

G740A/G740B Graphics Accelerator Card

Installation Guide and User's Manual

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Chapter 1 Introduction

What's in the box?

Read through this section to familiarize yourself with everything that is included with the G740A/G740B Graphics Accelerator card.

The Software and Supporting Documentation

The software and drivers needed to properly install and set up the G740A/G740B Graphics Accelerator Card are on the included CD-ROM, with help files to assist you in making configuration changes. This user's manual will give you detailed instructions on how to install the G740A/G740B Graphics Accelerator card and software.

About the G740A/G740B Graphics Accelerator Card

- Designed for the Accelerated Graphics Port (AGP) 1.0 Specification
- Optimized for AGP 2x and direct memory execution modes
- 4MB SGRAM/8MB SDRAM local frame buffer memory
- Meets all Microsoft PC' 97 hardware design requirements
- Supports major 3D standards: DirectX, OpenGL (under Windows NT*)

The G740A/G740B Graphics Accelerator is AGP done right!

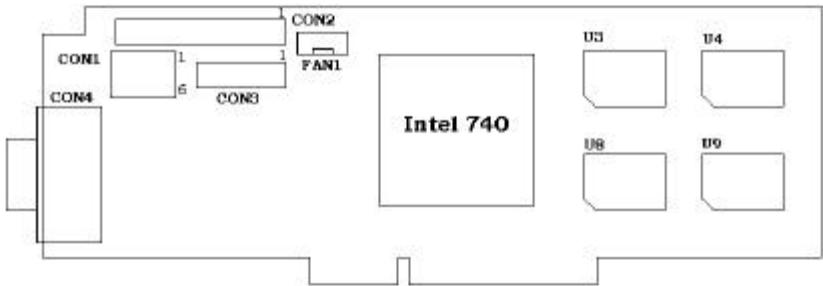
Full Hardware Acceleration of Key 3D Features:

- 3D setup engine
- Gouraud and flat shading
- Colored specular highlighting
- Texture mip-mapping and bilinear filtering
- Texture map color/chroma-keying
- Texture map perspective correction
- Texture map blending
- 16-bit z-buffering
- Translucency: source alpha blending, per-vertex fogging, alpha and pattern stippling
- Edge and line antialiasing
- Color dithering

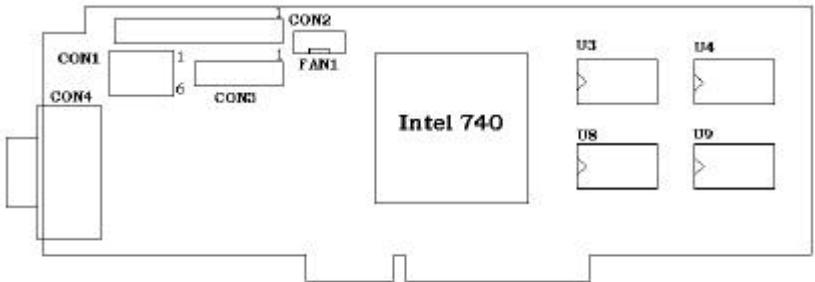
Excellent 2D and Video Performance:

- Supports all standard PC monitor display resolutions up to 1600x1200
- Supports PC monitor (VGA) display vertical refresh rates up to 85Hz non-interlaced
- MPEG1 video playback
- Supports video capture
- Has headers for Version 1.4 compliant Video Module Interface (VMI) for connecting optional advanced feature modules (e.g. MPEG module)

Layout diagram



G740A



G740B

 The layouts for the two cards are the same, the different between the G740A and the G740B is that the G740A uses 4MB(or 8MB)of SGRAM, and the G740B used 8MB of SDRAM

Chapter 2 Installation

System Recommendations

Before attempting to install the G740A/G740B Graphics Accelerator card into a computer, make sure that there is an available AGP expansion slot on the (PCI 2.1 compliant) motherboard. Additionally, it is recommended that your computer meet the following:

- Pentium® II processor-based system
- At least 32 MB of SDRAM main/system memory
- DVD license compliant hardware (drive, authentication and descrambler modules, etc.)
- Microsoft Windows® 95, Windows® 98, or Windows® NT 4.0 (or higher) operating system
- Microsoft® DirectX* version 5.0 or later

Note: For full and correct operation of the card under Windows® 95, you must be using OEM Service Release (OSR) 2.1 or later. For Windows® NT 4.0, you need to have installed Service Pack (SP) 3.

Installation Guide

This guide will take you through the steps to take in order to properly install the G740A/G740B Graphics Accelerator card into your computer. Please note that your computer may differ slightly from the illustrations and screen shots displayed in this manual.

Step 1 - Ground yourself.

Warning: Danger to equipment! The G740A/G740B Graphics Accelerator card and other components in your computer can be damaged by static discharge.

Before handling any components or opening the computer system cover, ground yourself by touching the metal back or side panel of your computer system unit.

Limiting your movements during installation reduces static electricity.

Step 2 - Unplug the computer and remove the cover.

Warning: Don't burn yourself! Many components can become hot enough to cause mild skin burns. Wait at least 15 minutes after turning off the power before handling any parts.

Shut down the computer and turn off any attached equipment (such as a monitor or printer).

Unplug the power cord.

Remove the cover.

Step 3 - Remove the current graphics card.

If there is a graphics card currently in the computer, use the following guidelines to remove it:

Detach any cables which are attached to the current graphics card and remove the bracket screw locking the card down.

Grasp the card by the edges and pull it straight out of the motherboard slot. If the card sticks in the slot, rock it gently from end to end to dislodge it. Remember to save the screw.

Note: If the computer has a graphics chip soldered down on the motherboard, refer to the manual for the system or motherboard for information on how to disable it.

Step 4 - Insert the G740A/G740B Graphics Accelerator card.

Locate the empty AGP socket on the motherboard and use the following instructions to insert the G740A/G740B Graphics Accelerator card into that socket:

Grasp the G740A/G740B Graphics Accelerator card by its edges.

Align it with the empty AGP socket on the motherboard, and gently insert it into place.



Make sure that the card is pressed evenly and completely into the socket.

Fasten the card with the bracket screw.

Note: Use the figure above to help locate the Accelerated Graphics Port (AGP) socket on your motherboard. The exact configuration of the components on your motherboard may differ from the figure. Look for a single, smaller socket between the set of PCI sockets and the processor.

Step 5 - Reconnect all cables & replace the cover.

Plug the cable from your computer monitor into the back of the G740A/G740A Graphics Accelerator card. Make sure it is securely fastened.

If you have cables for television input and output, S-video (video camera) input and output, or a DVD add-on card, reconnect them to the card or via the provided multi-function cable.

Carefully replace the computer cover and plug the power cord back in.

Step 6 - Start the computer and install the drivers.

Turn the computer on and allow the operating system to start. Microsoft® Windows should auto-detect the presence of the new graphics card and prompt you to install the display drivers for it.

For Windows® 95 & 98:

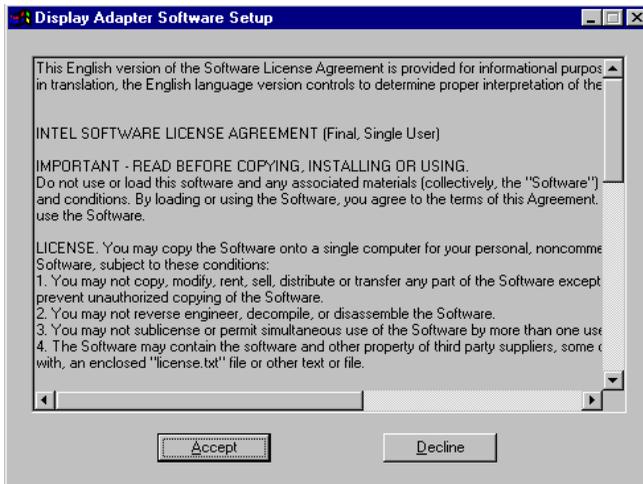
Insert the driver disc into your CD-ROM drive, and you will see the main screen as below:



You should then click the “G740 Driver Install”, and see the screen below:



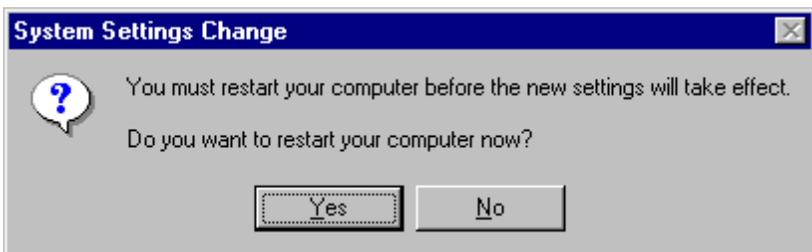
You should then click the “Windows 95/98 Driver ”, and see the screen below:



Click “Accept”, the screen will show:



When you click “OK”, it will start the driver install action. You will see the screen open and close many of the windows automatically, after installing, the screen will show:



Click “Yes” to restart Windows. When you restart Windows, the driver should work properly for you, you can change the desktop size or resolution for your working environment as well.

For Windows® NT 4.0:

Windows will prompt you to install the "Standard PCI Graphics Adapter (VGA)" drivers. Click Next and Finish to install the standard drivers, and restart the system when asked.

Right-click on the desktop and select Properties, then click the Display Type button in the Display Properties window.

In the Adapter tab, click the Change button under "Adapter Type".

Click the "Have Disk" button in the "Change Display" window and insert the G740A/G740A Graphics Accelerator card drivers CD-ROM into the CD-ROM drive of your computer.

The G740A/G740A Graphics Accelerator card display drivers are located in the *D:\G740_DRV\NT40_DRV directory of the CD-ROM. Browse to this location and select the display driver *.inf file, then click OK.

In the Select Device window, select the **Intel740 video Accelerator** device and click OK.

Click Apply, then Close to finish the driver installation. Restart the system if asked.

* D stands for your CD-ROM drive in your computer system, it may change depending on the devices you have installed in your computer.

Chapter 3 Troubleshooting and Support

Troubleshooting Guidelines

Gathering Information

Troubleshooting starts with diagnosis and progresses to solution. Before diagnosis can begin, you'll need to collect some information. This is especially important if you don't already know the contents of the computer.

- ❑ See if the monitor cable is securely attached to the graphics board. Loose cables are the most common cause of board problems. If it is loose, secure it now and see if the graphics card functions with the computer.
- ❑ See if the graphics card is seated correctly in the AGP slot on the motherboard. If it is not seated correctly, remove the card with the computer power off and reseat it, making sure the entire connector is flush inside of the slot.
- ❑ Find out what other cards are in the computer. Cards can conflict with one another, and resolution of these conflicts varies depending on what boards are present.
- ❑ Find out what versions of the G740A/G740B Graphics Accelerator display drivers and related software such as DirectX are installed in the computer. You may need to update to the latest drivers by downloading them from the World Wide Web. Contact your Field Sales Representative if you do not know how to get the latest G740A/G740B Graphics Accelerator display drivers.
- ❑ Gather some history. Did the graphics card ever work in this computer? If so, was anything added to the computer just before the card stopped working? Was the graphics card moved from a different computer where it was working fine? Is the graphics card new? The answers to these questions will speed up diagnosis dramatically.

The Symptom Table

Scan the left column of the table until you find a symptom that your G740A/G740B Graphics Accelerator graphics card is exhibiting. Note the corresponding solution codes.

Symptom	Solution Codes
The graphics card stopped working when a software package was added to the computer.	1, 5
The graphics board stopped working without apparent cause.	1
The graphics card stopped working when another board was added to the computer.	3, 4, 1
An application stopped functioning since the graphics card was added.	5, 6
The computer wouldn't boot after installing the graphics card.	1, 3, 4, 7
The monitor doesn't display correctly after installing the graphics board.	2

The Solution Table

For each solution code associated with your graphics card's symptom, look up the code in the Solution Table for the recommended action. You may need to try several possibilities to fix the problem.

Solution Code	Recommendation
1	Verify that the monitor cable is attached to the connector on the back of the graphics card.
2	The G740A/G740B Graphics Accelerator display driver may be trying to use settings your monitor doesn't support. This could happen if a monitor was never selected in the software and you changed your display resolution to one your monitor doesn't support, or if you changed the monitor connected to your computer without changing it in the software.
3	Some computers may not properly detect the addition or change of an internal PCI card. On start-up, a computer may beep differently from normal to indicate this error. Reset your computer's CMOS. This is usually done through a switch or jumper on the motherboard of your computer. Check your system manual or contact your computer vendor for instructions on how to do this.

Solution Code	Recommendation
4	Your computer beeps during POST or the graphics card is detected incorrectly. If another graphics card is plugged into an expansion slot, remove it. If a graphics chip is built-in to your computer motherboard, your system may not have automatically disabled it when you installed your G740A/G740B Graphics Accelerator card. Check your system manual for instructions on how to manually disable the built-in graphics chip.
5	There could be a conflict between the application and the G740A/G740B Graphics Accelerator card. Make sure that you have installed the latest available display drivers. Try disabling Hardware Acceleration in the Advanced Graphics Settings of the System application in the Windows Control Panel if the problem is specific to this application.
6	DirectX may not be installed, or an older version of DirectX may be installed. Most programs that use DirectX install it as part of their installation, but some do not. Also, some older programs may install an earlier version of DirectX (overwriting a later version).
7	The files containing the G740A/G740B Graphics Accelerator display drivers may have become corrupt. Reinstall the drivers and try again.

Technical Support

For the latest information or any questions, call your local Field Sales Representative.

Technical Information

Display Information

The following tables provide information on the display formats supported by the G740A/G740B Graphics Accelerator card.

Resolution (horizontal x vertical)	Color Depth (bits per pixel)	Memory Configuration (MB)	Vertical Refresh Rates (Hz)
320 x 200	4, 8, 16, 24	4, 8	60, 72, 75, 85
320 x 240	4, 8, 16, 24	4, 8	60, 72, 75, 85
512 x 384	4, 8, 16, 24	4, 8	60, 72, 75, 85
640 x 350	4, 8, 16, 24	4, 8	85
640 x 480	4, 8, 16, 24	4, 8	60, 72, 75, 85
800 x 600	4 ¹ , 8, 16, 24	4, 8	56, 60, 72, 75, 85
1024 x 768	8, 16, 24	4, 8	60, 70, 75, 85
1152 x 864	8, 16	4, 8	75
1280 x 1024	8, 16 ³	4, 8	60, 75, 85
1600 x 1200	8	4, 8	60, 75

1. Planar mode only.
2. Interlace support is for 8-bit only.
3. 85 MHz not supported.

DDC Monitor Support

The G740A/G740B Graphics Accelerator card supports the DDC-2B protocol. DDC monitors send their optimal timing parameters to the graphics adapter, allowing it to choose the proper refresh rate for each resolution.

Mechanical / Thermal Specifications

Card dimensions (excluding bracket): 20cm (7.9") x 5.5cm (2.2")
 Worst-case system environment with default thermal solution: zero
 airflow, 55°C internal ambient temperature
 Maximum case temperature (T_{case}): 105°C

Connector Descriptions

CON4 - 15Pin VGA Connector

No.	Description	No.	Description	No.	Description
1	Red Video	6	Red Video Return	11	Monitor ID 0
2	Green Video	7	Green Video Return	12	SDA Serial Data
3	Blue Video	8	Blue Video Return	13	Horizontal Sync
4	Monitor ID 2	9	+5V Supply	14	Vertical Sync
5	Return	10	Sync Return	15	SCL Serial Clock

VMI Feature Connectors

The bi-directional VMI-compatible connectors are provided to enable a video module, such as a DVD/MPEG card in a PCI slot, to communicate video data directly to the G740A/G740B Graphics Accelerator card instead of through the PCI bus. Ribbon cable connectors are inserted into the VMI connectors A and B. Further connector information can be found in the Video Module Interface (VMI) Specification.