



HIGH DEFINITION TELECINE SPEC SHEET - ARCHIVES

CLIENT NAME: _____

NARA#: _____

PHONE: _____ EMAIL: _____

COMPANY: _____

VIDEO DAILIES: circle one BEST-LIGHT | SCENE TO SCENE (Unsupervised)

FRAMING ("P" items - 4:3 only): circle one 16:9 Extraction | 4:3 Pillar Box | 4:3 Anamorphic

FRAME RATE*: check one _____ Proper screening speed (as judged by colorist)
_____ 1:1 relationship of film frames to video frames

**For archival and preservation transfers, we will transfer at legacy frame rates as per the experience of the colorist unless directed otherwise on this form. The slower the frame rate used, the longer the tape or program on hard drive and the costlier the transfer session.*

AUDIO REQUIRED? circle one YES | NO

ELECTRONIC DIRT FILTRATION (No additional charge): circle one YES | NO

If EDF is selected, the image is cleaned digitally, but sometimes artifacts or occasional smearing can result if you're looking at individual frames in pause mode. EDF can sometimes also be detected in isolated instances when viewed at play speed.

HARD DRIVE TRANSFER: circle one 1080p23.98 1080p25 1080i60 (1/1.001 normal for all frame rates, i.e.,
NOTE: For NTSC frame rates, recording can be done @ +.01 % 720p24 720p25 720p60 60/59.94 computer can adjust timebase)

FILE SYSTEM: circle one Mac | PC

VIDEO COMPRESSION: circle one 4:2:2 YUV | 4:4:4 RGB
Uncompressed* | ProRes (HQ) | DVCPROHD | HDV | Other: _____

**If "uncompressed" is chosen, a hard drive with an eSATA port (for capturing data in real time) must be submitted.*

CAPACITY OF HARD DRIVE SUBMITTED: _____ circle one MB | GB | TB
(Calculate size of hard drive you should submit using the AJA Data Rate Calculator)

HDCAM/-SR TAPE TRANSFER FORMAT: circle one HDCAM | HDCAM-SR 4:4:4 | HDCAM-SR 4:2:2

VIDEO MODE: circle one 1080 23.98PsF 1080 25PsF 1080 50i 1080 59.94i 720 50p (SR only) 720 59.94p (SR only)
NOTE: For NTSC frame rates, recording can be done @ +.01 %

59.94 ONLY: circle one DF | NDF

TIMECODE START @ HR: _____ (TC will start at hour 01 unless otherwise indicated)

HDV TAPE TRANSFER MODE: circle one 1080i60 | 1080i50 FOR 1080i60 ONLY: circle one DF | NDF

CLIENT SIGNATURE: _____ DATE: _____



WARNING: NARA film elements may not be the same element from which your screener/editing version was produced. The version you are familiar with may have come from (1) a better quality film element or (2) benefited from intensive scene-to-scene color and density correction from shot to shot. Even if the identical film element is used, scratches, ground-in dirt and color fade may have occurred over time. The archival film we give a 'best light' to will receive some attention and improvement from our colorist, but not extensively so. A best light should be interpreted to be much closer in quality to a one light than a full scene-to-scene.

TELECINE FAQS

FORMAT - What is the difference between INTERLACE and PROGRESSIVE?

Interlace (1080i) is a 30-frame timecode. Every second of tape is comprised of 30 frames of video. **Progressive** (23.98Psf) is a 24 frame timecode. Every second of tape is comprised of 24 frames of video. Although some older films were shot at 16 or 18 frames per second (f.p.s.), newer films are more likely to be shot at 24 f.p.s.. For this reason it is ideal to transfer **Progressive**, as you get a 1:1 ratio of film frames to video frames. With **interlace**, while the telecine is running at 24 f.p.s., the video is being captured to 30 frames of video. To mathematically do this, every odd frame of film is three fields of video, while the even frames of video are two fields. These extra half fields of video, every other frame, make up the difference between 24 and 30 frames in a given second of transfer. **Interlaced** 1080 30 frame transfers require the client to choose between non-drop frame and drop frame timecodes. **Progressive** 1080 24 frame transfers do not include the choice of drop and non-drop timecodes. The difference between 24 and 30 frame timecode allows you to fit 20% more on a piece of HD tape stock if going 1080Psf.

In the European standard, there is no additional field every other frame in 1080 50i (**interlaced**). The telecine runs at 25 f.p.s. and the tape timecode is 25 f.p.s., so the 1:1 ratio of film frames to video frames is maintained. Both 25P and 50i keep the 1:1 ratio, but are captured differently.

While it is always best to determine the final delivery format of your project before Colorlab transfers your NARA order, if you are unsure of the delivery format of a project, it would be wise to choose a **progressive** transfer, as it is easier, and better quality-wise, to render to an **interlaced** format than the other way around. We cannot transfer to 1080 Psf 29.97 unless the telecine's running speed is 29.97, which is not the speed the film was shot at.

Because all standard definition tapes are 30 f.p.s. timecode, these need to be upconverted to 1080i (**interlaced** - 30 frame timecode). We cannot upconvert to 1080 Psf 29.97, as it does not support **interlaced** video.

FRAMING - How can 4:3 material be framed for high definition?

Nearly all NARA reels were shot 4:3, not 16:9, and so you will need to make a decision about how to frame this 4:3 material for presentation in 16:9 high definition. Standard definition televisions were 4 parts wide by 3 parts tall, and high definition televisions are 16 parts wide by 9 parts tall. So you need to make a decision about how the almost square image of 4:3 will fit into your 16:9 rectangle. There are three choices.

- **4:3 Pillar Box:** maintains the old 4:3 image, full image and aspect intact, and blacks out the missing image on the sides, not unlike how a letterbox used to preserve the entire image and aspect of widescreen material as it was formatted for 4:3 standard def televisions with black matting at top and bottom.
- **4:3 Anamorphic:** maintains the full image, but squeezes the original aspect into the 16:9 aspect, so that everyone and thing is short and fat. There is no black matting. Non-linear editing programs can allow you to re-adjust aspect to normal and then you will need to decide to tilt up or down to achieve best composition for 16:9 presentation. The theory is that this will give you the best resolution to work with, not dedicating large portions of the video frame to the black of pillar boxing.
- **16:9 Extract:** Extracts the 16:9 from the center of the 4:3 image. This process causes the loss of 12.5% of image at the top of the film frame and 12.5% of image at the bottom of the film frame, for a total loss of 25% of the original image. Unless ordering a scene-to-scene transfer, this is a set framing where the middle of the image is extracted. By set framing, we mean we will not tilt up or down if headroom is tight or non-existent. This option is not available for items designated as 'P' items from NARA, as we must deliver the full image to the Archives on a digital betacam down-convert for their library. '16x9 Extract' crops the image during the transfer process. The other two framing options preserve the full image and are fine to use on 'P' items.



TRANSFER SPEED - How can the telecine be adjusted to match older frame rates?

Some older films were shot at 16 or 18 f.p.s., or were hand-cranked at varying frame rates. We need to know if you want us to slow down the telecine to try to match those speeds so that, for example, people walking in the frame look to be doing so at a normal pace. Otherwise, you will be slowing the video down on your end.

If you want us to slow the film down in telecine, a reel running at 16 f.p.s will cost you 33% more than the estimate, while a reel running at 18 f.p.s. will cost you 25% more than the estimate. All written estimates are based on the film running at 24 f.p.s.

If the film originally was shot at 16 f.p.s. but transferred at 24 f.p.s. at Colorlab to HDCAM, you can get back to 16 f.p.s by engaging the Varispeed button on an HDCAM deck (designated as 'VAR' above the shuttle knob) and turning the shuttle knob until you see 'VAR +0.68' on the display screen. Similarly, 18 f.p.s. can be restored from a 24 f.p.s. transfer by setting the varispeed to .074. If going to hard drive instead of tape, you will slow the video down in your non-linear editing program. If your footage is going to a hard drive, a 24 f.p.s. transfer can be restored to silent speed by reducing the playback speed by 33% for 16 f.p.s. material, or 25% for films original shot at 18 f.p.s..

Some 'aliasing' or 'stutter-stepping' can appear in camera tilts or pans, or on movement within the film frame, if the telecine is running at the silent speeds (16 or 18 f.p.s.), as the film and video are no longer running in a 1:1 ratio of film frames to video frames. Even if we maintain 1:1 film to video ratio in transfer, this problem can occur when you try to slow it down in editing.

Whether we slow it down or you slow it down, one way is not preferable over the other for minimizing this problem.

4:2:2 VS. 4:4:4 – How do compression ratios compare?

Most clients are fine with 4:2:2. In contrast, 4:4:4 is an uncompressed format that is recommended for people going to do a film-out (turning the video back into a film) or doing heavy graphics or text compositing on top of the video. You will need to provide a hard drive with an eSATA port for this option for real-time loading. HDCAM-SR 4:4:4 has some compression at a 4:1 ratio. There is no reason to go 4:4:4 for black and white footage, as the second sets of 4 pertain only to chrominance (color). Some people report that B&W looks best going HDCAM-SR at 4:2:2.

ELECTRONIC DIRT FILTRATION – What does this accomplish and what are the risks?

When transferring at 24 or 25 f.p.s., this device can help hide some of the white and black dirt that is present in most NARA reels. It grabs clean image from surrounding frames and in real-time grafts over the dirt. This filter will not work at 16 or 18 f.p.s.. It is very difficult to see this grafting when running your transfer back at play speed. However, if you pause the image on individual frames you might see these areas where the dirt was concealed. It can look like a fresh dab of paint over older paint that does not match perfectly. And there can be some smearing of the image at flash frames (when the camera original is stopped and started again). Overall, it does a great job of hiding dirt providing there is not too much of it, but some clients either want to see the dirt or fear there might be an issue with broadcast Q.C. standards. This filter will not help with vertical scratches. We do have a 16mm liquid gate that can help minimize or eliminate scratches on the base side of prints at \$150 per hour, or fraction thereof. This option will not help with scratches on the emulsion side of the print.

QUALITY OF NARA REELS ORDERED VS. SCREENING OR EDITING COPY – Why does it differ?

A few clients have had an issue with our transfer, noting it does not look as good as a version they have previously seen or are editing with. This may be because it is not the same film element, or the reel has been damaged since the transfer of the version to which it is being compared. Color release prints from the sixties and early-to-mid seventies have dye fade issues that turn the film to a uniformly magenta hue.

There could also be the possibility that the original transfer benefited from intensive scene-to-scene color correction that helped smooth out uneven color or density issues that sometimes occur from shot to shot, even in finished shows. Some reels have been printed at a lab with an excessive amount of contrast or on a high contrast film stock, and as a result there may be no detail information in the highlights, such as the sky, or in the shadows. This information is not present on the film element, so there is no way for us to retrieve perceived lost visual information. This is the case with most WWI films, as well as many WWII German films.



All orders are accepted subject to these TERMS & CONDITIONS:

COLORLAB CORPORATION shall not be liable to Customers or others for loss of any kind whatsoever due to delays or failure in performance caused directly or indirectly by "force majeure" or any cause whatsoever, including loss or damage during delivery to/from COLORLAB.

COLORLAB respectfully points out that prices are never proportionate to the value of the materials entrusted to it. Customer's films and tapes are received, developed, printed, transferred, and stored by COLORLAB only at the customers' risk, and COLORLAB does not accept responsibility for any loss or damage to such film or tapes from any cause whatsoever, including negligence by COLORLAB technical or administrative staff.

Any loss of camera original or tapes, preservation originals, or any client property will not be reimbursed to client by any manner such as cash reimbursement or return of new rawstock. COLORLAB will have no liability for loss or damage for jobs shipped to a third party subcontractor.

Camera films, tapes, negatives and positives, preservation originals and customer's other property delivered to COLORLAB are accepted on the express condition that same are insured by the owner thereof, with waiver of subrogation for the full amount of all risk, possible damage and loss. COLORLAB holds a lien thereon for the general balance from time to time due COLORLAB by the customer in respect to processing, printing, storage charges, or otherwise. COLORLAB has the right to charge late fees on balances not paid in 20 days and has the right to pass off to collection any and all bills not paid in a timely manner. The Customer is responsible for legal fees incurred by COLORLAB in the collection of said debts, which is customarily 35% to 50% of the collected debt. Debt collected in this manner then generally increases to 35% to 50% greater than the original amount owed.

COLORLAB may require any Customer to retake possession of any and all materials held in its vaults. COLORLAB, after 30 days' written notice to Customer's last known address sent via USPS 1st class mail, may send same to a public warehouse with the Customer then responsible for incurred storage fees, or may destroy such materials, or may store the same at the Customer's expense. All such charges are to be secured by Customer's rights in and to such materials. At COLORLAB's discretion, Customer's films/tapes remaining at COLORLAB after 30-day notification has been given, may become the property of COLORLAB including all copyrights and entitlements. Customer's films, negatives, and positives received for the safekeeping, developing, printing, processing, or handling are subject to the terms and conditions herein.

The Customer assumes all liability under the copyright laws and under any other laws, both federal and state, arising out of the fulfillments by COLORLAB of any such services for the account of the Customer, who agrees to indemnify and hold COLORLAB free and harmless of any and all suits, claims, damages, liabilities, and expenses (including, but not limited to, attorney's fees) which may arise directly or indirectly from the performance of such services by COLORLAB for the Customer. COLORLAB will endeavor to keep its customers advised concerning the exposure, photographic quality, and physical condition of the negative films received from them for processing, but shall not be held responsible for failure to do so.

All prices are subject to change without notice.

COLORLAB has net 20-day credit accounts available, with approved credit. COLORLAB requires customers to have on file authorization for credit-card usage by COLORLAB for amounts that are over 30 days past the invoice date. COLORLAB accepts American Express, MasterCard, Visa, and Discover. *For clients without approved 20-day credit accounts, COLORLAB requires that all jobs valued at \$2,000 or more must be secured with half payment when the work is ordered.*

This document must be signed and dated by the owner or legal representative of the Customer submitting work. Work will not commence until this happens. By signing this document, the Customer has also confirmed all directions given by the Customer on the various spec sheets that must accompany submitted work. If work is sent to COLORLAB via Customer's carrier, this form can be printed from the COLORLAB web site, signed, and faxed to a COLORLAB Customer Representative at 301-816-0798.

I have read and accept these Terms and Conditions.

Name of Legal Company Representative (Please print)

Company Name (Please print)

Signature of Said Legal Company Representative

Date signed