



# Tech Info Library

## Desktop Video: Glossary of Terms (A-C) (8/93)

Article Created: 24 August 1993

TOPIC -----

This article describes desktop video terminology with words "A" through "C".

DISCUSSION -----

### A/B roll editing

Editing from two source VCRs to a third VCR. This allows for transition effects like dissolves from one source tape to another.

### Aliasing

A term used to describe the unpleasant jaggy appearance of unfiltered angled lines. Aliasing is the "beating" effects caused by sampling frequencies being too low to faithfully reproduce an image. There are several types of aliasing that can affect a video image which include temporal aliasing (e.g. wagon wheel spokes apparently reversing) and raster scan aliasing (e.g. flickering effects on sharp horizontal lines).

### Analog video

A video signal that represents an infinite number of smooth gradations between given video levels. By contrast, a digital video signal assigns a number for each level. The Macintosh video board converts computer-created (or digital) video to an analog signal for output to a monitor.

### Animatic

A limited animation used to work out film or video sequences. It consists of artwork shot on film or videotape and edited to serve as an on screen storyboard. Animatics are often used to plan out film sequences without incurring the expense of the actual shoot.

### ANSI

Acronym for American National Standards Institute, which sets standards for many technical fields.

### Anti-aliasing

Anti-aliasing is the manipulation of the edges of an image, graphic or text, to make them appear smoother to the eye. On close inspection, anti-aliased edges appear blurred, but at normal viewing distance, the apparent smoothing is dramatic. Anti-aliasing is important

when working with high quality graphics for television use. See aliasing.

#### Aspect ratio

The ratio of an image's width to its height. For example, a standard video display has an aspect ratio of 4:3.

#### Assemble editing

Adding new material to the end of a previously recorded portion of a videotape that involves writing a completely new signal (including the control track) onto the tape. Performing an assemble edit in the middle of an existing program will introduce an undesirable glitch on the tape caused by an abrupt change in the sync information of the video signal. Compare insert editing.

#### Asynchronous

Not synchronized by a mutual timing signal or clock. Compare synchronous. audio effects board The audio effects board is like the switcher, and acts as the main router and mixer for source audio. Here audio levels are adjusted, mixed, and filtered. Usually audio effects are kept to a basic level in a video editing session. More complex audio work is usually performed with a digital audio workstation.

#### Auto-assemble

If all the editing decisions are made off-line, and the EDL is loaded into the CMX the actual editing is automatic, executing one event after another. This is called auto-assemble mode. During auto-assembly, the editor monitors video and audio levels, but does not need to control each edit. Loading the EDL into the CMS is typically done manually, however, some Macintosh programs can create CMX disks. The EDL generated by computer based editing systems like the Digital F/X and Avid Media Composer are usually perfectly accurate, therefore, they make auto-assembly a breeze since the opportunity for errors in entering the EDL by hand are eliminated.

#### Bandwidth

The frequency range of a video signal, measured in MHz. The bandwidth is directly related to horizontal resolution—the higher number of picture elements defined, the higher the frequency required. Put another way, the bandwidth describes "how much" information is being transferred. The bandwidth of the Macintosh II video signal can be as high as 33MHz, depending on screen size. By comparison, the bandwidth of broadcast television is 4 MHz. High resolution images can be displayed on low resolution monitors, with an obvious loss in quality.

#### Black level

The level of the video signal that corresponds to the maximum limits of the black areas of the picture.

#### Black, black burst

In video production, black refers to a composite video signal which has composite sync, reference burst, and a black video signal. Used for genlock purposes.

### Blanking

The portion of the video signal that is off, or black, during the retrace interval of the scan. Blanking occurs between each horizontal line and during the vertical retrace between each field.

Blanking is important in broadcast production situations since there are strict FCC rules defining the blanking periods. Not all video products for the Macintosh conform to this aspect of the NTSC broadcast standard. Discuss this issue with vendors if broadcast quality is required. Related to composite sync, this signal has both horizontal and vertical components and is at its negative level whenever video is to be blanked or turned off.

### Blanking level

The level of a video signal that separates the range that contains the picture information from the range that contains the synchronizing information. The level of the front and back porches is 0 IRE units.

### BNC connector

A connector typically used with professional video equipment for connecting cables that carry the video signal. Compare RCA connector and XLR connector.

### Brightness

(1) The luminance of the video signal, or the level of brightness on the scale from black to maximum white. One of the three determinants (with hue and saturation) of the color of an image, and the only one of the three that affects a monochrome image. (2) The brightness of a monitor or video projector measured in lumens. See luminance.

### Broadcast quality

An NTSC composite video signal conforming to FCC rules concerning signal properties like video and sync levels, timing and blanking. Devices providing NTSC signals do not necessarily meet FCC broadcast standards. This is important if the video signal or videotape being recorded is going to be used in a broadcast situation.

### Bump-up

Making a copy from one recording medium onto a second medium which is more suitable for post-production purposes due to its higher bandwidth and/or timecode capability. For example, material shot on Hi8 is usually "bumped-up" to 3/4" SP or Betacam SP for editing purposes since these formats feature higher resolution, less generation loss, a more robust tape, timecode, better frame-accuracy and faster shuttle speeds.

### CAV

Acronym for Component Analog Video.

### CCITT

Abbreviation for Consultative Committee on International Telegraphy and Telephony; an international committee that sets standards and makes recommendations for international communication.

### CG

Acronym for Character Generator.

CGI

Acronym for Computer Graphic Imagery.

Character generator

A character generator (CG) is a video device found in on-line editing suites used for titles and credits. A CG is simply a high-end word processor for video with a wide variety of fonts and sizes available. The most common character generator is the Chyron.

Chroma

The color information contained in a video signal, consisting of hue (phase angle) and saturation (amplitude of the color subcarrier).

Chroma keying

The process of overlaying one video signal over another, the areas of overlay being defined by a specific range of chrominance. For this process to work, the chrominance must have sufficient resolution, or bandwidth. Composite video does not have sufficient bandwidth for acceptable quality chroma keying, therefore analog chroma keyers typically use component sources.

Chrominance

The color part of a signal, relating to the hue and saturation but not to the luminance (brightness) of the signal. Any colored signal has both chrominance and luminance.

Clean list (clean EDL)

An EDL which does not contain any overlapping or redundant edits. Typically during the off-line editing process changes are made which result in edits that overlap or become redundant. Most computer-based editing systems can clean an EDL automatically.

CLIPPING

The process of cutting off the peaks of either the white or the black portions of a video signal.

CMX

The most commonly used editing computer. The EDL is loaded into it and it executes the edits and effects by controlling all of the required video machines. Actually, it may not control all of them. certain operations may need to be done manually. Most editing computers use the CMX language, which has become an industry standard.

Color bars

See NTSC color bars.

Color burst

A portion of the composite video signal used for decoding its color information. Burst is several cycles of 3.58 MHz pulses recorded during the horizontal blanking interval and used to establish phase relationships for determining the hue. The color oscillator of a color television receiver is

phase locked to the color burst.

#### Color correction

A process in which the coloring in a video image is altered by electronic means.

#### Color subcarrier

The 3.58 MHz signal which carries color information. This signal is superimposed on the luminance level. Amplitude of the color sub-carrier represents saturation and phase angle represents hue.

#### Component video

A term given to a recording system which does not require NTSC encoding of RGB signals, but uses a means of recording and routing the luminance and color signals separately. This method does not reduce bandwidth nor compromise the RGB components and results in images of higher resolution and better color quality than composite video. Though designed for high end television production, similar recording methods have recently become available to the consumer market. See S-VHS and Hi8. Compare composite video.

#### Composite blanking

see blanking.

#### Composite sync

A signal consisting of horizontal sync pulses, vertical sync pulses, and equalizing pulses only, with a no-signal reference level.

#### Composite video

A composite video signal is one in which the luminance, chrominance and sync information have been combined into a single signal using one of the coding standards: NTSC, PAL, SECAM, etc. This is the form the signal must take before it can be broadcast or recorded by standard means. Until recently, most monitors and projectors have accepted only composite video signals, although many now available accept RGB. See NTSC. Compare component video.

#### Compositing

Combining two or more video or electronic images into a single frame or display.

#### Conforming

The process of doing the final editing of a video using an off-line edited master as a guide.

#### Contrast

The range of light and dark values in a picture or the ratio between the maximum and the minimum brightness values.

#### Control track

The portion along the length of a video tape on which sync control information is placed and used to control the playback of the video signal.

### Control track editing

Editing videotape with equipment that reads the control track information in order to synchronize the editing between two decks. Frame accuracy is not certain as the VTRs can go slightly out of sync during pre-roll. Compare time code editing.

### Control-L

See LANC.

### Convergence

(1) The beam-position accuracy of the red, green, and blue beams of a color monitor or projector. Color systems require exact accuracy of beams, both for position and speed, to properly produce the desired colors from their phosphors. (2) The adjustment of the red, green, and blue electron beams in a monitor or video projector to align the red, green and blue images. cross color A defect characteristic of NTSC composite video that manifests itself as spurious rainbow patterns on highly textured objects like the one found on a striped shirt or tweed jacket. Cross-color defect is attributed to the make-up of the signal which mixes the high luminance and chrominance information in the same composite baseband spectrum. Johnny Carson used to wear ties with designs specifically designed to create this effect.

### Cross luminance

A defect characteristic of NTSC composite video that appears as a dot pattern crawling up or hanging on the edges of color areas. This is a result of the signal structure where the color information leaks into the luminance signal. Also referred to as dot crawl.

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Keywords: <None>

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19960215 11:05:19.00

Tech Info Library Article Number: 13064