

Glossary of Terms

#'s

1. **4:3:** Aspect ratio of the TV screen, with "4" unit width corresponding to "3" unit height, proportionally, regardless of the actual size of the screen.
2. **16:9:** Aspect ratio of widescreen DTV formats for all HDTV and some SDTV (Standard Definition) video. "16" unit width corresponds to "9" unit height, proportionally, regardless of the actual size of the screen.

A

3. **Archive:** Off-line storage of video/audio onto back-up tapes, floppy disks, optical disks, etc.
4. **Artifacts:** Undesirable elements or defects in a video picture. Most common in digital are macroblocks, which resemble pixelation of the video image, and pops and clicks in audio.
5. **Aspect Ratio:** The ratio of a television picture width to height. In NTSC video, the standard is 4:3. In HDTV and SDTV widescreen video, it is 16:9.
6. **ATSC:** "Advanced Television Systems Committee." Formed to establish technical standards for U.S. advanced television systems.

B

7. **Bandwidth:** The complete range of frequencies over which a circuit or electronic system is allocated to function. In transmission, the U.S. analog and digital television channel bandwidth is 6 MHz.
8. **Baud:** A unit of signaling speed equal to the number of signal events per second. Baud is equivalent to bits per second in cases where each signal event represents exactly one bit.
9. **Betacam:** An analog video taping system using a 1/2-inch tape cassette, developed by Sony. Digital versions include Digital Betacam and Betacam SX.
10. **Binary:** A numbering system using the digits "0" and "1" in the decimal system. All computer programs are executed in binary form.
11. **Bit:** Binary digit. The smallest unit of data in a digital system. A bit is a single one or zero. A group of bits, such as 8-bits or 16-bits, compose a byte. The number of bits in a byte depends upon the processing system being used. Typical byte sizes are 8, 16, and 32.
12. **Broadband:** Capable of handling frequencies greater than those required for high-grade voice communications.
13. **Byte:** A group of data bits that are processed together. Typically, a byte consists of 8 bits. There are kilobytes, Megabytes, Gigabytes, Terabytes, etc.
 - 1 Byte = 8 bits
 - 1 kilobyte = about 1,000 bytes
 - 1 Megabyte = about 1,000,000 bytes
 - 1 Gigabyte = 1,000,000,000 bytes
 - 1 Terabyte = 1,000,000,000,000 bytes

C

14. **Cable Modem:** A data modem that uses the bandwidth of a given cable system. Because cable modems provide Internet access over cable, they are much faster than modems that use typical phone lines.
15. **Closed Captioning:** Text stream included in broadcast signal that provides narrative description of dialogue, action, sounds, and other elements of the picture. Most often used by the hearing impaired and in environments where audio is undesirable (such as in restaurants).
16. **Codec:** "Coder-decoder." A device that converts analog video and audio signals into a digital format for transmission. Also converts received digital signals back into analog format.
17. **Compression:** Reduction of the size of digital data files by removing redundant and/or non-critical information ("data" being the elements of video, audio and other "information"). Digital TV in the U.S. would not be possible without compression.

D

18. **Data Compression:** A technique that provides for the transmission or storage, without noticeable information loss, of fewer data bits than were originally used when the data was created.
19. **Datacasting:** Enhanced options offered with some digital programming to provide additional program material or non-program related resources, allowing viewers the ability to download data (video, audio, text, graphics, maps, services) to specially equipped computers, cache boxes, set-top boxes, or DTV receivers.
20. **DBS:** "Direct broadcast satellite." An alternative to cable and analog satellite reception utilizing a fixed 18-inch dish focused on one or more geostationary satellites.
21. **Digital:** Circuitry in which data-carrying signals are restricted to either of two voltage levels, corresponding to logic 1 or 0.
22. **Digital Betacam:** A development of the original analog Betacam that records digitally on a Betacam-style cassette.
23. **Digital Disk Recorder (DDR):** A video recording device that uses a hard disk drive or optical disk drive mechanism. Disk recorders offer nearly instantaneous access to recorded material.
24. **Distribution Quality:** The level of quality of a program feed from a network to its stations.
25. **Dolby Surround (Dolby Stereo):** Matrix analog coding of four audio channels - Left, Center, Right, Surround (LCRS) - into two channels referred to as Right-total and Left-total. The Dolby Surround system originally was developed for motion pictures.
26. **Downconverting:** The process which changes the number of pixels and/or frame rate and/or scanning format used to represent an image, by removing pixels.(see "Upconverting)
27. **DTV:** "Digital television." This comprises all the components of digital television, including HDTV, SDTV, datacasting, and multicasting
28. **Dub:** A "dub" is a duplicate copy of an existing tape.
29. **DVD:** "Digital Versatile Disk." (Formerly Digital Video Disk.) Same size as a CD but stores seven times CD capacity on a single side. DVDs can also be double-sided or dual layer. Today most DVDs are used to display full-length commercial motion pictures, plus additional material such as outtakes, director's notes, movie trailers, etc.
30. **DVTR:** "Digital videotape recorder."

E

31. **Electronic Programming Guide (EPG):** An application that provides an on-screen listing of all programming and content that an interactive television service subscriber or digital television viewer has available to them.
32. **Encryption:** The process of coding data so that a specific code or key is required to restore the original data, used to make transmissions secure from unauthorized reception.
33. **Enhancements:** Producers add these options to some digital programming to enhance program material -- allowing viewers the ability to download related program resources to specially equipped computers, cache boxes, set-top boxes, or DTV receivers.
34. **Enhanced TV:** Term used by public television for certain digital on-air programming (usually educational) that includes additional resources downloaded to viewers. Some forms of enhanced TV allow live interaction; other forms are not visible on-screen until later recalled by viewers. Also known as "datacasting."

F

35. **Fiber optics:** Thin glass filaments within a jacket or bundle that optically transmit images or signals in the form of light over distances, with extremely low high-bandwidth quality losses.
36. **Format Conversion:** Process of both encoding/decoding and re-sampling digital rates to change digital data from one format to another.
37. **fps:** "Frames Per Second," the number of still frames (pictures) that give the illusion of motion, which appear in a single second of time.
38. **Freeze frame:** Display of a single (frozen) frame of video.

G

39. **Generation Loss:** Video degradation caused by successive recordings (dubs of other dubs) from the master source. This is overcome by digital recording.

H

40. **HDTV:** "High Definition Television." This is the most superior video picture available in DTV. In the U.S., the 1080i and 720p formats in a 16:9 aspect ratio are the two acceptable HDTV formats. HDTV is a component of DTV..

I

41. **Interactive Television:** TV programming with interactive content and enhancements, blending traditional TV viewing with the interactivity of a personal computer.
42. **Interlaced:** A system of video scanning where odd- and even-numbered lines of a TV picture are transmitted consecutively as two separate interleaved fields. Interlace is a form of compression and has been used for decades in analog (NTSC) TV.
43. **I/O:** "Input/output." Typically refers to sending data to and from devices.

J

44. **JPEG:** "Joint Picture Experts Group."

L

45. **Letterbox:** Image of a wide-screen picture on a standard 4:3 aspect ratio television screen, typically with black bars above and below. Used to maintain the original aspect ratio of the original source (usually a theatrical motion picture of 16X9 aspect ratio or wider).
46. **Live-Streaming:** Feeding (streaming) video/audio or other data to end-users at a specific time (that is, live). Today the term is most often used for on-line services.

M

47. **Megabyte:** One million bytes (actually 1,048,576); one thousand kilobytes.
48. **Multicasting:** Option made possible by digital technology to allow each digital broadcast station to split its bitstream into 2, 3, 4 or more individual channels of programming and/or data services.

N

49. **NTSC:** "National Television Systems Committee" and the name of the current analog transmission standard used in the U.S., which the committee created many decades ago.
50. **Nonlinear:** A term used for editing and storage of audio, video and other data. Information (footage, for example) is retrievable and processed almost immediately without having to locate it in a traditional time-line format.

O

51. **On-Demand Streaming:** Sending video/audio or other data that is transmitted to the end-user upon request (widely used on news and sports-oriented Web sites, for example).

P

52. **Pixel:** A tiny sample of video information, the "dots" that make up an overall picture.
53. **Progressive:** Refers to "progressive scanning," as in DTV formats 480p or 720p. A system of video scanning whereby lines of a picture are transmitted consecutively (unlike interlaced), as on computer screens.
54. **Protocol:** Set of "rules" defining exchange of data, including timing, format, sequencing, error checking, etc.
55. **PSIP:** Pronounced "P-SIP" - "Program and system information protocol." A part of the ATSC digital television specification that enables a DTV receiver to identify program information contributed by content providers and use it to create sophisticated electronic program guides.

R

56. **Resolution:** Directly affects picture quality. The higher the resolution, the more picture detail there is. Many things affect resolution, including number of bits, pixel count, format, receiver quality, cameras, lenses and lighting used for live or taped programming, etc.

S

57. **SDTV:** "Standard Definition Television." Digital formats that do not achieve the video quality of HDTV but are at least equal, or superior to NTSC pictures. SDTV may have either 4:3 or 16:9 aspect ratios, and it includes surround sound. Variations of fps(frames per second), lines of resolution, and other factors of 480p and 480i make up the 12 SDTV formats in the ATSC standard.
58. **Server (video):** System that provides large-capacity audio and video storage for video-on-demand retrieval, transmission, post production, news, etc. Most professional servers use digital disk storage.
59. **Set-top box (STB):** Device that converts and displays data from analog cable, digital cable, or digital broadcast television to a standard frequency (channel number) for display on a standard analog television set, or a box that receives off-air DTV signal for display on a DTV monitor.
60. **Simulcast:** The broadcast of the same program simultaneously over two or more different systems or channels. An accelerated amount of simulcasting of both analog and digital programming will be required by FCC rules, during the DTV transition period.
61. **Stream:** To send data in such a way as to provide or simulate real-time delivery of media.
62. **Synchronous:** A transmission procedure by which the bit and character stream are slaved to accurately synchronized clocks, both at the receiving and sending end.

T

63. **Terrestrial:** A broadcast signal transmitted "over the air" to an antenna.
64. **Timeline:** In nonlinear editing, the area in which audio and video clips are applied, typically giving duration in frames and seconds.

U

65. **Upconverting:** Process which increases the number of pixels, or frame rate or scanning format used to represent an image by interpolating existing pixels to create new ones at closer spacing. Process does not increase the resolution of image. Upconverting is done from standard definition to high definition. (See Downconverting)

V

66. **Video-on-Demand (VOD):** When video can be requested at any time, solely at the discretion of the end-user (viewer).

W

67. **WebTV:** WebTV Networks, Inc. manufactures set-top boxes that allow users/viewers to access the Internet on their NTSC TV receivers.

68. **Widescreen:** Term given to picture displays with a wider aspect ratio than NTSC 4:3. Digital HDTV is 16:9 widescreen. Most motion pictures also have a widescreen aspect ratio, some even wider than 16:9.
