Using SD Footage in an HD Production

Using standard definition footage in a high-definition production poses special challenges. But with so much irreplaceable SD footage out there, it’s a puzzle producers must solve regularly. We talked with some of our friends on the archive side, including experts from FootageBank, Framepool, Global ImageWorks, INA and NBC News Archives to get their perspective on how they manage client requests for SD footage. Here’s what we learned:

Aspect Ratio is the Biggest Hurdle

Most clients these days understand and accept that SD footage will be lower res than HD. However, a more significant obstacle is the size and shape of the SD frame. With an aspect ratio of 4:3, the SD frame is smaller and nearly square, so conforming an SD shot to the larger, more rectangular dimensions of a 16:9 HD frame is the more vexing issue. As Sandrine Sacarrere of INA puts it, "aspect ratio may be the easiest setting to illustrate the differences between 4:3 and 16:9, especially with its consequences on anamorphosis or cropping."

Upscale Options

While these issues are generally understood by clients, our panelists make sure to remind them that SD clips will have to be upscaled. The most common upscaling methods are pillarboxing, wherein the image is scaled up until the top and bottom borders of the SD image align with the HD frame, leaving black space on either side of the image (pillars); cropping; or, in some cases, stretching the images.

Go Native

Most of our panelists agree that it’s better to deliver SD footage in its native format and let the clients handle the upscaling work on their own. As Paula Lumbard of FootageBank puts it, "we have found it works best for a client to convert on their end so they have control over what part of the frame is lost, whether it’s the top or bottom." Jessica Berman-Bogdan at at Global ImageWorks takes a similar view: "in my experience, most editors/post supervisors want to control SD to HD upconverts so that the look and feel to the footage is consistent with the
overall look and feel of the film. I have seen the successful results of following this policy on many a film. Therefore, Global ImageWorks encourages our clients to let us deliver the most native format and for them to do their own upconverts."

**Pillarbox, Don’t Stretch**
If they do perform the upconversion, most of our panelists agree that pillarboxing is the best method and image stretching is not an ideal solution. "The pillarbox process is the right way to upscale as the frames remain intact," says Stephen Bleek of Framepool. "If the clients need a crop to 16:9 full frame he/she can do that afterwards with the up-resed pillarbox version on his/her editing system. This way the client can choose exactly the crop he/she wishes." At NBC, "some clients ask us to up-convert SD footage," says Luis Aristondo, Operations Manager for NBC News Archives. "Most requests are for pillared and very few are for stretched." For Paula Lumbard, image "stretching is not an option. No matter what, the human eye can tell an object is stretched, even a flower let alone a face or animal."

**For Best Results, Start with Film**
Of all the SD formats, 35mm film offers the best source material for an upconversion. "When it comes to film, 16mm is considered SD and 35mm is considered HD," says to Luis Aristondo at NBC. Stephen Bleek at Framepool puts it this way: "35mm still offers a great resolution, even up to 4K. But some film scans need de-graining in addition to match nowadays guidelines. The resolution of 16mm is too low to get really good HD results. But if you have archival images shot on 16mm it is better than nothing." According to INA, "scanners can transfer 16 mm films in DPX files in SD, HD or 2K. 35 mm can be scanned up to 4K and even 8K, but it is still rare. We consider 2K as the good resolution for remastering our collection. But 4K is on its way..."

**Proactive Upscaling**
Consequently, most of our panelists do some proactive upscaling of film elements to HD. For example, Framepool "is constantly scanning archival film reels to HD formats." At NBC News, "new content being digitized by the network archives department from tape is being ingested as up-converted pillared."

**There Are No Magic Tools**
At the moment, there do not appear to be any real alternative ways to scale up SD footage so that no data is lost, cropped or and the image is not stretched. As Stephen Bleek at Framepool puts it, "there are no magic tools that can produce detailed and realistic looking additional resolution. But in some cases an upres can look quite okay. Especially close-ups since they contain fewer details than wide shots."

**Helping Color Correct Kurt Cobain’s World for Montage of Heck**
**Courtesy of postPerspectives**
Director Brett Morgen spent eight years putting together the documentary *Kurt Cobain: Montage of Heck*, which tells the fascinating and tragic story of the Nirvana front man in a very intimate way via never-before-heard recordings and animations based on his mostly unseen drawings. There are also very personal home movies and interviews Morgen did with the artist’s mother, band mates, friends and wife, Courtney Love. The film played at the Tribeca Film Festival, had a limited theatrical release and is currently on HBO.
For Company 3 (@company3) colorist Shane Harris, who also worked with Morgen on the director's Rolling Stones doc, *Crossfire Hurricane*, the sessions were particularly fascinating and rewarding both because of his longtime interest in Nirvana’s music and because of Morgen’s strong appreciation of the role color can play in telling a story, even in a documentary. Click here to read more.

**FOCAL Awards Huge Success**

The 12th annual FOCAL International Awards in association with AP Archive took place last Friday night before a packed house at the Lancaster London Hotel. Hosted by the BBC’s Katie Adie, the awards recognized producers, directors and other creative media professionals for excellence in the use of stock and archival footage across all genre and platforms of production. It was a night filled with both gravity and surprise, with three awards going to films concerning the liberation of the Nazi death camps, including *Night Will Fall*, which won for Best Use of Footage in a History Program.

Opening the night's sparkling ceremony in front of nearly 400 guests, Sue Malden, Chair of FOCAL International, applauded the hard work and dedication of an international jury that numbered more than 70 volunteers from all sectors of the production industry. Thanks were also given to the sponsors as well as FOCAL International's organizing team - including Julie Lewis, Anne Johnson, Amanda Dantas and Susan Huxley - who oversaw a record-setting 265 submissions from 24 countries entered in this year’s awards. Read more here.

**Footage.net Partner News**

Our content partners include some of the best known companies in the stock footage industry, and they have been keeping busy expanding and curating their collections. Keep an eye out as these great new resources make their way onto the Footage.net platform.
Producers Library Restores Vintage Cuba Footage

With Cuba opening up to both business and tourists, archival footage of the island should figure prominently in upcoming documentary and dramatic productions. Producers Library owner Jeff Goodman knew he was sitting on a pile of Cuba footage but until recently had no idea the extent of the holdings. All are color out-takes from a travelogue production. The lion’s share of approximately 4,379 feet, about fifty-three minutes, was shot circa 1954 in Cinemascope and scanned this month to 4K DPX files. The footage includes moving POVs through Havana streets and along the Malecon, establishing shots of Havana’s Harbor, Havana nightclub neon signage, The Hotel Nacional, TV Station CMQ, street vendors, sugar cane & tobacco/cigar industry and the airport. Another forty-nine minutes of 16mm Kodachrome, of similar footage, shot 1946 to 1949, centers mostly on Havana. The footage can be searched and viewed through www.footage.net or www.producerslibrary.com.

Finalists Announced in First ITN Source Short Film Competition

The three finalists of the first ITN Source Short Film Competition in association with Sheffield Doc/Fest and Audio Network have been announced.

Xavier Perkins, Daniel Cantagallo and Caroline Apichella will all have their films screened at the Showroom Cinema at Sheffield Doc/Fest, with the final winner announced at the Festival Awards Ceremony on June 10. The winner will receive a £1,000 prize.

More than 400 people registered to enter and 70 films were submitted for the competition which launched in March. Entrants were challenged to create a one-minute film using solely archive footage from ITN Source and music from Audio Network. The films had to use at least 10 archive clips, but had no other creative constraints. Read more here.

For more information please contact Laura Roberts at laura.roberts@itn.co.uk.

New 4K Storm Footage from StormStock

Cinematographer Martin Lisius has added new Cine 4K to the StormStock collection at www.stormstock.com. The material, captured by Lisius using a Red Dragon, includes intense lightning, dramatic storm clouds and other unique weather elements. It can be viewed using "4K" in
the stormstock.com website search box. 4K masters are available upon request in several formats including Cine 4K ProRes, UHD ProRes or as Red .R3D RAW.

**Time-Lapse Bioluminescent Coral in 4K and 6K at NatureFootage**

Combine thousands of macro and time-lapse photographs of slow moving corals and sponges, and the result is breathtaking 4K footage. View the building blocks of coral reefs -- not typically detectable by the human eye. Using shallow depth of field, each frame of the video is a stack of 3 to 12 still images, where in-focus areas are merged. Real animals. Real colors. Real amazing. Meet NatureFootage contributor Daniel Stoupin/Microworlds Photography [here](#). View time-lapse of coral reefs [here](#).

**See 'The American Way of Life' Come to Europe at Framepool**

In celebration of the World's Fair this May in Milan, Framepool is taking a look back at the Brussels World's fair from 1958 in which the USA made a big impact with its modern living model and how the "American Way of Life" was adopted by Europe. "A society in transition," America presented not only its success but also its lack of fear to address social and cultural issues. Disney's "America the Beautiful" a documentary showing the charisma of the "American Way of Life" debuted in a large Circarama (360-degree screen). The director Shirley Clarke was later awarded an Oscar and filmed 25 more short films that were shown in the exhibition. The Framepool stock footage [showreel](#) shows the example of America and the reception of it in Europe. [Read more here](#).

**Tennis Court or Racetrack? Catch All the Action on INA MEDIAPRO**

In May and June, the biggest sporting events are on INA MEDIAPRO. On May 24th, tennis took center stage for the start of the legendary French Open. The perfect opportunity to share the best moments of the tournament from 1983 to 2014, through more than 3,800 hours of video content available on INA MEDIAPRO. And that's not all. On the weekend of 13th and 14th June, all eyes will be on the world's most famous sportscar endurance race, the 24 hours of Le Mans. To mark this event, there are 200 hours of content available on INA MEDIAPRO to relive the passion and intensity of the race.
Bridgeman Footage - Always on the Move
With the sun coming out and the weather warming up, vacation season is upon us. To alleviate your work-head and inject some long-awaited wanderlust, Bridgeman Footage is showcasing some of their favorite collections of contemporary travel footage, all available to license in stunning high-definition. Set your sights for Egypt with the De Agostini and Laboratoriorosso collections, or journey through global cinematic landscapes through collections exclusive to Bridgeman including Moonweed Digital, Benoy K Behl Films, and Creation Company Films. Expanding on their existing collection of archival footage, new content is added and updated daily. To fully instill the travel bug, view Bridgeman Footage's latest showreel depicting transportation throughout the 20th century at www.bridgemanfootage.com. Bon voyage!

About Footage.net
Footage.net is the world's premier online resource for stock footage research, providing access to millions of online screening clips and text records. At Footage.net, you can search over 40 world-class footage collections simultaneously, find the best motion content and save time. Footage.net is also home to the Zap Email, a simple, effective tool for instantly transmitting footage requests to over 50 of the world's top footage providers.

Global Footage Search
With Global Search, Footage.net users can simultaneously search 40 of the world's top stock footage archives, find great content and save time. Footage.net provides access to a growing collection of online screening clips as well as millions of detailed text records, giving potential footage customers a simple way to discover and view our partners' content.

Zap Email
Footage.net is home to the Zap Email, a simple, effective tool for instantly transmitting footage requests to 50 of the world's top footage providers. Whether they're up against a deadline or searching for an obscure clip, creative professionals rely on Zap Emails every day to initiate their footage research projects, providing our Zap subscribers with a steady stream of new leads.

Creative Directories
Footage.net exists to help production professionals find footage. But we also want to help creative people find each other. That's why we launched the Footage.net Creative Directories: to help all variety of visual communicators make connections. There are currently two main directories: one for archives and one for creative professionals. A basic listing in either is free.