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TNT2 VGA Card Component Location ..... A

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Chapter 1 TNT2 VGA Card Specifications

1-1 General Specifications:

1. 32MB Frame Buffer.
2. 32-bit color.
3. 32-bit Z/Stencil buffer.
4. AGP 4x support.
5. AGP Texturing.
6. Digital Flat Panel support with scaling, centering, and filtering.
7. World‘s fastest 3D and 2D Processor.
8. World‘s fastest 32bpp rendering.
9. 2nd generation 128-bit TwiN Texel architecture.
10. 2 Pixels/Clock.
11. Single-pass multi-texturing.
12. Optimized Direct 3D and OpenGL acceleration.
13. Maximum 3D /2D resolution of 2048 x 1536

1.2 Speed , Package Differentiation:

TNT2 Accelerators are differentiated into three models. Their speed and package features can be stipulated as below:

Model	RIVA TNT2 Ultra	RIVA TNT2	Model 64
NVCLK	150MHz	125MHz	125MHz
NCLK	183MHz	150MHz	150MHz
PACKAGE	496 PBGA	496 PBGA	320PBGA
Ram Size	32MB	32MB	32/16MB
RAMDAC	300MHz	300MHz	300MHz

**** Latest additional member of TNT2 family:**

Model	Vanta
NVCLK	100MHz
NCLK	125MHz
PACKAGE	320PBGA
Ram Size	16/8MB
RAMDAC	250MHz

1-3 System Support:

- ♦ CPU: Intel Pentium and up
- ♦ System: Win 9x, NT4.0
- ♦ Interface: AGP 4X

Chapter 2 Features Highlight

2-1. RIVA TNT2 Chip features:

High-Speed, High-Resolution 2D/3D Accelerator

TNT2 VGA Card is a high-performance 3D processors. Its TwiN architechure is the world‘s fastest 128 bit 3 D processor that delivers 2 pixels-per-clock cycle and single-pass multi-texturing. The RIVA TNT’s32MB frame buffer, 32-bit color pipeline, and 32-bit Z/stencil buffer deliver unsurpassed quality and performance.

RIVA TNT2 is the fastest true-color accelerator with Digital Flat Panel and AGP 4X support. (The power of AGP 4X is introduced in later section.) RIVA TNT2 meets all the requirements of the mainstream PC graphics market and Microsoft‘s PC98, PC99, and DirectX 6.0 initiatives. In addsition to DirectX support, the RIVA THT2 provides a complete high-performance professional-grade OpenGL ICD, included in the standard software package. The RIVA TNT2 delivers the industry’s fastest Direct3D acceleration, leadship VGA, DirectDraw and video performance. These exciting features enable a range of applications from the hottest 3D games to full-screen, 3Dfps DVD playback.

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2-2. AGP or Accelerated Graphics Port—a new bus interface for graphics accelerators.

AGP gives graphics accelerators fast, high throughput direct access to system memory. This allows a graphics accelerator access to more memory than available locally on the graphics card. For example, to display a scene that contains 16MB of textures, a 4MB AGP graphics card could access the PC system memory for the additional 12MB required.

2-2-1 AGP delivers a peak bandwidth that is 4 times higher than the PCI bus using pipelining, sideband addressing, and more data transfers per clock.

It will also enables graphics cards to execute texture maps directly from system memory instead of forcing it to pre-load the texture data to the graphics card's local memory. AGP is based on the PCI 2.1 standard which calls for a 66MHz PCI bus speed.

The result of AGP is a much smoother frame rate and the ability to display 3D graphics and video that is many times more realistic and much a higher quality than ever before found a PC.

2-2-2 The current PCI bus supports a data transfer rate up to 132 MB/s, while AGP (at 66MHz) supports up to 533 MB/s!

AGP attains this high transfer rate due to it's ability to transfer data on both the rising and falling edges of the 66MHz clock, and through new design advances that have made data transfer modes more efficient.

2-2-3 Direct Memory Execute (also knows as DIME) is the most important feature of AGP.

AGP graphic chips have the capability to access main memory directly for the complex operation of texture mapping. AGP provides the graphics card with two methods of directly accessing texture maps in system memory: pipelining and sideband addressing. In pipelining, AGP makes multiple requests for data during a bus or memory access. PCI makes one request, and does not make another until the data it requested has been transferred.

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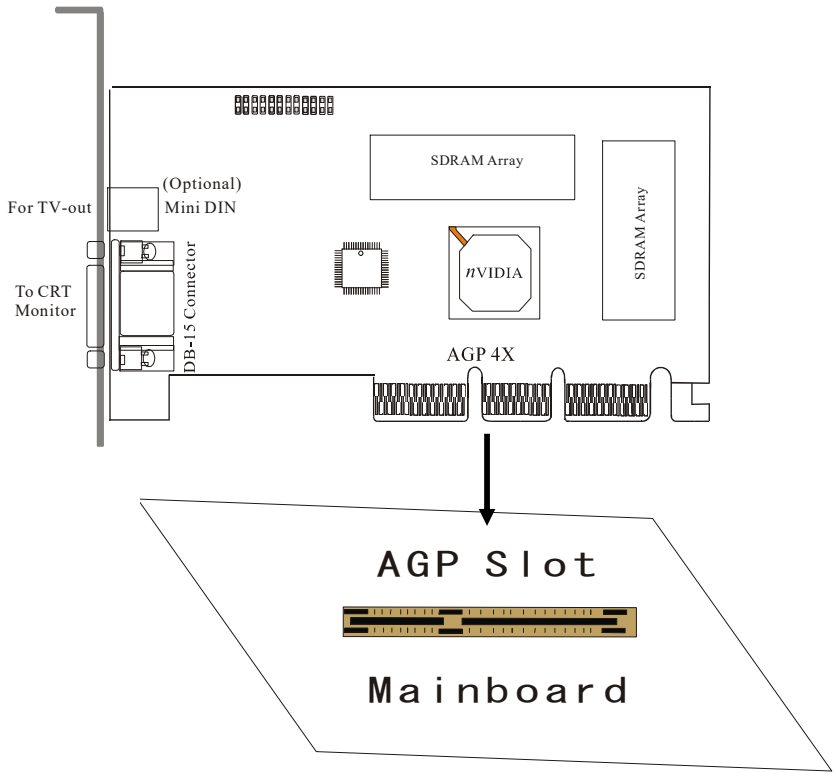
CHAPTER 3 INSTALLATION

3-1 Hardware Installation – To install TNT2 VGA Card

TNT2 VGA card is built with AGP 4X Bus support. The AGP Slot is a 124-pin slot as shown below.



Both the AGP Edge and the AGP Slot are of foolproof design so as to assure a correct and secure connection.

3-2 Driver installation on Windows 9X:

TNT2 VGA Card is shipped in a package which includes a Driver & Utility CD containing Drivers for Windows 95/98, and NT 4.0/5.0

Step 1: Install your TNT2 card properly (See Hardware Installation Guide).

Step 2: Power on your PC.

Step 3: For first time you install TNT2 card, by the Plug and Play feature of Windows 95/98, Windows will find a new hardware and ask for the driver.
(If it is not the first time you install this card, go to Step 4 directly.

For Windows 9X, t**here are three installation variations :**

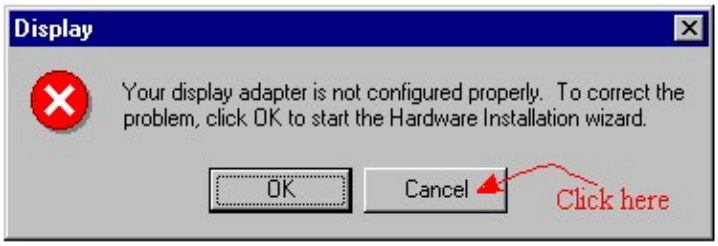
(A) for Windows 95,
(B)Windows 95 OSR2
(C) Windows 98

For these three variations, there is only one main point of installation:
Exit from the Windows Auto-search and insert Manufacturer's Driver CD.

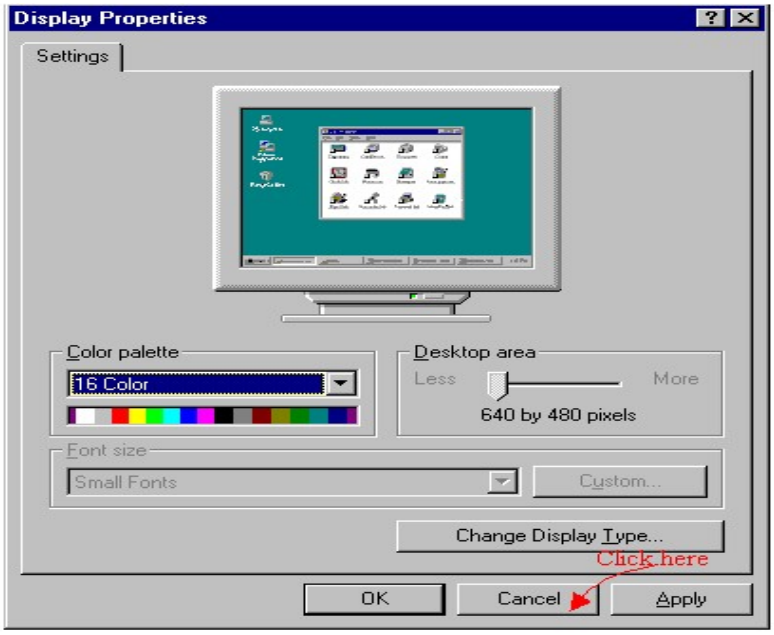
(A) For Windows 95 (Original Version):

A-1. After starting Windows, You will see a dialog appear on the screen as below:

A-2. Click **"Do not install a driver "(so as to get off and go to TNT2 driver setup),** then press **"OK".** After that, you will see following window:



A-3. Click "Cancel" then you will see:

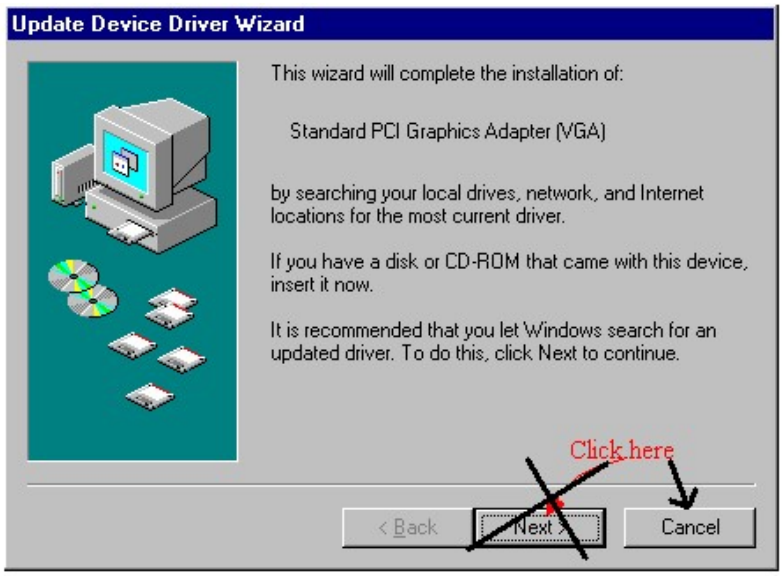


A-4. Click **"Cancel" to exit and go to Step 4 for TNT2 driver setup.**

(B) For Windows 95 OSR2:

B-1. After starting Windows 95 OSR2, the system will find out the just installed TNT2 card and ask you to update the VGA driver as in the screen below:

:



B-2. Click **" Cancel"** so as to get out and return to the "Start" menu. After returning to "start' mneu, go directly to Step-4 of this Chapter (insert the TNT2 Driver & Utilities CD into your CD-ROM).

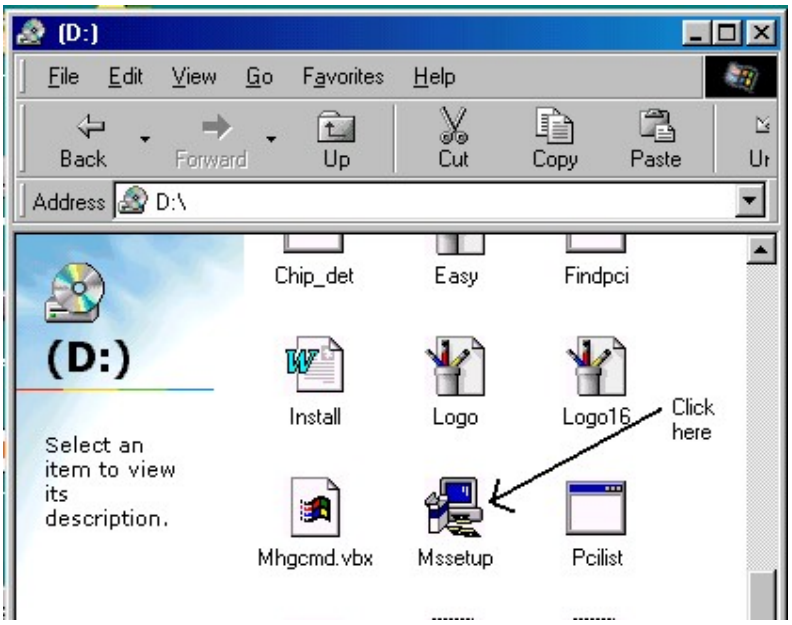
(C) For Windows 98:

C-1 After starting Windows 98, the system will find out the just installed TNT2 VGA card and ask you to update the VGA driver for this new hardware :

C-2. Click **" Cancel"** so as to exit and return to the "Start" menu.
After returning to "start' mneu, go directly to Step-4 of this Chapter (to insert the TNT2 Driver & Utilities CD into your CD-ROM).

Step 4: Insert the TNT2 Driver and Utilities Setup CD into your CD-ROM drive. In a second or two, the **"Riva TNT2 Setup"** screen will show up automatically.

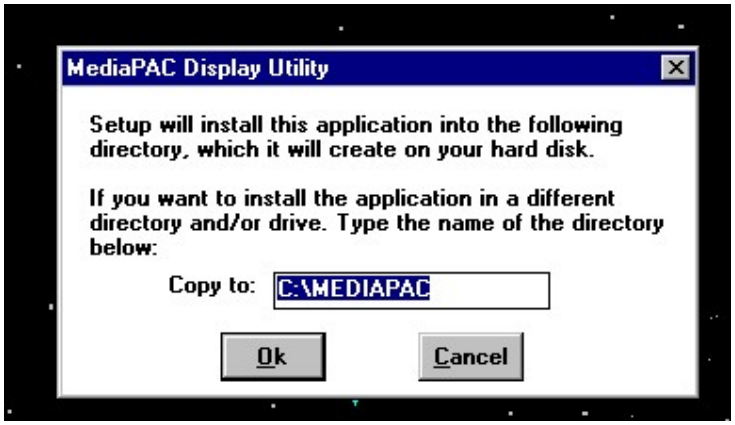
If the Autorun Main Menu does not appear, you should double click the CD ROM icon to open the CD main menu and click to the "mssetup" icon then.

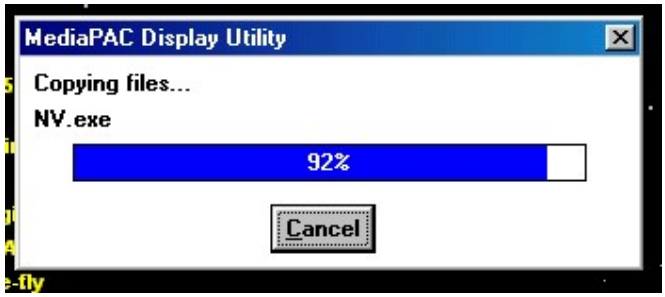


Reponding to your click, the "Riva TNT2 Setup" Main menu should appear:

Step 5: Click “Drivers Setup”, and the following screen will appear where you should click to “Yes” to install MediaPAC Display Control Utility:

Step 6: After Clicking "Yes" you can see the following 3 screens to guide you through installation of MediaPAC Display Control Utility.



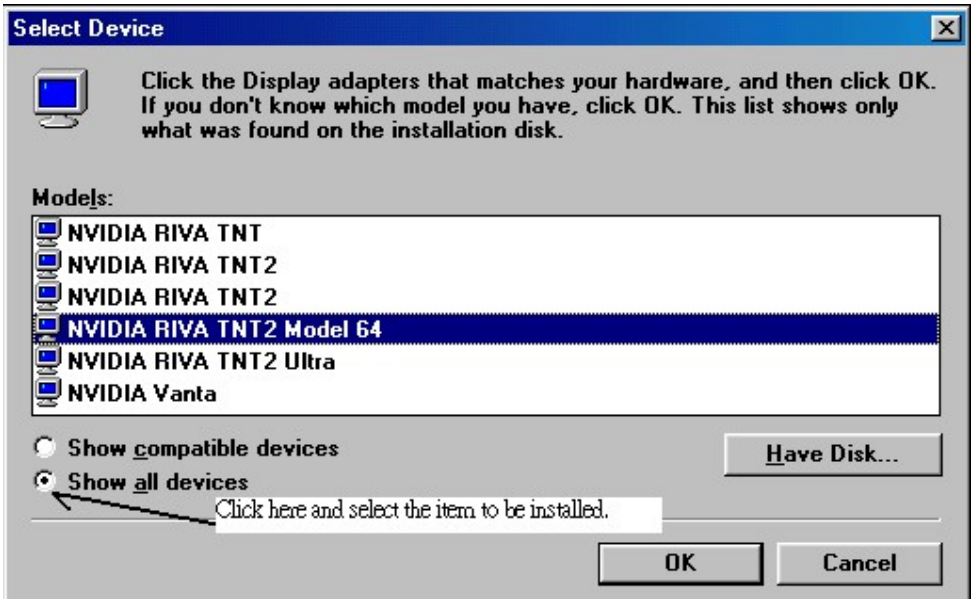


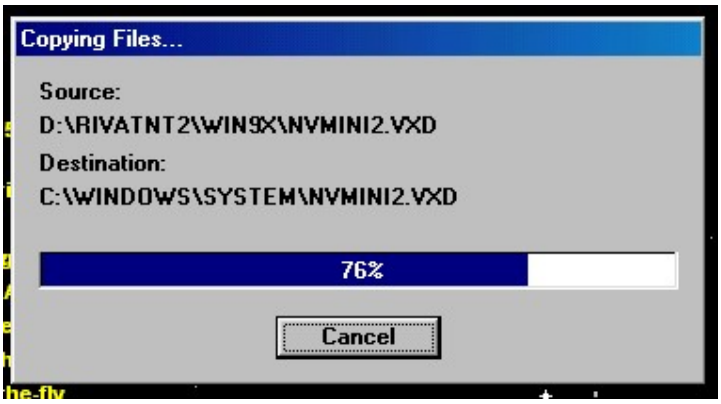
And click "OK" to go to "Nvidia RIVA THT2 Display Driver " setup.

Step 7: After installing "Display Control Utility", in a second or two the "Install

TNT2 display Driver" dialogue appears on screen, where you should click to "Yes" to install it with no procrastination.

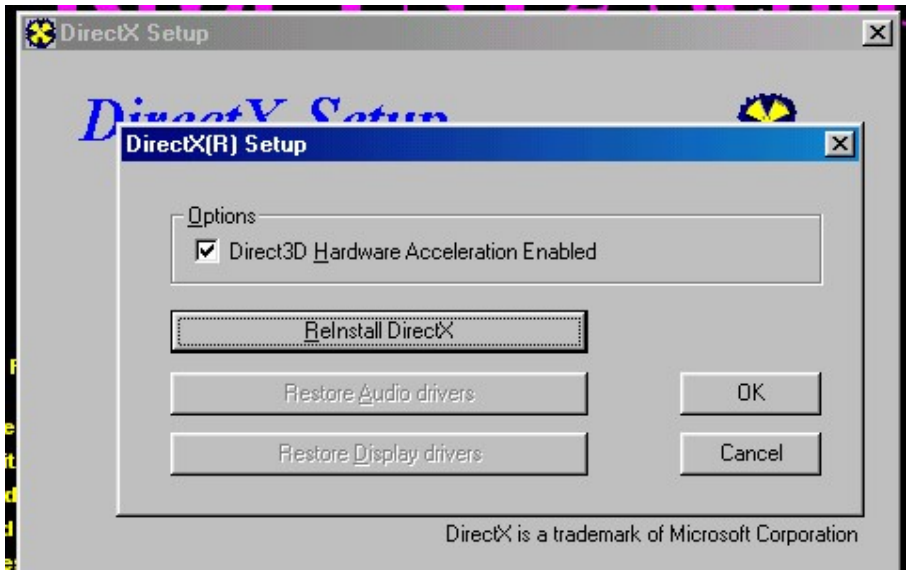
Step8: After clicking "Yes", the following three screens appear in turn to guide you through the installation.




Copying Files...
Source:
D:\RIVATNT2\WIN9X\NVMINI2.VXD
Destination:
C:\WINDOWS\SYSTEM\NVMINI2.VXD
76%
Cancel

Setup
Install Microsoft DirectX 6(TM):
DirectX will optimize your display card's performance. It is recommended that you should install DirectX if you had not installed it before.
Click Yes to install, click No to skip.
Yes
No

Step 9: When you see the "Install Microsoft DirectX 6" screen, do not hesitate to install this utility which will optimize the whole TNT2 device. Click "Yes" to set it up and in a second the following screen will appear for its setup:



Step 10: Click "OK" to finish it. In a second, your computer will remind you to restart your system to put the new TNT2 device into effect:

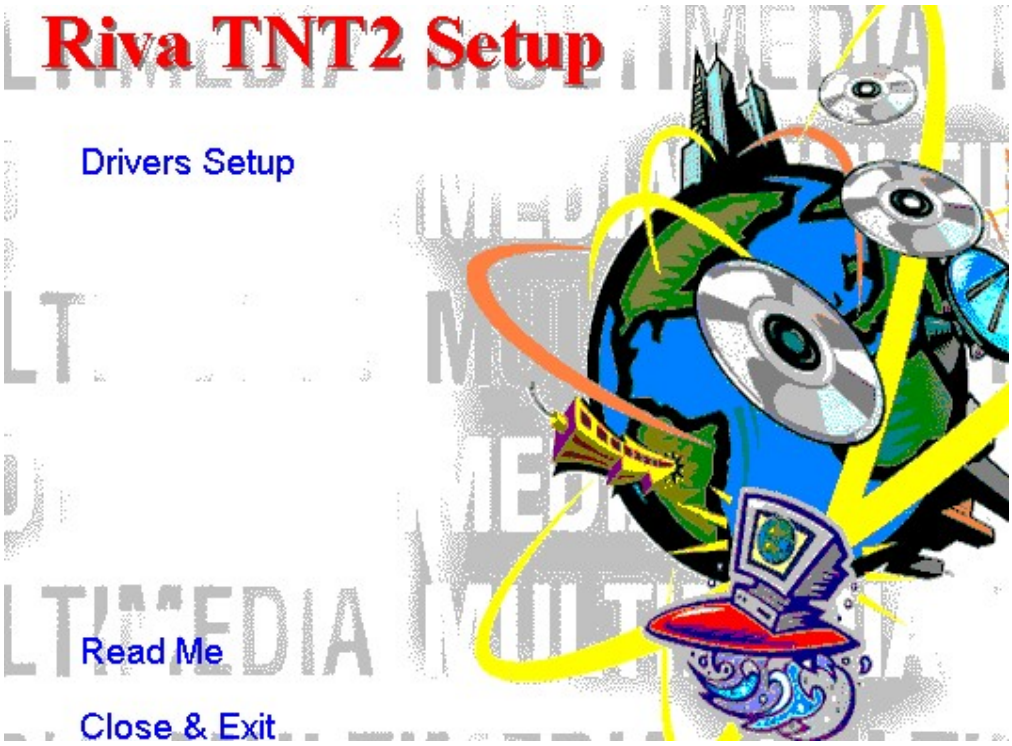
Congratulation! You have successfully installed TNT2 Display Driver and the "DirectX 6" utility..

3-3 TNT2 Driver Installation on WIN NT 4.0

After TNT2 VGA Card has been properly installed to your mainboard, you could then go to TNT2 Driver installation on your Win NT 4.0.

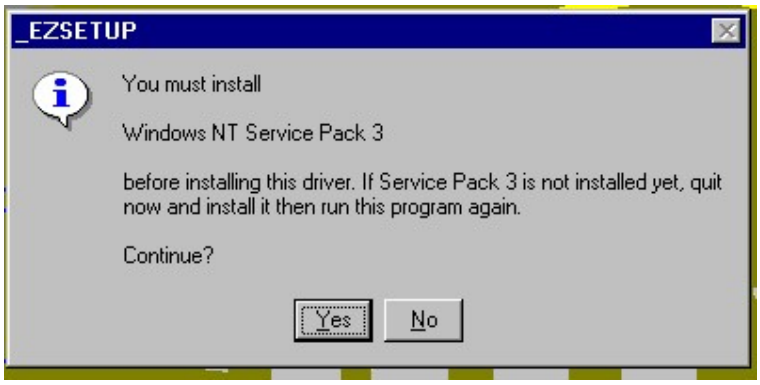
Step 1 With your VGA Card installed and NT system started, insert the TNT2 Utilities and Driver Installation CD into the CD-ROM Drive to go to autorun setup.

Step 2 In a second after insertion of the Utility and Driver CD, the "Quick Install TNT2 Setup" main menu will show up as below:



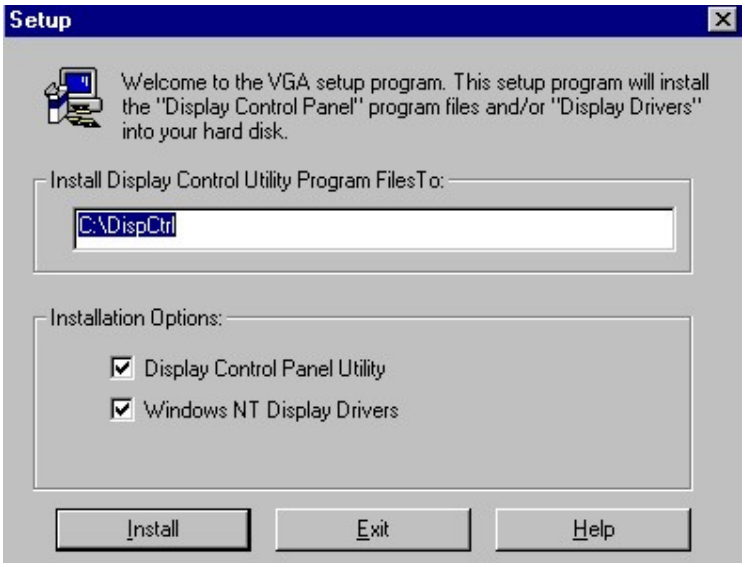
Step 3 Click "Drivers Setup" to install driver for Win NT. Instantly, a dialog box appears on screen, advising user to install Windows NT Service Pack 3 before setting up TNT2 driver.

Warning! If you choose to install TNT2 driver right away before installing or updating your Win NT Service Pack 3, you are taking the risk of running an unstable VGA mode. So, before getting on , you are recommended to install or update your NT Service Pack to Version 3 or above.

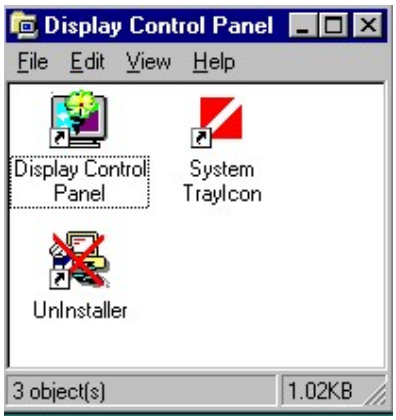


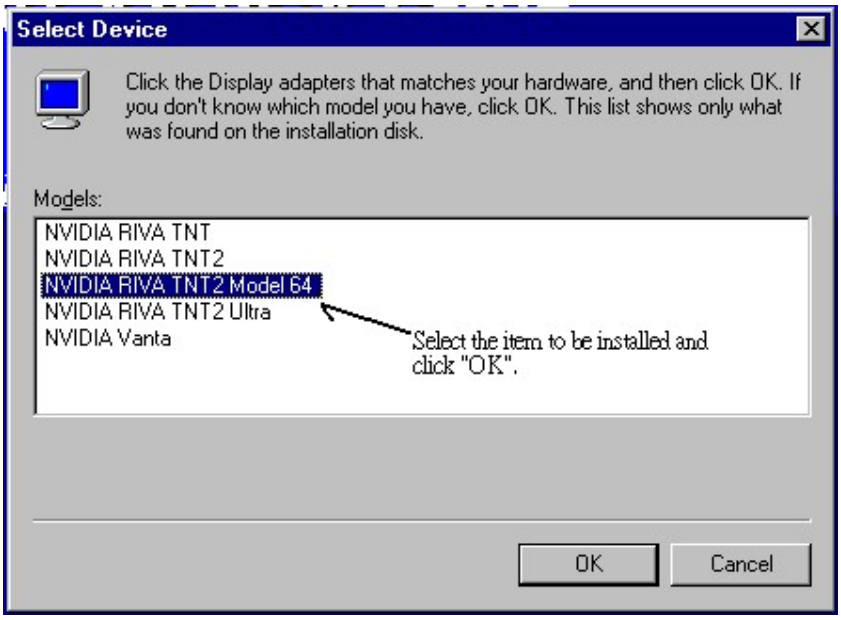
Note: Windows NT Service Pack 3/4 is a utility program containing Windows NT 4.0 system update utility and Microsoft Windows Media Player utility. It supports and updates most of the multimedia utility drivers.

Step 4 After installing NT Service Pack 3 or above, get back to TNT2 Driver Setup and click “Yes” on the above screen. You can instantly see another dialog box to lead you through the “ Display Control Panel Utility” and “Win NT display Driver” installation:



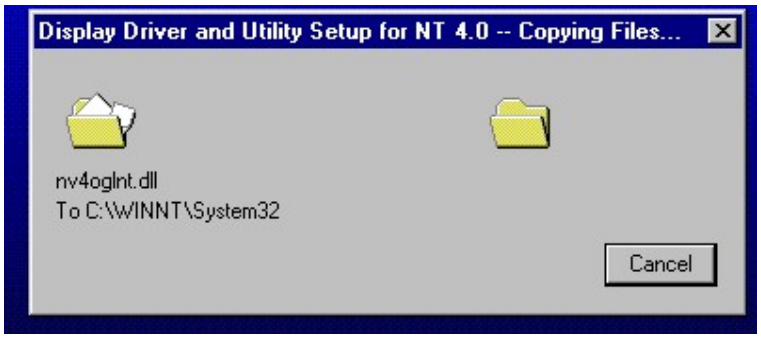
Step 5 When "Display Control Panel" installation is complete, the corresponding icons will appear for a second and the screen will then switch to the "Select Device" display. Click "OK" on the "Select device" screen to install the device model you are installing.





TNT2 Accelerators are differentiated into RIVA TNT2, RIVA TNT2 Ultra, and RIVA TNT2 Model 64. Highlight the one you are installing and click "OK".

Step 6 After clicking "OK", the Setup Program will automatically start "Copying files" for TNT2 driver setup.



Step 7 In a second, the "copying files" finishes, and the "System Settings Change" screen will appear to remind you to restart your computer now.
Click "Yes" to let the new settings take effect.

Congratulations! You have successfully installed the TNT2 Driver on your Windows NT 4.