Home Theater Cable Guide

Introduction

The past decade has been an amazing time for home theater enthusiasts. Improved manufacturing techniques and global market competition has brought high-end A/V equipment into the mainstream. Competition among flat panel TV manufacturers has been particularly fierce. However, to keep costs down to a minimum, many of these products are shipped with near useless user manuals and throw-away A/V cables.

A quick glance at the back of a typical HDTV can be quite intimidating. There will often be 10 or more types of connections, many of which appear redundant. So what type of connection yields the best picture or sound quality? What kind of cable is required? We created the Amphenol Cables on Demand Home Theater Cable Guide to answer these A/V questions.
HDMI

The HDMI or High Definition Multimedia Interface is the A/V connection of choice on the latest generation of home theater equipment. HDMI supports high resolution digital video with resolutions up to 1920x1080 (1080p) as well as multi-channel digital surround sound over a single low-profile cable. Since HDMI is a digital interface, interference problems such as ghosting, snow, and hum are eliminated entirely. If you have HDMI inputs on your HDTV, you must use an HDMI compatible signal source to take advantage of them. All new HDTV compatible cable and satellite set-top-boxes come standard with HDMI; as do the new HD-DVD and Blu-ray Disc Players.

HDMI cables must be built to extremely tight tolerances in order to support the bandwidth requirements of today’s video sources. We use our 70+ years of interconnect manufacturing experience to ensure these strict tolerances are met. Amphenol HDMI cables are designed to the latest specification: HDMI 1.3. For those running 1080p, we recommend our Premium Gold Certified HDMI cable series.

SVGA

Now that the personal computer has become the centerpiece for storing movies, music, and pictures, it’s no surprise that the SVGA connection has migrated over to the average HDTV. Now, with a simple cable, you can play PC based video games or browse the web on the big screen. Amphenol SVGA cables feature precision-terminated HD15 connectors and double-shielded coax; perfect for high-bandwidth 1080p HDTV signals. We recommend SVGA cables with Ferrites for commercial installations.
Component Video

The Y’PbPr analog component video connection made its major debut with the release of the DVD player in the mid 90s. Shortly thereafter, component video became standard equipment on nearly every HDTV and home theater projector. Although component video does not quite meet the performance level offered by HDMI, it still reliably supports 1080p true high definition video content. We recommend component video cables for use with DVD players whenever possible to support the Progressive Scan feature. RCA audio cables are not suitable for component video use. Proper component video cables are color coded in red, blue, and green.

S-Video

The S-Video or “separate video” connection splits the analog video signal into a color component and a brightness component. S-Video is the preferred connection method for use with standard definition (480i) content. S-Video connections were often considered a premium on older tube TV’s, as they delivered a sharper picture from sources like S-VHS VCR’s, cable boxes, and satellite receivers. S-Video has the distinction of eliminating the problem of dot crawl, which consists of animated checkerboard patterns that appear along vertical color transitions. All Amphenol S-Video cables are fully molded and shielded for exemplary performance and reliability. Premium Gold version available.
Composite Video

Composite video is perhaps the most widely used analog video interface found on consumer electronic equipment. A composite video connector can easily be located by its yellow color. It is called composite video because the color, sync, and brightness information is all combined into a single signal. Composite video is convenient and easy to work with since it demands minimal bandwidth and can be used over common 75 ohm coaxial cable. Composite video is always recommended for use with laser disc players, but is generally a lesser choice for other equipment if an S-Video, component, or HDMI connection is available.

RF Audio / Video

An RF signal combines both video and audio and modulates it onto a TV channel. If you have to turn the TV to channel 3 or 4 in order to watch your cable box or VCR, you are likely using an RF connection. We do not recommend using the RF connection on new A/V equipment unless absolutely necessary. If you simply need to hook up a VCR to a spare TV, this connection will work fine. Our special thin-line RF cables feature low-profile F connectors for maximum installation flexibility.

TOSLINK

The TOSLINK interface was initially developed by Toshiba as a low cost method of digitally linking CD players and stereo receivers. As digital surround sound entered the home market, TOSLINK was adapted to handle the new format. TOSLINK ports were soon added to cable/satellite boxes, DVD players, and game consoles. The audio delivered via TOSLINK offers superior fidelity and is completely immune to interference due to its fiber optic design. We recommend using a digital connection like TOSLINK whenever possible. TOSLINK ports are easily recognized by their distinctive red glow.
Stereo RCA

Analog Stereo RCA audio connections are widely implemented. Nearly every piece of home theater equipment on the market is equipped with one or more sets of Stereo RCA jacks. Stereo RCA connections are an ideal choice for use with devices that do not support digital surround sound such as CD players and VCR’s. To fully capture the multi-track digital surround sound embedded on most DVD’s and HDTV shows, a digital connection such as TOSLINK is required. Amphenol Stereo RCA cables are properly impedance matched for flawless audio reproduction.

3.5mm Mini-Stereo

The 3.5mm Mini-Stereo connection, often called the headphone jack, is commonly installed on portable electronic devices such as MP3 players and handheld games. Many home and car stereos now come equipped with a 3.5mm Mini-Stereo auxiliary input jack. Our 3.5mm male / male cable is perfect for connecting your portable device to this input jack. If you need to extend a pair of headphones or another cable, use our 3.5mm male / female cable.