TVA STUDY TERMS
by Dr. George Vinovich

1) persistence of vision - makes perception of motion in film and video possible. Image burned in optic nerve.
2) film medium - chemical/mechanical photographic process at 24 fps (film cam/projector/film).
3) video medium - electronic/electromagnetic process at 30 fps (video cam/VTR/CRT/video tape).
4) aesthetic distance - hides details of reality/makes film better medium for make-up/fantasy/illusion.
5) ADR (looping) - Automated Dialogue Replacement to re-record actors' dialogue in studio for pure sound.
6) foley - foley artists perform better quality footsteps and sound effects live in sync with the visual action on screen.
7) film chain (telecine) - converts film footage on projector (24 fps) to video signal (30 fps) for playback on video tape.
8) kinescope - technique of preserving live TV shows before video tape recording by filming the TV screen with a film camera.

9) transducer - instrument which converts one form of energy into another form of energy (Mic, Speaker, CCD, CRT, Rec Head).
10) microphone - converts acoustic energy (sound) {740 mph} into electrical voltage (audio) {speed of light}.
11) CCD video camera - uses a "Charged Coupled Device" (chip) to convert visible light into electrical voltage (video).
12) VTR - machine for recording and playing back audio and video signals on video tape (VCR) (Deck).
13) record head - transducer that converts electrical voltage into electromagnetic energy for recording signal on magnetic tape.
14) playback head - transducer that converts electromagnetic energy into electrical voltage for playback of signal on magnetic tape.
15) CRT - Cathode Ray Tube converts electrical voltage into visible light via NTSC scanning (TV Picture Tube) or (LCD is similar).
16) speaker - converts electrical voltage (audio) into acoustic energy (sound).

17) NTSC - 525 lines 60 fields 30 fps (1/30th of a second) 2:1 interlace (Standard used in North America/Japan).
18) lines - (525 total) lines scanned every 1/30th of a second via 2:1 interlace in NTSC. (1125 total) in HDTV.
19) fields - (60 total) 262.5 odd numbered lines scanned every 1/60th of a second; 262.5 even lines scanned every 1/60th of a second.
20) frames - (30 total) combination of odd and even fields via 2:1 interlace to make one video frame (525 lines every 1/30th sec).
21) fps - (30) "frames per second". NTSC operates at 30 fps as opposed to film at 24 fps or PAL and SECAM at 25 fps.
22) 2:1 "interlace scanning" - alternating scan of odd numbered lines and then even numbered lines to produce one frame of video.
23) 24P "progressive scanning"- scan all 525 lines every 1/24th of a second to produce one frame of video (no alternating fields).
24) PAL - 625 lines 50 fields 25 fps (Standard used in Western Europe/South America. Not compatible with NTSC or SECAM).
25) SECAM - 625 lines 50 fields 25 fps (Standard used in France, Africa, Middle East. Not compatible with NTSC or PAL).
26) HDTV - 1125 lines 60 fields 30 fps (High Definition TV with 16x9 aspect ratio instead of 4x3 screen).

27) above-the-line - creative personnel with negotiable salaries such as actor, writer, director, producer, composer, DP, etc.
28) below-the-line - technical personnel with fixed salaries such as camera, audio, video editor, TD, Tape Op, grip, gaffer, etc.
29) executive producer - owner of project responsible for providing financing.
30) producer *[PGA]* - in charge of "quality control" and putting together the creative team for a project.
31) assistant/associate producer (AP) - assist the producer in whatever way is needed.
32) director *[DGA]* - in charge of coaching performance of actor and choosing camera angle/framing/movement, etc.
33) assistant director (AD) - assists director by timing script, cuing cameras or directing extras.
34) casting director - selects best actors to play various roles for a project.
35) actor (talent) *[SAG] [AFTRA]* - performers in front of a camera or microphone.
36) writer *[WGA]* - usually writes the screenplay or teleplay (script dialog) instead of the story.
37) editor *[ACE]* - in consultation with the director edits the best clips together for the final project.
38) art director *[SMPTE-AD]* - in charge of the "look" of project (set design, props, costumes, make-up, special effects).
39) lighting director/director of photography (DP) *[ASC]* - in charge of lighting the scene and composing the shot.

40) technical director (TD) - operates the SEG performing cuts, fades, dissolves, keys, wipes according to director's commands.
41) floor manager/stage director - directs talent on stage via hand signals according to control room commands.
42) camera operator - focuses, frames, and tracks shot according to director's commands.
43) audio tech - cues, balances, and mixes audio sources and rides gain on program level output.
44) key grip - in charge of erecting, moving, and striking sets, flats, and props.
45) gaffer(best boy) - in charge of hanging, moving, and striking lighting and electrical equipment.
46) sound boom - tracks talent with microphone by getting as close as possible to talent without getting in shot.
47) Tape Op/Playback - cues and calibrates roll-in tapes to NTSC for playback and operates VTR's for recording.

48) control room - Director, AD, TD, CG, Audio, VTR direct the program from this location sometimes separated from studio.
49) stage (studio) - performance area for talent, cameras, boom, lighting, sets, grips, gaffers, and floor manager.
50) green room - talent waits in the wings here before going out on stage to perform (snacks, beverages, "schmoozing").

51) Character Generator (CG) - character generator for creating titles and graphics to "key" over the video of the program.
52) Mixer - for cuing, attenuating, balancing (mixing) the audio sources for a show and "riding gain" on the overall program level.
53) Switcher (SEG) - selects and mixes video sources such as cameras, CG, VTR Roll-Ins using cuts, dissolves, wipes, and keys.
54) Sync Generator - enables interconnected video components to scan in perfect sync with each other as a system.
55) Roll-In - VTR playback of a video signal that can be mixed in sync with live components such as an SEG, CG, and camera.
56) Time Base Corrector (TBC) - advances/delays timing of sync signal of roll-in due to mechanical imperfections of VTR.
57) Proc Amp - allows adjustment of a roll-in tape's Luminance, Pedestal, Chroma, and SC Phase to NTSC standards.
58) Waveform Monitor (WFM) - test instrument for measuring Luminance, Black Level, Sync, and Blanking of video signal.
59) Vectorscope (VEC) - test instrument used for measuring Chroma and SC Phase for proper amount and shade of color.
60) Preview Monitor - control room monitor that displays the SEG video source or effect that is about to be recorded next.
61) Program Monitor - control room monitor that displays the SEG video source/effect that is being recorded at the moment.
62) Preview Source Monitors - strip of smaller monitors that shows what each individual camera is shooting at the moment.
63) Dimmer Console - selects and mixes the intensity of each light in the TV studio lighting grid.
64) Dimmer Module - provides electrical power to the Dimmer Rack to operate a particular light on the lighting grid.
65) Dimmer Rack - can power any light on the grid by installing a Dimmer Module into that light's slot on the Dimmer Rack.

66) VTR's - video tape recorders (often called VCR's) used for recording and playback of video & audio signals on video tape.
67) Beta SP - professional analog video tape format replaced the larger 1" RR format. The ½" Betacam format is still widely used.
68) 3/4" Umatic - industrial level analog format of 1970-1990's that is now phased out because of smaller and better digital formats.
69) VHS - the home consumer format (low cost VCR's, tape, and 6-hour recording speed), but being phased out by DVD and *Tivo*.
70) HD CAM - industrial level ¼" digital format that records in the high definition HDTV Standard.
71) DVC Pro - Panasonic's ¼" digital format that can playback, but can't record on the other 2 formats' VCR's.
72) DV Cam - Sony's ¼" digital format that moves slightly faster, thus negligibly better than Mini-DV. (Large Load = 3 hrs).
73) Mini-DV - most popular ¼" digital format w smaller load that plays on both of the other 2 formats' VCR's. (Small Load = 1 hr).
74) Digital 8 - digital format that uses an 8mm cassette. Is used mainly by home consumers, but is losing the battle to Mini-DV.
75) Digital Beta - professional ½"digital format that is replacing Beta SP as the standard of the commercial industry.

76) CD - an "audio only" compact disc, as opposed to CD-ROM, that can be played back on a CD Player or a DVD player.
77) Cassette - an audio only 1/8" analog cassette format.
78) DAT - 2-Channel Digital Audio Tape about the width of an 1/8" audio cassette.
79) ADAT - 8-Channel Digital Audio Tape format on a VHS cassette.
80) DVD – a high-quality video disc the same physical size as a CD that can be played back on a DVD player.

81) program level - the overall audio level of a program that should be recorded/played back to average "0 dB" on a VU meter.
82) monitor level - the "listening" level of the audio that can be changed without affecting the program level on the VU meter.
83) VU meter (Analog) - instrument used to measure the program level (gain) of an audio signal **(**set to **0 dB in Analog)**.
84) VU meter (Digital) - instrument used to measure the program level (gain) of an audio signal **(**set to **-14 dB in Digital)**.
85) calibration - setting all VU meters to read "0 dB" using a 1 kHZ test tone.
86) high level (Line) {"U"} {-20dB} - line level audio voltage (three tons of dirt/dump truck).
87) low level (Mic) {-60dB} - low level audio voltage (feather falling/lily pad).
88) attenuator (pad) (trim) - changes the sensitivity of the audio input from high level to low level (dump truck to lily pad).
89) LINE->MIC = overload/distortion - (three tons of dirt falling on lily pad).
90) MIC->LINE = weal signal - (feather falling in dump truck).
91) ride gain - changing the fader level on the mixer to prevent "overload pegging" and to maintain 0 dB level on VU meter.
92) peaks - transient changes in the overall audio level that exceed the average level of 0 dB momentarily.
93) average 0dB - the optimum level to maintain on a VU meter in order to mask noise and to prevent overload/distortion.
94) signal-to-noise ratio - maintain 0 dB in order to mask the noise that is inherent in the audio system. Hear more signal/less noise.

95) helical scan - slant track method of video signal recording which allows better picture quality on a smaller width tape.
96) dropout - spot on a video tape in which the magnetic emulsion has been wom away leaving a blank glitch in the picture display.
97) head cleaner - chemical which can effectively dissolve tape residue from the heads without leaving its own residue.
98) tex wipe - special cloth material used for cleaning video heads that does not leave fibers or lent on the video heads.
99) clean heads how? - use tex wipe and head cleaner and gently scrub side ways with the grain instead of up/down.
100) lens tissue - special paper which can effectively clean the lens glass without scratching or leaving lent.
101) clean lens how? - use lens tissue and your breath to fog up glass, then gently wipe in circular motion.

LENS - instrument that determines focus (sharpness), zoom (continuously variable focal length), and f/stop (exposure).

102) Zoom - Zoomed In (Long Focal Length) (Telephoto) = narrow view. Zoomed Out (Short Focal Length) = Wide Angle view.
103) Focus - determines sharpness of image or blurred image.
104) Aperture (Iris) (f/stop) - determines proper exposure (amount of light), sharpness, and depth of field of the image.
105) zebras - diagonal lines in viewfinder indicate areas in scene that exceed 100 IRE. Adjust Iris to threshold of zebras disappearing.

106) hot - overexposed scene/too bright. Need to close iris down (smaller opening/ higher f/stop) to threshold of zebras disappearing.
107) flat - underexposed scene/too dark. Need to open iris up (larger opening/ lower f/stop) to threshold of zebras appearing.
108) soft - not in sharp focus. Need to preset the focus on the zoom lens to get a sharp image.
109) defocus - intentionally throwing the lens out of focus to get a blurred image.
110) tighten up/go in - zoom in to a longer focal length to get a narrower (more magnified) angle of view.
111) come out - zoom out to a shorter focal length to get a wider angle view (less magnified).
112) woof - you are right where you need to be.

113) pan (left/right) - horizontal pivotal movement of the “camera” on the fluid head with a stationary tripod.
114) tilt (up/down) - vertical pivotal movement of the “camera” on the fluid head with a stationary tripod.
115) arc (left/right) - circular movement of the “camera and tripod” on wheels or on dolly in a circle around the subject.
116) truck (left/right) - sideways movement of “camera and tripod” on wheels or on dolly sideways to the subject.
117) dolly (in/out) - forward movement of “camera and tripod” on wheels or on dolly toward or away from the subject.
118) pedestal (up/down) - elevating camera to a higher position on tripod with the tripod still on the ground.
119) crane (up/down) (in/out) - flying the camera up, down, or sideways by using a crane to lift the camera off the ground.

Depth Of Field - perception of true distance between objects at different depths in a scene. (shallow DOF looks compressed).

120) focal length (zoom) - Zoomed In (more magnification), shallow depth. Zoomed Out (wider angle), more depth of field.
121) camera-subject distance - Closer to subject, less depth of field. Farther from subject, more depth of field.
122) aperture (iris) (f/stop) - larger f/stop opening (smaller number), less depth of field. f/2 f/2.8 f/4 f/5.6 f/8 f/11 f/16.

Preset Zoom Lens

Zoom In Max (123mm)
Focus Sharp on subject's eyes
Zoom out to frame shot

Back focus Adjustment

Zoom In Max (123mm)
Focus Lens (front) sharp
Zoom Out Max (6.5mm)
Adjust Backfocus Ring sharp

Maximum Magnification

Zoom In Max (123mm)
Focus In Max (3 ft)
Dolly Camera In or Out until focused sharp (about 3 ft from subject)

Switcher (SEG) - Special Effects Generator which selects and mixes various video sources using the following effects:

123) Cut (Take) - instantaneous transition from one shot to another.
124) Fade - dissolve from a shot to black (Fade Out) or dissolve from black to a shot (Fade In).
125) Dissolve - one shot fades away while the next shot fades in causing a momentary superimposition of both shots on the screen.
126) Key (DSK) - an opaque superimposition of a CG title over a shot that can be faded in and faded out over the video shot.
127) Wipe - a split screen of two or more shots in a geometric shape such as a vertical line, box, diamond, or circle.
128) Key Bus (yellow) - allows you to select the video source you wish to "key" over another shot.
129) Program Bus (red) - allows you to select the video source that is currently being recorded. (Appears on the Program Monitor).
130) Preview Bus (white) - allows you to select and monitor the video source to be recorded next. (Appears on Preview Monitor).

131) Diffused Light - soft, even, defocused light with soft shadows gives a more natural and flattering look to subject.
132) Specular Light - hard, spotted, focused light with sharp shadows gives a more unnatural look to subject.
133) Scoops (2k) - bowl-shaped lights used for diffused lighting of large areas.
134) Broads (2k) - rectangular-shaped lights used for diffused lighting of large areas.
135) Junior Spots (2k) - fresnel spot lights that can be focused for specular or flooded for diffused as a key, fill, or back light.
136) Baby Spots (1k) - smaller fresnel spot that can be focused or flooded. Usually used to accent small areas.
137) Fresnel - a light with a focusing mechanism to narrow or flood the beam. (As lamp moves closer to reflector, beam narrows).
138) Ellipsoidal (Follow Spots) - can throw a focused beam of light from back of the theater to the stage in the shape of a circle.
139) Cyc Lights - lights housed in long strips used to illuminate the cyclorama or large backdrops on the stage.

140) gels/gel holder - metal frames that hold sheets of acetate gels in place over a light to diffuse, add color, or convert color temp.
141) gobo/cookie - a pattern cut out of wood or metal placed over a light to project a design on the background of a set.
142) barndoors - metal flags attached to a light used to keep light from hitting certain parts of the scene.
143) safety cable - aircraft suspension strength wire used to secure lights to the battens to prevent the light from dropping to the floor.
144) safety chain - metal chain used to secure barndoors to their light fixtures to prevent the barndoors from dropping to the floor.

145) batten - metal pipes on the lighting grid to which studio lights are hung via a C-Clamp.
146) pipe clamp (C-Clamp) - attached to lights then used to hang lights on the battens of the lighting grid.
147) lamp - the tungsten bulb installed in a light fixture that emits the 3200 degree Kelvin illumination.
148) pigtail - a twist-lock electrical socket hanging from the grid used to power lights on the grid.
149) twist lock plug - a three-pronged plug on a light fixture's power cable that can only be plugged into a twist-lock socket.
150) patch - an electronic connection allowing control of a studio light's intensity by a particular fader on the dimmer console.
151) gloves - should be worn at all times when handling lighting equipment to protect from burns.
152) prophylactic covering - plastic covering should be used at all times when installing lamps in lights to prevent aneurysms.
153) aneurysm - a bubble in the lamp glass caused by oil in hands which makes the lamp burn out prematurely.

154) 3-Point Lighting/Photographic Triangle - placing a key, fill, and backlight in a triangle design around the subject.
155) Key Light - the main light illuminating one side of the talent's face at a 45 degree angle.
156) Fill Light - the weaker light on the opposite side of the face to fill in shadows caused by the key light.
157) Back Light - light placed at the back of the talent to illuminate the hair and shoulders to separate talent from background.
158) Background Light - light used to illuminate the background in the scene, but not the talent.
159) Kicker - accent light used to illuminate certain props or spots in the scene.
160) Reflector (Flex-Fill) - used to bounce sunlight or key light back onto the subject to "heat up", fill in, or punch up the talent.
161) Hair Color - the darker the hair color, the more back light it can handle (dark hair v blonde hair).
162) Hair Texture - the coarser the hair texture, the more back light it can handle (curly hair v straight hair).
163) Clothing Colors - avoid white or light pastel colors in favor of dark colors to make talent's face the brightest part of the scene.
164) High Contrast Scene - avoid white walls, white sky , bright concrete, or mixing sun and shade in same scene.

Connectors

165) BNC - used to connect Video Out to Video In on most professional video equipment (should always be gently coiled).
166) S-Video - multi-pin, separate Y/C for higher quality video connection between digital VCR's, DVD, TV's, and camcorders.
167) F (Coax) (RF) - radio frequency cable used for connecting VHS deck, antenna, or cable TV to home TV set.
168) XLR - three-pin audio connector for pro microphones and professional audio equipment such as mixers and Betacams.
169) 1/4" Phone - connector used for electric guitars, studio headphones, and audio patch bays.
170) 1/8" Mini - connector used for Walkman-style portable headphones and "3 in 1" analog connections to DV camcorders.
171) RCA Phono - used for "Line Level" audio equipment and analog VCR audio and video connections (red, white, yellow).
172) 4-Pin DC - four-pin, XLR-style connector used for carrying DC power to professional Betacams, battery belts, and monitors.
173) IEEE 1394 (Firewire) – 2-way digital audio, digital video, and transport commands between PC/digital camcorder (lossless).

174) blackstripe - recording an optimum, continuous control track from a "live" source onto a master tape before editing.
175) window dub - making a copy of a tape with the Time Code numbers "keyed" over the video for EDL work at home.
176) source tape (original) - 1st Generation clips to be window dubbed, imported, or copied (edited) onto a Master Tape.
177) master tape (sequence) - 2nd Generation copy of clips edited into a particular sequence as the final edited master.
178) distribution dub - 3rd Generation copy of the master tape for general release to the public as the final product.
179) Tape Log – a chronological list of each shot or "take of a shot" on a particular source tape with the corresponding TC numbers.
180) EDL - Edit Decision List of each clip's In Point and Out Point for use in creating a sequence or master tape.
181) Import List – adding 1-sec handles to EDL In Points and Out Points when importing footage to facilitate later dissolves/fades.
182) off-line edit (rough cut) - creating an EDL plan at home using a script before actually on-line editing the master sequence.
183) on-line edit (master tape) - creating the actual sequence or master tape on the editing equipment.
184) SPMTE Time Code - an 8-digit address track system that allows Window Dubs, Cue Search and Batch Digitizing.

NTSC Video Specs

185) Calibration of WFM/VEC - send Black then use Vertical Knob on WFM and Phase Knob on VEC to calibrate.
186) Luminance/Video/Brightness - top of signal moves up/down *(not to exceed 100 IRE on WFM).*
187) Black Level/Pedestal/Setup - bottom of signal moves up/down *(7.5 IRE on WFM).*
188) Chroma/Saturation/SAT/Color - expand out to VEC boxes on VEC *(40 to -40 IRE on WFM).*
189) SC Phase/Hue/Tint - rotate into VEC boxes on VEC *(I & Q on I and Q lines on VEC).*
190) Burst - split on west equator at third hash mark on VEC *(20 to -20 IRE on WFM)*
191) Blanking - beam moves up to scan new field alternating between Odd and Even fields of 2:1 interlace *(0 IRE on WFM)*
192) Sync - signal that tells entire system how to scan in synchronization *(-40 IRE on WFM)*

193) I & Q on VEC - using SMPTE Color Bars, rotate I & Q onto their proper lines on VEC using Tint/Hue Knob on Proc Amp.
194) Burst on VEC - using Black from SEG, rotate Burst to split on west equator of VEC using Phase Knob on VEC.
195) fleshline on VEC - using a scene with flesh, rotate flesh blob to split on fleshline of VEC using Tint/Hue Knob on Proc Amp.

196) full-field color bars - 77 IRE White is brightest level and contains no 100 White, I & Q, or PLUGES.
197) split-field color bars - called SMPTE Color Bars/contain everything you need, but our Betacams don't have SMPTE Bars.
198) pluges - Picture Line Up Generating Electronics allows calibration of proper Brightness and Contrast on Color Monitor.
199) blue gun - set up function on professional monitors that allows calibration of proper Color and Hue on monitor.

How Frame?

200) XCU - extreme close up of just the subject's eyes, nose, and mouth with no headroom or chin room.
201) CU - cut off top of the head in order to give chin room below (avoid the "beheaded head on a platter" look).
202) Bust Shot (BS) - slight headroom above, then cut below chest to give "lower thirds" room (two lines of text) to key CG titles.
203) Medium Shot (MS) - slight headroom above, then cut right below waist line to avoid cutting off at waist.
204) LS - slight headroom above, and slight toe room below for full-body shot without cutting off feet.
205) XLS - framing with any additional headroom and toe room for a much wider shot.
206) Nose Room - give additional room to the side of the screen that subject's nose is pointing toward.
207) Lower Thirds - leaving bottom third of screen free for keying CG titles in order to prevent keying titles over subject's face.

Microphone Applications (best element & pickup pattern for a situation)

208) Dynamic - rugged element that requires no power. Good for loud sound pressure levels.
209) Condenser - sensitive element that requires power. Good for soft sound pressure levels.
210) Omni - picks up equally from all directions. Flat and best for close miking situations.
211) Cardioid - picks up in front, rejects from rear. Prevents feedback. Proximity Effect.
212) Bidirectional - picks up front and rear, rejects from sides. Good for two-way interview.
213) Shotgun - very directional, picks up only in front. Good for boom, parabola, nature, foley effects.
214) popping - explosive distorting blasts in mike caused by consonants in speech such as "p".
215) feedback - shrill screech in speakers caused by re-amplification of sound. Use cardioid pattern to isolate mike from speakers.
216) proximity effect - the closer the sound source comes to the mike, the more the bass frequencies are amplified (cardioid).
217) flat response - reproduces signal with no sound coloration unlike "EQ" which boosts or cuts certain frequencies.
218) electret - mike that can be powered by its own on-board battery.
219) phantom power - converting AC power to DC power and delivering the power to the mike via the XLR mike cable (48 Volt).
220) lav (lapel) - small mike that can be clipped to the talent for seated interviews. (usually can be phantom powered 48 Volt).
221) wireless - mike system using a radio frequency transmitter and receiver to avoid using a cable to connect mike to mixer.
222) fishpole (boom) - a portable pole used to extend and swivel the mike into the scene for a closer sound pickup.
223) zeppelin - an cigar-shaped wind cover placed over a boom mike to protect the mike from wind. blast.
224) shock mount - a mike holder that employs rubber bands to suspend the mike in air to prevent shock during movement.

225) Sony ECM-55 - most common lav mike used in TV. (Omni-condenser, electret or phantom powered).
226) Shure SM 58 - most common public address system mike used by rock bands and comedians. (Cardioid Dynamic).
227) Sennheiser 416 - most common shotgun mike used in boom applications. (Shotgun condenser, 12 Volt power only).
228) EV 635A - most common hand-held interview mike. (Omni-dynamic).
229) Shure SM 61 - most common vocalist mike for TV shows. (Omni-dynamic).
230) Sennheiser Kit Mike - economical electret power module has interchangeable omni, cardioid, and shotgun capsules.

Video Input Quality

231) Composite Video - 1 line, worst quality because video noise occurs by combining Luminance and Chroma into one line.
232) S-Video (Y, C) - 2 lines (one multi-pin connector), second best quality by keeping Luminance and Chroma separate.
233) Component Video (Y, R-Y, B-Y) - 3 lines, best quality in analog video. Luminance and two separate Chroma lines.

Lens Controls on *"Emmy Award Winning"* Fujinon 19x1

234) Focus (3 ft -) - performing "Max Mag" will give you the most magnification and shortest focal length for steadier shots.
235) Zoom (123mm - 6.5mm) - best focal length is 6.5mm (all the way out). Steadier, more depth of field, no focusing.
236) Iris (f/2, 2.8, 4, 5.6, 8, 11, 16) - sharpest f/stop is f/5.6. Never shoot opened more than f/2.8 (no sharpness).
237) Backfocus - need to adjust when zooming out and lens goes out of focus.
238) Macro - allows lens to focus closer than 3 ft, but does not provide more magnification than normal mode using "Max Mag".
239) Quick Z - hold down to zoom lens in max quickly, check focus, then release to return zoom back to original framing of the shot.
240) Quick Fix (Auto) Iris - hold down to let lens automatically set proper f/stop exposure, then release to freeze f/stop setting.

Causes of "Out of Focus" Image

241) Lens Focus Off - so preset the lens focus....you know the drill.
242) Backfocus Out - so do the "Backfocus Procedure".....you know this drill too.
243) Macro Activated - turn the Macro off, by clicking it into place so that white marking lines up with other lines on lens.
244) Camera-Subject Distance Closer than 3 ft - so move the camera back from subject at least 3 ft.
245) Viewfinder Optical Focus Activated - adjust viewfinder eyepiece ring all the way clockwise, or adjust to your vision.

Color Temperature of Light *(in degrees Kelvin)*

246) Daylight (5600-6000'K) - produced by sunlight, a Sun Gun Light, or an HMI Light.
247) Fluorescent (4800'K) - used in most institutional or public lighting because it is economical, but very unflattering.
248) Tungsten (3200'K) - used in most professional television and film lighting because it is efficient and stable.
249) Incandescent (2800'K) - used in most household lighting (light bulbs), but is not bright enough for most television and film.

Conversion Gels

250) CTB (Blue) - converts 3200'K (Tungsten) to 5600'K (Daylight). {Put over tungsten lights}.
251) CTO (Orange) - converts 5600'K (Daylight) to 3200'K (Tungsten). {Put over windows}.
252) CTO w ND (Brown) - same as CTO with Neutral Density added to decrease brightness of windows. {Put over windows}.

Light/Filter Mismatches

253) Blue Cast - results from shooting in daylight using the camera's Indoor Filter #1.
254) Yellow Cast - results from shooting in indoor artificial light using the camera's Outdoor Filter #3.

Indoor Scene with Daylight Windows and Tungsten Light

255) To use camera's Indoor Filter - you must put CTO (Orange Gel) over the windows. (CTO windows!).
256) To use camera's Outdoor Filter - you must put CTB (Blue Gel) over the lights. (CTB omni's).

Effect Filters

257) Polarizer - removes reflected glare thus saturating the color. Can only work by rotating filter at 90 degree angle to the sun.
258) Star Filter - makes star streaks when pointed at bright lights such as the sun or brilliant highlights in a scene.
259) Fog/Dream - creates a hazy, out-of-focus look as if in a dream.
260) Neutral Density (ND) - absorbs stops of light to allow shooting at f/5.6 for sharper image in bright sunlight.
261) Party Gels - used to paint white walls or to make pools of color in a scene. Generally not used to light talent.

To Decrease Intensity of a Lowel Omni Light

262) Flood Beam - by adjusting the spot mechanism to the flood position (moves lamp closer to the reflector).
263) Point Beam Off Subject - by panning or tilting the light beam slightly off the subject.
264) Move Light Farther Away - by backing it away from the subject.
265) Diffuse Light - by covering the light with a diffusion instrument or diffusion material.

Diffusion Instruments

266) Scrims - mesh screen that snaps over the light. Also used to protect crew from exploding lamp glass.
267) Umbrellas - reflector in the shape of an umbrella which makes it easy to store and transport.
268) Bounce/Reflectors - Flex-Fills, Foam Core, or any material/instrument used to bounce light into the scene.
269) Filter Holders - rectangular metal frames used to hold diffusion materials over a light.

Diffusion Materials

270) Frost - a plastic diffusion material which is rigid, durable and easy to handle.
271) Spun - a more fibrous, flimsy, and less durable fabric material.
272) Silk - a plastic material more flimsy than frost that looks like silk.

Advantages of SMPTE Time Code

273) Each Frame has Unique Address Code - makes replication and "batch recording" possible.
274) Frame-Accurate Editing - allows you to make "match frame" edits on the exact frame necessary for precision editing.
275) Cue Search - can type in the time code number and have machine cue to the In Point of the shot.
276) EDL - Edit Decision List tells which shot (In Point/Out Point) goes where in the sequence or master tape.
277) Replication – if hard drive dies, you can bring your project back to life using "batch recording" and your original source tapes.
278) Batch Recording - using just your EDL files and source tapes, all your footage can be automatically re-imported by the Avid.
279) Window Burn/Dub – time code numbers keyed over your video allows you to EDL at home using just a VHS deck.