

DTV and THE EDITORS DILEMMA

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Many TV series and movies are now shooting using a wide screen (herein referred to as 16:9) matt on the camera but editing in 1:33 (which equates to, and shall herein be referred to as, 4:3). This adds special considerations for we film editors because BOTH formats will be broadcast! There is a wealth of technical information regarding Digital TV and HDTV but this article is just to clarify some of the issues in terms of we editors and the products we deliver for broadcast.

DTV - A LITTLE BACKGROUND

Per the Senate and FCC mandates, broadcasters are now required to end all traditional analog transmissions by February, 2009 (extended from original 2006 deadline) and thereafter send their signals digitally. At that time, people with older TV sets will need a converter box and Congress is working on a subsidy program for this.

Why is the United States choosing to go through the pain of switching from analog to digital? The move to all digital will free valuable radio spectrum space, some of which the government will auction off for an estimated \$10 billion. In addition, digital TV allows viewers at home to receive visually stunning pictures - more than TWICE the resolution and clarity of standard TV, this digital image can be viewed in the standard 4:3 size or in a wide screen format (16:9). Digital TV also gives audiences the benefit of six-channel CD-quality "surround sound." Another result of Digital TV is high definition television or HDTV which has up to 1080 scan lines as opposed to 525 of today's NTSC TV. (A standard number of scan lines for HDTV has not been set.)

There are several more good reasons to go digital, including: how much data it can transmit, how consistent the data stays over distance, and what type of data the signal can carry. A digital signal doesn't produce the same problems with the picture we see on a distant analog television, either. And TV in the digital age won't be limited to video and audio; our televisions will become truly interactive. Combined with HDTV and digital sound, this means a better picture, better sound, and digital data.

How do they fit all this into the same amount of frequency? For the same amount of bandwidth, you can stuff a lot more information into a digital signal than an analog signal. In addition, more than five times as much information is squeezed into the same bandwidth by compressing the video using a scheme called MPEG-2 and better methods are constantly being developed. Digital broadcasters are not restricted to only a high-definition picture and can still broadcast a standard-definition picture. This will allow them, in the same amount of signal, to "multi-cast" four standard-definition pictures

instead of only one high-definition picture.

Some broadcasters, including many PBS stations, are multi-casting four choices of programming during the day in standard definition, and then switching to high-definition for prime-time. Not only will DTV offer us more choices, it is converging with computers, and students, sports fans, news junkies, and anybody with an interest in anything. Imagine a very fast network connection sending pictures, sounds, multimedia games, and illustrated articles, all related to the television program you're watching. You can still passively watch TV, but you can also customize the experience and make it your own.

As digital becomes dominant, boxes may pop up asking you which stocks to follow, where to check for weather conditions, which college basketball scores to list, and which stories to read more about. Watching the news just became a personalized report. You'll be able to print out a picture for coloring with your kids. TV will not be the same.

STANDARD DEFINITION VERSES HDTV

A few points I'd like to clarify. Digital TV can be widescreen and HDTV is widescreen, but they are not synonymous. So, you can cut a show today that is shot in the 16:9 format but will broadcast in what is called Standard Definition as opposed to High Definition. Standard definition still uses an image scanned at the NTSC rate of 525 lines but because it's digital the image will still be better. They call it upconverting - the image (received at your home) gets better.

So, if your show is shot on film, it can be transferred in a Telecine Bay at the standard 525 lines and broadcast in Standard definition. If it is to be broadcast later in HDTV, it will have to be retransferred in Telecine at up to 1080 lines. The greater number of lines is what makes HDTV more spectacular than just "regular" Standard Definition. It's not the widescreen in-of-itself that makes a show HDTV. A show that originates on tape can only be High Definition if it is shot using High Definition cameras, because the scan lines in tape originate in the camera when shot. Yet a tape show can still shoot widescreen - it just will never be High Definition. Get it?

More and more tape shows are shot using HDTV cameras. Post houses around town now have separate HDTV bays because the equipment has to be different in order to handle the difference in scan lines. The reason studios are shooting tape shows and film shows in widescreen even though not high definition is because in 5 years virtually all TV's sold will be widescreen and this way the reruns will be compatible, even though not as visually stunning as true HDTV. As for the film shows, the studios will have the option of retransferring the negatives in High Definition.

EDITING for this "NEW" TELEVISION

You sit down to start cutting a TV series or movie shot with the 16:9 format. The delivery requirements include a final master in both 16:9 and 4:3. The show will be onlined using your 16:9 master, then, after color timing, it will be blown up slightly and the sides will be

cut off in order to create the 4:3 master. Many producers say they only care about the 4:3 version because that is how it will be viewed in its first run. (Note: It is currently estimated that only 6% of households have the ability to watch widescreen TV, therefore the majority of people are indeed watching your series or movie in the square, 4:3 format.) Nonetheless, the studios want those 16:9 versions to be equally good because they have to fulfill FCC DTV broadcast requirements and must take into account future syndication runs as widescreen and HDTV becomes more prevalent at home.

Normally, editors have been mandated by the *studio* to make sure the 16:9 is flawless yet the *producers* only care about the 4:3 version. Personally? As a conscientious editor, 10 years from now I don't want to be watching a 16:9 rerun of a show I've cut and see horrendously awful edits!

Following, are a few tips to keep both sides (the producers and the studio) happy while still doing the best editing job possible within the parameters of this "dilemma" of trying to edit for two formats. (I say "within the parameters" because, the sad reality is, that without a recut specifically for 16:9, you really can't deliver one cut that will play exactly the same in both formats!)

Have your dailies delivered to you as they were shot - in the 16:9 format and make sure you get a converter box. Under "settings" you can tell the Avid that your dailies are 16:9 and on the cutting screen you will see your elongated picture. But, by setting the converter box on 4:3, the image on the big monitor will be 4:3. If you want or need to see the image on the big monitor in 16:9 you just hit a button on the converter box and it will display 16:9 on the big monitor. With the converter box you can output your cut in either 4:3 or 16:9 depending on your producers wishes. (The converter box takes the 16:9 image, blows it up slightly and cuts off the sides - duplicating what your 4:3 master will look like.) There is also a "bypass" switch on the box if you have material that is 4:3 so you can view it normal.

Don't forget: Post houses have an option when they are blowing up the 16:9 image for the 4:3 master. If they blow it up "centered" then you will lose a little image off the top and bottom of each frame. Or, they can blow it up so that the loss of image comes only from the bottom of the frame. Many cameramen assume the image loss will come off the bottom of the frame so they do not allow extra headroom. This has created problems on shows that convert to 4:3 and all of the actors heads are clipped! Editors - prevent this problem by finding out, ahead of time, how your show will be blown-up and then make sure the cameramen know. This way, they can compensate accordingly and allow for extra headroom if need be.

Problems you will encounter include:

1) Your producers want you to steal a shot. Perhaps it's an establishing shot of a building or a close-up of your star from another part of the scene. In 4:3 the shot looks great. But in the 16:9, there is an unwanted person or body part in the shot.

2) The cameramen are framing for 16:9 but sometimes, to get the shot the director wants, they shoot off the set in the 16:9 yet it's fine in the 4:3. Or a boom is clearly

visible at the top of the frame but non-existent in 4:3.

3) An actor enters frame in the 16:9 but in the 4:3 they won't enter for another beat. Your producers make you trim this "dead" beat, but now you have an ugly cut in the 16:9 version.

4) Over the shoulder shots, look more like dirty singles in the 4:3. If you only consider the 4:3 image, you can end up with horrendous mismatches when viewed in 16:9.

5) Groups of actors shot close together, might look like you are cutting between singles in the 4:3, but in the 16:9 you're actually cutting between tight 2 or 3 shots and the matching can be quite a problem, not to mention making for generally ugly edits.

Now I suppose you expect solutions to these problems, eh? Ha - if only it were that simple! That's why I first referred to this whole subject as the editors "dilemma". The best I can do is provide an awareness and share a few tips that have worked for other editors.

First, make sure the cameramen know that delivery in 16:9 is a reality and not an exercise. Don't use shots that are bad (off the set, etc.) in 16:9 even though they're great in 4:3 without informing your producers - they have a right to know. If you're using a shot with a camera truck parked out of frame in the 4:3 but in clear view in the 16:9 and after informing your producers they still insist on using it, then all you can do is warn the "powers-that-be" that they will have to make a correction in the 16:9 version (perhaps a blow-up could even work). If that's not acceptable, then *they* will have to take it up with your producers. (It's not our job to be the "heavy" - after all, we want to keep our jobs and our producers happy!)

If you have integrity as an editor, then make sure all your cuts look good (match, etc.) in the 16:9 but don't expect anyone to be aware of or appreciate your added efforts. If there's a boom visible in the 16:9, take the initiative to have the shot blown-up slightly in the online to get rid of it - no reason to burden your producers with this little problem. In the worst case scenario (#5 above) ugly edits in the 16:9 may be inevitable. But, by being conscientious, you can, at least, minimize them.

Fact is, there will be some inferior edits in the 16:9 version. Ironically, in a few years when wide screen TV's become dominant and our producers insist on screening everything in the 16:9 format - then the "inferior" edits will occur in the 4:3 version! Hence, the editors dilemma...