

The Nuts and Bolts: Technical Production

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In recent years technical production has changed significantly. Classical screening formats such as 35 mm prints, beta tapes and others have almost disappeared and been replaced by digital formats. Technology changes rapidly, so it is very important for festivals to keep up with new trends. It is possible for your festival to greatly reduce costs and improve quality with the use of new technologies. Still, you should set clear goals and not underestimate technical production, a key component of your festival's success.

A film festival is usually more than just film screenings. You may also be planning galas (opening and closing), special screenings, roundtables and debates, workshops, events for the media, concerts and a host of other activities. Many of these elements have a technical component to them that requires planning, equipment and a technical team in order to carry them out.

For example, Festival del Cinema dei Diritti Umani di Napoli has one central goal: to use locations generally forgotten by the city such as suburbs, artistic places, public spaces, ancient theatres or cinemas that have

been closed. The festival is focused on the right of citizens to experience those places. In November 2011, it screened at the Important Church of San Domenico Maggiore in Naples and had to carry all the necessary technical equipment into the church.

Technical production can be especially challenging for start-up festivals, particularly if they are located in communities with few financial resources and/or little infrastructure. If you are planning a new festival, its technical aspects will help you define a format that is manageable for you.

For example, does your community have movie theatres, and will you have access to them? What are the best alternative venues? Do you have reliable sources of energy? What about Internet access? What does putting on a concert entail? A gala? A roundtable?

Purchasing or renting all necessary equipment may be impossible for start-up festivals, particularly those with very few resources. If this is the case for you, try to get donations or loaned equipment. Perhaps some members of your technical team already have computers, or a projector, that they can lend you. Try approaching potential donors such as film and communication schools for in-kind donations or loans of equipment.

For instance, Ciné Droit Libre didn't have any equipment at all when they started the festival, so instead of buying or renting very costly equipment they looked for venues that were already equipped to screen films and tried to partner with those venues. They started the festival in the French Cultural Centre of Ouagadougou, mainly because the centre has a decent film theatre and an experienced projectionist. Over the years, they gained experience and got more equipped so that two years later they were able to do open-air, mobile screenings.

Setting Up Technical Production

- Define in advance all technical production responsibilities. These include obtaining the film in the right format (conversion, digitalization and shipping), setting up film screenings (screening equipment, projectionists), subtitling or interpretation (translations, language versions) and sound (microphones, sound settings).
- Be realistic about your resources and technical possibilities when planning your festival and don't aim too high on the first try.
- Find the right person/team for these responsibilities; they require good knowledge of the medium and it is advisable to select someone who is aware of new trends and can adapt to them.
- Test and check everything well in advance. You will have time for trial and error in the office, but not in front of 500 spectators. Define a timeline that will allow you to correct errors.

Computers and Software

Nowadays, computers and software are the most important equipment for a capable technical production department. You don't have to spend millions in order to get quality equipment. Thanks to technological advances, a PC capable of editing HD video will definitely cost less than 1.000 dollars. Prioritise processor speed (Intel i5 or i7) over storage capacity (portable drives are cheap) and forget about lightweight and long battery life in a laptop (you will be working on AC chargers in your office most of the time) unless your energy sources are unreliable. USB 3 and at least 8 GB RAM is a must; on the other hand, a graphics card is not that important.

For basic tasks, it is a good idea to try and use some freeware programs, such as the following:

Media player: *VLC Media Player* (<http://www.videolan.org/vlc/index.html>)

Editing Subtitles: *Subtitle Edit* (<http://www.nikse.dk/subtitleedit/>) and *KMPlayer 3.9.0.126*, which allows you to have three subtitle lists at the same time (up to two srt. files) and allows you to add error-free Arabic subtitles (<http://kmplayer.en.softonic.com/>)

DVD creation: *Freemake Video Converter* (http://www.freemake.com/free_video_converter/)

Format conversion: *Handbrake* (<http://handbrake.fr/>)



Setting up equipment for open space screening at Kawempe grounds in Uganda. Photo: Archive of Manya HRIFF.

For those who work on a Mac there are some good video converting tools available such as *Toast Titanium* (paid) and *MPEG Streamclip* (downloadable for free on <http://www.squared5.com/>)

Most of these programs have well-written manuals available online and perform their functions well. Always make sure that you are using the newest release of the software with all the updates. Updated versions often bring significant new functionalities and stability enhancements. There are professional and costly editing suites (Adobe Premiere Pro, Final Cut, etc.) but you may not need them. If you do not know how to accomplish a specific task, try googling it first. Many video forums and tutorial pages can offer you invaluable help. Wikipedia is another important resource if you want to get into technical details.

Venues and Their Equipment

Find out the technical specifications of the equipment where the festival screenings will be held. Test the equipment beforehand. If you notice that the image is blurred, the subtitles are illegible or the picture is too small or otherwise distorted, adjust the settings first. If this does not help, try to get another projector or call an experienced projectionist.

You do not need a perfect silver screen for a good projection. A plain white wall, a well-stretched white bedsheet on a wall or even the side of a large truck may suffice. Pay attention to sound as well; stereo

sound will be adequate for most screenings but you need to make sure that the films will be audible even if the venue is full of people.

For example, Festival del Cinema dei Diritti Umani di Napoli works in suburbs of the city, where there are not good technical tools in many schools, so they very often need to use white walls. They also screen films in places other than cinemas (open spaces, artistic spaces, exhibition spaces, etc.) so it is very important to pay attention to the sound. Many spaces are good for screening a film, but a quality projection is still necessary to reach your audience.

In Sierra Leone, materials for screen construction are limited, so they have always worked with local carpenters to construct a screen and then used white flex banner (the material they use to print on large banners) for the screen. In a case such as this, carpenters might disassemble the screen after each event or you have to find a suitable place to store the screen. Opim Yu Yi's outdoor screenings in public fields attract huge audiences—sometimes over 2.000 people—and so they have learned that they need to have a large, almost multiplex-sized screen so that everyone can see the image.

Pay careful attention that the mobile (foldable) screen is big enough for the audience to be able to see and follow the films. Ciné Droit Libre screens in huge open air spaces and had to adapt screen sizes (and height) to the ever growing public. In the first years, they used a 2x3 meter foldable screen but very soon they were

DVD

Advantages

- Cheap, easy to use
- Every film is available on a DVD (unless it is a new release)
- Can be played on a PC
- Low shipping costs
- Possibility to make several backup copies (for example, for the viewing committee, or several copies for each screening venue)

Disadvantages

- Lower image quality: a DVD comes in SD or standard definition, no HD (high definition) possible
- Many filmmakers don't like screening on DVD
- Can be affected by adverse climate conditions (heat, sand, dirt etc)
- Can get damaged by transport easily so you need to request more than one copy
- For recent releases, many distributors are reluctant to loan them because of fear of piracy

Blu-ray

Advantages

- Not so expensive, easy to use
- Better image quality (HD)
- Can be played on some PCs

Disadvantages

- Can get damaged by transport easily so you need more than one copy
- Can be affected by adverse climate conditions (heat, sand, dirt etc.)
- For recent releases, many distributors are reluctant to loan them because of fear of piracy
- Not many films are available on Blu-ray

Video file

Advantages

- Flexible format with many possibilities
- Can be sent for free over Internet
- Can be easily copied, transferred, duplicated
- Can have very high image quality

Disadvantages

- Requires advanced knowledge; codecs and formats can be complicated
- Needs to be tested before screening
- Image quality may not be ideal

obliged to look for a bigger screen (3x4 meter); nowadays, they use a screen size of 4x6 meters.

It is important to have a decent video projector with a high luminosity (ideally 5000 lumens or better). Video projectors are getting cheaper and cheaper and you can buy one for less than \$500 but many projectors are not suited for screenings for larger audiences .

Video projectors are extremely fragile and the lamps sometimes overheat. Older lamps also produce less bright and crisp images. Do a check of all video projection equipment before the festival and have the lamp replaced regularly if you can.

Some festivals are held in remote locations without basic infrastructure: screening in improvised movie theaters under the sky, in a community centre or school, or in a tent. In this case you will probably need to bring in your screening and sound equipment and, if there is no electricity, will need to secure a source of energy, such as a powerful generator. It is important to check your energy source and have a backup plan in case it fails. If ground conditions are tough, make sure the equipment is protected from the elements (sand, rain, heat, etc.). If you hold daytime screenings make sure that you can make the room sufficiently dark.

Recently these types of festivals, especially if they are mobile, are also obtaining inflatable screens for outdoor screenings; these screens work very well and are easily transported. They are expensive and some of them

require special projectors, so many mobile festivals that use them obtain them thanks to in-kind donations.

It is important to have a proper storage and inventory system for all of your equipment such as clearly marked plastic boxes so that when packing up screenings at the end of an evening, equipment can be accounted for and does not get misplaced.

Masters for Screenings

Before you start requesting the masters for screenings you should have a clear idea of what kind of formats you can work with and what formats your equipment will allow you to screen from. We recommend using one of these formats depending on your technical knowledge and available equipment. They all have low shipping costs, do not require expensive equipment (they can be played on laptops/PCs) and are fairly common among filmmakers.

If you start a new low-budget festival, begin with DVDs. If you want to improve quality, go for the Blu-ray. If you understand video codecs and formats and want to lower shipping costs, you can also use video files. Video files are distributed on hard drives (or USB sticks) or over the Internet and can be compressed to reasonable sizes (ranging from 2 to 10 GB) without perceptible quality loss.

Most new films are made in high definition (HD). If you want to use HD materials, make sure your projector

and computer support them. Common media formats (containers) include .mp4, .mov, .avi and mpeg2. Image quality of the format depends on the codec used, resolution and video bitrate. Nowadays the best quality/file size ratio can be obtained using H.264 codec. This codec is available for free in various conversion programs (including *Handbrake*, mentioned above).

Resolution of the video should be full HD (1920x1080 pixels) for most films, though HD (1280x720 pixels) is also acceptable. Try to avoid screening only DVD quality (720x576 pixels) if possible. Video bitrate suitable for screening on large cinema screens starts at 5.000 kbps; reasonable boundaries for the video bitrate stop at 20.000 kbps. More bitrate means more image quality but also higher demands for computers and video players used. Common media players can play nearly all available formats without any problem and include all the codecs in the installation file (*VLC Media Player*). If your Internet connection is good, you can save money with online transfer of the screening data (through FTP, *Dropbox*, *WeTransfer*, etc.)

All these formats may present a problem if you are screening a recent film with a commercial release, especially if the DVD version is not yet available for sale. Distributors are fearful of piracy and thus very reluctant to send DVD, Blu-ray or video files—even in the case of human rights-related films. Make sure you build trust when dealing with the distributors. You should avoid screening films with watermarks or other visible logos if possible. If you have rights to screen

the film you should get a copy without a watermark from the distribution company. You will have to do a lot of cajoling to get them to send the films and then you should keep your word and not allow copies to be made and distributed. (Sometimes filmmakers prefer to come with the only copy of their film on a DVD or Blu-ray and go back home with their copy to avoid such problems with the distributors)

There are other professional formats available: 35 mm prints, HDCAM tapes and DCP masters. These formats require expensive equipment to be played and highly complicate other tasks such as subtitling. You generally should be able to convince filmmakers to send you a Blu-ray or a video file instead if quality is a concern.

Language Versions

When you are requesting screening formats don't forget to specify what language versions you need. English subtitles are usually offered but you can also ask for French, Spanish, Arabic, German, etc. versions. If you are 100% sure your audience understands the language of the subtitles already included, you can save yourself a lot of work and money on translation and subtitling.

However, you may encounter a film you want to screen that has not been subtitled to your language. If you want to translate the film to your language you need to request the *dialogue list* (the transcript of



Outdoor screenings require lots of technical equipment. Photo: Archive of Opim Yu Yi.

everything what is said in the film) and/or the *subtitle list* (list of the subtitles, different language versions can be available) with *time codes* if possible. The person working on the subtitles needs to be reasonably experienced, as they will need to work with the film's time codes in order to adapt new subtitles to the film's dialogues if you plan on screening additional subtitles on the main projection screen. Often the film will be in several languages and subtitle lists will not include all dialogues. If the film has hearing-impaired subtitles, this list will be the most complete. Time codes must include hour/minute/second/frame in the specified format. The most common and widely used subtitle format is .srt. Another option is to set up small additional screen, laptop and projector for subtitles only and use the freely available program *Clickshow* (<http://clickshow.xf.cz/>). With *Clickshow*, you do not need to work with time codes, but you do need a person to manually advance the subtitles during the screening.

Subtitling can be costly and time-consuming. We recommend that you evaluate your audience's capacity to read a film's subtitles, especially if it is a "new audience" not used to watching films in other languages, in order to determine whether they are ready for this type of screening. To reduce costs, try to cooperate with other film festivals who use the same subtitling language when you screen the same films.

Ciné Droit Libre often works in rural areas with illiterate audiences. From their experience, they have

found that subtitled films can be difficult to screen. Even those who are able to read the subtitles have difficulties following the films because they are not used to them. They sometimes make a dubbed version of a film with French voices, but this is very costly and has to be done in a professional sound recording studio. They often aren't able to screen some of the best films from the festival simply because there is no French version available. However, when screened for a seated audience in a more "intellectual" environment, some subtitled films can be used without problems.

Different Approaches to Subtitles

When subtitling the films, you can either use double or triple subtitles (when your audience needs more than one language) or use only new subtitles, hiding the original subtitles. Subtitling takes time; expect the translation and subtitling of a film to take approximately two to six weeks. Another possibility is using simultaneous translation. It requires at least a microphone for the interpreter, though much better quality can be achieved with an interpreting booth and receivers with headphones for the whole audience. Many Human Rights Film Festival in Uganda organises grassroots screenings in video halls, which are small venues. These screenings are live-translated by a VJ into the local language in order to better include the semiliterate and illiterate members of the audience. At Ciné Droit Libre, a presenter will often explain the film and its content in the local language

before the screening begins. After the screening, the debate is often held in multiple languages (French and local languages) and many people ask questions to better understand the film they saw.

Simultaneous translation requires only a few days of preparation, but the equipment can be expensive. The last possibility is dubbing, which is generally too expensive for smaller festivals and takes approximately four weeks.

Check, Check, Check

Check all the films before the screening. Find volunteers or ask people in the team to watch the entire film carefully and instruct them on how to identify problems (missing subtitles, damaged picture, lack of synchronization between image and sound, a different format from what you requested, etc.). Conduct the technical check well in advance so you still have time to ask for a new master copy if necessary. This technical check is very time consuming, but believe us, it is worth it. If you use additional subtitles, check them as well. It is also a good idea to check the screening equipment in all the screening venues with your actual films. If your screening includes more than one film without a break, it is always better to copy the films to a hard drive, in order to avoid awkward DVD-changing moments. Hard drives are also less likely to be damaged than DVDs. Modern software players (VLC, KM player, etc.) have an option to play DVD files from the hard drive and also

allow you to use playlists for seamless playback. If for some reason you have to screen from a DVD/Blu-ray directly, at least cover the projector or use the Blank function on the projector remote control during the disc swap.

Film Checklist

- *Film arrives* – check the whole film (if possible directly on your screening equipment)
- *Subtitles are made* – check spelling mistakes, synchronization with the film.
- *2 weeks before the festival* – check the film with subtitles in the screening venue, also check audio levels.

Have a Back-up Plan

Try to have as much done as you can before the festival starts. Your plan should include not only the ideal conditions, but also back-up plans for many scenarios—such as the sudden break-down of a projector, a defective film copy, a film that does not start, faulty sound or a power outage. Put simply, be pessimistic: try to predict what could go wrong and be prepared to react. It is essential to have additional copies of the films in one place. If you use video files, have a back-up portable disk with all the films for each of your technical staff to carry around with them all of the time. Be ready to produce a back-up DVD in case there is a problem with another film format. At FiSahara they recommend having three copies of each film:

one on a DVD or Blu-Ray and the other two in two different hard drives.

At Opin Yu Yi in Sierra Leone their back up system involves making two digital copies and a back-up DVD. They give a programme run-through with timing to projectionists so that they know what to screen and when, and during film change-overs they make sure that a volunteer or the Producer is on hand; this way, in case any issues or problems arise the projectionist does not have to deal with them alone. They also try to get as much back-up equipment as possible (for example, a projector and a generator) and ensure there is more than enough petrol to last the generator for the entire evening.

If you are working in a remote location and have a small team, have a back-up plan for your technical team as well, in case a member becomes sick or is suddenly unavailable. At FiSahara they make sure that more than one person knows how to work the projector, the sound equipment and the computer. Have each team member note down their main tasks and checklist and share them with the whole team.

Inform and explain to your audience when something is going wrong; nothing is more awkward than a long silence when the film does not play like it should. The presenter for the evening can explain what is happening and make the wait more bearable. If the audience understands the problem, they will be more willing to wait a little while to have it solved.

During the Festival

- Check the screening schedule, appropriate screening formats, settings and language versions daily. Your technical team should share a daily checklist that includes this information. Post the list in all festival locations.
- For some festivals, it works to have a daily morning meeting with the technical and production team to go over the day's activities in order to address any last-minute changes and identify and correct problems. One person from programming should also attend.
- For some festivals, especially those in remote locations, it helps to have the team connected via walkie-talkie in addition to mobile phones.
- Projectionists often have a good gauge of audiences. If you need to evaluate audience participation, interest, or capacity to follow films/subtitles, ask the projectionists to note down their observations during film screenings.
- Make sure you have enough spare cables, adaptors, projectors and other equipment in case anything needs to be replaced. This is especially important in remote locations where purchasing them is not an option.
- Check the logistics every day; some masters might come in the last minute from another festival to you, or some films may be screening in more than one venue at the same time. Prepare a logistics plan for distribution of the screening masters and always keep it updated during the festival.

- Special care should be given to special events such as opening and screening ceremonies, gala premieres, concerts and other occasions. Make sure your sound personnel does the appropriate sound checks for these events. Also, check with the performers (singers, bands, etc.) who perform during opening/closing galas regarding what equipment they might need, especially if they use instruments (i.e. microphones) and have a sound check early on before the performance to check for any issues.
- Make sure that you have enough microphones (and well-charged batteries) for your speakers and guests. Be sure that you are aware what languages the guests speak and that you are prepared for the simultaneous or consecutive translation/interpretation needed.

After the Festival

- Return all rented/borrowed equipment.
- If you have any footage from the festival, edit it and make it public. Send it to those who contributed.
- Keep a festival archive (DVDs, dialogue lists, photo stills from films, etc.).
- Make sure you thank all those who loaned equipment, sent films and otherwise helped to improve the technical quality of your festival.
- Evaluate what went wrong and why and how you can improve it next time. Note down what worked as well. It helps to have an evaluation meeting quite soon after the festival so that team members' memories can still be fresh (for more on this see the chapter on evaluation).

Main Tips:

- *Think first:* Define what needs to be done and how; conduct your research.
- *Test equipment:* Prepare and test computers and software you will use; experiment.
- *Venues:* Check all the screening venues and their equipment, and improve them if you can.
- *Masters:* Decide which master(s) you want to use and make sure you get them in advance.
- *Subtitles:* Choose language versions and a subtitling method, and test it beforehand.
- *Control:* Check all the films and subtitles; fix any problems.
- *Be flexible:* Be ready to improvise, come up with solutions and use alternatives.