National Geographic Channel US High Definition Technical Specifications and Requirements

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1.0 Introduction

This exhibit contains all technical specifications for 1080 Interlaced and 720 Progressive High Definition video tape formats.

All programmed material acquired for National Geographic Channel must be of a high technical standard originated and post produced on equipment that meets US broadcast performance specifications and must fully comply with SMPTE Standard codes of practice.

It is important that control rooms and viewing rooms used to assess program quality during post-production do not affect subjective impressions of the luminance, resolution and color attributes of the picture. CCIR Recommendation 500 gives details of suitable viewing angles, distances luminance levels and background lighting, etc.

2.0 General Technical Requirements

Master and source videotapes must meet industry standard or industry-accepted standards for tape format interchange. Acceptable mastering formats must be on either Sony SR or Panasonic D5 High Definition video tape.

Final Program Edit Decision List: An AVID EDL or Final Cut Pro EDL (or project) of final program edited master.

3.0 High Definition Requirements:

1. National Geographic Channel (NGC) requires a High Definition 1080i at 59.94 fps (preferred) or 720p at 59.94fps version of the program master material. It should be delivered on either a Sony HDCAM SR or Panasonic D-5 video tape in 1080i at 59.94fps (preferred) or 720p at 59.94fps. Letterboxed 4x3 material will not be acceptable.

2. Video and Audio program material shall be produced using industry standard and accepted norms of good practice and workmanship. All content must be shot and edited in the native delivery format.

3. NGC supports the production of television programming in either 1080i – 59.94fps (preferred) or 720p – 59.94fps formats. All Vendor Masters delivered to NGC must be frame rate converted to 59.94fps for both 1080i and 720p masters. NGC will not accept Vendor Masters delivered in any other frame rate other than these. Masters must be converted on acceptable broadcast quality conversion system. Conversion masters will be subjected to NGC's quality control process and will be rejected if found to contain conversion artifacts or to be of poor quality. NGC will not accept productions that are shot on HDV tape formats.

4. All Vendor Master video tapes must be recorded in DROP FRAME time code.

5. Videotapes must not have any visible impairments including, but not limited to, dropouts and digital errors.

6. VIDEO TAPE LINE-UP REQUIREMENTS

Time Code In	Time Code Out	Duration	Information
hh;mm;ss;ff	hh;mm;ss;ff	hh;mm;ss	
00;58;00;00	00;58;30;00	00;00;30	30 seconds of Black/MOS
00;58;30;00	00;59;45;00	00;01;15	75 seconds of SMPTE bars and tone
00;59;45;00	00;59;50;00	00;00;05	5 seconds of Black/MOS
00;59;50;00	00;59;58;00	00;00;08	8 seconds of identification slate
00;59;58;00	01;00;00;00	00;00;02	2 seconds of Black/MOS
01;00;00;00			Segment #1 - First frame of video begins

Note: There must be at least 1:00 minute of black (padding) after the program has finished and before the clean covers shots begin. Both the clean cover shots and the snap-in segments (if applicable) must have a slate that describes the content. Additionally, there shall be at least 1 minute of color black, silent audio and continuous time code at the end of the tape.

7. The identification slate shall be present for at least 8 seconds and contain the following information:

Series & Episode Title
House # (get from PM or UM)
Frame rate, aspect ratio
Date and Producer/Editor name

Segment 1	01;00;00	01;00;00	00;00
Segment 2	01;00;00	01;00;00	00;00
Segment 3	01;00;00	01;00;00	00;00
Segment 4	01;00;00	01;00;00	00;00
Segment 5	01;00;00	01;00;00	00;00

TPT: 45;50 TRT: 46;50
Program is on Time
Credits @ 01;46;34 for 15 seconds
Clean Covers @ 01;47;50

CH 1 Stereo Left (Full Mix)
CH 2 Stereo Right (Full Mix)
CH 3 Full Mix Minus Narration and Translations Left - Undipped
CH 4 Full Mix Minus Narration and Translations Right- Undipped
CH 5 Dolby E 5.1+2 (Full Mix)
CH 6 Dolby E 5.1+2 (Full Mix)
CH 7 Dolby E 5.1+2 M, D & E - Undipped
CH 8 Dolby E 5.1+2 M, D & E - Undipped
(Dolby E is 1 frame **Advanced** on tape)

8. All slates must contain an :08 second countdown beginning at 00;59;50;00 with an audible/visual marker at the :02 second mark at 00;59;58;00 (NGC can provide if necessary).

9. Both the video tape cassette label and the storage box needs to contain the same information as the slate (see above).

4.0 Program Content

There must not be any closed captions/embedded subtitles unless specifically requested.

A music cue sheet must be completed and provided for each program tape.

5.0 Video

1. Video Tape delivery shall be on either High Definition Sony HDCAM SR (5500) or Panasonic D-5 in 1280 x 720 Progressive (720p) 59.94Hz (SMPTE 296M) or 1920 x 1080 Interlaced (1080i) 59.94Hz.
2. All material should be assessed for both quality and technical standards. This checks that all levels conform to the current edition of the EBU - TECH 3299 - E,

which defines High Definition formats and SMPTE 274M - 2003 which details the 1080i 59.94fps and 720p 59.94fps formats. The technical assessment does not affect the quality grades given, material could have QC pass grades but still be rejected due to technical issues - Archive programs, stock footage and/or those made using NGC non-supported/approved equipment will be taken into account when assessing the material, but this does not guarantee acceptance.

3. All program levels must not exceed the following when correctly lined up to bars and tone:
   a) Luminance must not exceed 1v (100%) or go below sub black (.3v)
   b) Chroma must be legal in all domains i.e. RGB, YUV etc. and must not exceed the gamut limit.
   c) Relative timings of luminance and chrominance must not exceed +/- 20 ns.
   d) Audio levels must conform to our requirements. (See HD Audio Specifications)

Measurement reference for Gamut is as follows:

For RGB Gamut, it is 710mV on the high end and -10mV on the low end. For encoded Gamut, Luminance is from 0 IRE to 102IRE and for the peaks it is -22IRE for the lower and 112IRE for the peaks (Luminance and Chroma combined).

Please note that there are numerous quality and/or technical faults for which a program can be rejected for. If a title is rejected then full details will be provided for review.

All replacement material must have all fail points fixed and you must supply a list detailing all repairs / action taken with time codes and descriptions of all faults fixed.

6.0 Editing

The editing of video material must be performed on an editing system with a minimum codec of DNXHD 220X MXF 10-bit or ProRes 422 10-bit 4:2:2 or equivalent.

7.0 Safe Area and Title Safe Information

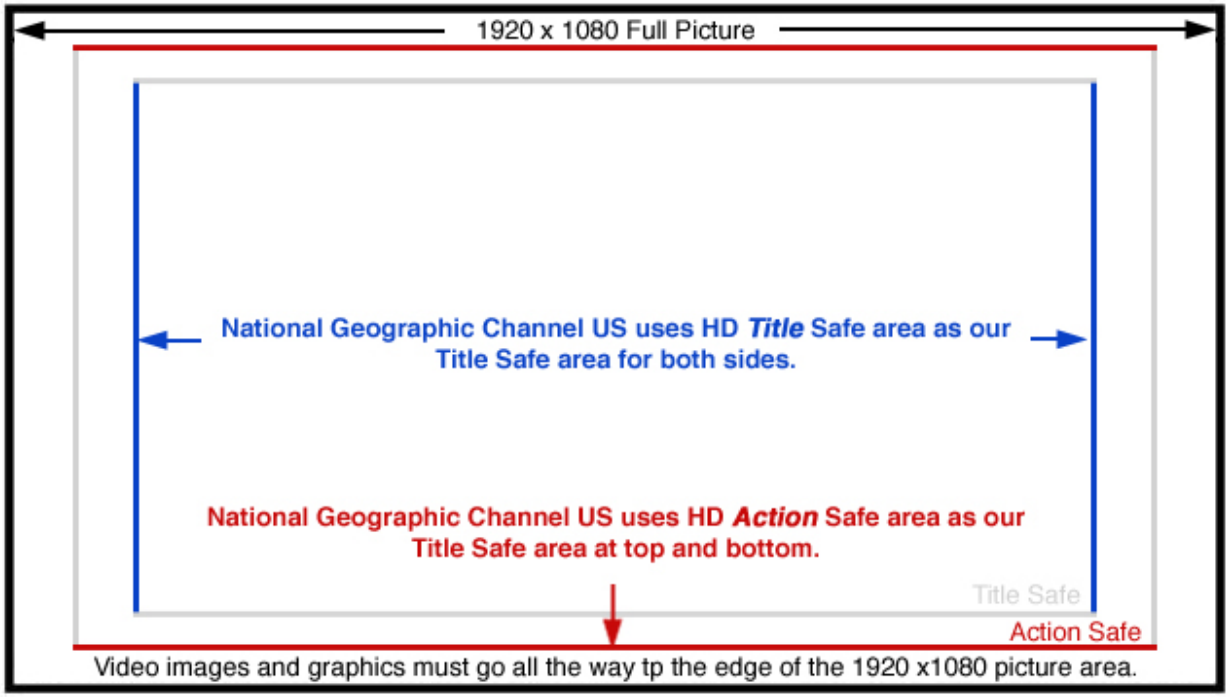
All safe action, titles/lower thirds and graphics must be correctly framed throughout to retain safe picture content. There is to be no pillar-box blanking or letterboxing footage unless previously approved by an NGC producer.

Title Safe and Image Safe

To support the aspect ratio of 16:9, please see diagram below. Do not place Chyron, or essential elements outside of the Title Safe margin of 20% from each side/edge. On the top and bottom of the screen, you can go to action safe (10%). Slight over scanning is a common practice in theatre projection and will result in loss of essential elements. Image information should fully extend to the edge of the image area. Be careful not to place vital image information within 10% of image edges.

"Action safe" is the outer 10% of the ad (a box inside a box). This is similar to "bleed" in print. Never have needed information outside "action safe" (red/grey box in diagram below), as most projectors will cut out at least some of "action safe."

"Title safe" is the next 10% in (blue/grey area). This is the recommendation for putting all text inside. Text outside this area may or may not show up; inside the "box" it will show up. Moving or live video is not allowed in the Digital Slides portion of the program.



8.0 Non-HD Footage Limitations

To enable the HD program to retain the highest quality throughout, a maximum of 10% of non-HD footage is allowed in production with no more than 1 minute of continuous non-HD footage in any sequence. Any use of non-HD material is only acceptable by prior written consent of NGC. Non-HD footage refers to ALL source materials that are not of an HD origin (film, SD video, etc - please see section 9.0 below for further clarification) that has

been up-converted to high definition tape. We understand that there will be certain genres of program that will require non-HD material to be in excess of the 10% content limitation. This will only be acceptable by prior written consent from NGC.

*Please note: NGC will not accept any multiple resolution changes. Any exceptions must be pre-approved by NGC. NGC will only accept Transcoded (up-converted or cross-converted from non-HD, or 720p footage to 1080i or from 50 to 60fps) footage or masters that have been created using a broadcast quality conversion devise such as a Silicon Optics Teranex , Snell & Wilcox Alchemist Platinum Ph.C, etc. Conversions that have been performed internally using a Video Tape Machine (on-board conversion devise) will not be accepted.

9.0 Film Acquisition and other formats

1. 35mm Material – Direct datacine (Telecine) transfer to High Definition of this material produces perfectly acceptable results.
2. Film based programs are encouraged to use 24fps electronic post production. For a film based or 24fps electronic production, the 24fps sequence shall be consistent throughout the material. Industry approved noise-reduction and color correction must be adhered to for all film transfers. These productions must be properly converted to acceptable NGC deliverable formats (see section 3.0 for details).
3. 8mm, 16mm and Super 16mm Material - High Definition datacine transfer of this material does not produce results that are acceptable for use with NGC HD programs. The size of the 16mm negative is too small to achieve quality high definition images. Use of 8mm, 16mm and Super 16mm film is not permitted by NGC due to concerns about quality and the long-term practical value of the asset.
   * Note – use of 8mm, 16mm and Super16mm stock footage that has not been up-converted must be approved by your Executive Producer and your Production Manager/Unit Manager team. This footage will be counted towards the 10% non-HD rule.
4. HDV, DV and Mini-DV acquired material – High-Definition up-conversions from footage acquired using these formats does not produce results that are acceptable for usage in NGC HD programs and therefore will not be accepted.

10.0 Visual Effects and Footage Treatments

Any visual effects that seem to add grain or noise to acquired material requires pre-approval by NGC (sample materials must be provided). As with film and lower end digital video formats, any significant video noise or film grain will potentially create complications during broadcast.

11.0 High Definition Audio Requirements

1. Audio program material shall be produced using industry standard and accepted norms for good practice and workmanship. The audio portion of the master

and source audio and videotapes must be produced so that no noise, static, dropouts or extraneous distortion is recorded in the audio. The audio mix should be well balanced and equalized, with clear dialog and narration that is not buried by effects or music.

2. The audio record level must be related accurately to the line-up levels recorded at the head of the tape and both are correct in preset/unity. Audio tracks must be accurately matched, correctly balanced and in phase throughout the program.
3. The operating level for reference tone and legacy analog system calibration is -20dBFS per SMPTE RP155 on all tracks including the Dolby E tracks.
4. Peak audio levels, evaluated using a digital true-peak meter with a 0ms rise response, may not rise above -10dBFS.
5. The average level of dialog within the program on all non-compressed (i.e. stereo) content, evaluated using a Dolby LM100 Broadcast Loudness Meter or equivalent Leq(A) meter, shall return an average level of speech at -27dBFS, +/-2dB measured over the entire length of the program. The LM100 should be set to "Infinite Mode" with "Dialogue Intelligence" enabled. The measurement shall begin at the start of the program and stopped at the end of the program. The resulting Infinite Term measurement value shall be -27dBFS, +/-2dB.
6. Audio compression: Program audio should have good dynamic range, but not be overly dynamic. While some compression may be needed to control the dynamic range of the program audio, excessive audio compression of the final mix should be avoided as this reduces the perception of audio quality by the listener. Audio signal peaks should be approximately 8 to 10 db above program reference levels, and average loudness measurements should be comparable to reference levels.
7. Audio sampling rates for High Definition video masters must be at 48k *at* 20 bits. DA88 audio masters sampling rates must be at least 48k *at* 16 bits.

11.1 Audio Channel Assignment Chart for HD Video Tape

Audio Track	Content
1	Stereo Left or Left Total (full mix)
2	Stereo Right or Right Total (full mix)
3	Stereo Left or Left Total M, D & E – Undipped
4	Stereo Right or Right Total M, D & E – Undipped
5	Dolby E 5.1+2 (full mix)
6	Dolby E 5.1+2 (full mix)
7	Dolby E 5.1+2 – M, D & E - Undipped
8	Dolby E 5.1+2 – M, D & E - Undipped

- For further details on individual audio channel break-outs and configurations, please see section 11.4 & 11.6

11.2 Audio Sync for non Dolby tracks

Sound and Vision should be delivered fully frame synchronous throughout the program for the stereo only tracks on channels 1 & 2 of the video tape. DA88 tracks time coded tracks must also match the video tape. In no circumstances may audio and video be out of sync by more than one field (i.e. 20 ms). [Dolby audio tracks are addressed in section 11.4]

11.3 Noise Reduction in Digital Recordings

Digital Audio recordings shall be supplied without digital noise reduction or pre-emphasis.

11.4 Dolby E

1) The Dolby E encoded data of the full mix shall be recorded on AES-3 (tracks 5/6) of the Hi-Definition video tape and the encoded Dolby E data of the M,D & E on AES-4 (tracks 7/8).

2) Dolby E encoded data shall be recorded such that the encoded data stream on tape is one frame advanced of video, so that on playback,/decode, the audio is in sync with the picture. This requires that the audio be advanced two frames with respect to video before the Dolby E encoding process.

3) The Dolby E program configuration shall be set to 5.1+2, and the channel configuration within the Dolby E data stream shall be as follows:

   Ch1 – Left (Music & Effects, location dialog that does not appear in the center channel)
   Ch2 – Right (Music & Effects, location dialog that does not appear in the center channel)
   Ch3 - Center (Narration, location dialog)
   Ch4 – Low Frequency Effects (Explosions/Music Effects)
   Ch5 - Left Surround
   Ch6 – Right Surround
   Ch7 – Left Total
   Ch8 – Right Total

4) The measured value of speech within the full multichannel mix (both the 5.1 program and the stereo "+2" program) shall be -27dBFS, +/-2dB, and the Dialogue Level parameter (a.k.a. the "dialnorm value") within the audio metadata shall accurately reflect this measurement (see section 11.5). The Dolby LM100 Broadcast Loudness Meter (or equivalent Leq(A)meter) shall be used to evaluate and measure the average A-weighted level of speech within the program.

5) Dolby E M, D & E data streams containing no narration shall carry the same dialnorm value of -27 as the full mix.

6) Audio compression: Program audio should have good dynamic range, and provide a compelling surround environment to the home listener. While some compression may be needed to control the dynamic range of the program audio, excessive audio compression of the final mix should be avoided as this reduces the perception of audio quality by the listener. Audio signal peaks should be approximately 8 to 10 db above program reference levels, and average loudness measurements should be comparable to reference levels.

7) When available, a Dolby DP570 Multichannel Audio Tool shall be used during the mastering of the Dolby E data stream to ensure correct settings of audio metadata parameters and to best emulate a home listening environment.

8) Audio sampling rates for High Definition video masters must be at 48k *at* 24 bits. DA88 audio masters sampling rates must be at least 48k *at* 16 bits.

11.5 The recommended Dolby E audio metadata settings are as follows:

Parameter Name	5.1 Channel Program	2/0 Channel Program
Dialog Level	-27	-27
Channel Mode	3/2	2/0
LFE Channel Enable	On	N/A
Bitstream Mode	Complete Main	Complete Main
Line Mode Profile	Film Standard	Film Standard
RF Mode Profile	Film Standard	Film Standard
RF OV Protect (if present)	Disabled	Disabled
Surround Phase Shift	Disabled	N/A
Center Mix Level	0.707 (-3.0dB)	N/A
Surround Mix Level	0.707 (-3.0dB)	N/A
Dolby Surround Mode	N/A	Dolby Surround
Surround 3dB Attenuation	Off	N/A

1) Dolby Digital audio metadata shall be enabled, set and carried within the Dolby E data stream. A printout of the audio metadata settings must be included with the video tape submission.

2) Audio metadata shall be generated by a Dolby DP570 Multichannel Audio Tool or equivalent when available.

11.6 DA-88 Digital Audio Master

Separate audio master tapes are to be delivered for each Program Master Video Tape. The DA-88 must be in sync with matching time code of final program master. DA-88 tapes are to be delivered at **Final Constant Level** (i.e. will re-create final mix, without dips for narration, using fixed pre-set fader positions) on separate tracks or as follows:

Audio Track	Content
1	Music Left
2	Music Right
3	Effects Left
4	Effects Right
5	Narration
6	Dialogue
7	VO / Voice of Translator
8	Open

DA-88 Digital Audio Master of Dolby Tracks

Audio Track	Content
1	**Left** (Music & Effects, location dialog that does not appear in the center channel)
2	**Right** (Music & Effects, location dialog that does not appear in the center channel)
3	**Center** (Narration, location dialog)
4	**Low Frequency Effects** (Explosions/Music Effects)
5	Left Surround
6	Right Surround
7	Left Total
8	Right Total

Note – We will use the tracks on these two DA88 audio tapes to make all necessary changes involving narration and/or Mix and Layback modifications. They **are not** to be Dolby E encoded. These are the audio elements that are already being used to create the Dolby E stream.

DA88 tracks are to be recorded at final mix levels, without dips for narration or translations.
On and off camera sync dialogue: Defined as any character dialogue which is sync-to-camera or voice over. NGC has reserved the term "dialogue" for foreground human speech that advances the story and/or provides information to the viewer but which is not uttered by the narrator. This definition covers two types of dialogue: on-camera sync by a character; and off-camera voice-over by a character. Dialogue consists of a character's natural voice, no matter what language he/she speaks. Translation voice-overs are a separate classification, closer to narration than dialogue, and should therefore occur only on channel 7 (VO/Voice of Translator). The dialogue track is both mono and constant level.

Note - As an alternative delivery format, a Broadcast Wave file may be delivered in the following configuration:

- Audio deliverables must be Broadcast WAV with embedded time code to match the finished show, at 24 bit 48kHz,
- Files must start at 1;00;00;00 or with a one frame 2pop at exactly :02 before program
- Any other file formats must be approved by NGC before delivery.

Delivery of these files MUST be on the following media:

- Two (2) DVDR's with the stems of the surround mixes, both Full Mix and M, D & E; stereo files of Full Mix and M, D & E.
- Two (2) DVDR's of Splits: Narration / Dialogue / Translations / Stereo SFX / Stereo Music.

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12.0 Time Code

- All program material shall have SMPTE DROP FRAME time code of continuous ascending numbers.
- LTC must be recorded on the designated track at a flux level of l00 nwb/m corresponding to 0db (4ppm). Time code must be locked to video and must be continuous throughout the tape, including the line-up section and any breaks. The time code for the first frame of the program must be 01;00;00;00. VITC must match LTC throughout the program.

13.0 Graphics Master and Log

- All graphic elements necessary to customize graphic sequences for non-English text for the international market must be included on this tape. ** If time allows, Program Graphic requirements may be added to program tape. Elements should include, but not be restricted to:

- Fully composited animation (all elements) with 3-5 seconds of pad at the head and tail. Pad can consist of the first and last frame of the animation held as a "freeze frame", or more appropriately, 3-5 seconds of extended animation at the head and tail to allow for transitions.
- Title Elements with mats – should be a key-able title, not just a type treatment.
- Full open with clean resolve without title logo.
- Any animated moves, including all layered pieces. All elements or layers including, but not limited to: type, political borders, locator dots, mattes, etc.
- Credit bed – clean of text graphics/supers, formatted to NGC's specifications. Exact length of credits are :15 seconds.
- All computer models.
- 2D Artwork – Provide Photoshop file format or JPEG. If 2D art is created in Photoshop with multiple layers, provide files in Photoshop format with layers intact. All other textures or still images must be delivered in TIFF file format.
- Animation – If After Effects is used, provide all related files. Provide all 2D animated textures at full resolution in QuickTime Movie format using "animation codec with no compression". Animation rendered on fields at 29.97 frames per second at a resolution of 1920 x 1080 for 1080i & p and 1280 x 720 for 720p is required.
- All live action, chroma key/blue screen, and associated matte media.

14.0 Video Deliverables Specifications for CGI selects

14.1 CGI (Computer Generated Images)Stills: (*if applicable* - lower rez due at Fine Cut and high rez Pic Lock) if CGI is an important element in explaining or depicting the topic or content of a program, ten (10) – fifteen (15) low resolution (72dpi) frame grabs should be delivered per episode at fine cut. We will then select approximately five (5) which should be rendered high resolution for delivery at Picture Lock. All high resolution images should be rendered at 300dpi 14.2"x8" (or 4267x2400 pixels) TIFF files.

Content:

- Content of the images will vary depending on the film. The images should either capture or explain the subject matter or topic of the film or clearly film the technology used in the film
- The images are used in aid of the Channel's printed marketing efforts around the film. Therefore, the images need to be higher quality than HD resolution.

Specifications:

- CGI Images should be delivered with an electronic copy of the "CGI Digital Images Informational Sheet," and be cleared for domestic promotional usage
- Since these images are used for print purposes the preferred specs are: 300dpi, minimum 14.2"x8" (4267x2400 pixels) TIFF files
- All CGI images are to be delivered on a CD/DVD and clearly marked
- For the high resolution images we will not accept images that are not fully rendered, not fully textured, lo-resolution or standard-def resolution, or images rendered with interlaced fields
- Alternately, we will accept 1920x1080 pixel HD TIFF files at 72 dpi, however these images do not hold up for print purposes and decrease the likelihood of using the images to promote the film

14.2 CGI (Computer Generated Images) Selects: (*if applicable* - due at Fine Cut) minimum of five (5) – seven (7) minutes of CGI footage per episode per one hour program delivered on Digital Beta (4x3 or 16x9 NTSC video).

Content:

- We prefer to use CGI for episodic topicals and specials promotions because the content is different/scientific/unique and not-stock-film-looking. The CGI selects are often the most important deliverable
- The more CGI, the better. These scenes are often the most dynamic and modern looking shots from many films, and are wonderful marketing tools to speak to the unique promise of the film

Specifications:

- CGI Selects should be delivered with an electronic copy of the "CGI Selects Informational Sheet," and be cleared for domestic broadcast/promotional usage
- Due to usage of CGI materials, delivery of episodic selects (CGI for series episodes) should be made no later than 21 days prior to air
- For priority specials and one-ups, CGI materials should be delivered no later than 45-60 days prior to air (these specials get one month of promotion, hence earlier delivery)
- Footage can be delivered anamorphic for conversion (preferred method of delivery) or letterbox 16x9

- We will not accept CGI selects that are: in PAL format; low resolution or unrendered imagery; third generation or more dubbed materials; footage that is too dark; time code burned into the clip

15.0 References

ATSC A52. Digital Audio Compression (AC-3)

EIA]CEA 608B: Line 21 Data Services

EIA 708-B: Digital Television (DTV) Closed Captioning

SMPTF RP *155:* Audio Levels for Digital Audio Records on Digital Television Tape Recorders

SMPTE RP 207: Transport of Program Description Data in Ancillary Data Packets

SMPTE RP 218: Specifications for Safe Action and Safe Title Areas for Television Systems

S MUTE 1 2M: Time and Control Code

SMPTE *59:* Camera Aperture Images arid Usage

SMPTE 96M: 35mm and 16mm Motion Picture Film — Scanned Image Area

SMPTE 274: 1920 x 1080 Scanning and Analog and Parallel Digital interfaces for Multiple Picture Rates

SMPTE 279M: '7_2—inch Type D..5 Standard Definition Component Video and Type HDD5 High-Definition Video Compressed Data

SMPTIE 292M: Bit Serial Digital Interface for High Definition Television Systems SMPTE 334M: Vertical Ancillary Data Mapping for Bit Serial Interface

SMPTE 342M: HD-D5 compressed Video 1080i and 720p Systems Encoding Process and Data Format

16.0 NGC Approved List of HD Primary Shooting Cameras

For 1080i Productions: (Minimum of 2 million pixels)

- Thompson Phantom v12
- Red Camera
- Sony HDW-F900R / F950
- Sony F23
- Sony HDW790 / 730S
- Sony PDW700 (1920 x 1080 @ 50 Mb/s)
- Sony HDC-1500
- Panasonic AJ-HPX3000 (shoots 1080 only)
- Panasonic AJ-HDX900

For 720p Productions: (Minimum of 1 million pixels)

- Panasonic Varicam AJ -HDC27FP
- Panasonic Varicam AJ-HDX900

NGC Approved List of HD Secondary Shooting Cameras

* Note – Secondary cameras are to be used for tight or confined spaces or situations that pose a hazard to your full sized production camera. Use of footage captured with these cameras must not exceed 20% of the overall production. Any percentage over this amount must be approved by EP's and Network Operations.

- Sony EX1 & EX3 – (1920 x 1080 or 1280 x 720 - HQ Mode @ 35 MB/s)
- Panasonic AG-HPX500 – both 1080i and 720p
- Panasonic AJ-HPX2000 – both 1080i and 720p

Non-Approved HD Cameras:

- Sony HVRZ1U / Sony HVRV1U / Sony HVRZ7U
- Anything built on the HDV platform

Process for getting approval for exceptions

For situations where the approved secondary cameras do not meet the production needs and a camera that does not appear on this list needs to be used, please do the following:

1. Contact the EP, PM and UM with the request including reasons why they need to deviate from the approved cameras. If it's editorially approved, then we proceed to Step 2….
2. Send test footage to the UM's attention.
3. EP and Ops will review the footage and make decision.