SDRAM memory on board.
- ⌘ Integrated true-color 300MHz RAMDAC interface.
- ⌘ Supports high screen resolutions up to 1920x1200@75Hz.
- ⌘ 1MB Flash-ROM on board (Optional).
- ⌘ 128-bit TwiN-Textel architecture.
- ⌘ High-performance 128-bit 2D/GUI/DirectDraw acceleration.
- ⌘ Fast 32-bit VGA/SVGA support.
- ⌘ Optimized for Katmai New instructions and 3DNow!™
- ⌘ High performance implementation of Direct3D and OpenGL standards.
- ⌘ Full-screen, full-frame DVD playback.
- ⌘ Video acceleration for DirectShow, MPEG-1, MPEG-2, and Indeo.
- ⌘ AGP 4X/2X interface (AGP 2.0 and AGP 1.0).
- ⌘ 64-bit frame buffer interface.
- ⌘ Windows 2000, Windows NT 4.0 display drivers.
- ⌘ Windows 98 and Windows display driver.
- ⌘ OpenGL ICD for Windows 2000, Windows NT 4.0, Windows 98 and Windows 95.

1.2 System Requirements

• Any motherboard with AGP bus.

• Microsoft Windows 95 (OSR2.1) / Windows 98 / Windows 2000 or Windows NT 4.0 with service pack 3.

• DirectX 5.X / 6.X driver.

1.3 Package Contents

MVGA-NVTNT2MA and MVGA-NVTNT2MAL or MVGA-NVTNT2MAD

• Adapter

• AutoRun Driver CD-Title

• User's Manual

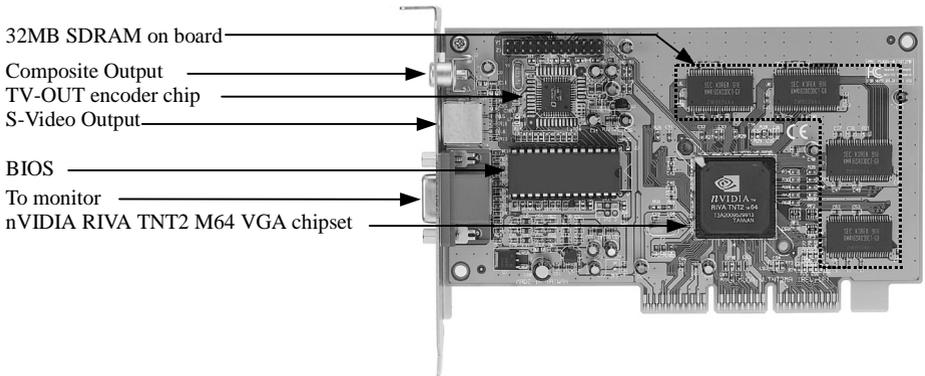
• IVI's WinDVD CD-Title (Optional)

• RCA Cable 3M (For TV-OUT)

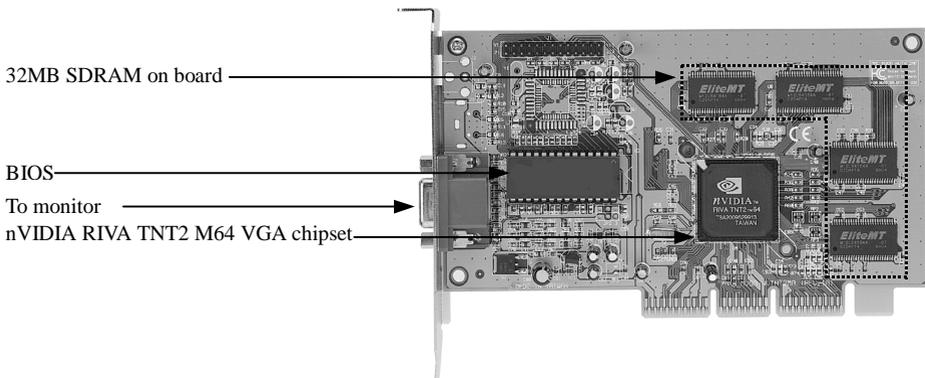
• S-Video Cable 3M (Optional for TV-OUT)

2. Hardware Installation

2.1 Adapter Configuration

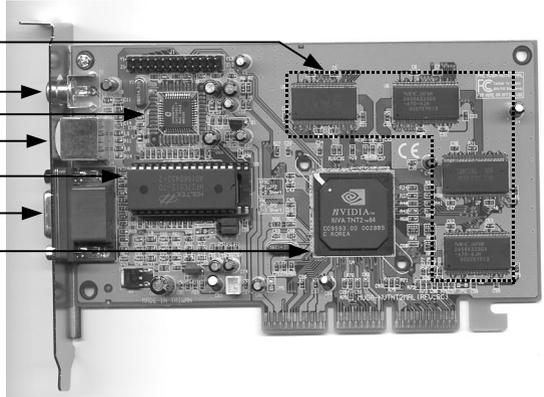


MVGA-NVTNT2MA (w/ TV-Out)



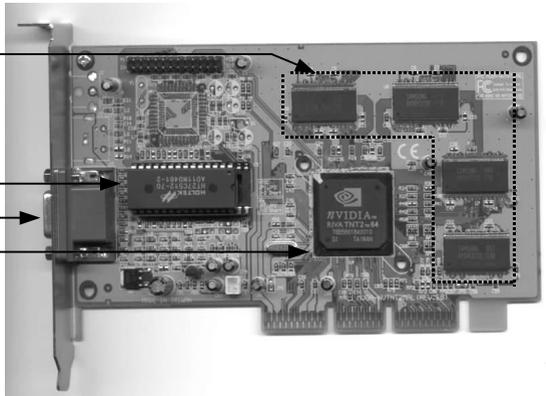
MVGA-NVTNT2MA (w/o TV-Out)

- 16/32MB SDRAM on board
- Composite Output
- TV-OUT encoder chip
- S-Video Output
- BIOS
- To monitor
- nVIDIA RIVA TNT2 M64 VGA chipset

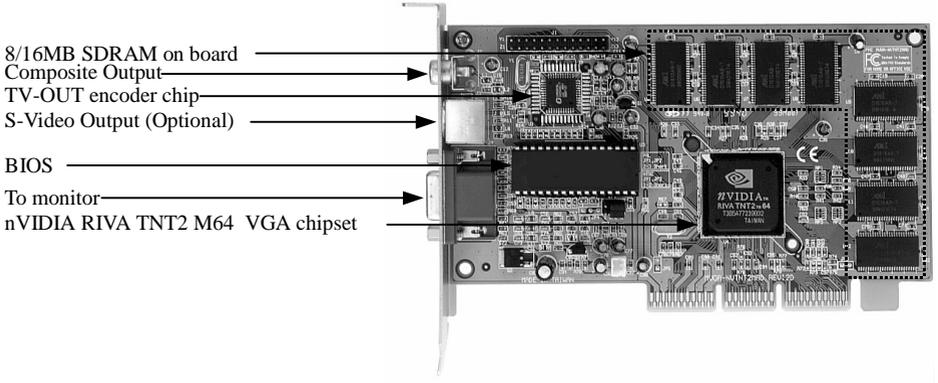


MVGA-NVTNT2MAL (w/ TV-Out)

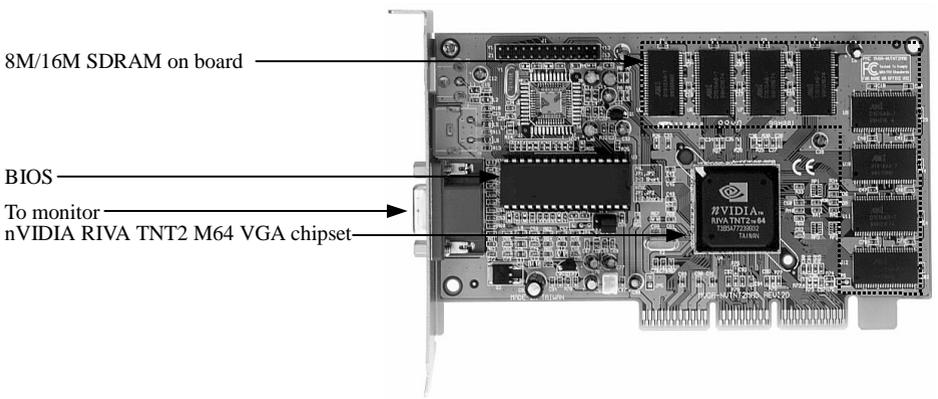
- 16/32MB SDRAM on board
- BIOS
- To monitor
- nVIDIA RIVA TNT2 M64 VGA chipset



MVGA-NVTNT2MAL (w/o TV-Out)



MVGA-NVTNT2MAD (w/ TV-Out)



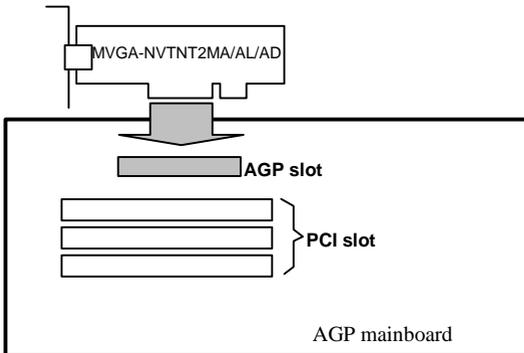
MVGA-NVTNT2MAD (w/o TV-Out)

2.2 Installing the graphics adapter card

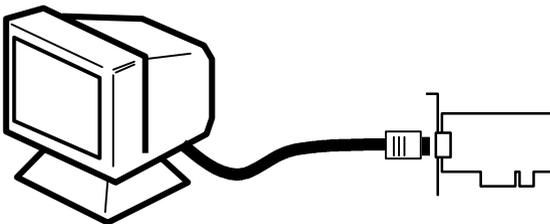
1. Turn OFF your computer, remove the computer case, and then ground yourself by touching the power supply of the computer.

Note:	Before installing the graphics VGA card you must first set the VGA option to either standard VGA or Standard Display VGA.
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2. Remove your old graphics card, and install your new graphics card into the AGP slot.



3. Align and secure the mounting bracket of the card to the computer and replace the computer case.
4. Connect the monitor cable to the DB-15 connector of the card.



5. Turn ON your computer.

3. Software Installation

3.1 AutoRun Installation

1. Insert the AutoRun CD-ROM driver (wait a few seconds). You will see the window.

2. Please click your model Number :
‘MVGA-NVTNT2MA’ or
‘MVGA-NVTNT2MAL’ or
‘MVGA-NVTNT2MAD’
you will see the window.



⌘ Click-on **‘Install Driver’** to install the VGA driver.

⌘ Click-on **‘DirectX’** to install Microsoft DirectX onto your Windows 95/98 system. Not necessary, if it has already been installed in your system.

⌘ Click-on **‘Readme’** , to view detailed information regarding the various Drivers / Programs and FAQ’s located on the CD.

⌘ Click-on **‘Browse CD’** to view the contents of the CD.

⌘ Click-on **‘Exit’** to exit the AutoRun tool.

3.2 Installing drivers on Windows 95/98

1. Insert the AutoRun driver into the CD-ROM drive, and click-on **'Install Driver'** to setup the VGA driver. Please click **'OK'**.

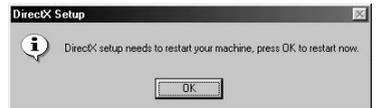
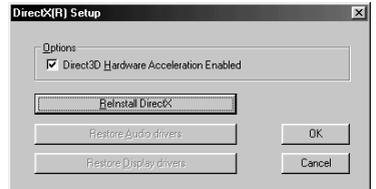


2. After the installation is complete, the system will ask you whether you want to restart your computer now. Please click **'Yes'** to reboot your system and activate the program.



3.3 Installing DirectX on Windows 95/98

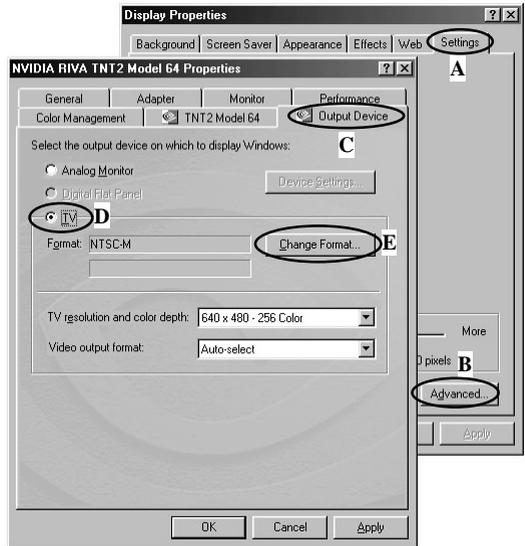
1. There is no need to re-install DirectX, if it is already on your system. However, if you don't have it and want to install it click-on **'ReInstall DirectX'** to install the DirectX program.
2. When it is done, please click **'OK'** to reboot windows.



3.4 TV-OUT Function Instruction

3.4.1 How to enable the TV-OUT function of nVIDIA M64 series.

1. Set the correct jump of VGA card for TV formats (PAL B/G NTSC....).
2. Bootup the system from monitor.
3. To Connect the signal cable between TV-OUT of VGA and TV's Video input and turn on the TV.
4. After launch 'display properties' then :
 - A. Click 'Settings'
 - B. Click 'Advanced...'
 - C. Click 'Output Device'
 - D. Select 'TV'
 - E. Click 'Change Format..'

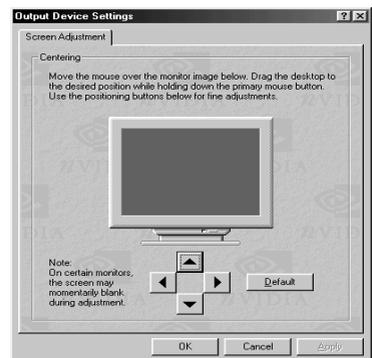


3.4.2 How to adjustment screen position?

1. When the output of your VGA is set to Monitor, You can click 'Device Setting' to adjust the screen position

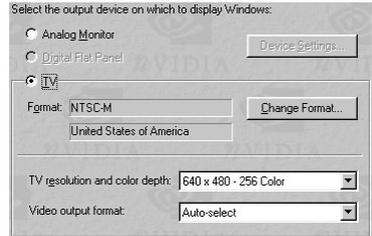
WARNING:

The Monitor display may become scrambled if you adjust the screen position over the required range.



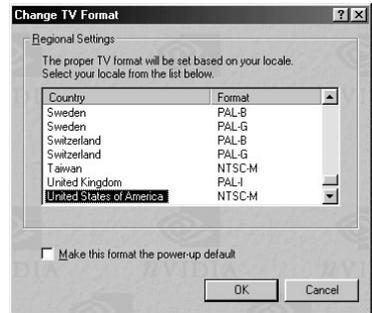
3.4.3 How to change TV setting?

You can click **‘TV’** to switch VGA output to TV



- A. Click **‘Display Format’** to select which TV standard you want.

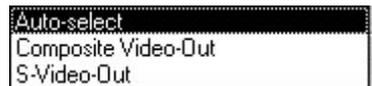
When you select **‘Make this format the power-up default’**, System will change BIOS’s default.



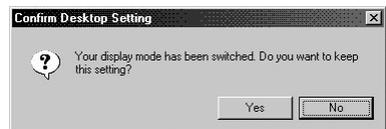
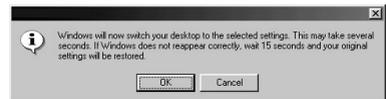
- B. Select **‘TV resolution and color depth’** to change resolution and color depth.



- C. Click **‘Video output format’** to select output port from Composite or S-Video.



- D. Click **‘OK’** to switch your display mode.



3.5 Installing drivers on Windows NT 4.0

1. Start Windows NT, switch display properties to VGA mode (16 colors, 640x480 pixels), then restart your computer.
2. After your computer restarts, right-click the desktop and click **'Properties'**.
3. Click the **'Settings'** tab.
4. Select **'Display Type'**.
5. Select **'Adapter Type'** and click **'Change'**.
6. Click **'Have Disk'**.
7. Insert the AutoRun driver into the CD-ROM drive.
8. Click (assuming your CD-ROM disc driver X) **'Browse CD'** to select the path **'X:\TNT2MA\NT40'** of the display driver for Windows NT.
9. You will see a list of nVIDIA Series driver. Select Vanta driver and then click **'OK'**.
10. Windows NT will once again prompt for confirmation. All appropriate files are then copied to the hard disk. When all files are copied, go back to the **'Display Properties'** box by clicking **'Apply'** or Click **'Close'**.
11. The **'System Setting Change'** dialog box is displayed. Click **'Yes'** to restart Windows.
12. Windows NT will restart with the default settings. The display applet will appear to allow for mode selection.

4. Display Information

4.1 Resolutions Supported

Resolution	Vertical Frequency	Color Depth		
		256 colors Standard	65K colors Standard	16.7M colors Standard
640 x 480	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
	75 Hz	V	V	V
	85Hz	V	V	V
	100Hz	V	V	V
	120Hz	V	V	V
	140Hz	V	V	V
	144Hz	V	V	V
	150Hz	V	V	V
	170Hz	V	V	V
	200Hz	V	V	V
	240Hz	V	V	V
800 X 600	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
	75 Hz	V	V	V
	85Hz	V	V	V
	100Hz	V	V	V
	120Hz	V	V	V
	140Hz	V	V	V
	144Hz	V	V	V
	150Hz	V	V	V
	170Hz	V	V	V
	200Hz	V	V	V
	240Hz	V	V	V
1024 X 768	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
	75 Hz	V	V	V
	85Hz	V	V	V
	100Hz	V	V	V
	120Hz	V	V	V
	140Hz	V	V	V
	144Hz	V	V	V
	150Hz	V	V	V
	170Hz	V	V	V
	200Hz	V	V	V

1152 X 864	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
	75 Hz	V	V	V
	85Hz	V	V	V
	100Hz	V	V	V
	120Hz	V	V	V
	140Hz	V	V	V
1280 X 1024	150Hz	V	V	V
	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
	75 Hz	V	V	V
	85Hz	V	V	V
1600 X 1200	100Hz	V	V	V
	120Hz	V	V	V
	60Hz	V	V	V
	70Hz	V	V	V
	72 Hz	V	V	V
1920 X 1080	75 Hz	V	V	V
	85Hz	V	V	V
	60Hz	V	V	V
	70Hz	V	V	V
1920 X 1200	72 Hz	V	V	V
	75 Hz	V	V	V
	60Hz	V	V	V
	70Hz	V	V	V

5. FAQ

Q: *While installing on a Windows 95 or 98 operating system, my computer loses the Vertical Sync.*

A: Please check your monitor's specifications. Some monitors connect the DDC signal to ground: Which causes the BIOS to not detect your monitor. Therefore, causing your MVGA-NVTNT2MA/AL/AD to not receive any data or refresh rates.

Q: *I can't install the driver on my Windows 95 system.*

A: If your operating system isn't the Windows 95 OSR2.1 version, you won't be able to install the driver.

To fix the problem:

Please change your operating system to the OSR2.1 version.

Windows 95 OSR2.1 Installation.

1. Install Windows 95 OSR2.1
2. Execute USBSUPP
3. Install DirectX ver 5.0 / 6.0 or higher
4. Install the VGA driver

Q: *The image on my monitor keeps on flickering and the driver can't change the refresh rate.*

A: The problem is due to a failed DDC monitor detection.

To fix the problem:

1. Go to **'Settings' 'Control Panel' 'Display'**
2. Select **'Settings'** page
3. Click **'Advanced Properties'**
4. Select **'Monitor'** page
5. Click **'Change'**
6. Select **'Show All Devices'** and choose your monitor type. If your monitor type is not listed, Please select one that is as similar as possible.

Q: How do I change the resolution, color, and refresh-rate on my Windows 95/98 system?

A: Open the **'My Computer'** folder and select the **'Control Panel'** icon. Double-click on **'Display'** then select **'Settings'**. A new menu will appear choose **'Color Palette'** to change the Color values. Choose **'Desktop area'** to change the Resolution (screen image size). From the same screen click-on **'Advanced Properties'** to access the Refresh-rate.

Q: How do I change the resolution, color, and refresh-rate on my Windows NT system?

A: The procedure is basically the same as above, for the 95 & 98 system. Except that you must select **'Test'** then **'OK'**, so that the changes can take affect.

Q: TV-OUT is grayed out on my TV-OUT capable MX. How can I fix it?

A: 1. The MX needs to see real 75 ohms AV input. However, not all TVs have this, and some have a switch labeled **'Terminate'** next to the AV inputs to turn the 75 ohms off to allow more than one TV to be connected. If you are having this problem, especially with a smaller or portable TV, then try another TV to see if this is a problem, or check for a **'Terminate'** switch.

2. According to motherboard vendor this may also be a problem caused by motherboards using a linear voltage regulator that does not supply enough voltage to the MX, and therefore there is not enough voltage to maintain TV-OUT.

Q: My MX keeps on locking up. How can I fix it?

A: 1. Are you over clocking either the MX or your processor? If you are, try clocking back to normal, leaving the case lids off and under clocking and see if it fixes the problem. If it does, you need more cooling.

2. Have you assigned an IRQ to VGA in your BIOS? If not, do so.

3. Have you got an IRQ conflict with the MX and another card? The only device that can have the same IRQ is the **'IRQ Holder for PCI Steering'**. If so, try moving the card to another slot (in particular avoid the first PCI slot as this frequently is forced to share an IRQ with the AGP slot) or assigning a different IRQ to that slot in the BIOS.

4. Are you running a virus checker in the background? Try disabling it.

5. Try installing the latest AGP drivers for your motherboard chipset if you haven't got an Intel motherboard.

6. If you have an **'AGP Driving Control'** setting in your BIOS, try switching it to **'BA'** or another value instead of **'Auto'**.

-
7. If you have a VIA chipset, try enabling AGP4X. We have chosen to disable the AGP sideband transfer because there have been various system instability problems due to issues in the design of some motherboards.

Q: When I install the 5.xx series of drives Windows 9x locks up at the bootup screen. How can I fix it?

A: Make sure your MX is not sharing an IRQ with any other devices. If you find that it is, try either moving the device into another PCI slot, or reassigning the PCI IRQs in the BIOS. In particular, the first PCI slot is frequently forced to share an IRQ with the AGP slot.

Q: I have problems with Need for Speed 5. How can I fix them?

- A:**
1. Try nVIDIA's latest (leaked) reference drivers. In particular 6.18 may help with speed and instability problems.
 2. Make sure that the Direct3D settings in the display control panel are set to defaults.
 3. Try setting your Windows colour depth to 16-bit colour instead of 32-bit.
 4. If you get lockups, try the following tips, in the Options/Graphics/Advanced Settings dialog:
 - Switch off lens flare
 - Switch headlights to vertex

Q: If I set the MX as the primary card in the BIOS, my secondary PCI video card is not detected. How can I fix it?

A: Check in your C:\CONFIG.SYS file to see if you are loading EMM386.EXE. If you are, remove the line.

Q: Games stutter with my MX. How can I fix it?

- A:**
1. Go into the System Control Panel, click on Device Manager, and find your CD/DVD-ROM drive(s) and hard drive(s). Go into each one, click on Settings and tick DMA. This enables UltraDMA.
 2. Make sure that Video BIOS shadowing is disabled in your BIOS.
 3. Make sure that your MX card is not sharing any IRQs with another card - the only device that can have the same IRQ is the '**IRQ Holder for PCI Steering**'. If you find that the MX is sharing an IRQ, try moving the card that it is sharing the IRQ with to another slot.

Q: I get flickering textures in Quake 3 Arena and Windows 9x. How can I fix it?

A: Type the following at the console:

- /r_ext_compiled_vertex_array 0
- /vid_restart

Q: Quake 3 Arena looks very dark in Windows 2000. How can I fix it?

A: Type the following command at the console:

- /r_ignorehwgamma 1
- /vid_restart
- And see if it helps.

You can also try the following:

- /r_ignorehwgamma 0
- /r_overbrightbits 0
- /vid_restart

Q: The sky looks blocky in Quake 3 Arena with the latest drivers installed. How can I fix this?

A: This is a by-product of the S3TC support in the latest drivers. You can disable S3TC in Quake 3 Arena using the following console commands:

- /r_ext_compress_textures 0
- /vid_restart

Q: The system will hang up when I play 3D game in win98se system

A:

1. start ⇒ programs ⇒ accessories ⇒ system tools ⇒ system information
2. tools ⇒ display
3. Disable 'Direct3D Acceleration' to try.