INFO • BEST PRACTICES • TIPS

Tree Falls Post makes DCPs affordably and quickly from most any file or tape format

Non-Technical Summary:

A DCP (Digital Cinema Package) is the standard theatrical screening format which screens a set of data files instead of film, videotape, Blu-ray or DVD.

These files are typically stored on a hard drive for feature length films (sometimes thumb/flash drives for shorts and trailers). You ship or hand-carry your DCP drive to any screening venue that can handle DCP. In some cases venues can accept an upload, but the files are very large, so that may not be realistic -- even if the option is offered.

DCPs have the potential to look and sound better than tape, Blu-ray, or DVD. As with any format, the quality is also dependent on the relative quality of your project. DCP files and formats are special and you will not be able to play a DCP on your own (unless you have special equipment and/or software).

What You Can Expect From Us:

When you need a DCP, we are on your team and we'll take ownership of the transfer from the get-go. We've completed well over 500 DCPs since offering the service in 2014. Those DCPs have had successful screening experiences at venues all around the planet and many have served as distribution masters for multi screen releases.

The first thing we do after you hand off your project to us, is to look at your materials and call out any obvious issues BEFORE we begin any serious work. You'll then have an opportunity to provide corrections or confirm that our evaluation of your materials makes sense to you. This will save you time and money on un-needed delays or costly re-do's.

Our optional ChekFile service allows you to review a reference copy of your DCP on you own, as you want.

What The DCP Process Is Not (Demystification):

DCP creation is a file conversion. It is not a creative step and does not involve us changing your picture or sound. Our focus is to initially handle your picture and sound elements with detail and care. Then our DCP workflow takes over, so you DCP will look and sound great on the big screen.

Pricing:

2K DCPs from 2K or smaller source is $5 per program minute with a $125 minimum
4K DCPs from 4K is source is $10 per program minute with a $250 minimum
4K Source for 2K DCPs is $7 per minute with a $175 minimum.

DCP "CRU" hard drives, formatted for DCP are $210 each (+sales tax).
Thumb drives for short projects (up to 30 minutes) formatted for DCP and integrity tested are $50 each (+ tax).
Please check with your venue if they are willing to accept USB Thumb drives on shorts.

Pricing Examples On Typical Projects (Out-The-Door):

90 minute feature length project on a CRU drive + sales tax is a total price of $678.38
25 minute short on a DCP flash drive + sales tax is a total price $179.38

Add-Ons:

Occasionally, projects (depending on frame rate/format/image size, re-combining reels, etc.) may need extra work and in those cases the cost $100 to $300 more per project. If extras are required, these steps/costs will be explained ahead of the process.

Tape sources requiring digitizing/up-converting/frame converting are additional cost, typically $2.50 per minute.
Additional copies or re-orders of the same feature length DCP are $100 each plus additional CRU drives.
Additional copies or re-orders of the same short DCP are $50 each plus additional flash drives
ChefFile a downloadable reference file of you DCP for you to review: $1 per minute of run time ($25 minimum).

Turnaround Time:

Typically 2 or 3 business days. If you are in a faster rush than, let us know. We'll see what we can do.

Our Process -- Simplified:

1.) You hand-deliver or ship to us your picture and sound elements.
Simply stated, we need your master picture files or tape and your sound mix files. Sometimes your picture and sound are attached to one another and sometimes they are separate. Either way is fine.

2.) We create your DCP in 6 or so steps:
- We receive and do an initial check of elements for any issues and ingest.
- (In some cases we convert formats/frame rates and scale images or digitize tape)
- We adjust head/tail formatting, combine, re-sync and track assign the sound mix.
- Then we convert the fully prepped project into a Digital Cinema Package.
- Next, we copy the newly created DCP to DCP hard drive(s).
- Finally, we do visual and audio checks/sync checks/data and integrity checks directly from the media on the drive(s) that we will hand off.

3.) We hand off or ship the original elements and new DCP(s) back to you or venue. Done!

Source Material Recommendations:

Ideal Picture Sources:

• A Self Contained Quicktime file (preferably the entire project in one reel) such as ProRes4444, ProRes HQ, ProRes, DNX, MFX, with embedded audio. Any subtitles need to be burned in to your picture on your end. Separate audio is okay.

• If separate audio it is ideal to have an audio guide track on the master picture file a secondary source to check sync with, in our re-sync. The guide track does not have to be the final mix as long as the dialogue sync is generally valid in the guide audio track. In addition to relying on guide tracks we also can use 2-pops if available to further check – and most importantly we do a reality check and make sure is look/sounds right by watching and listening with trained eyes and ears for good sync.

• Also accepted are DPX/TIFF image sequences with separate audio tracks. Any subtitles need to be burned in to your DPX or TIFF on your end. Image sequnces are picture only and sound then must be provided separaly

Okay: HDCAM SR, HDCAM, D5 (but requires an extra steps of digitizing and/or conversions).
Not Ideal: H.264, Mp4, Blu-ray, DVD (due to lower quality and extra steps required).

Ideal Sound Sources:

Ideally your DCP should have a 5.1 surround mix or a minimum LCR mix. You can supply the mix, either already attached to the picture media, or as separate audio files. If separate, we will be ideally looking for 6 separate mono WAV (OR AIF) files, as 48K, 24 Bit (Left, Right, Center, Lfe, Left Surround, Right Surround). 16 Bit is acceptable if that is all you have. It is also okay if the head and tail build of the audio and picture don't match (for example, the audio has tones and the picture doesn't or visa-versa). We will re-sync and trim head and tail accordingly. Please provide the sound mix in the frame rate of the picture master. For example if the picture is 23.98fps, then try to provide the sound in the same 23.98fps. If you don't know or don't tell us any of this – don't worry, we'll figure it out and fix it along the way no matter what.

If you have both 5.1 and Stereo. We ONLY need the full mix 5.1 tracks. Also, we do not usually need any of the split audio stems or tracks. For example we do not need the DME or the M&E. tracks to make a DCP. Best to not give us extra tracks if at all possible.

WHAT IF YOU ONLY HAVE A STEREO MIX?

- If your project was never mixed in 5.1 and you only have a Stereo mix (or L/R Mix or 2.0 Mix) there are still several possible options:

- Speak with the person who mixed your sound originally and see if a 5.1 versioning is feasible.

- It is also possible to ask for an "L,C,R" (left, center, right), where dialogue plays mostly center and music and effects play mostly left and right. This helps the audio "image" to fill the screen where a stereo mix doesn't as well. Some DCPs must have a minimum of a L,C,R. For example, Academy Awards submissions require a minimum L,C,R.

- If is possible to have us to create a 5.1 "spread" from stereo mix split/stems. In order to do this we need to get your stereo D/M/E stems. They are stems meaning that the Dialogue and Music and Sound Effects are on three sets of stereo tracks in their mix relative levels and also meaning that if you play all three stereo stems together, the end result is the mix that you are used to and nothing different. If you can create or already have stereo D/M/E stems, we can affordably mix out an effective 5.1 surround spread. Which puts dialogue center and spreads the music to surround to fill the theater with sound. The cost here to create this for is between $300 and $400 for a feature length project and helps fill the gap when you don't have a 5.1 mix for your DCP.

- We can simply put your Stereo Mix (sometimes referred to as a 2.0 mix) on your DCP. That works for certain projects. However, there is a possible margin of error with that method on the receiving end. Weird things can happen to the playback sound if the stereo mix is handled oddly at the theater and without a 5.1 you have no control over possible mishaps with playback. There is as also a common permutation of stereo called Lt/Rt (Left Total, Right Total). A true Lt/Rt is a stereo mix that was originally derived from a surround mix. An Lt/Rt is intended to be decoded into surround with through a special Dolby decoder. Stereo mixes that are not Lt/Rt but are force decoded anyway may have marginal (if not weird and unexpected) results. Having said that, a Stereo mix is still better in most cases than a jury rigged and/or badly executed surround mix or fake surround mix.

- Some resources will tell you that you can "up-mix" stereo with software to convert up o a 5.1 mix. Our opinion is that this is a worse option than leaving it in stereo. We've seen some bad examples of up-mixes that have come attached to projects and software up-mixes do not seem to be doing films any favors in some cases.

Digital Cinema Package Hard Drives And Options:

- Your finished DCP will live on its own special DCP drive. Most DCP capable theater systems require the DCP drive formatted in a special LINUX format known as "EXT-3."

- If your project is feature length, we HIGHLY RECOMMEND that you opt for a hard drive known as a CRU. Most theaters and festival will either require or strongly encourage a CRU. Even if the first screening doesn't, the next location might. A CRU is the industry standard and the best choice for your DCP.

- A CRU is the Digital Cinema standard drive and enclosure type and slides right into cinema servers without cables or adapters or and other uncertainties in the field. They are also very serious looking and because of that, people handle them more carefully. Our CRU drives include a durable ship/re-ship box lined with shock absorbing foam and ships perfectly right in that box, and can re be used to re-ship numerous times.

- Some providers offer you a CRU kit with drive cables, adapters and a Pelican case. That is not our standard offer (though we can provide that kind of kit if you wish). The reason for this, is that the case and accessories add cost for items that are not needed at theaters. Just as important all of those extra items and extra weight add a lot to the cost of shipping your CRU. It is possible that your CRU will have to be overnight shipped or internationally shipped and our setup is under 3 pounds will be a substantial savings and still perfectly safe.

- Alternatively (though not our recommendation) we can provide an EXT-3 formatted off-the-shelf USB drive, but double check that the venue you are sending it to is okay with a drive that is not a CRU. In these cases we have a specific brand and model that we have field tested for DCP use.

- If your project is short, it might make sense for your DCP to be on a USB flash/thumb drive. If so, we provide an EXT-3 formatted thumb/flash drive instead of a CRU. Typically a short (under 10 minute) DCP will fit on a 16 gig thumb/flash and a under 20 minute will fit on a 32 gig thumb/flash drive. Any longer/bigger than that and it probably makes more sense for your DCP to be on a hard drive.

- If you wish to provide your own CRU drive/carrier that is okay. Our fee is $50 to format your drive to the DCP format, then copy and test.

- If you wish to provide your own USB hard drive for DCP, please provide one from the g-tech family of dives. It is impossible for us to predict compatibility issues with every other drive on the market but this brand is working well for us.

- If you wish to provide your own USB thumb/flash drive for DCP, is must be a Sandisk Cruzer. It is impossible for us to predict compatibility issues with every other brand, but Scandisk Cruzer is working for well us and no troubles reported from the field. Our fee is $25 to format your flash drive to the DCP format if you provide your own.

- Our apologies, we no longer accept client provided flash drives or hard drives for DCP unless they are the exact models we specify.

Common Picture Scenarios And How We Handle Them:

Please note our "house standard" for head and tail on your Digital Cinema Package (unless otherwise requested). Your DCP will have a 2 second black header before first frame of picture and 2 second black tail after last frame of picture/credit roll out and one second heat/tail for very short content such as trailers. We also edit out any items such as bars, tones, 2-pops, textless at tail, etc.

DCP Frame Rates, Your Project's Current Frame Rate, Possible Conversion Scenarios:

We most commonly make DCPs in 24fps. This is also known as an "Interop."
Your project can either be 23.98 or 24fps for this type of DCP, without issue.
Interop 24fps DCPs are the most compatible type and play on all DCP systems.

WHAT IF YOUR FRAME RATE IS 25 OR 29.97/30 OR ANYTHING OTHER THAN 23.98/24?

25fps projects have two options:

1.) You can check with the venue and see if they can support a SMPTE DCP at 25fps. If so, then we can make that type, with no additional steps. However the DCP will then be a SMPTE version at 25fps and may not be compatible at some theaters that only play Interop 24fps.

2.) We can retime your 25fps to 24fps, which makes it run at the slower 24 fps rate. Re-timing also requires work to re-time and pitch correct the audio. These steps add costs, but then your DCP will play as a 24 Fps Interop, and there are then no compatibility concerns at different venues.

29.97/30fps have two options:

2.) You can check with the venue and see if they can handle a SMPTE DCP at 30fps. If so, then we can make that type, with no additional steps and it will look the best for these frame rates. However the DCP will then be s SMPTE version at 30 Fps and may not be compatible at some theaters that only play Interop 24fps.

2.) We can do a frame conversion, with an end result from 29.97/30 to 24. This steps add costs, but then your DCP will play as a 24fps Interop, and there are then no compatibility concerns at different venues. Frame conversions are achieved by a method of frame blending (usually with a Teranex hardware convertor), that is barely noticeable on and shots with minimal motion like sit down interviews, or , but you might perceive ghosted images on faster moving motion shots. So not ideal for projects with a lot of action.

Other frame rates, such as 59.94 or 60, have similar choices of either a frame conversion or to see if the venue will accept a SMPTE DCP in those frame rates. SMPTE DCPs are generally better choices than frame conversions, but will have compatibility issues at INTEROP only venues.

Common Image Sizes & Aspect Ratios And How We Handle Them:

Note: This section describes many 2K/2D DCP workflows.
We also support 4K, even though it is not elaborated upon here. Sorry, we do not support 3D projects.

1920x1080 (files or tape) with a full frame 16x9 aspect ratio:

This is a very common scenario and fits 1920x1080 projects into a 1998x1080 "flat" DCP, with a thin black pillarbox (34 pixels of black to the left and right). The original aspect ratio is retained. No scaling. No cropping.

1920x1080 (files or tape) with a letterboxed 1.85:1 aspect ratio:
This format is very common. The image nearly fills a 1920x1080 space but with a narrow top/bottom black bar letterbox. The image can be cropped to its 1:85:1 active image and that can be scaled up slightly to 1998 by 1080 for a full frame image at 1.85:1. The result in a DCP contained in 1998x1080. Known in DCP lingo as "flat." that fills the whole screen and none of the image is cropped.

1920x1080 (files or tape) with a 2.35:1 (sometimes 2.39:1) aspect ratio and matte:
In these cases we slightly scale up the active picture to 2048x858 and cut off the matte that letterboxes it to 2.35. From there we can make a 2048x858 DCP in 2.35:1. This format in DCP lingo is known as "scope."

1998x1080 files (1.85:1): transfers directly to 1998x1080 DCP 1.85:1 "flat."
1998x1080 files (with 2.35:1 letterbox): Active picture can be scaled up to 2048x858 2.35:1 "Scope"
2048x1080 files Full Frame: Transfers to a 2048x1080 without scaling or adjustment to a "Full" DCP
2048x858 files (2.35:1 aspect ratio): Transfers perfectly to a 2048x858 (Scope) DCP
2048x1152 files (16x9 or 1:78:1): To avoid cropping, active picture scaled down to 1920 by 1080 and padded out to 1998 to a 1998x1080 "Flat" DCP..

1280x720 files: We support all permutations of "720" file formats and tapes and can cross convert/scale to the most appropriate end result with our preference and sensibility to scale and pad instead of over-scaling and cropping. 720 source is not ideal, but we can work with it, if that is all you have.

Standard Definition (SD) source adds challenges. Expectations may need to be managed, as there is much less image "real estate" to work with. Also the image it has to be scaled up significantly in size as well as frame rate converted in most cases. And in the case of 29.97/30 material is also often interlaced which might need conversion or adjustment.

720x486 (Or 720x480) 4:3 Full Frame:
In this scenario we upconvert with Teranex hardware or other tools to 1920x1080. The end result will be 4:3 in with a wide pillarbox. In making the DCP we pad the pillarbox an additional 34 pixels per side to widen out the DCP to 1998x1080 and will live in a "flat" container.

720x486 (Or 720x480) 16x9 Anamorphic
In this scenario we can up-convert and unsqueeze with Teranex hardware or other tools to widescreen 1920x1080. The end result will be 16:9 in 1920x1080 and in making the DCP we pad the pillarbox an additional 34 pixels per side to widen out the DCP to 1998x1080 and will live in a "flat" container.

720x486 (Or 720x480) 4:3 Full Frame Containing A 1.85:1 Or 2.35:1 Letterboxed Image:
In these scenarios we can up-convert with Teranex hardware or other tools to widescreen 1920x1080 and/or scale the active image to the best match of the three common DCP dimensions. The end result will be the widest and most appropriate container while favoring thin padding over further zooming and cropping.

Color Space and Gamma:

Color space is a deep topic. Simply stated, your finished color space will translate beautifully to DCP, which has it's own color space characteristics. Our workflow takes care of these conversions mathematically. For those that know their exact Gamma settings, let us know. If you have done anything unconventional, tell us. If you don't about any of this, that's okay.

Subtitles:

We can burn subtitles into to picture or (better yet) you pre-burn the subtitles into your picture you before handing off for the DCP. **At this time we are only able to support DCP Subtitles that you (or we) burn them into the picture before the conversion to DCP. Most venues and festivals prefer burned in subtitles anyway.**

Encryption:

We can encrypt your DCP if required (there are additional fees). Our recommendation is to avoid encryption unless it is absolutely required by the receiving end. If your DCP is for festival use, most festivals will either strongly discourage or not even support encryption. Once encrypted the DCP will forever have to be managed with keys and certificates for all future uses.

Notes About Travel Hard Drives You Send/Hand Off To Us:

Here are a few friendly suggestions that will keep everything flowing and help you avoid the avoidable:

• Whenever possible, please supply your material on a hard drive, that has a Firewire 800 connection, or eSata connection or a true USB 3.0 port. Sorry we do not currently support drives that are "Thunderbolt" only.
• If your drive requires a power supply, we **DO NEED YOU** to send that along with the drive.
• Conversely, we do not need your Firewire or eSata cables. Please avoid sending them.
• Please remember that hard drives are a delicate combination of mechanics and electronics and don't do well when handled roughly or dropped.
• If shipping the drive to us, please pack it for a bumpy ride with proper padding. Original packaging makes a great inner shipping package.

• If you are hand delivering a hard drive to us, packing it for the trip is a very good idea. More than once has a hard drive been damaged to an unexpected fast stop in a car ride causing a hard drive to fly from the passenger seat to the passenger floor. Know what we mean?
• Even with most proper of handing they sometimes fail at inopportune times. Most all of the time, they are fine. But once in a blue moon -- drives can fail in transit, they can fail while in our facility, they can fail on their way back to you. So we are urge you—if at all possible, please don't send us any files we don't need or files that you can't afford to lose in a drive failure. Plus, extra and unrelated files add possible confusion.
• Ideally the drive we get from you should have only exactly the files what we need on it for the DCP. Please don't send your "only" copy of the film or a drive that doubles as your backup of your entire operation. If the drive must contain other material, please sequester all unrelated material into a folder that is called something like "do not use" or "ignore."
• Please label the drive and the drive's box and with your name, company name and contact info.
• Please label the project files and folders on the drive with a name that we are aware of and that would makes sense to someone who isn't intimately familiar with the projects.

Upload elements via Internet rather than sending/hand off on a hard drive:

 • In most cases the files sizes of your material make this option unrealistic. This is particularly true if you plan to upload us from a residential internet connection and probably impossible if you intend to upload an entire feature length project.
• Sometimes uploads are okay for short projects, or separate audio coming from a different location or for small patches or fixes.
• Please, if at all possible do not send us third party links via services like WeTransfer or DropBox. It slows down our workflow and might delay the job.
• If we agree that something can or needs to be uploaded, instead of shipped or hand delivered, please use the link we give you and upload to our FTP server. The link we set you up with is a "one-click" link that half of the total upload/download time because it loads right here at our facility. Maximum upload speed is dependent on your upload speed with a maximum of about 40Mb/per second (about 16 gigs per hour).

Future Services:

Sorry, we do not currently support DCP level subtitling and we do not make DCPs for 3D projects.

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