

Video Cabling Cheat Sheet

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Below are descriptions of six different types of video cabling. Generally speaking, types listed closer to the bottom of the list offer better quality pictures than those listed higher up the list. An important point is that any time a conversion takes place from one type of video to another video type there will be a drop in quality, although it may be unnoticeable. At the end of this sheet you will find pictures of the most common video connectors.

Common Question: If you would like to know if you can plug your television or VCR into your computer, the answer is this: You can usually do this only if you have s-video ports (Round 4-pin ports) on both devices or a composite/s-video to RGB converter if you do not have s-video ports.

1. RF (Analog Signals) Typically uses one F connector (RF connector) at both ends of a single cable. Often used in broadcast or cable TV and both video and audio information are included in the one cable. The video signals are similar to composite video (below) but audio signals are also included.

2. Composite Video (Analog Signals) Typically uses one RCA, F-Type, or one BNC connector at each end of a 75-ohm coaxial cable to transmit all the signals required for color video: luminance (brightness) and chrominance (color). Television color modulation schemes such as NTSC and PAL are examples of composite video. In addition, many cable TV companies include sound within your cable TV line. Often these signals are separated into three RCA connectors: A yellow RCA for video and a red RCA connector and white RCA connector for Left and Right stereo sound. However, if you have three RCA connectors available on a device and they are not yellow, red and white, they may instead be for Component Video (see below).

3. S-Video (Analog Signals) Uses MiniDin 4-pin connectors at each end of a cable that has two small 75-ohm coaxial cable lines running within it. S-video keeps the luminance signal (brightness signal) and chrominance signal (color signal) separated. One line (or pin) carries the luminance signals, one carries the chrominance signals, and the other two lines (or pins) each are ground wires. Adding the luminance and chrominance signals together produces a composite video signal (above). S-video is also known as Separate Video or Y/C video because the Y signal (brightness) and C signal (color) are separated. S-video is believed to provide a better quality picture than composite video.

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4. Component Video (Analog Signals) Typically uses three RCA connectors or three BNC connectors at each end of a cable consisting of three separate 75-ohm coaxial cable lines within it. However, three individual 75-ohm coaxial cables with the same connectors can also be used. Component video subtracts the luminance signal (brightness signal) from the sub-components of the chrominance signals (the blue signal and the red signal), and this is often described as Y, B-Y, R-Y or as YPbPr. Notice that blue and red will produce green to achieve a completed RGB (red, green, blue) signal. The term "digital component video" is often used to describe digital video processing before it is displayed on some type of video display device, but this is actually an "analog" display. Generally, component video provides a better quality picture than s-video.

5. RGB Video (Analog Signals) Typically uses three, four or five RCA or BNC connectors at each end of a cable consisting of individual 75-ohm coaxial cables. Again, these can be separate 75-ohm coaxial cables. (Compare RGB Video with Component Video above, as they are often confused.) RGB video typically describes a computer video signal, not a television screen signal (which are typically NTSC or PAL signals). RGB signals are not compatible with NTSC and PAL signals, however special adapters can be purchased to convert between them. Within RGB cables, the individual cables carry Red, Green, and Blue signals in addition to Horizontal Sync and Vertical Sync information (which can be combined into one line). Five lines are sometimes referred to as RGBHV while four lines are called RGSB and three lines are called RG₅B.

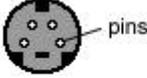
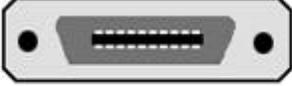
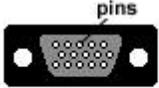
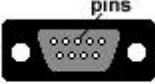
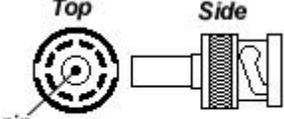
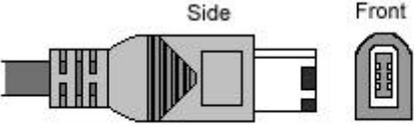
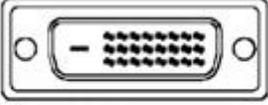
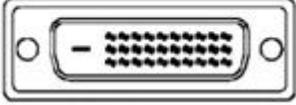
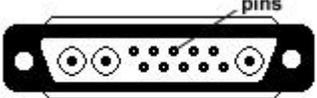
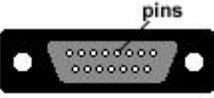
6. Digital Video (Digital Signals) Digital video generally uses three connector types: DVI (Digital Video Interface), DFP (Digital Flat Panel), and P&D (Plug & Display) or EVC.

DVI connectors typically have 3 rows of 8 pin positions (although not all positions are filled with pins) and often some flat contacts next to these pins, and there are three types: DVI-I which can carry digital signals or analog signals for compatibility with analog video devices, DVI-A which carries analog signals only, and DVI-D which carries digital signals only.

DFP connectors carry only digital signals. Of the DFP connectors, the most common is a 20-pin Centronics style connector which is often called an MDR20 or Half Pitch Centronics 36 (HPCen20) or High Density Centronics 20. Some DFP connectors have 26-pins.

P&D connectors typically have 3 rows of 10 pin positions (although not all positions are filled with pins) and some flat contacts next to these pins. P&D is also called **EVC** and can carry digital and/or analog signals. Built into the P&D connector is the ability to also carry USB signals for computer peripheral devices.

Common Video Connectors

 <p>Keyword: RCA</p>	 <p>Keyword: S-Video</p>	 <p>Keyword: High Density Centronics 20-Pin</p>
 <p>Keyword: HD15</p>	 <p>Keyword: F Type</p>	 <p>Keyword: High Density Centronics 26-Pin</p>
 <p>Keyword: DB9</p>	 <p>Keyword: BNC Connector</p>	 <p>Keyword: Firewire 6-Pin</p>
 <p>Keyword: DVI (3 rows of 8 pin positions)</p>	 <p>Keyword: P&D (3 rows of 10 pin positions)</p>	 <p>Keyword: Firewire 4-Pin</p>
 <p>Keyword: 13W3</p>		 <p>Keyword: DB15 (two rows of pins)</p>