Audio & Video Cable

The existence of many different audio and video standards necessitates the definition of hardware interfaces, which define the physical characteristics of the connections between electrical equipment. This includes the types and numbers of wires required along with the strength and frequency of the signal. It also includes the physical design of the plugs and sockets.
An interface may define a connector that is used only by that interface (e.g., DVI) or may define a connector that is also used by another interface; for example, RCA connectors are defined both by the composite video and component video interfaces.

Interfaces and their connectors

Interface

Audio or Video	Digital or Analog	Description	Connectors
Audio Only	Analog	PC System Design Guide. Audio Colour Coding	3.5 mm TRS
	Digital	S/PDIF (Sony/Philips Digital Interconnect Format). Via Coaxial or Optical cables.	RCA Jack (Coaxial),TOSLINK (Optical),BNC (Rare)
Video Only	Analog	Video Graphics Array (VGA)	D-subminiature 15 pin
		Composite. Often designated by the CVBS acronym, meaning "Color, Video, Blank and Sync".	RCA jack, normally yellow (often accompanied with red and white for right and left audio channels respectively)
		S-Video aka Separate Video. Carries standard definition video and does not carry audio on the same cable.	Mini-DIN 4 Pin
		Component. In popular use, it refers to a type of analog video information that is transmitted or stored as three separate signals. Either RGB Interfaces or YPbPr	3 RCA Jacks
		Composite, S-Video, and Component	VIVO = Mini-DIN 9 Pin with breakout cable.
	Digital And Analog	Digital Visual Interface (DVI)	DVI Connector
Video and Audio	Digital	High-Definition Multimedia Interface (HDMI)	HDMI connector
		DisplayPort	DisplayPort connector

Audio Connectors

TRS

2.5 mm (3/32") mono (TS), 3.5 mm (1/8") mono and stereo (TRS), and 6.3 mm (1/4") stereo (TRS) jack plugs
A TRS connector (tip, ring, sleeve) also called an audio jack, phone plug, jack plug, stereo plug, mini-jack, or mini-stereo

DIN

Five-pin male 180° DIN connector
A DIN connector is a connector that was originally standardized by the Deutsches Institut für Normung (DIN).

BNC

Male 50 ohm BNC connector.
The BNC (Bayonet Neill Concelman) connector is a very common type of RF connector used for terminating coaxial cable.

TOSLINK

Clear TOSLINK cable with a round connector
TOSLINK or Optical Cable is a standardized optical fiber connection system.

XLR

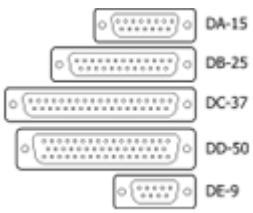
XLR3 cable connectors, female on left and male on right
The XLR connector is an electrical connector design. XLR plugs and sockets are used mostly in professional audio and video electronics cabling applications.

Video Connectors

Mini Din

mini-DIN 4 pin for S-Video
The Mini-DIN connectors are a family of multi-pin electrical connectors used in a variety of applications. Mini-DIN is similar to the larger, older DIN connector. Both are standards of the Deutsches Institut für Normung, the German standards body.

D-subminiature

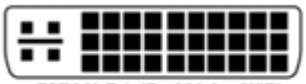


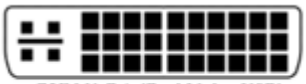
DA, DB, DC, DD, and DE sized connectors
D-subminiature or D-sub is a common type of electrical connector used particularly in computers. Calling them "subminiature" was appropriate when they were first introduced, but today they are among the largest common connectors used in computers

Video In Video Out

A graphics card with VGA, VIVO and DVI outputs
A 6-connector VIVO splitter cable. From left to right: S-Video In, Component Pb out, Component Pr out, Component Y out/Composite out, Composite in, S-Video Out, Video In Video Out, usually seen as the acronym VIVO (commonly pronounced vee-voh), is a graphics card port which enables some video cards to have bidirectional (input and output) video transfer through a Mini-DIN, usually of the 9-pin variety, and a specialised splitter cable (which can sometimes also transfer sound).
VIVO is found predominantly on high-end ATI video cards, although a few high-end NVIDIA video cards also have this port. VIVO on these graphics cards typically supports Composite, S-Video, and Component as outputs, and composite and S-Video as inputs. Many other video cards only support component and/or S-Video outputs to complement Video Graphics Array or DVI, typically using a component breakout cable and an S-Video cable.

DVI Connector





The Digital Visual Interface (DVI) is a video interface standard designed to maximize the visual quality of digital display devices such as flat panel LCD computer displays and digital projectors. It is designed for carrying uncompressed digital video data to a display.
There are four basic connectors:
- DVI-D (digital only)
- DVI-A (analog only)
- DVI-I (integrated, digital & analog)
- M1-DA (integrated, digital, analog & USB)

The connector also includes provision for a second data link for high resolution displays, though many devices do not implement this. In those that do, the connector is sometimes referred to as DVI-DL (dual link).
So we need to know two things about the connector:
- Whether it carries analog, digital, or both; and
- For connectors that carry digital links, if it is single or dual link, and if it carries USB

Audio and Video Connectors

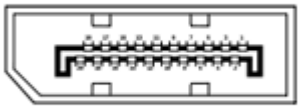
RCA Jack

RCA Plugs for composite video (yellow) and stereo audio (white and red).
An RCA connector, sometimes called a phono connector or cinch connector, is a type of electrical connector commonly used to carry audio and video signals. The name "RCA" derives from the Radio Corporation of America, which introduced the design by the early 1940s to allow mono phonograph players to be connected to amplifiers.
They began to replace the older TRS connectors (also called jack plugs) for many other applications in the audio world when component high fidelity systems started becoming popular in the 1950s.

HDMI

High-Definition Multimedia Interface (HDMI) is the first and only industry-supported, uncompressed, all-digital audio/video interface for HD (High-Definition) and the CE (Consumer-Electronics) market, and an evolving standard that meets the needs of the market. It represents a digital alternative to consumer analog standards, such as radio frequency (RF) coaxial cable, composite video, S-Video, SCART, component video, D-Terminal, or VGA. HDMI connects digital audio/video sources-such as set-top boxes, up convert DVD players, HD DVD players, Blu-ray Disc players, AVCHD camcorders, personal computers (PCs), video game consoles such as the PlayStation 3 and Xbox 360, and AV receivers-to compatible digital audio devices, computer monitors, and digital televisions.
There are three HDMI connector types. Type A and Type B where defined since the HDMI 1.0 specification. Type C was defined since the HDMI 1.3 specification. Type A is electrically compatible with single link DVI-D. Type B is electrically compatible with dual link DVI-D but has not yet been used in any products.

Display Port



Display Port is a digital display interface standard (approved May 2006, current version 1.1a approved on January 11, 2008). It defines a new license-free, royalty-free, digital audio/video interconnect, intended to be used primarily between a computer and its display monitor, or a computer and a home-theater system.
The video signal is not compatible with DVI or HDMI, but a Display Port connector can pass these signals through. Display Port is a competitor to the HDMI connector, the de facto digital connection for high-definition consumer electronics devices.

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