

Commonly-Used Terms for Video and Imaging

Advanced Simple Profile – Similar to Simple Profile but more efficient; requires higher bit rate, but produces better quality video. Useful in broadcast, Internet, software decoding, video telephony and some mobile phones.

Audio Interface – Interfaces with the microphone/speaker and use the CODEC to digitize the audio signal. The digital audio data will be processed along with digital video data by the DSP.

CIF – Common Intermediate Format. Resolution standard. 352 × 288 in PAL and 352 × 240 in NTSC. Popularized due to VCD.

Composite – A video signal where all information (red, green, blue, and sometimes audio) is mixed together. Used for NTSC. Computer monitors tend to use separate RGB signals to achieve better quality.

CVBS – Composite Video Blank and Sync. Analog single-channel video w/o audio. Usually transmitted via BNC or RCA cable.

D1 – Resolution Standard of 720x480 pixels for NTSC and 720x576 in PAL and SECAM.

DaVinci™ – TI's DaVinci technology is a collection of DSP-based system solution components tailored for efficient and compelling digital video – for digital cameras, video security, advanced medical imaging, portable video players or any other video application you can imagine.

DTV – Because digital television allows you to pack much more information into the allotted signal, we can transmit multiple channels on the same bandwidth instead of just one. Digital television set-top boxes are used for satellite, cable, and terrestrial DTV services. They are especially important for terrestrial services because they guarantee viewers free television broadcasting.

H.263 – Low bit-rate (20–30 kbps) CODEC designed for videoconferencing and videophones; main features include motion estimation and motion compensation (estimating where blocks move rather than resending the data).

H.264 – Also known as MPEG AVC; low bit rate but higher video quality than H.263; designed for videoconferencing and videophones; preliminarily used for DVD encoders.

H.323 – Communications protocol over any packet network; popularized by NetMeeting, Voxilla and VoIP.

HD – High Definition. Refers to many different formats over the years for video cameras and camcorders, both analog and digital, that exceeded the resolution of analog TV (NTSC, PAL). In 1998, the U.S. introduced an official set of digital TV standards that included HD.

HDTV – High Definition Television. A set of digital television (DTV) standards that offer the highest resolution and sharpest picture. Resolution display from 720p to 1080i.

I²C – Inter-IC bus – A two-wire serial bus with speeds up to 400 kbps.

IPTV – Internet Protocol-based Television. Transmitting TV programs from a Web site or from private Internet providers such as cable and telephone companies (cable modems and DSL). Also called "TV over IP," IP TV uses streaming video techniques to deliver scheduled TV programs or video on demand (VOD).

ITU-R BT.601-2 – Formerly known as CCIR 601. An international standard for component digital television; defines the sampling systems, matrix values, and filter characteristics for both Y, B-Y, R-Y and RGB component digital television.

ITU-R BT.656 – Defines the parallel connector pinouts as well as the blanking, sync, and multiplexing schemes used in both parallel and serial interfaces.

Interlaced – Technique to reduce bandwidth by displaying only half the screen at a time. The fps is doubled so when the odd lines are followed by the even lines, remnants on the screen create the appearance of a full frame. Popularized by Television: NTSC interlaces at 60 half-images per second and PAL at 50 half-images per second.

Memory – Stores executing code and data/parameters.

MPEG – Video compression CODEC – abbreviation for Motion Pictures Experts Group.

MPEG4 – Popularized by DivX. Designed for low bandwidth mobile applications. Compression from 20:1 to 300:1.

Network Interface – Transmit and receive voice/video data packets through the IP network.

NTSC – The National Television Standards Committee. Used in North America and Japan. Contains 480 horizontal lines of data and 29.97 frames per second (fps).

PAL – Phase Alternating Line. Standard for Australia and Eurasia. 576 horizontal lines of data and 25 fps.

Power Conversion – Converts the input power from the AC adaptor or from the PoE to run various functional blocks.

QCif – Quarter Common Intermediate Format, a videoconferencing format of 30 fps, each frame containing 144 lines and 176 pixels per line.

S-Video – Super video. Divides information into two signals: color and brightness. Produces sharper images than composite.

SD – Standard Definition. Refers only to the format.

SDTV – Standard definition television (SDTV) is a digital television (DTV) format that provides a picture quality similar to digital versatile disk (DVD). Because a compressed SDTV digital signal is smaller than a compressed HDTV signal, broadcasters can transmit up to five digital SDTV programs simultaneously instead of just one HDTV program. This is multicasting.

SECAM – Systeme Electronique Couleur Avec Memoire. Used in some of Europe and spotted worldwide locations. 625 lines and 25 fps.

Simple Profile – Provides efficient coding of rectangular objects; designed for mobile networks; is error-resilient, has low latency, needs low processor power and is useful in less-than-ideal transmission conditions.

SIP – Session Initiation Protocol; designed for VoIP.

VBI – Vertical blanking interval, the part of a television transmission signal that is blanked, or left clear, of viewable content, to allow time for the television's electron gun to move from the bottom to the top of the screen as it scans images. This blank area is now being used to broadcast closed caption and HTML-formatted information.

Video Decoder – Digitizes, demodulates and decodes the NTSC/PAL/SECAM/S – video to be used by the video processor.

Video Processor – Performs real-time image capture processing, compression and decompression, color space conversion and real-time display, and data packetization for data communication over the IP network.

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