

Video and audio cables Info Sheet

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Component Video



The most common type of connector used for both Standard-quality video and HD video, it uses three coaxial RCA cables and plugs color-coded red, green and blue (the three cables may be wrapped together for convenience) to carry analog Standard- or High-Definition video between a set-top satellite or cable-TV box to the A/V receiver and TV display or projector. Most new A/V receivers include component-video inputs and outputs that let you switch between different video sources. Note } Component video cables do NOT carry audio signals. You must connect separate audio cables (either analog or digital) to carry the sound portion of DVD and cable/satellite TV signals. Component video cables keep the color elements of a video signal separate from each other and should always be used between matching video devices that have component video inputs and outputs.

Composite Video



A single video connector that combines all the color, brightness, and sync signals into one cable (hence "composite") using a single RCA connector. Often color-coded yellow, it is the most common type of

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analog video connection between older VCRs and TVs (except for RF connectors). Use composite video only if your TV, VCR or DVD player lacks S-video or component-video connectors. Composite video will not carry High Def or progressive-scan video signals.

S-video



A small multi-pin connector cable that carries the chrominance (color) and luminance (brightness) video information separately. Not capable of carrying HD video signals but superior to composite video connections. Use this connector for better image quality if your TV, A/V receiver and VCR has S-video inputs and outputs.

FireWire



First common in the computer world, this 4-or 6-pin connector is a link that carries compressed digital MPEG-2 video and digital audio for recording on a hard-disk or D-VHS digital videotape recorder. Found on some digital TV displays and set-top boxes, FireWire also carries an anti-copy code and can serve as a 2-way link between various devices in a network. Not found on most A/V receivers and DVD players. Not shown: Firewire 800 connector common on most newer computers and portable storage devices.

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HDMI (High-Definition Multimedia Interface)



Much smaller and more convenient than DVI, HDMI is a USB-like digital video connector that carries the same digital video signals as DVI but with the added advantage of conveying a Dolby Digital surround sound bitstream. Copy protected with HDCP so you can't pirate high-quality digital video, it's compatible with DVI through DVI/HDMI adaptors. No image superiority of one over the other. HDMI is an evolving standard and many incompatibilities in the digital "handshake" of the HDCP protection code still exist between HDMI-connected components, especially when routed through an A/V receiver or A/V processor. HDMI is not a robust system yet. Component-video can, with proper signal levels, give exactly the same quality as HDMI or DVI as long as the native resolution of the set is sent to it.

Coaxial Cable



Standard 2-conductor shielded cable comprised of an outer woven metal shield (the ground connection) covered with plastic/nylon insulation and further insulated from the inner "hot" or positive wire. Used universally with RCA male plugs on each end for routing "low-level" (also called line-level) left and right analog audio signals from CD players, DVD players, cassette decks, set-top boxes, and satellite receivers to A/V receivers and amplifiers. The RCA plugs are often color-coded red for Right channel and white (or black) for Left. Also used for composite-video connection (color-coded yellow) and digital coaxial audio connection as well as analog SACD or DVD-Audio analog multichannel outputs and inputs. Coaxial cable is also used between the A/V receiver's subwoofer output jack (color-coded purple) and the subwoofer line-in connection.

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Balanced (XLR or Cannon) Connector



A secure 3-wire connector found on all professional and semi-pro sound equipment and on some upscale consumer A/V components (including Axiom subwoofers), enabling very long cable runs without hum pickup or frequency response losses. Must be used with matching balanced connectors on an A/V processor, preamp, or A/V receiver to benefit from its hum-free traits. Over long cable runs, sound quality will be better than that of conventional shielded RCA coaxial cables because increased cable capacitance in the latter may induce losses in frequency response.

Mini-jack, mini-plug



A miniature connector, in mono and stereo versions, commonly found on portable audio equipment, including iPods, for headphone and line-out connections. Rare on A/V gear except for "trigger" outputs and inputs that are used to remotely activate electric screens, separate power amplifiers and subwoofers in elaborate custom home theaters and installations.

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DVD-Audio



A high-resolution multichannel audio format that uses up to eight shielded RCA cables (sometimes bundled together) to carry analog surround-sound output from a DVD player capable of DVD-Audio playback. Many new A/V receivers have a six- or eight-channel Multichannel analog input set that accepts the multichannel analog audio output of DVD-Audio or SACD players. This connection may also carry decoded Dolby Digital 5.1 or dts signals but most DVD soundtracks, whether Dolby Digital or dts, are normally conveyed with a single digital audio cable, either optically (Toslink) or coaxially, to the digital audio input of the A/V receiver. Don't confuse DVD-Audio with the usual Dolby Digital 5.1-channel or dts surround soundtrack of DVDs. Most inexpensive (less than \$150) DVD players will not play high-resolution DVD-Audio or SACD formats. "Universal" DVD players will play these formats as well as conventional DVDs and CDs.

Multichannel Analog Input (see DVD-Audio, above).



If your DVD player has the capability of playing back high-res DVD-Audio or SACDs, use this six-cable RCA connector set to connect to the analog multichannel input of the A/V receiver.

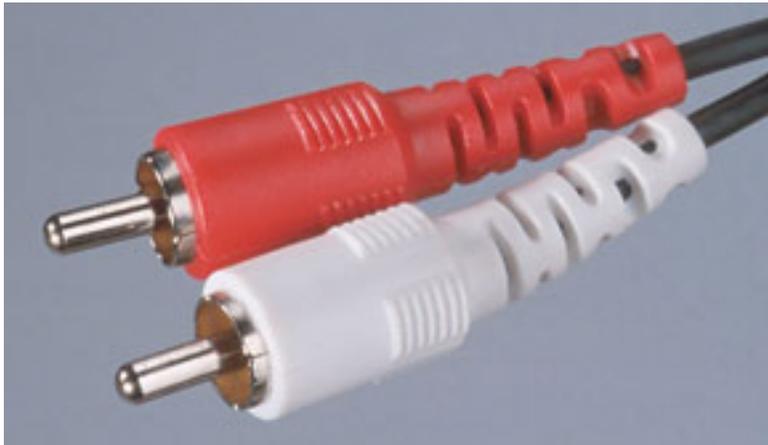
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Phono Jack



Always an RCA connection on A/V receivers or preamplifiers for the output from a turntable's moving-magnet (MM) or moving-coil (MC) phono cartridge. Still available on up-market receivers and preamps. Don't confuse this with "Phone Plug" (or Jack), which is a larger and sturdier ¼-inch diameter connector used on consumer A/V equipment for headphones.

RCA Connector



By far the most common small audio or video connector, with a pin (male) plug and female jack. Uses 2-conductor shielded coaxial cable. The RCA connector is color-coded: White for Left Channel Audio (Audio 1); Red for Right Channel Audio (Audio 2); Yellow for Video. The cables are identical – the color coding is merely a way to keep track of the signal from the source device to the input.