

The Great PC to TV Connection - Reloaded

Playing computer games, watching downloaded movies or anything else done on a computer is great. Wouldn't it be better if you could use your new 42" HDTV as a display instead of your little computer monitor? It's difficult to resist that urge, but connecting a computer to a TV isn't always as easy as you might hope. In fact, "How can I connect my computer to my television" is one of the most common questions we receive on our technical support lines. Sometimes, it can be as simple as a single cable, but more often than not, connecting these two devices requires a converter box. In this article, we'll look at all the options for connecting a PC to a television.

Generally speaking, your computer is going to have one of two outputs: either a standard SVGA output (figure 1), traditionally used to connect to a computer monitor, or, on newer machines, a DVI output (figure 2). Your television, on the other hand, could have one of several video options, each of which we will look at in this article.

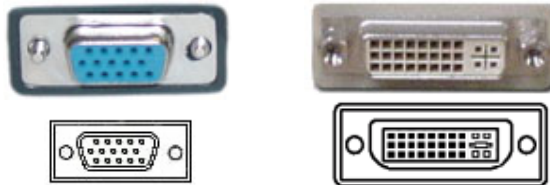
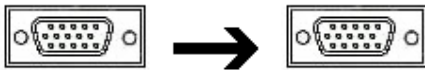


Figure 1: VGA Connector Figure 2: DVI Connector

Computers with a VGA output



Assuming your computer has a VGA output, then the easiest connection is if your TV also has a PC VGA input. This would be the standard VGA video output from a computer to the same connection on a TV. Most newer televisions have this connection. If your TV does have this input, then a simple [Super VGA cable](#) (male to male) will do the trick, and will give you the best possible video quality.



If your television does not have a VGA input, your next best bet is if the television has a component video input. If so, a converter box is available: part number [40H1-50200](#) will convert your VGA signal into component video (note that this part only works in one direction). Component video gives you the same high quality picture as VGA, so it's the next best choice after VGA for converting a computer signal (The other two video options we list below, composite video and s-video, will not deliver as clean a picture, and should only be used when neither VGA nor component video are available.).



VGA to Component Converter



VGA to component cable

Converting VGA to component video often causes confusion for customers, who wonder why a converter box is needed. This confusion is because there is also a cable out there that looks as though it would do the same job as the VGA to component video conversion box. [VGA to component video cables](#), such as the one shown to the right, are often mistakenly purchased in an attempt to connect a computer's VGA source to a component video display.

The reason why this cable will not work to convert a computer's VGA signal into component video is because the VGA signal and component video signal are very different video signal types. It takes more than a simple cable to convert between the two. This cable is actually designed for use with certain projectors that have a 15-pin VGA connection that is specially designed to be capable of accepting the component video signal (often referred to as a Y/Pb/Pr signal). This design is so that the projector doesn't have to have separate jacks for both component video and VGA, thus saving space (and money). This same dual-purpose connector is also found on certain HDTV set-top boxes.



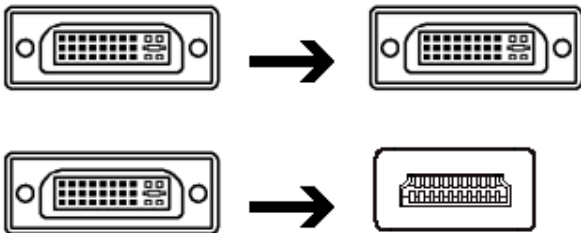
If you have an older television set that has neither a VGA nor a component video input, then it will most likely have a composite video (yellow RCA jack) and / or an S-video connection. To convert your VGA into composite video or S-video, our [part number 41CV-50230](#) will do the trick. This box gives you the option of converting your computer's VGA signal into either composite or S-video. If you needed to convert composite or S-video back to VGA however, you would want to use part number 41VC-00210.



VGA to S-Video / Composite Video Converter

Computers with a DVI output

As we mentioned earlier, newer computers are equipped with a DVI (digital video) output (for more information about DVI, check out our "[DVI Demystified](#)" technical article).



Any new HDTV will also have a DVI or HDMI input on it as its digital connection. If this is the case for you, connecting your PC to the television is simply a matter of choosing either a [DVI cable](#) (if your TV has a DVI input port on it) or a [HDMI to DVI cable](#) (if your TV has an HDMI port on it).



DVI Digital Video Cable DVI to HDMI Video Cable

So what do you do if your television is not equipped with DVI or HDMI ports? Well, as it turns out, most computer video cards with DVI on them can be readily adapted to a VGA connection using a simple [DVI to VGA adaptor](#) to convert the DVI port into a VGA port. From there, you can simply follow the instructions above for connecting a VGA output to your TV.

HDMI and DisplayPort

Newer PCs, especially those of the HTPC (Home Theater Personal Computer) variety are equipped from the start to be connected to HD televisions. These machines will include either a HDMI or DisplayPort digital HD video output along with the usual DVI interface. If your computer has an HDMI output, you can connect it to your TV with an HDMI cable. If you have an Apple computer (November 2008 and newer) or a newer Dell, you can use our Mini DisplayPort to HDMI a dapter cable plus an HDMI cable to connect your HDTV to your computer. Unfortunately, although DisplayPort cables are designed to carry 8 channel audio in addition to video, support for this feature is spotty at best at this time. Apple currently does not support audio through DisplayPort and requires a separate audio connector between your computer and display.



HDMI Cable



Displayport Adapter

What about Audio?

Except when using HDMI and in some circumstances DisplayPort, audio will have to be run separately. Fortunately, unlike the video hookup, connecting up audio between a computer and a TV is pretty straightforward. Computer sound cards have a 3.5mm

(sometimes also referred to as a 1/8 inch) connection. This is the same connection you would find on headphones or computer speakers. That signal is easily converted to a 2 RCA (Red and White) stereo connection, which can be plugged into the back of your TV, or the back of your receiver if you have one. CableWholesale offers two versions of this cable, depending on your needs; our [standard quality](#) and [premium quality](#) 3.5mm to two RCA cables are shown in the pictures on the right.



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