

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

The Digital Visual Interface (DVI) adapter card, using the integrated graphics controller on your computer, provides a DVI port. The DVI port provides a direct, digital connection to a digital display, such as a digital flat panel display. The DVI adapter works through the integrated graphics on your computer and is controlled through the integrated graphics driver's user interface, which is located under the Control Panel in Microsoft® Windows® operating systems. The DVI adapter plugs into the PCI Express x16 slot on your system board.

- [Safety Instructions](#)
- [Installation Instructions](#)
- [Troubleshooting](#)
- [Specifications](#)
- [Regulatory Notices](#)

Notes, Notices, and Cautions

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
-  **NOTICE:** A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
-  **CAUTION:** A CAUTION indicates a potential for property damage, personal injury, or death.

Information in this document is subject to change without notice.
© 2004 Dell Inc. All rights reserved.

Reproduction in any manner whatsoever without the written permission of Dell Inc. is strictly forbidden.

Trademarks used in this text: *Dell* and the *DELL* logo are trademarks of Dell Inc.; *Microsoft*, *Windows*, and *Windows NT* are registered trademarks of Microsoft Corporation; *Intel* is a registered trademark of Intel Corporation.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell Inc. disclaims any proprietary interest in trademarks and trade names other than its own.

December 2004 Rev. A01

[Back to Contents Page](#)

Installation Instructions

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

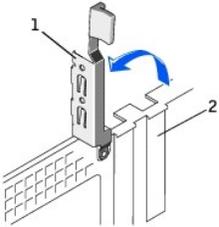
- [Small Form-Factor Computer](#)
- [Desktop Computer](#)
- [Small Desktop Computer](#)
- [Mini-Tower Computer](#)
- [Small Mini-Tower Computer](#)

Small Form-Factor Computer

- ⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in "[Safety Instructions](#)."
- ⚠ **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.
- 🔌 **NOTICE:** To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

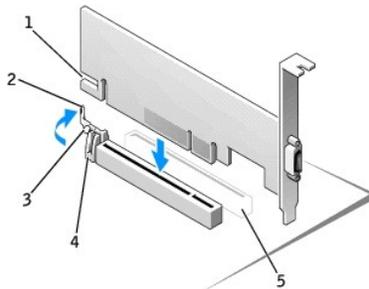
1. Remove the computer stand, if it is attached.
2. Open the computer cover.
3. Remove the filler bracket by raising the hinged lever and sliding the filler bracket up.

Removing the Filler Bracket



1	hinged lever
2	filler bracket

Installing the DVI Adapter



1	card notch
2	card-clip lever
3	card-clip tab
4	card clip
5	PCI card slot

4. Press the card-clip lever toward the PCI card slot and gently press the card into the PCI Express x16 slot until it clicks into place.
5. Release the card-clip lever, ensuring that the tab on the card-clip lever fits into the notch on the front end of the card.
6. Secure the card by lowering the hinged lever on the back panel.

7. Close the computer cover.
8. Attach the computer stand (optional).

NOTICE: To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

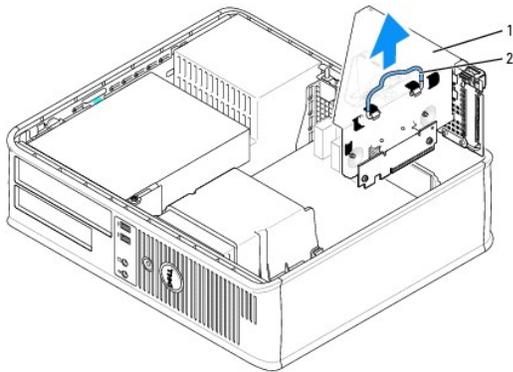
9. Connect the monitor cable to the card's video connector.
 10. Connect your computer and devices to their electrical outlets, and turn them on.
-

Desktop Computer

With a Card Cage

1. Open the computer cover.
2. Remove the card cage:
 - a. Check any cables that are connected to cards through the back-panel openings. Disconnect any cables that will not reach the card cage once they are removed from the computer.
 - b. Gently rotate and pull on the handle to lift the card cage away from the computer.

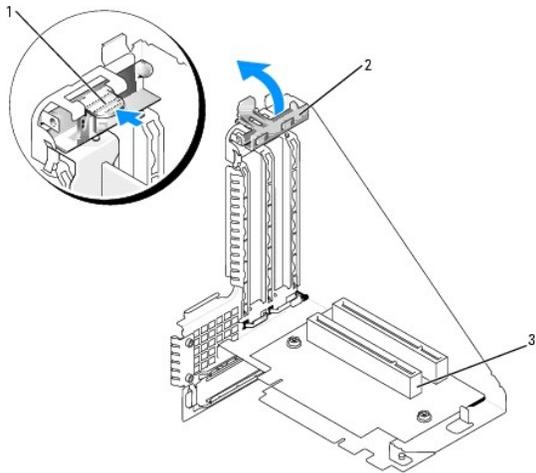
Removing the Card Cage



1	card cage
2	handle

3. Remove the filler bracket to create an empty card-slot opening in the card cage:
 - a. Press the release tab at the top of the card cage.
 - b. Rotate the card retention lever upward to unlock and lift the filler bracket.

Removing the Card-Cage Filler Bracket



1	release tab
2	card retention lever
3	card slot

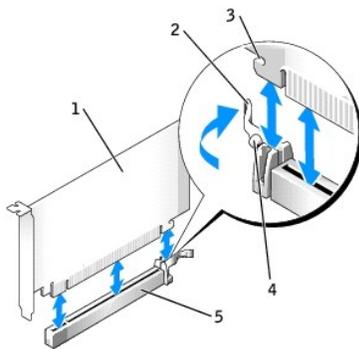
NOTE: See the documentation that came with the card for information on configuring the card, making internal connections, or customizing it for your computer.

4. Prepare the new card for installation in the card cage.

CAUTION: Some network adapters automatically start the computer when you connect them to a network. To guard against electrical shock, unplug your computer from its electrical outlet before you install any cards.

5. Press the card retention lever with your thumb until you release the securing tab on the card cage.
6. While pressing the lever, insert the card firmly in the card connector.

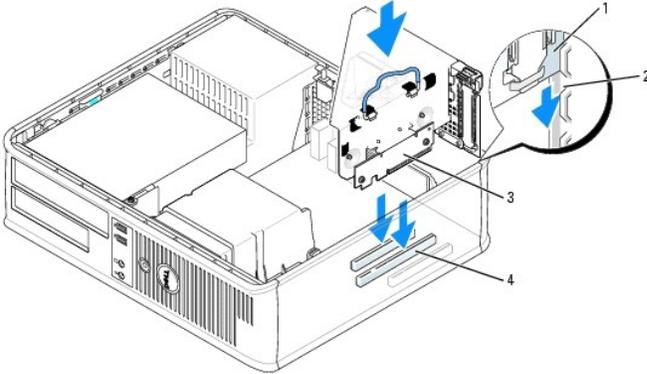
Inserting the Card



1	DVI card
2	card retention lever
3	securing slot (not all cards)
4	securing tab
5	card connector

7. Replace the card cage:
 - a. Align the tabs in the side of the card cage with the slots on the side of the computer, and slide the card cage down into place.
 - b. Ensure that the riser boards are fully seated in the connectors on the system board.

Replacing the Card Cage



1	card cage
2	slots
3	riser boards (2)
4	system board connectors (2)

8. Reconnect any cables that you removed in [step 2](#).

9. Connect any cables that should be attached to the card.

🔒 **NOTICE:** Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

10. Replace the computer cover.

🔒 **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

11. Connect the monitor cable to the card's video connector.

12. Connect your computer and devices to electrical outlets, and turn them on.

Without a Card Cage

⚠️ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in "[Safety Instructions](#)."

⚠️ **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

🔒 **NOTICE:** To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

1. Open the computer cover.

2. Press the release tab with your thumb to release the filler bracket.

3. Remove the filler bracket by raising the hinged lever and sliding the bracket up.

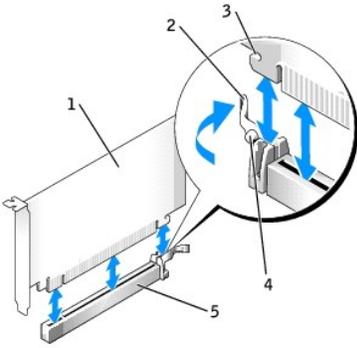
4. Press the lever with your thumb until you release the securing tab.

5. While pressing the lever, insert the card firmly into the card connector:

a. Release the card-clip lever, ensuring that the tab on the card-clip lever fits into the notch on the front end of the card.

b. Secure the card by lowering the hinged lever on the back panel.

Inserting the Card



1	DVI card
2	card retention lever
3	securing slot (not on all cards)
4	securing tab
5	card connector

➡ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

6. Close the computer cover.
7. Connect the monitor cable to the card's video connector.
8. Connect your computer and devices to their electrical outlets, and turn them on.

Small Desktop Computer

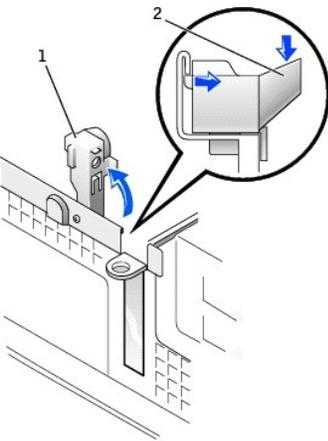
⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in "[Safety Instructions.](#)"

⚠ **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

➡ **NOTICE:** To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

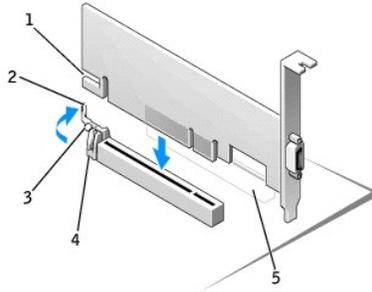
1. Remove the computer stand, if it is attached.
2. Open the computer cover.
3. Remove the filler bracket by raising the hinged lever and sliding the bracket up.
 - a. Press the indented tab on the hinged lever with your thumb until you release the tab.
 - b. Continue holding the lever and pull the lever up.

Removing the Filler Bracket



1	hinged lever
2	indented tab (side view)

Installing the DVI Adapter



1	card notch
2	card-clip lever
3	card-clip tab
4	card clip
5	PCI card slot

4. Press the card-clip lever toward the PCI card slot and gently press the card into the PCI Express x16 slot until it clicks into place.
5. Release the card-clip lever, ensuring that the tab on the card-clip lever fits into the notch on the front end of the card.
6. Secure the card by lowering the hinged lever on the back panel.
7. Close the computer cover.
8. Attach the computer stand (optional).

NOTICE: To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

9. Connect the monitor cable to the card's video connector.
10. Connect your computer and devices to their electrical outlets, and turn them on.

Mini-Tower Computer

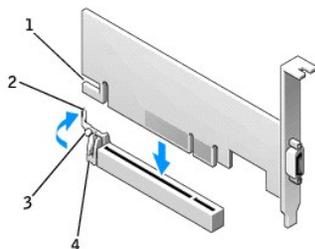
CAUTION: Before you begin any of the procedures in this section, follow the steps in "[Safety Instructions](#)."

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

NOTICE: To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

1. Open the computer cover.
2. Remove the filler bracket by raising the hinged lever and sliding the bracket up.

Installing the DVI Adapter



1	card notch
---	------------

2	card-clip lever
3	card-clip tab
4	card clip

3. Press the card-clip lever toward the PCI card slot and gently press the card into the PCI Express x16 slot until it clicks into place.
4. Release the card-clip lever, ensuring that the tab on the card-clip lever fits into the notch on the front end of the card.
5. Secure the card by lowering the hinged lever on the back panel.
6. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

7. Connect the monitor cable to the card's video connector.
8. Connect your computer and devices to electrical outlets, and turn them on.

Small Mini-Tower Computer

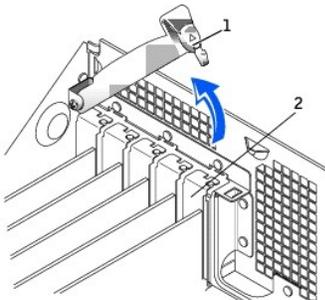
CAUTION: Before you begin any of the procedures in this section, follow the steps in "[Safety Instructions](#)."

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

NOTICE: To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

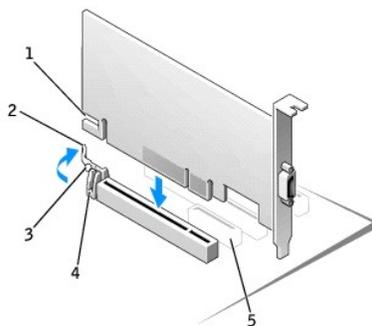
1. Open the computer cover.
2. Remove the filler bracket by raising the hinged lever and sliding the bracket up.

Removing the Filler Bracket



1	hinged lever
2	filler bracket

Installing the DVI Adapter



1	card notch
2	card-clip lever

3	card-clip tab
4	card clip
5	PCI card slot

3. Press the card-clip lever toward the PCI card slot and gently press the card into the PCI Express x16 slot until it clicks into place.
4. Release the card-clip lever, ensuring that the tab on the card-clip lever fits into the notch on the front end of the card.
5. Secure the card by lowering the hinged lever on the back panel.
6. Close the computer cover.

 **NOTICE:** To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

7. Connect the monitor cable to the card's video connector.
8. Connect your computer and devices to electrical outlets, and turn them on.

[Back to Contents Page](#)

[Back to Contents Page](#)

Regulatory Notices: PCI Express DVI (Digital) Adapter Card

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

FCC Notices (U.S. Only)

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 in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio communications.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 1 This device must accept any interference received, including interference that may cause undesired operation.

Class B

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 in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- 1 Reorient or relocate the receiving antenna.
- 1 Increase the separation between the equipment and the receiver.
- 1 Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 1 Consult the dealer or an experienced radio/television technician for help.

IC Notice (Canada Only)

Most Dell computer systems (and other Dell digital apparatus) are classified by the Industry Canada (IC) Interference-Causing Equipment Standard #3 (ICES-003) as Class B digital devices. To determine which classification (Class A or B) applies to your computer system (or other Dell digital apparatus), examine all registration labels located on the bottom or the back panel of your computer (or other digital apparatus). A statement in the form of "IC Class A ICES-003" or "IC Class B ICES-003" will be located on one of these labels. Note that Industry Canada regulations provide that changes or modifications not expressly approved by Dell could void your authority to operate this equipment.

This Class B (or Class A, if so indicated on the registration label) digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B (ou Classe A, si ainsi indiqué sur l'étiquette d'enregistrement) respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

CE Notice (European Union)

Marking by the symbol **CE** indicates compliance of this product to the EMC Directive and the Low Voltage Directive of the European Union. It meets the following technical standards: EN 55022 Class B and EN 55024: 1998.

MIC (Republic of Korea Only)

Class B Device

기종별	사용자안내문
B급 기기 (가정용 정보통신기기)	이 기기는 가정용으로 전자파적합등록을 한 기기로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Please note that this device has been approved for nonbusiness purposes and may be used in any environment, including residential areas.

MIC Class B Regulatory Label

If the regulatory label includes the following marking, your computer is a Class B product:



1. 기기의 명칭(모델명):
2. 인증번호:(B)
3. 인증받은 자의 상호:
4. 제조년월일:
5. 제조사/제조국가:

BSMI Notice (Taiwan Only)

If you find a  or  mark on the regulatory label on the bottom, side, or back panel of your computer, the following section is applicable:

BSMI 通告 (僅限於台灣)

大多數的 Dell 電腦系統被 BSMI (經濟部標準檢驗局) 劃分為乙類數位裝置。但是, 使用某些選件會使有些組態的等級變成甲類。若要確定您的電腦系統適用等級, 請檢查所有位於電腦底部或背面板、擴充卡安裝托架, 以及擴充卡上的 BSMI 註冊標籤。如果其中有一甲類標籤, 即表示您的系統為甲類數位裝置。如果只有 BSMI 的檢驗號碼標籤, 則表示您的系統為乙類數位裝置。

一旦確定了系統的 BSMI 等級, 請閱讀相關的 BSMI 通告。請注意, BSMI 通告規定凡是未經 Dell Inc. 明確批准的擅自變更或修改, 將導致您失去此設備的使用權。

此裝置符合 BSMI (經濟部標準檢驗局) 的規定, 使用時須符合以下兩項條件:

- 此裝置不會產生有害干擾。
- 此裝置必須能接受所接收到的干擾, 包括可能導致無法正常作業的干擾。

甲類

此設備經測試證明符合 BSMI (經濟部標準檢驗局) 之甲類數位裝置的限制規定。這些限制的目的是為了在商業環境中使用此設備時, 能提供合理的保護以防止有害的干擾。此設備會產生、使用並發射頻能量; 如果未遵照製造廠商的指導手冊來安裝和使用, 可能會干擾無線電通訊。請勿在住宅區使用此設備。

警告使用者:
這是甲類的資訊產品, 在居住的環境中使用時, 可能會造成射頻干擾,
在這種情況下, 使用者會被要求採取某些適當的對策。

乙類

此設備經測試證明符合 BSMI (經濟部標準檢驗局) 之乙類數位裝置的限制規定。這些限制的目的是為了在住宅區安裝時, 能防止有害的干擾, 提供合理的保護。此設備會產生、使用並發射頻能量; 如果未遵照製造廠商的指導手冊來安裝和使用, 可能會干擾無線電通訊。但是, 這並不保證在個別的安装中不會產生干擾。您可以透過關閉和開啓此設備來判斷它是否會對廣播和電視收訊造成干擾; 如果確實如此, 我們建議您嘗試以下列一種或多種方法來排除干擾:

- 重新調整天線的接收方向或重新放置接收天線。
- 增加設備與接收器的距離。
- 將設備連接至不同的插座, 使設備與接收器連接在不同的電路上。
- 請向經銷商或有經驗的無線電 / 電視技術人員查詢, 以獲得幫助。

[Back to Contents Page](#)

[Back to Contents Page](#)

Safety Instructions

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

Use the following safety guidelines to help protect your computer from potential damage and to help ensure your own personal safety.

When Working Inside Your Computer

Before you open the computer cover, perform the following steps in the sequence indicated.

 **CAUTION:** Do not attempt to service the computer yourself, except as explained in your online Dell documentation or otherwise provided to you. Always follow installation and service instructions closely.

 **NOTICE:** To help avoid possible damage to the system board, wait 5 seconds after turning off the computer before removing a component from the system board or disconnecting a device from the computer.

1. Perform an orderly computer shutdown using the operating system menu.
2. Turn off your computer and any devices.
3. Ground yourself by touching an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.

While you work, periodically touch an unpainted metal surface on the computer chassis to dissipate any static electricity that might harm internal components.

4. Disconnect your computer and devices from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.

Doing so reduces the potential for personal injury or shock.

In addition, take note of these safety guidelines when appropriate:

1. When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, make sure both connectors are correctly oriented and aligned.
1. Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a microprocessor chip by its edges, not by its pins.

 **CAUTION:** There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Protecting Against Electrostatic Discharge

Static electricity can harm delicate components inside your computer. To prevent static damage, discharge static electricity from your body before you touch any of your computer's electronic components, such as the microprocessor. You can do so by touching an unpainted metal surface on the computer chassis.

As you continue to work inside the computer, periodically touch an unpainted metal surface to remove any static charge your body may have accumulated.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

1. When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component in your computer. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
1. When transporting a sensitive component, first place it in an antistatic container or packaging.
1. Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.

[Back to Contents Page](#)

[Back to Contents Page](#)

Specifications: PCI Express DVI (Digital) Adapter Card

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

Cable Connectors

Computer DVI digital-only connector

Physical Configuration

Bus type	Intel® Digital Video Output (DVO)
Maximum resolution supported	1600 x 1200 at 60 Hz
Power requirements	Max Power
12 V	1135 mW
3.3 V	728 mW

Dimensions

Bracket height	low-profile: 7.92 cm [3.118 in]
	standard: 10.67 cm [4.725 in]
Board dimensions	low-profile and standard: 14.48 cm [5.7 in] long by 6.93 cm [2.73 in] high

[Back to Contents Page](#)

[Back to Contents Page](#)

Troubleshooting: PCI Express DVI (Digital) Adapter Card

PCI Express DVI (Digital) Adapter Card Installation and Setup Guide

1. If the computer detects the card and lists it in the Device Manager, ensure that the advanced graphics setting and options on the Intel® GMA Driver Control Panel are set correctly for the video configuration that you want.
2. Verify proper connection between the monitor video cable and the DVI card port.
3. Attach a CRT monitor to the VGA connection to ensure that the system is producing a video signal using the integrated controller.
4. If the monitor is capable of both VGA and DVI input, ensure that the input selector on the monitor is set correctly.
5. If the card is not properly detected, reseal the DVI card in the PCI Express x16 slot to ensure a good connection.

See the [Installation Instructions](#).

6. If available, test the DVI card by installing the card into a same-model system with a properly working PCI Express x16 slot.
7. If available, place a properly working DVI card in the computer to test the PCI Express x16 slot.

[Back to Contents Page](#)