M S - 4 4 1 9

Intel740™

A G P G R A P H I C S A C C E L E R A T O R

VERSION 1.0
1998/06/30 ROC

$$C\,E$$

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.
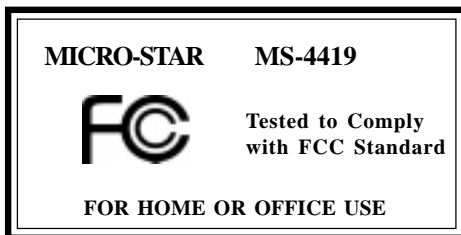
Notice 1
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2
Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.

MICRO-STAR	**MS-4419**
FC	**Tested to Comply with FCC Standard**
FOR HOME OR OFFICE USE	

Copyright Notice

Trademarks

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Chapter 1

MS-4419 Intel740™ AGP Graphics Accelerator

1. Overview

The MS-4419 Intel740™ AGP VGA card is a highly integrated graphics solution which provide high-performance 3D, 2D and video, and full support for multimedia applications, (VBI), TV Out and video capture.

The Intel740™ graphics accelerator uses a breakthrough 3D architecture that enables maximum memory bandwidth for sustained 3D performance and exceptional image quality in PCs equipped with the Pentium® II processor and an Intel® AGPset. The result is real-time 3D performance for a wide variety of new business and consumer applications running mainstream platforms. The Intel740™ graphics accelerator is well suited for home user "edutainment" systems, small business graphics-enabled authoring platforms and corporate data-intensive tools. This platform provides a leap in graphics performance, enabling creativity and consumer/business applications.

In addition to its breakthrough 3D capabilities, the Intel740™ graphics accelerator provides a complete-graphics solution consisting of outstanding 2D, smooth video playback, as well as support for Video Out and full video capabilities support for PC theater applications. The Intel740™ graphics accelerator's hardware-assist feature enhances the software DVD playback capabilities and its VMI port provides a glueless interface to support hardware DVD. The Intel740™ graphics accelerator provides the flexibility to design systems to deliver high-performance graphics at 8MB of local memory.

2. Features

Chip List:

❑ **Intel740™:** 2D & 3D accelerator processor.

Breakthrough 3D
- 844K + poly/sec
- 45-55 Mpixels/s, 425-500K poly/s (sustained)
- 14K polygons/frame (sustained)
- Bilinear mip-mapping
- Gouraud, Specular shading
- 16-bit z-buffer
- Alpha blend, edge smoothing

Highest perf. AGP
- Full Featured AGP support
- Up to 533MB/sec
- Direct Memory Execution

Advanced Memory Interface
- 8MB, 64 bit interface

64-bit 2D Accelerator
- Supports up to 1600x1200 @60Hz

Video Acceleration
- 203MHz+ DAC
- Full Screen Playback
- Vert. & horiz. scaling
- 30 fps, full screen
- 24 fps software DVD

Video Capture Port
- VMI Bi Directional

Power Management
● Supports VESA Display Power Management Signaling (DPMS) compliant VGA monitor for power management

Multimedia Application
● Supports DDC1 and DDC2B specification

Full Software Solution
● ISV kit, install & config utilities
● Windows®95 & Windows®NT 4.0
● Memphis & Windows®NT 5.0 DirectX Drivers
● OpenGL MCD for Windows®NT and Windows®95
● Option for TV-Out & Video In solution

Supports super high resolution graphics modes
● 640x480   256/64K/16M colors 85Hz NI
● 800x600   256/64K/16M colors 85Hz NI
● 1024x768   256/64K/16M colors 85Hz NI
● 1280x1200 256/64K colors 75Hz NI
● 1600x1200 256 colors 60Hz NI
● Low resolution modes (hidden)

3. System Requirements

To install MS-4419 VGA card, your computer system needs to meet the following requirements:

Computer	Intel Pentium® processor, Intel Pentium® II processor or compatible system
Expansion Slot	AGP slot
Monitor	VGA Support, minimum 640x480 resolution
Operating system	Windows® 95, Windows® 98, Windows® NT 3.51, 4.0 or 5.0.
CD-ROM	Double Speed or Higher
TV	Option

4. Package Contents

Before installing the MS-4419 VGA card, please check to make sure that your package is complete:

- VGA card
- CD-ROM
  - drivers and applications on CD-ROM
  - documentation on CD-ROM
- User's Guide

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5. Card Layout
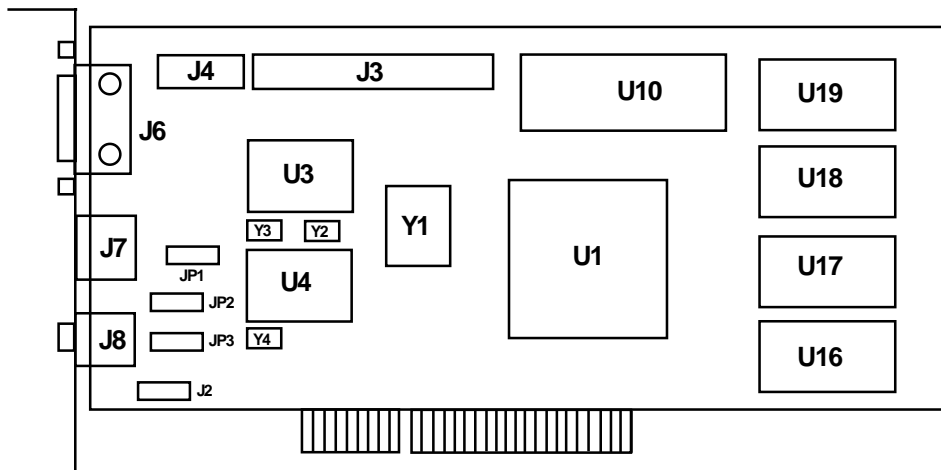
JP1/JP2/JP3/J2	Jumpers
J8	RCA jack (optional)
J6	VGA connector
J7	S-Video connector (optional)
J3	VMI connector (optional)
J4	Feature connector
Y1	66.6667MHz
U3	Bt829 Video in (optional)
U4	Bt868/Bt869 TV-Out (optional)
U10	VGA BIOS
U1	Intel740™ AGP chip
U16/U17/U18/U19	1Mx16 SDRAM
Y2	35.4689MHz (optional)
Y3	28.63636MHz (optional)
Y4	13.50MHz (optional)

6. DB 15 Pin Connector
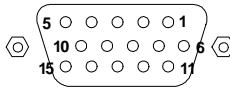
Analog Video Display Connector(DB15-S)	
Pin	Signal Description
1	Red
2	Green
3	Blue
4	Not used
5	Ground
6	Ground
7	Ground
8	Ground
9	Not used
10	Ground
11	Not used
12	SDA
13	Horizontal Sync
14	Vertical Sync
15	SCL

7. Vertical Refresh Rate

If you set the monitor to "Plug and Play", you can only use 75Hz vertical refresh rate. But if you set the monitor type correctly, then you can set the vertical refresh rate up to 85Hz.

Resolution	Color	Vertical Refresh
640x480	8bit, 16bit, 32bit	60, 75, 85
800x600	8bit, 16bit, 32bit	60, 75, 85
1024x768	8bit, 16bit, 32bit	60, 75, 85
1280x1024	8bit, 16bit	60, 75
1600x1200	8bit	60

Chapter 2

Installation of MS-4419 VGA Drivers

1. Driver

1.1 Install Enhance Drivers for Windows® 95

After installing MS-4419 card in the mainboard, Windows®95 will auto-detect the changes in your hardware configuration, and will install the Standard VGA Driver. To get a higher resolution and performance, you need to install the MS-4419 Driver.

Before installing MS-4419 driver, you need to install the Windows®95 OSR2 USB supplement. Otherwise, there will be a **?** in the device manager.

To install Windows®95 OSR2 USB supplement, follow the steps below:

Step 1: Insert the Windows®95 OSR2 CD into your CD-ROM drive.

Step 2: In CD-ROM drive, look for the **usbsupp** directory.
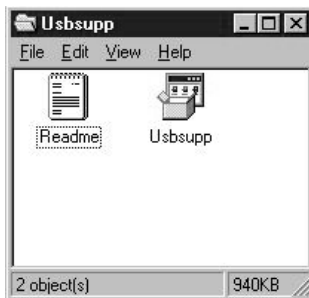
Step 3: Double click on **usbsupp** program.

Step 4: Click on **Yes** button.

Step 5: Click on **Yes** button.
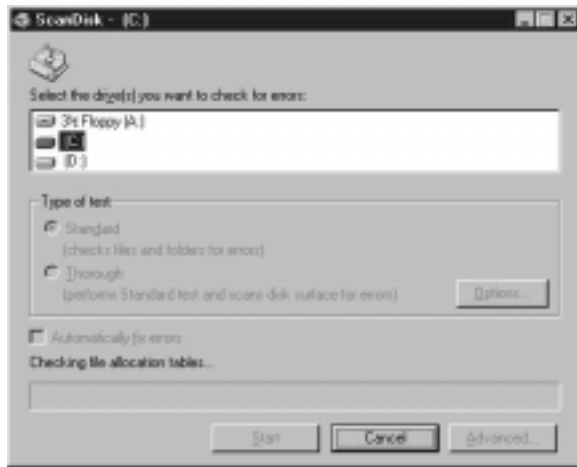
This will first scan the C: drive, then copy the
necessary file needed.

Step 4: Click on **Ok** button.

Step 5: Click on the **OK** button. This will restart your system.

To install MS-4419 enhanced driver, follow the steps below:

Step 1: Insert the CD provided into your CD-ROM drive.

After inserting the CD, this will autorun showing this window.

Step 2: Click on **Intel i740 Display Drivers** button.

Step 3: Click on the **OK** button. This will install the VGA driver automatically and restart the Windows®95.

Step 4: This will be the new **Display Properties**.

Using Display Properties new function:
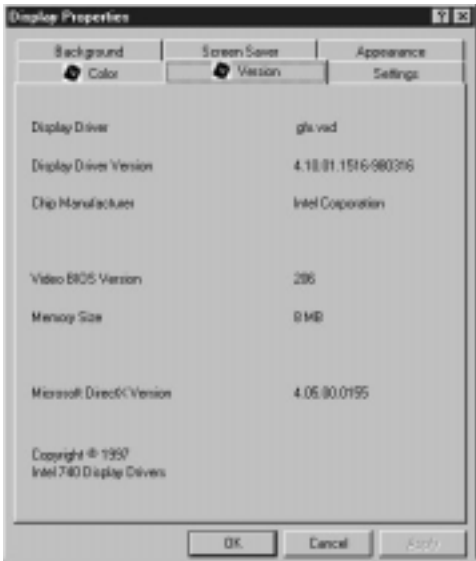
This function is used to show the Display Driver version and memory size.

Display Properties

| Background | Screen Saver | Appearance |
| Color | Version | Settings |

Gamma Ramp

Reset Bitmap

Load Bitmap

Gamma Correction

Gamma — 1.0

Brightness — 0

Contrast — 50

Color
- All
- Red
- Green
- Blue

Default

OK   Cancel   Apply

This function is used to adjust the Gamma
Ramp, Gamma, Brightness, Contrast, and
color.

2-7
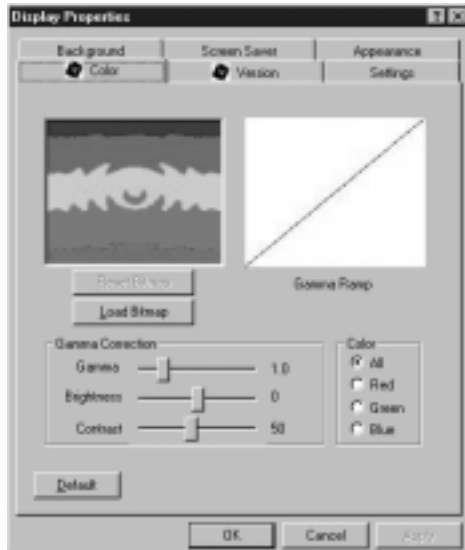
Another way to install MS-4419 Enhance Drivers, follow the steps below:

Step 1: Insert the CD provided into your CD-ROM drive.

Step 2: In Windows®95, click on the **Start** Menu.
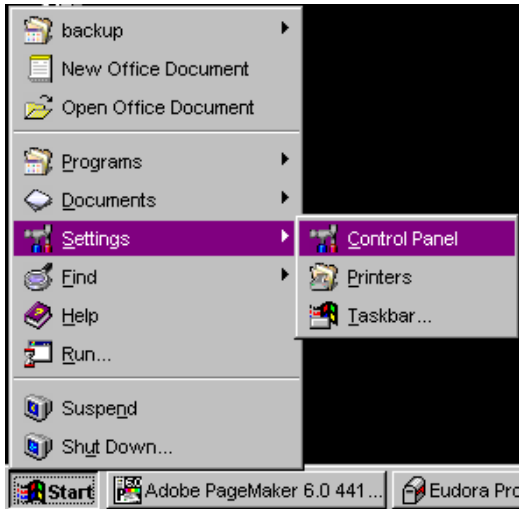
Step 3: Choose **Settings,** then open **Control Panel.**

Step 4: Double click on **Display** Icon.
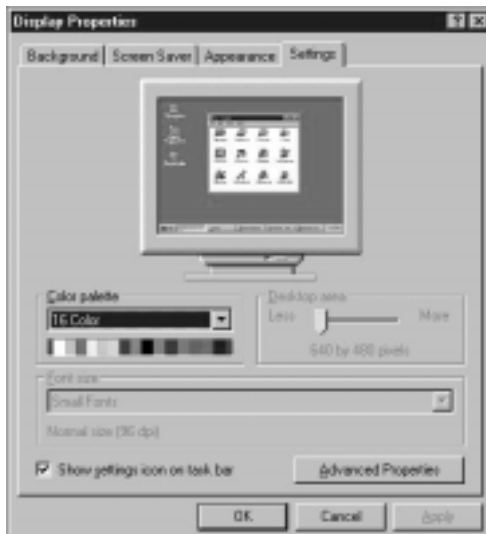
Step 5: Choose **Settings.** Then, click on the **Advanced Properties.**
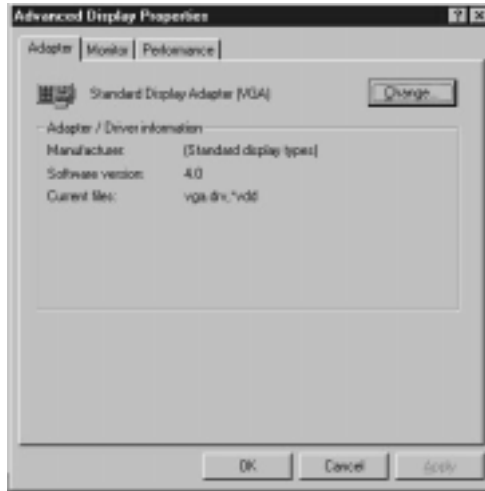
Step 6: Look for **Adapter** Type**,** then click on **Change.**
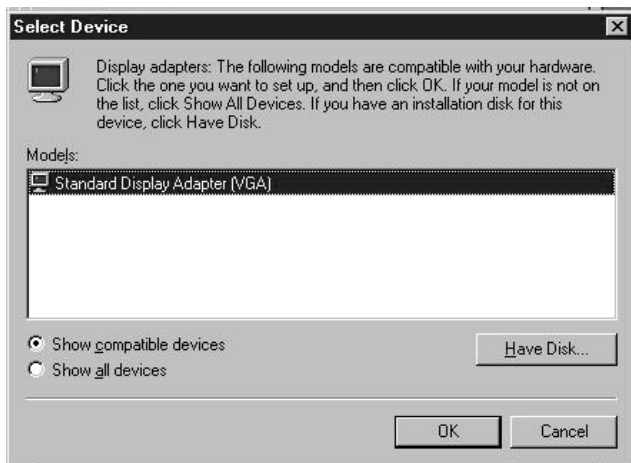
Step 7: Click on **Have Disk.**

Step 8: Click **Browse.**
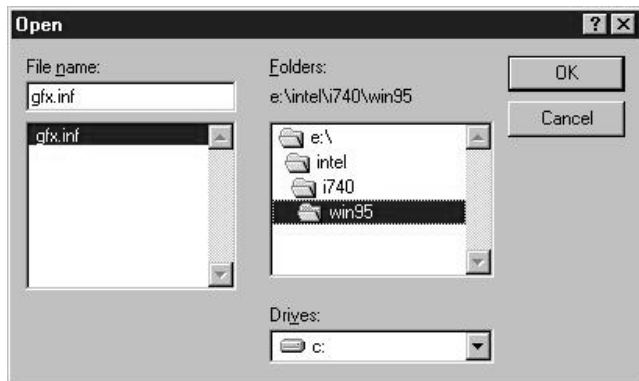
Step 9: Look for the CD-ROM drive and search for **Win95** Directory**.**
Then, click **OK.**

Step 10: Select **Intel 740-854 Win9x** , then click **OK.**
This will start copying the necessary files.

Step 11: Click on the **Apply** button.
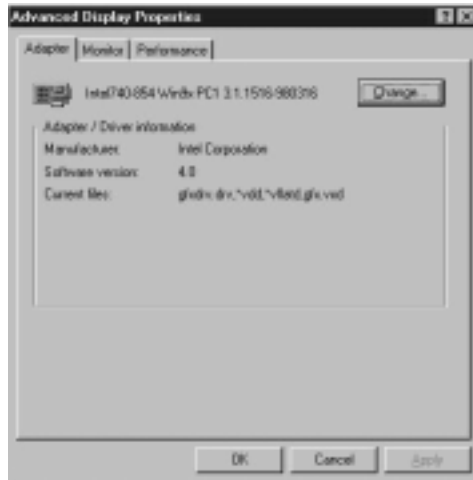
Step 12: Click on the **OK** button.
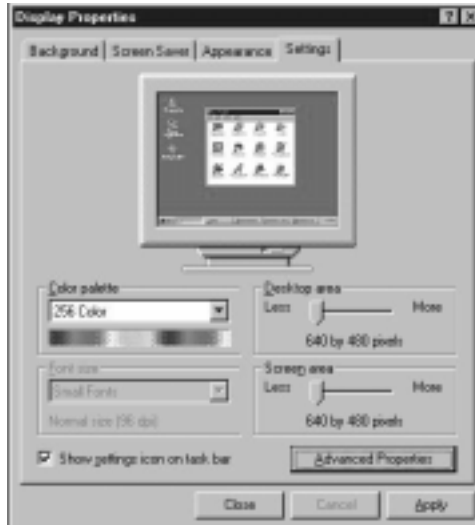
Step 13: Click on the **Apply** button.

2-13
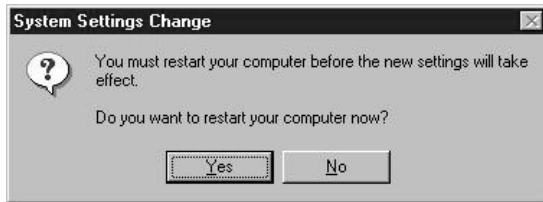
It will then prompt you to restart Windows®95.

Step 14: Click on the **Yes** button.

This will be the new Display Properties.

1.2 Install Enhance Drivers For Windows® NT

You need to install the Windows® NT "Service Pack 3", before installing the driver.

After installing MS-4419 Card, Windows®NT will default to Standard VGA mode 640x480x16 colors. Follow the steps below to install the VGA driver.

Step 1: Insert the CD provided into your CD-ROM.

Step 2: In Windows®NT, click on the **Start** Menu.
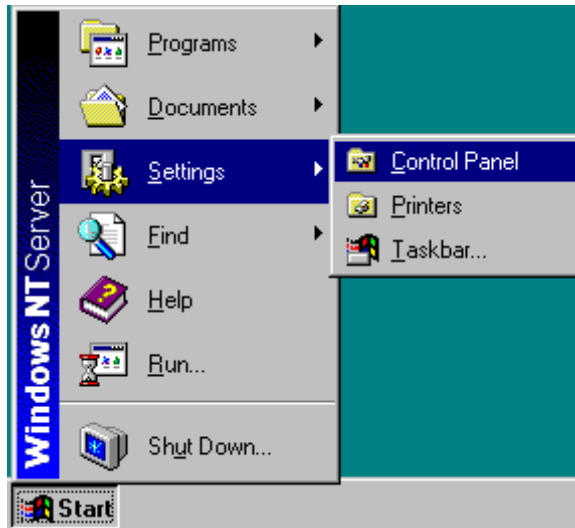
Choose **Settings,** then click on the **Control Panel.**

Step 3: Double Click on the **Display** Icon.

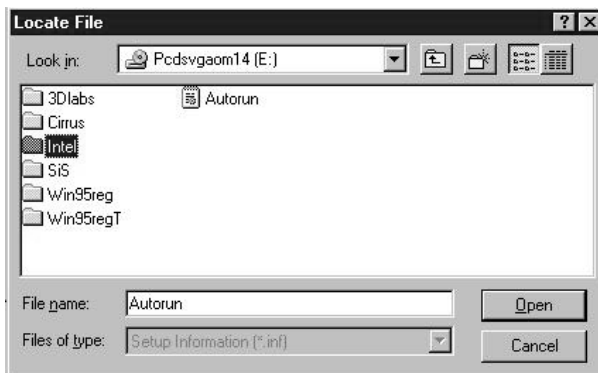Step 4: Choose **Settings,** then click on the **Display Type.**
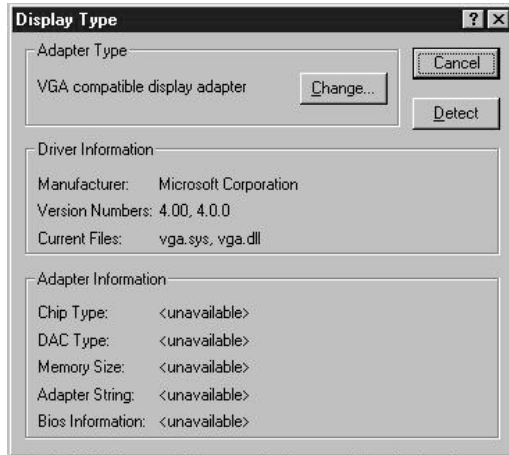
Step 5: Click on the **Change** button.
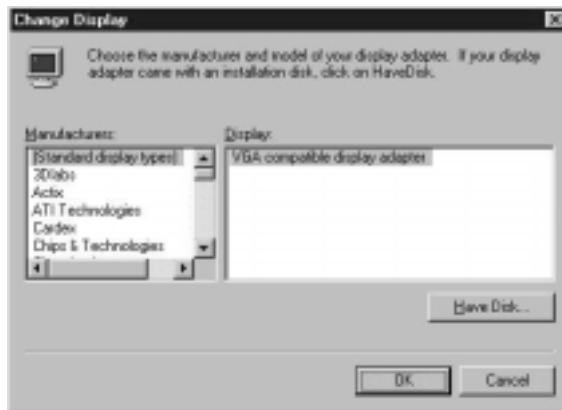
Step 6: Click on the **Have Disk** button.
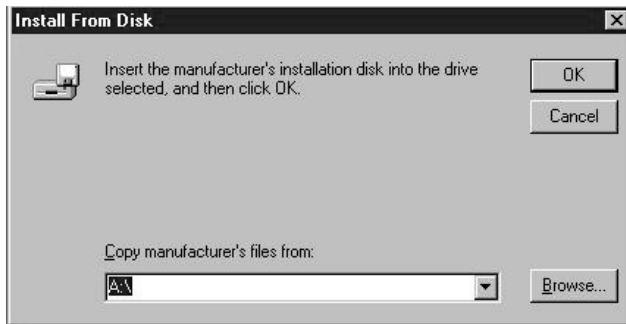
Step 7: Click on the **Browse** button.

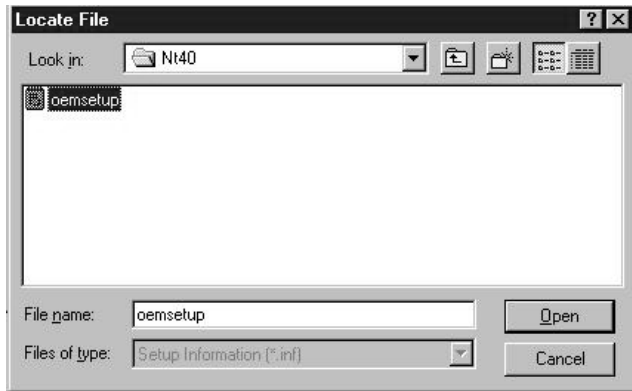Step 8: Look for the CD-ROM drive. Open the **Intel** folder.

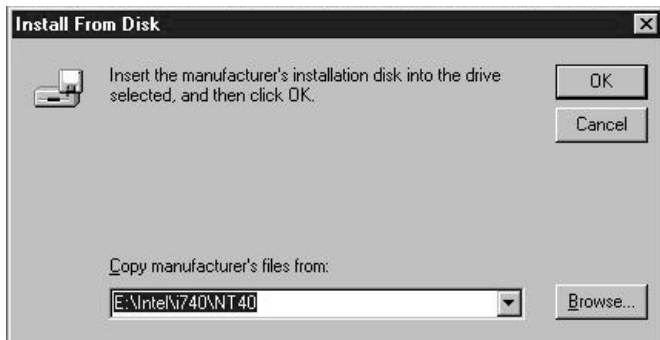Step 9: Open the **i740** folder.
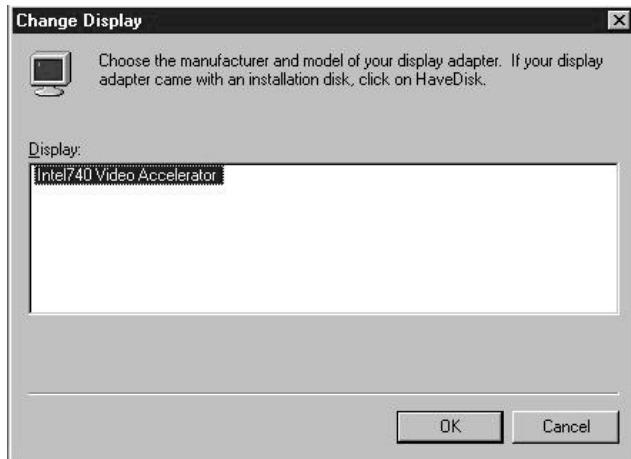

Step 10: Open the **NT40** folder.
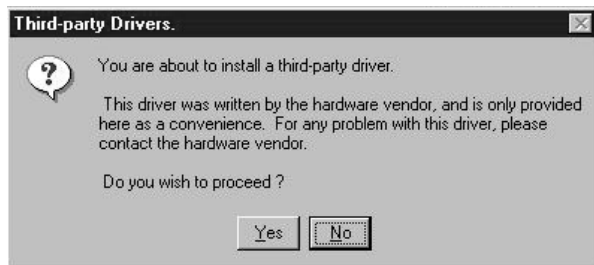
Step 11: Choose **oemsetup**.

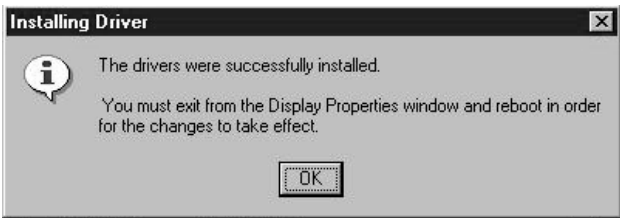Step 12: Click on the **OK** button.

Step 13: Choose **Intel 740 Video Accelerator,** then click **OK**.

This will prompt you about a Third Party Driver.
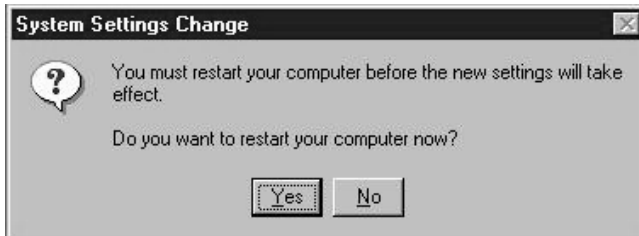
Step 14: Click the **Yes** button.

Step 15: Click the **OK** button.

Step 16: Click the **Close** button.
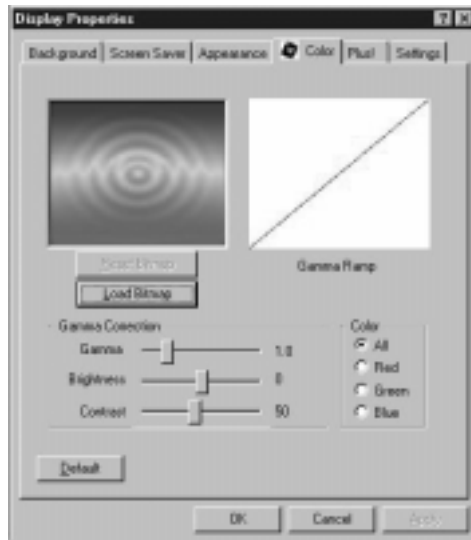
Step 17: Click the **Close** button.

It will then prompt you to restart Windows®NT.

Step 18: Click on the **Yes** button.

Using Display Properties new function:

This function is used to show the Display
Driver version and memory size.

This function is used to adjust the Gamma
Ramp, Gamma, Brightness, Contrast, and
color.

MS-4419 Bug Notes:

1. TV-out Bug List
- If your VGA card contains a TV-out function. You need to connect the TV-Cable before turning the power on.
- During boot up, the TV and monitor will be blank for 3 seconds.