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Desktop Video: Glossary of Terms (U-V) (8/93)

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TOPIC -----

This article describes desktop video terminology, words "U" through "V".

DISCUSSION -----

Underscan

A mode available on professional video monitors which decreases the raster size H and V so that all four edges of the picture are visible on the monitor. Allows viewing of skew and tracking which would not be visible in normal (overscanned) mode. Also helpful when aligning test charts to be certain they touch all four corners of the raster.

Valid signal

A video signal which will remain legal when transcoded to any other format. Signals which are not valid will be processed without problems in their current format, but problems may be encountered if the signal is transcoded to a different format. For example, the Macintosh will let you generate highly saturated colors which may be legal in the RGB domain, however, when converted to composite video will exceed the NTSC specifications. A valid signal is always legal, but a legal signal is not necessarily valid.

Vbox

The Vbox is a an interface device which can be connected to a personal computer via an RS-232 serial interface. Through the Vbox the computer can control LANC (a.k.a. Control-L) compatible video devices. The Vbox translates the VISCA commands from the computer into Sony's LANC protocol. Up to 7 Vboxes can be daisy-chained from one serial port. See LANC, VISCA.

VCR

Video Cassette Recorder. See VTR.

Vectorscope

A round oscilloscope used to analyze and align the amplitude and phase of the color video signal.

Vertical blanking

See vertical interval.

Vertical interval

The period of time during which the scan is retraced from the bottom of the screen back to the top. The picture is blanked during this part of the scan. The vertical interval period contains sync pulses and in broadcast use, can contain network information, test signals and closed captioning signals.

Vertical interval time code (VITC)

VITC is recorded within the video signal, each timecode stamp is recorded between the video frames, during the vertical blanking interval. VITC cannot be recorded on audio tracks. With VITC, video devices can capture the timecode from the video deck when it's paused or in "crawl" mode, however, most synchronizers cannot read VITC at speeds exceeding about ten times playback speed, preventing slaved machines from maintaining synchronization during rewind and fast forward. See SMPTE time code, compare longitudinal time code.

Vertical retrace

The return of the electron beam to the top of a television picture tube screen or a camera pickup device target at the completion of the field scan.

Vertical scan frequency

The frequency of the vertical sync pulses, or the frequency of the vertical scan. NTSC vertical scan frequency is 59.9 Hz. The Macintosh video vertical scan frequency is 67.7 Hz.

Vertical sync

A pulse used to trigger the vertical retrace of a scanning electron gun from the bottom of a frame back to the top.

Vertical sync pulse

A portion of the vertical blanking interval which is made up of blanking level and six pulses (92% duty cycle at -40 IRE units) at twice the horizontal sync pulse repetition rate. Synchronizes vertical scan of television receiver to composite video signal. Starts each frame at same vertical position (sequential fields are offset 1/2 line to achieve interlaced scan).

Video

(1) A means for reproducing moving visual images by representing them with an analog electronic signal. The images are decomposed into a series of horizontal scan lines. In this way the signal can be stored, transmitted and reproduced. See rasterization, field, frame.

(2) Referring to the NTSC composite video standard. This is a widespread standard such that the "video in" of one machine is compatible with the "video out" of another.

(3) There are various standards which define this signal, see RS-170, RS-170A, NTSC, PAL, SECAM, RGB, CAV.

Video distribution amplifier

A special amplifier for strengthening the video signal so that it can be supplied to a number of video monitors or other devices at the same time.

Video editing

Editing is the process of selecting the frames and arranging them on the edit master videotape. In professional applications usually edits must be frame accurate. For example, when mastering a laserdisc frame accuracy absolutely essential, especially when single frame elements are involved. See off-line, on-line, et al.

Video format

A standard determining how a video signal is recorded onto videotape. These include 1-inch Type C, 3/4" U-Matic, 3/4" U-Matic SP, Betacam, Betacam SP, M-II, D-1, D-2, D-3, VHS, Hi8, Video 8, Beta, and S-VHS.

Video monitor

A display device that can receive video signals by direct connection only and cannot receive broadcast signals such as commercial television; it can be connected directly to the computer. Compare television set.

Video recording

Any image, still or moving, can be converted into a video signal, most often through a video camera. Then the video signal can be recorded. By far the most common method of recording video is on videotape.

Video signal

A dynamic signal which represents the varying levels of a video image but does not contain the sync pulses for its display. The video signal can be combined with sync pulses into a composite signal.

Video waveform

The pictorial display on a waveform monitor (a special oscilloscope) of the various components of the video signal, used to check the integrity of the signal and signal components.

Videocassette

A self-contained video module played on a specially designed video tape recorder; similar in design to an audio cassette; houses two reels (supply and take-up) with the tape running between them but connected to both.

Videodisc

A double-sided optical disc capable of storing and playing back full-motion video. Videodisc has come to refer to all video media that are disc-shaped, regardless of whether they are optical or magnetic, digital or analog.

Videotape

A magnetic medium capable of storing an electronic signal and consisting of backing, binder, and coating. The coating usually consists of iron oxide, however, metal particle or metal evaporated coatings are also used.

Videotape formats

Videotape equipment ranges in price from \$250 for a bargain-basement VHS deck to over \$200,000 for a digital component deck. Nevertheless, both

produce the same 525-line, 30-frame-per-second image. The differences lie in visual quality, generation loss characteristics and in control capabilities.

VISCA

Acronym for Video System Control Architecture. VISCA is a device control language designed for synchronized control of multiple video devices. The protocol is device and platform independent. See LANC, V-Box.

VITC

See Vertical Interval Time Code.

VTR

Video Tape Recorder. An electro-mechanical device capable of recording, storing, and reproducing an electronic signal which contains audio, video, and control information. The term VTR includes reel-to-reel and cassette type (VCR) recorders.

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