



CONNECTOR SETUP GUIDE

CONNECTORS



HDMI Cable
EXCELLENT



VGA
BEST



YPbPr
BETTER



S-VIDEO
BETTER



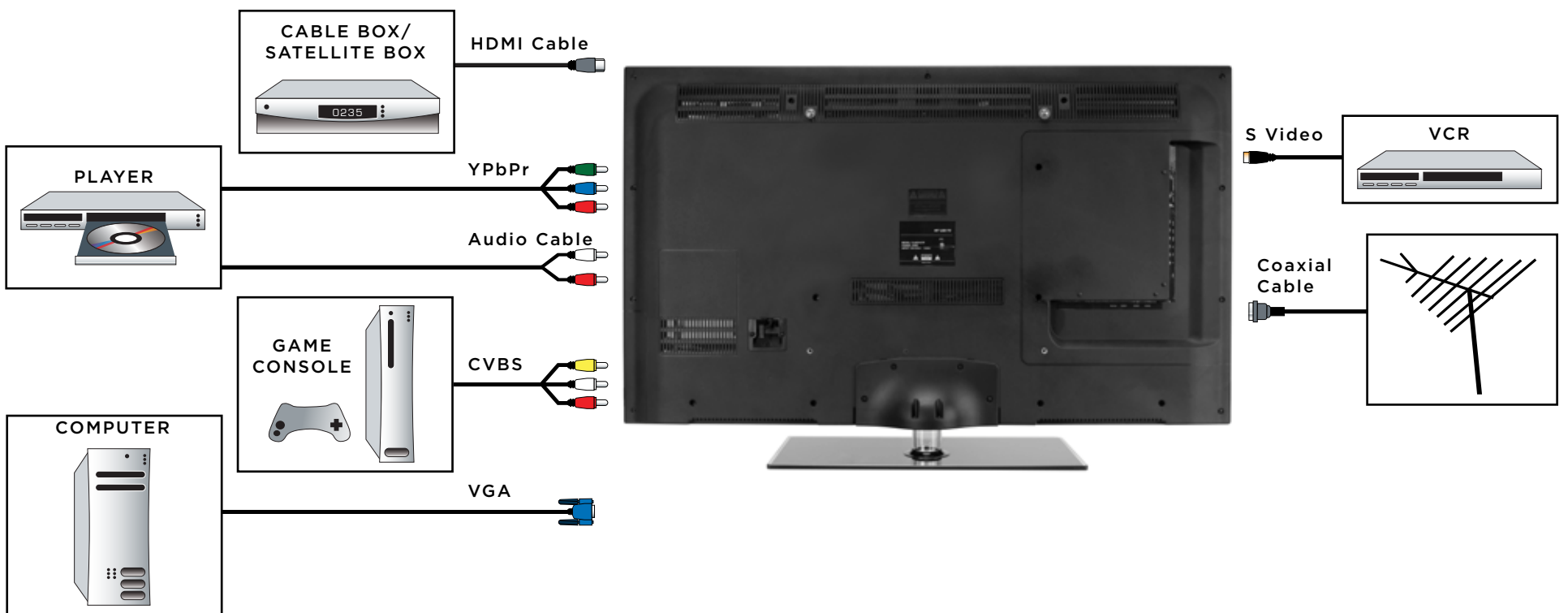
CVBS (COMPOSITE)
GOOD



COAXIAL (RF)
GOOD



CONNECTIONS



DEFINITION OF CONNECTORS



HDMI - (High-Definition Multimedia Interface) is an interface standard used for audiovisual equipment such as high-definition television and home theater systems. With 19 wires wrapped in a single cable that resembles a USB wire, HDMI is able to carry a bandwidth of 5 Gbps (gigabits per second). This is more than twice the bandwidth needed to transmit multi-channel audio and video, future-proofing HDMI for some time to come. This and several other factors make HDMI much more desirable than its predecessors, component video, S-Video and composite video.



HDMI is an uncompressed, all-digital signal, while the aforementioned interfaces are all analog. With an analog interface, a clean digital source is translated into less precise analog, sent to the television, then converted back to a digital signal to display on screen. At each translation, the digital signal loses integrity, resulting in some distortion of picture quality. HDMI preserves the source signal, eliminating analog conversion to deliver the sharpest, richest picture possible.



VGA - A connector as it is commonly known (other names include RGB connector, D-sub 15, mini sub D15 and mini D15) is a three-row 15 pin DE-15. There are four versions: original and DDC2 pin outs, the far older and less flexible DE-9 connector, and a Mini-VGA used for laptops.



The common 15-pin VGA connector found on most video cards, computer monitors, and other devices, is almost universally called "HD-15". HD stands for "high-density", which distinguishes it from connectors having the same form factor but only 2 rows of pins. However, this connector is often incorrectly referred to as a DB-15 or HDB-15.

"VGA connectors" and their associated cabling are almost always used solely to carry analog component RGBHV (red - green - blue - horizontal sync - vertical sync) video signals along with DDC2 digital clock and data.

Where size is a constraint (such as laptops) a mini-VGA port can sometimes be found in place of the full-sized VGA connector.



S Video - Separate video, abbreviated for Separate video and also known as Y/C is an analog video signal that carries the video data as two separate signals, luma (-brightness) and chroma (colour), unlike composite video, which carries (lower-quality) picture information as a single signal, or component video, which carries (higher-quality) picture information as three separate signals, typically luma and two chroma components. S-Video, as most commonly implemented, carries 480i or 576i resolution video, i.e. standard definition video, but does not carry audio on the same cable.



The 4-pin mini-DIN connector (shown at right) is the most common of several S-Video connector types. Other S-Video connector variants include 7-pin locking "dub" connectors used on many professional S-VHS machines, and dual "Y" and "C" BNC connectors, often used for S-Video patch bays. Early Y/C video monitors often used RCA connectors that were switchable between Y/C and composite video input. Though the connectors are different, the Y/C signals for all types are compatible.



CVBS (Composite) - Video is the most common type of video interface for sending or receiving an analog video signal to or from a television set. A composite video interface might connect a VHS tape player, DVD player or game console to a television.



Composite video is a yellow, female RCA jack, normally found next to two audio jacks, one red, the other white. The three jacks together provide an interface for audiovisual connections. The red RCA jack connects the right channel of a stereo system, while the white RCA jack connects the left. The yellow composite video jack rounds out the set.

A video stream is composed of a Y signal for luminance or black and white values and a C signal for chrominance or color. The Y signal provides brightness and contrast, allowing for deep rich blacks and startling bright whites. The quality of this signal is especially evident in low-lit scenes where a degraded signal will translate to "faded" blacks and muted whites, making it difficult to differentiate scenery or action. The color signal -- or RGB for red, green and blue -- carries the information needed to create changing hues. A degraded C signal can result in coloration that is not true to its source.

Composite video is so named because the Y/C signals are compressed and channeled through a single wire to be separated by a "comb filter" inside the television set. Though composite video was the standard for many years, the very process causes some degradation of signal integrity. This wasn't a problem in the past as television resolution and audiovisual equipment in general was inferior to today's standards. However, with the advent of high-definition television and DVD, the drawbacks of composite video have become evident on screen.



YPbPr - he designation for analog component video signals. The "Y," "Pb" and "Pr" are sets of three inputs or outputs on better video equipment and TVs. The three cables used in a YPbPr connection represent higher quality than the single-wire composite cable commonly used to hook up video equipment, because the brightness and color components of the signal are maintained separately. The YPbPr signals are derived from the red, green and blue (RGB) colors captured by a scanner or digital camera, and RGB is converted into brightness and two color difference signals (B-Y and R-Y) for TV/video.