

Video Connection Reference

Purpose

This document describes the various ways to connect your ZvBox to your PC with video cabling and adapters.

Parts

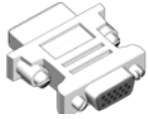
These parts you should be familiar with:



VGA Port - Sends video data to your monitor. Carries an *analog* video signal.



DVI Port - Sends video data to your monitor. Usually carries both *analog* and *digital* video signals.



DVI to VGA Adapter – Converts a DVI port that carries both an *analog* and *digital* signal to a VGA port that carries an *analog* signal.



ZvBox – Takes in an *analog* video signal via a VGA port, and has a passthrough VGA port that can send *analog* video data to your monitor.



Monitor – Some monitors take *analog* VGA input, others take *digital* DVI input. Many monitors have both a VGA and DVI port, and accept both inputs.



PC – Your PC or Laptop computer. PCs have one or more video outputs, and can have VGA ports, DVI ports, or both.

Video FAQ

Q: How do I know what video ports my PC has?

A: Just look on the back of your computer to see what's there! VGA ports are usually blue, and DVI ports are usually white.

Q: Do I need a DVI to VGA adapter?

A: Some graphics cards that have only DVI ports come with an adapter in the box. If you don't have one, pretty much every electronics or computer store will carry them. You'll need a male DVI-I or DVI-A to female VGA adapter.

Q: I heard VGA cannot transmit HD signals. Is that true?

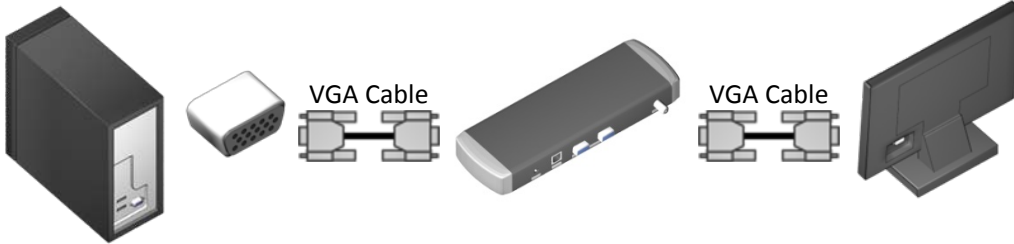
A: No, that's a common myth. VGA can carry a lossless 1920x1080 signal easily.

Q: Why doesn't the ZvBox use DVI? Isn't that a better standard?

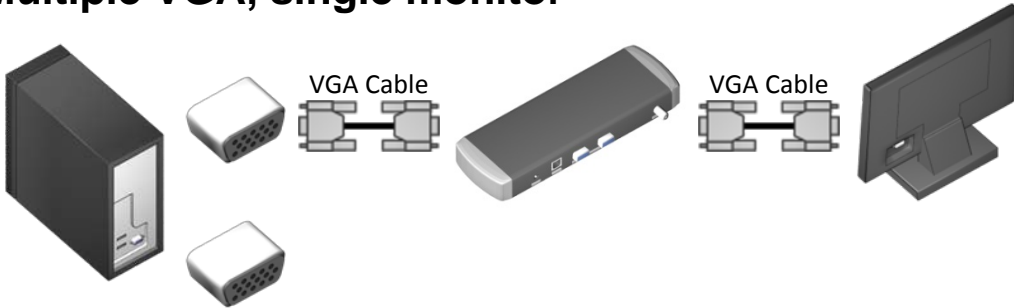
A: DVI is a great digital standard, but unfortunately, digital signals are subject to legal restrictions that don't apply to analog signals. Fortunately, analog VGA is more than adequate to provide great HD video.

VGA-Only Systems

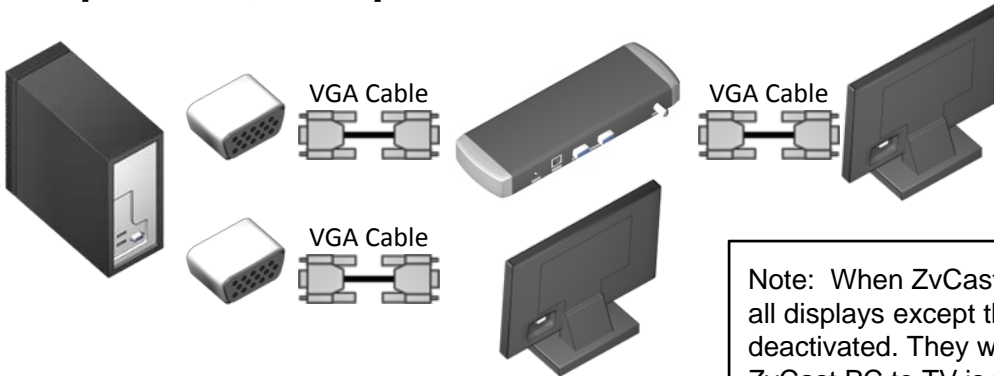
Single VGA, single monitor



Multiple VGA, single monitor



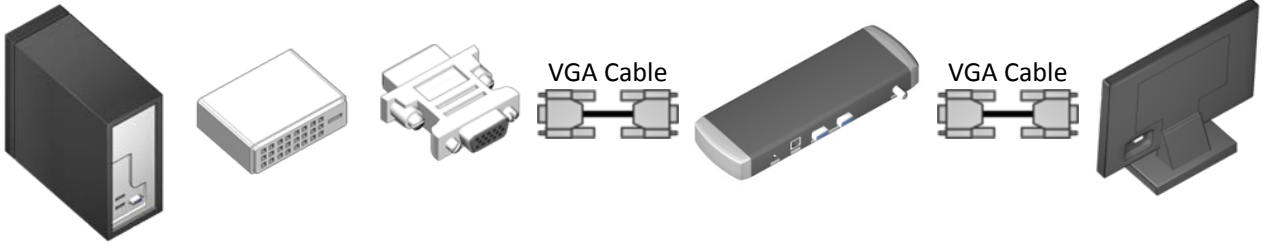
Multiple VGA, multiple monitor



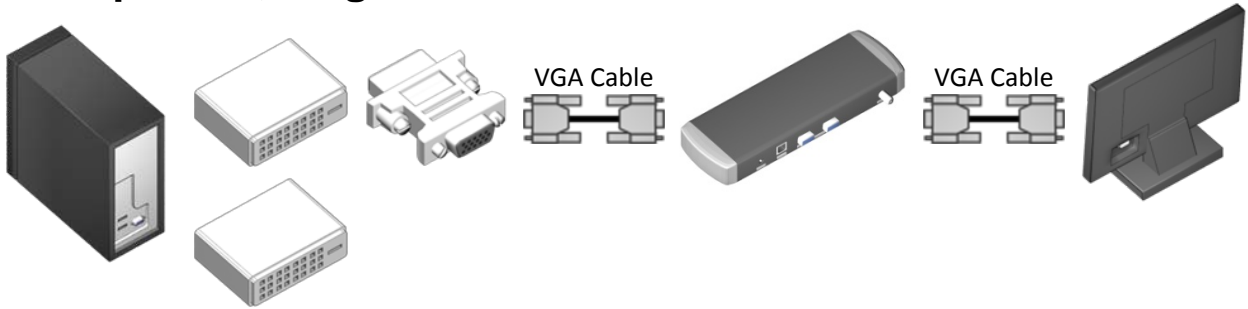
Note: When ZvCast PC to TV is turned on, all displays except the ZvBox display will be deactivated. They will be reactivated when ZvCast PC to TV is turned off.

DVI-Only Systems

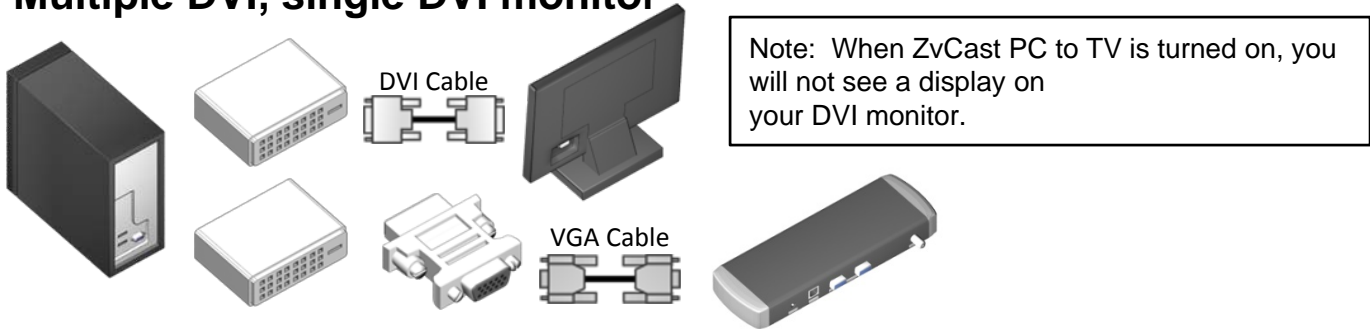
Single DVI, single monitor



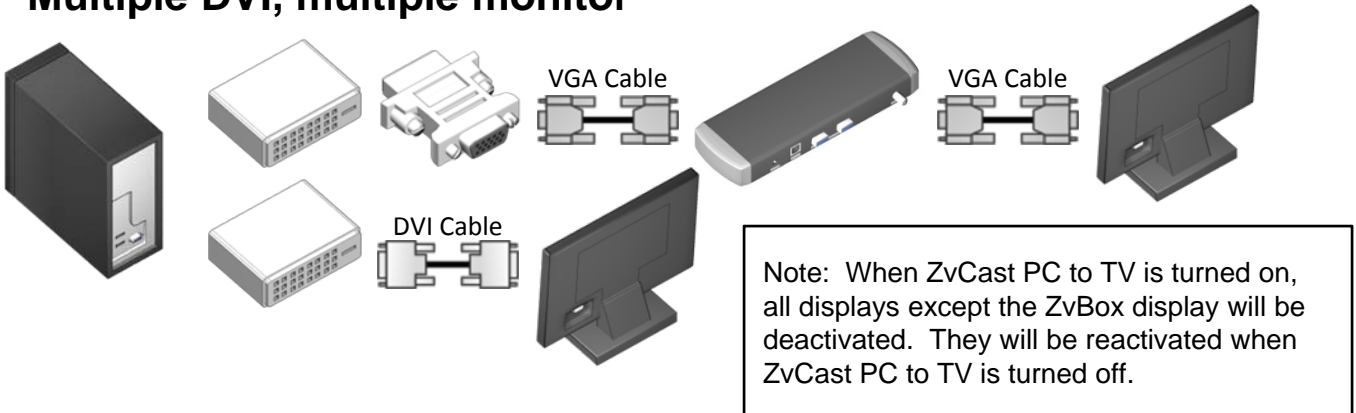
Multiple DVI, single VGA monitor



Multiple DVI, single DVI monitor

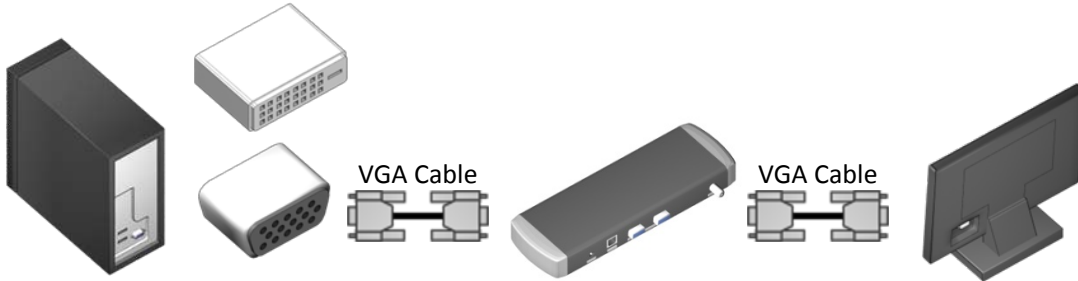


Multiple DVI, multiple monitor

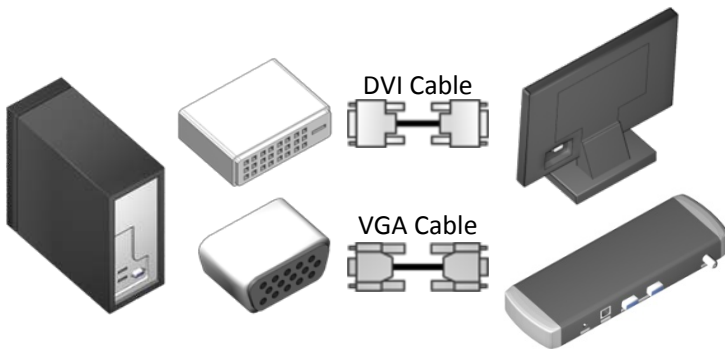


Mixed DVI/VGA Systems

Single DVI, single VGA with single VGA monitor

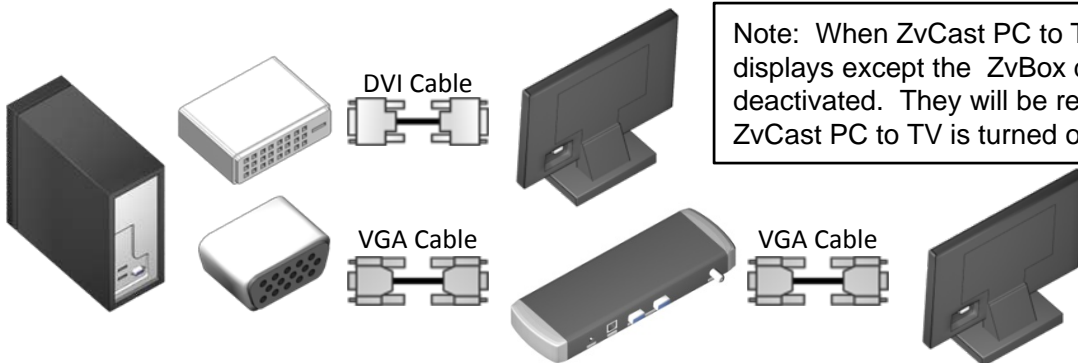


Single DVI, single VGA with single DVI monitor



Note: When ZvCast PC to TV is turned on, you will not see a display on your DVI monitor. It will be reactivated when ZvCast PC to TV is turned off.

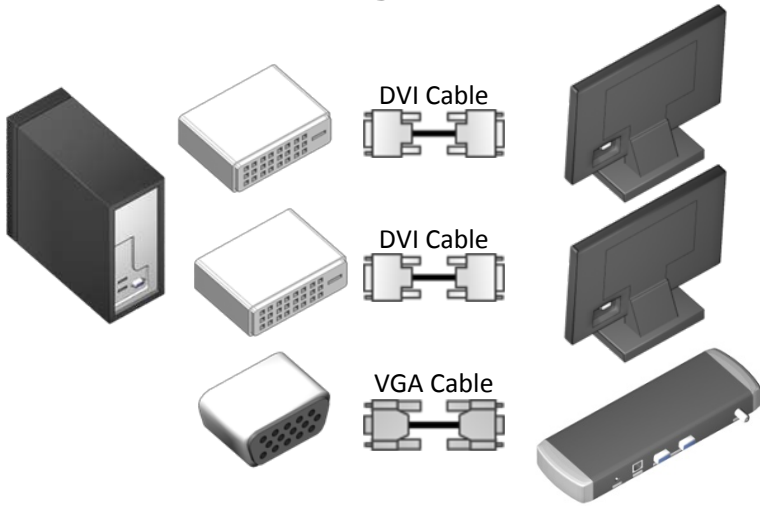
Single DVI, single VGA with multiple monitors



Note: When ZvCast PC to TV is turned on, all displays except the ZvBox display will be deactivated. They will be reactivated when ZvCast PC to TV is turned off.

Complex Systems

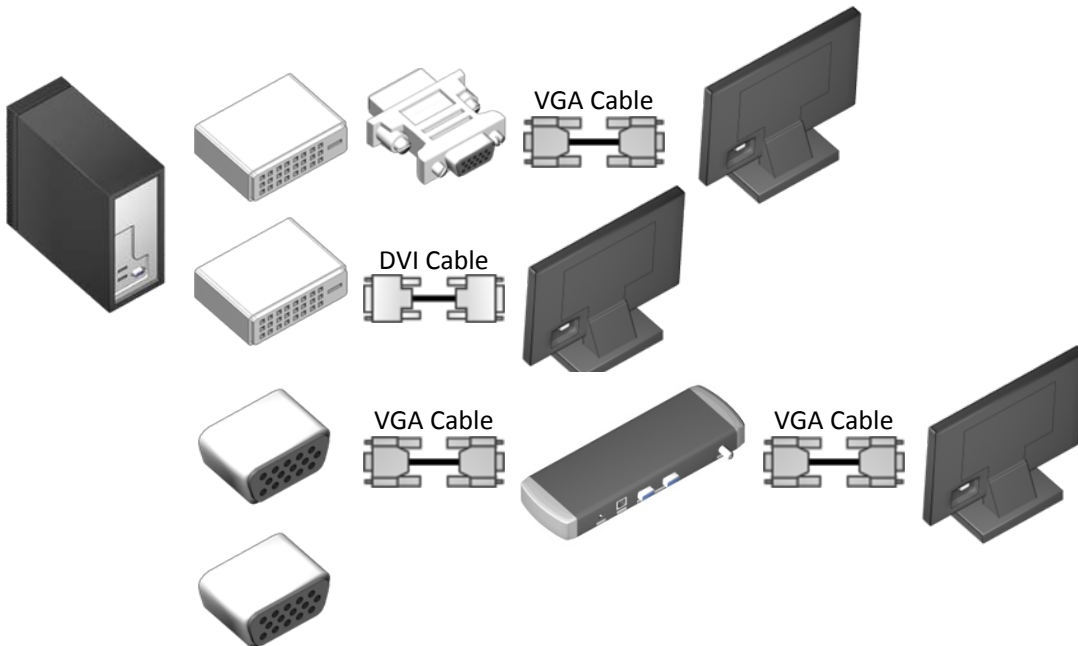
Multiple DVI + single VGA with multiple DVI monitors



Note: When ZvCast PC to TV is turned on, you will not see a display on your DVI monitors. They will be reactivated when ZvCast PC to TV is turned off.

Note: On many computers with this configuration the VGA port is inactive. Please see the last page, "Incorrect Setups", for more information.

Multiple DVI + multiple VGA with mixed monitors

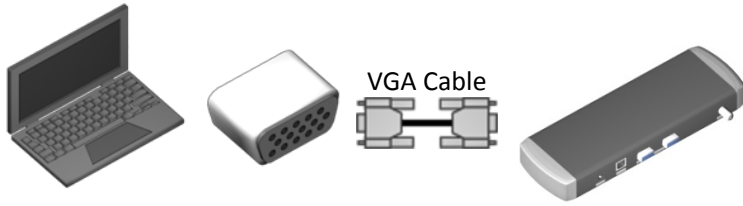


Note: When ZvCast PC to TV is turned on, all displays except the ZvBox display will be deactivated. They will be reactivated when ZvCast PC to TV is turned off.

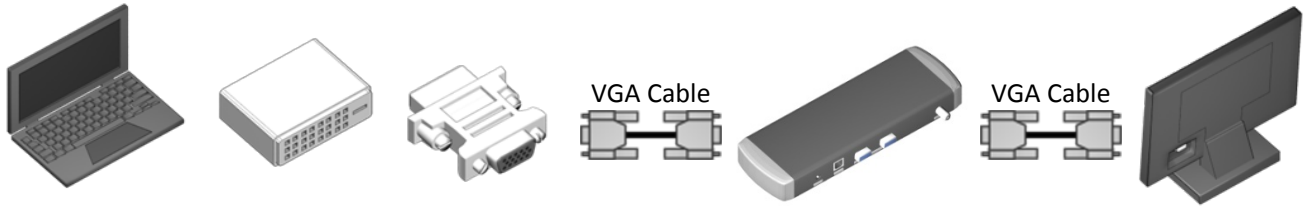
Other complex variations can exist. In general, as long as a video port can be activated and can send an analog VGA signal to the ZvBox, it will be able to see and interpret the signal.

Laptops

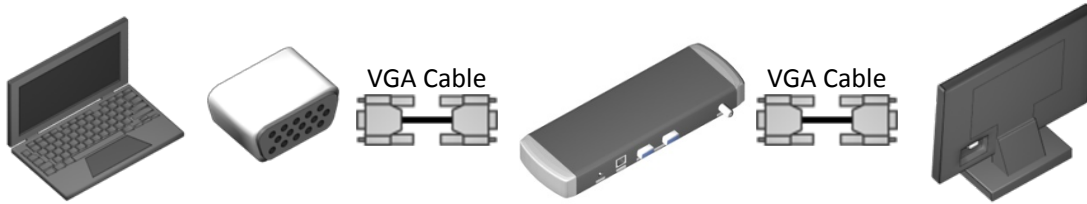
Laptop with VGA output



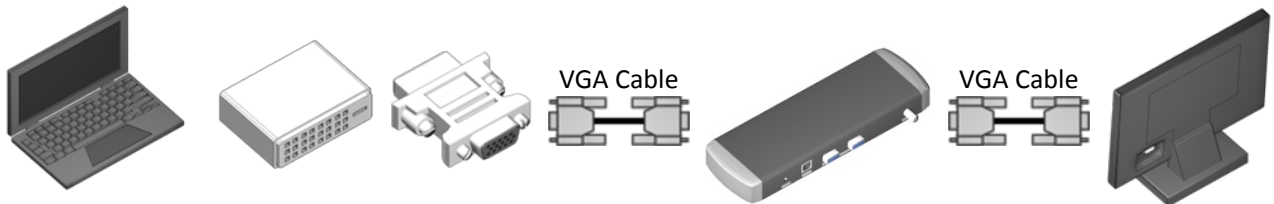
Laptop with DVI output



Laptop with VGA output and monitor

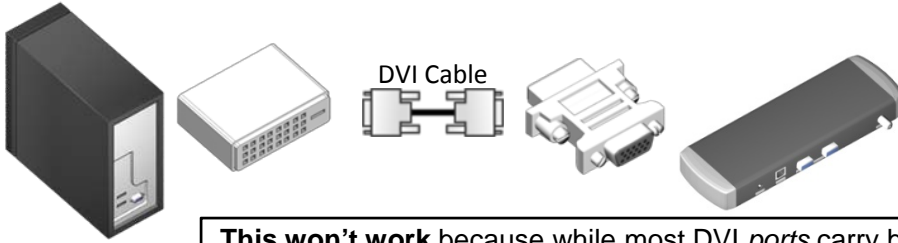


Laptop with DVI output and monitor



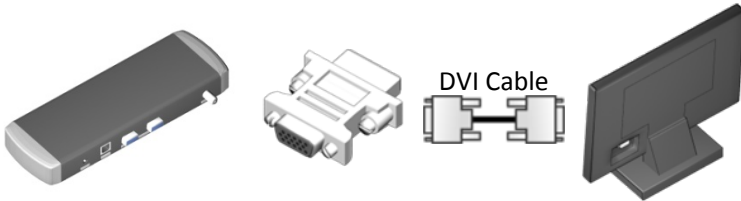
Incorrect Setups

DVI Cable from PC to Adapter to ZvBox



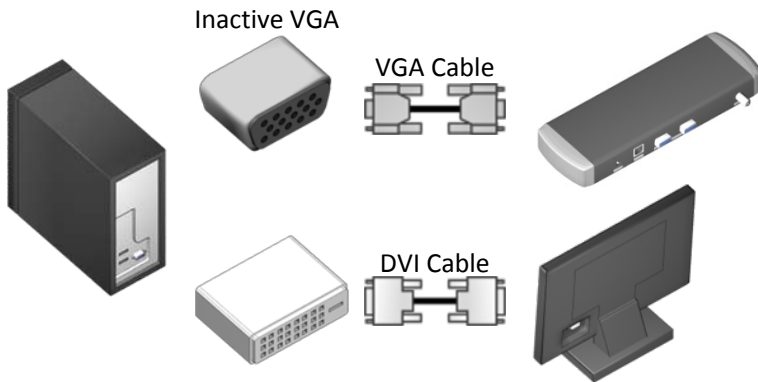
This won't work because while most DVI *ports* carry both an analog and a digital signal, most DVI *cables* carry only a digital signal. The cable will filter out the analog signal, leaving only a digital signal. The adapter is only able to filter out a digital signal – it's not able to convert a digital signal to an analog signal. Thus, the ZvBox will receive no analog input signal.

DVI Cable from ZvBox to Monitor



This won't work because ZvBox only outputs an analog VGA signal. The DVI input on monitors expects a digital signal, which will not be present.

Use of *Inactive* VGA Port

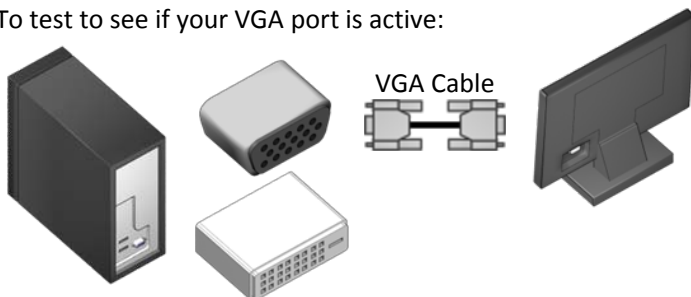


Inactive VGA

VGA Cable

DVI Cable

To test to see if your VGA port is active:



VGA Cable

On computers with both an **onboard video device** (that is, a display adapter built into the system's motherboard) and an **AGP or PCI Express video card**, the onboard video device is usually not active.

This behavior is built into the system's motherboard – either the primary graphics card slot (AGP or PCI-X) can be active or the onboard video device can be active, but not both at the same time.

How do you know if you have an inactive VGA port? Try this experiment:

- (1) Power down your PC
- (2) Disconnect all other video displays
- (3) Connect a monitor with a VGA cable to the VGA port
- (4) Turn the computer back on.

If you are unable to see any video, the display port is inactive.