The Basic Facts of ANALOG vs DIGITAL

Hotwire COMMUNICATIONS

Over- the- air television transmission had a mass conversion from analog to digital in the U.S. on June 12, 2009. The cable industry had been using digital transmissions for a number of years prior to this changeover. The main benefits to digital cable are better video quality and the ability to deliver more channels to customers in the same bandwidth available on the cable system.

The primary difference between Analog and Digital is the way the signal is transmitted or transferred from the source to the TV. The type of transmission dictates the type of TV the consumer needs to use to receive the signal.

Before Digital TV (DTV), standard analog TV signals were transmitted in a manner similar to radio. The video signal of analog television was transmitted in AM, while the audio was transmitted in FM. Analog TV was subject to interference, such as ghosting and snow, depending on the distance and geographical location of the TV receiving the signal. The amount of bandwidth assigned to an analog TV channel also restricted the resolution and overall quality of the image.

Digital TV is transmitted as data bits of information, the way computer data or music is written on a CD. Since the DTV signal is made up of "bits", the same bandwidth size that takes up a current analog TV signal, can accommodate not only a higher quality image in digital form, but also leaves room for additional features. These features include multiple video channels, surround sound, multiple language audio, text services, wide screen format, and High Definition (HDTV) channels.

What is MPEG?

The MPEG standards are an ever- changing set of standards for video and audio compression. This impacts the way multimedia is delivered. The phrase "MPEG" stands for Moving Picture Experts Group (MPEG). MPEG was designed to be used for the emerging DVD media; most portable media devices use this format.

What is MPEG 2?

MPEG-2 is widely used as the format of digital television signals that are broadcast by terrestrial (over-the-air), cable, and direct broadcast satellite TV systems. It also specifies the format of movies and other programs that are distributed on DVD and similar discs. TV stations, TV receivers, DVD players, and other equipment are often designed to this standard. MPEG-2 was the second of several standards developed by the Moving Pictures Expert Group (MPEG). MPEG-2 evolved from the shortcomings of MPEG-1. MPEG-4 evolved from the shortcomings of MPEG-2.

What is MPEG 4?

MPEG-4 is a much larger scale standard than MPEG-2. MPEG-4 permits higher compression ratios, allowing more data to fit into the existing TV channel without any degradation of the video quality. While this sounds great, there is one drawback: a number of televisions are not yet capable of decoding MPEG-4. This is slowly changing as more cable operators switch from MPEG-2 to MPEG-4 to provide the benefits to their customers. Even over –the- air transmissions have been authorized to use MPEG-4.

Which is better MPEG 2 or MPEG 4?

Not only does MPEG-4 achieve higher compression, but it also provides superior picture quality. It is not that MPEG-2 is bad, but MPEG-4 is an improved version of MPEG-2.

Is MPEG-2 another name for analog?

No, analog signals are not compressed like MPEG. MPEG signals are compressed to reduce the amount of bandwidth used to send and receive the data, leaving the ability to add other modern features like HD, CC, and more.

CONTINUED >

Is Analog or Digital (MPEG) a better picture?

Going digital means you can transmit more data, with more consistent results, in the same space as an analog TV channel. For the same amount of bandwidth, you can transmit lot more information into a digital signal than an analog signal. A digital signal does not produce the same issues with picture quality observed on analog television, like snow or ghosts. Television, in the digital future, will not be limited to video and audio; our televisions will become truly interactive.

Which has a stronger signal?

On our cable system, both analog and digital signals are transmitted equally. If there is a problem with the connection or amplifier in analog, the picture quality on the TV slowly gets worse however the picture quality on a digital TV will stay perfect until the signal becomes too weak for the receiver to build the video signal and then it will completely drop. Simply put, in analog the signal can fade and in a digital, it is either on or off.

What is a simple way to know if my TV has an MPEG-4 decoder?

- If a digital menu feature is available, proceed with automatic channel scan. Once the scan is completed, if you get only sound but no picture, then your device does not support MPEG-4 and you should obtain the appropriate external digital receiver/decoder.
- Older TV's do not have built-in digital tuners.
- You can also check your owner's manual to your TV
- H.264/MPEG-4 Part 10 or AVC (Advanced Video Coding) is the specification that the TV should have to view MPEG-4 formatted signals.

What does Hotwire use?

Our Basic Cable/Analog that does NOT require a box (in most cases); the format offered is different depending on the property. Most properties are offered both analog and MPEG-4 digital without a set top box. There are a few properties that are offered ONLY MPEG-4 digital line up without a set top box. If customers do not have a TV that is capable of decoding MPEG-4, then they will not get to view these channels, they may only get the audio. These televisions are able to receive the audio signal due to the fact that the audio signal in an MPEG-2 or the MPEG-4 channel is coded in a format known as AC-3, separate from the MPEG-4 encoded video signal. If this is the case, the customer can purchase a set top box for their TV, rent a set top box, or put a television that is MPEG-4 compatible in that spot.

Our IPTV platform which requires a digital set top box; digital TV with a set top box we use MPEG-4.

Hotwire COMMUNICATIONS