

## **Service Level Agreement (SLA)**

**teorema films**

**Quality Control (QC) of audiovisual material**

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## Workflow mastering and generation of deliveries

Mastering is the process of creating final computer files of the highest quality that will be used to make derivative copies adapted to the demand of the destination. In the same way, it allows to carry out any subsequent additional versioning, dubbing or subtitling processes.

The masters typically consist of the following materials:

- Final assembly of the project in original version (without graphics and with graphics engraved in image).
- Sound master mix (Printmaster) - Mono, Stereo, Dolby Surround 5.1 or 7.1 and Dolby Atmos 7.1.4 support (adaptive)
- Sound mixing stems: separate tracks of all sounds belonging to the production
  - Dialogue.
  - Ambient
  - Sound FX
  - Music.
- Subtitles for each language, subtitles adapted for the deaf (SDH or CCs), Audio description for people with low vision and lists of dialogues
- Other materials: List of dialogues, Stills, Press kit, Dossier, Final script ...

## Masters Quality Control (QC)

The purpose of the "Quality Control" of the masters (Master QC) is to guarantee that all original productions are evaluated to guarantee that they comply with the optimal technical specifications to preserve the maximum quality of the project and maximum versatility for future versions.

### Scope of the work

The main purpose is to compare the master material with the technical specifications of the destination. All kinds of details are defined, such as: indications of logos at the beginning and end of the piece, indications of subtitles, indications of the order and content in the audio tracks as well as a large etcetera of aspects to which the quality must be controlled separately and as a whole to avoid unwanted defects in the copy before the final delivery.

Examples of technical errors typically discovered during quality control include, but are not limited to: incorrect head or tail formatting, wrong black, wrong audio levels, wrong or missing logos, format errors, flickering, poor audio timing, vignetting, digital video hits, audio hits, dead pixels, wrong aspect ratio, banding, luminance spikes, frames frozen or burnt caption errors.

The evaluation is completed with a minimum of two (2) passes of each program material, unless otherwise noted. It only applies to the service known as "Master-QC".

Evaluation of HDR content is completed with a minimum of two (2) passes of each program material, one in the native HDR color space (P3 / D65) with audio, one in the SDR color space derived using clipping metadata. Dolby Vision (rec.709, bt.1886) with audio, unless otherwise noted.

The evaluation of the QC will result in the following deliverables:

- Error reports in PDF document.
- Technical report to the destination of the copy.

## Introduction to Quality Control (QC) and Its Types

This document provides an overview of the three different types of quality control in Teorema Films. The goal is to provide our clients with an understanding of our Quality Control processes and common delivery failures.

### Catalog QC Catalog

Quality Control identifies issues that would be detrimental to the streaming experience. Catalog QC takes the approach of simulating the customer experience. Focusing on:

- Problems that would prevent consumption (for example, incorrect content being delivered, badly named assets, lost reference)
- Problems that significantly reduce the quality of the project (translation problems, typographical errors, video artifacts, etc. )
- Maintain the consideration of licensed content (change in creative styles from original source)

Delivery and ingest:

The content delivery / ingest process that goes through catalog quality control consists of three steps:

- Loading "media assets".
- Automatic Quality Control.
- Manual Quality Control.

## Catalog Types:

- QCSpot QC: It consists of a punctual verification of: First 2 minutes, 1 min in the credit check, 1 min in 50% of the "runtime", 1 min in 75% of the "runtime" and the last 2 minutes.
- Full QC: The entire "runtime" of all the "media assets" is reviewed, that is, a complete viewing by specialized technicians.

## Most common errors within a catalog QC

Video	Audio	Subtitles
Burnt subtitles on screen	Need to include forced subtitles	Spelling errors or incorrect punctuation
Recap summaries	Video or audio editing to eliminate or blur elements that may be illegal or offensive	Missing translation - Certain lines , texts or scenes that convey conversation require translation for the audience to understand the plot
Frame rate conversion artifacts	Incorrect language. Mix of languages that do not allow the audience to understand the plot	Formatting and positioning - The position of the texts conflicts with other text on the screen, which negatively affects readability
Video or audio editing to eliminate or blur elements that may be illegal or offensive	Content irrelevant to the master or final content	Lack of objectivity in the translation - subtitles do not correctly reflect the dialogue from the perspective of a native speaker
Content irrelevant to the master or final content	Audio and video	synchronization Framerate of the wrong subtitle. Subtitle creates a sync drift where texts are displayed progressively later than their audio

## Master QC

The quality control of the masters validates the quality of the source media assets with respect to the original delivery specifications of the destination platforms as well as the consistency of the content. The Master QC is done at the end of the mastering work and is the final step of the post-production processes. Master QC operators conduct multiple full linear reviews of source assets and point out issues that are inconsistent in the context of the content.

The Master QC is carried out in the following types of "assets" within an environment according to the "asset" in question. For example, 4K content is viewed on 4K displays; HD is viewed in HD etc:

- Primary Master: IMF / DCP / ProRes
- Secondary Audio Dubbed

## Checking errors

error codes the Master QC can be classified as follows:

- Technical Specifications: consisting of framing problems, poor aspect ratio, levels of image, audio volume, maximum levels, etc.
- Content issues: consisting of visible production personnel and equipment, dead pixels, black or duplicate frames, audio cues / pops, burned, etc.

Ultimately, in the Master QC process, inconsistencies introduced during production and post-production processes are verified and corrected. Issues are checked on a full linear QC and frame-by-frame capacity if required.

All the material that we process at Teorema Films goes through these quality controls in the mastering phase. Error codes and reports are verified internally. Unfavorable reports are argued based on the demand of the destination or content provider.

Doing a Master QC before final delivery increases the likelihood of QC approval on target platforms.

### Why do a Master QC?

- Fix issues that could negatively affect the customer experience.
- Correct problems that affect the original creative production.
- Ensure compliance with the technical specifications and delivery specifications of the destination platforms.

### Most common errors found in the Master QC:

- Frame errors: drops, repeated frames, lost frames.
- Artifacts or spots in the image.
- Composition and graphics errors.
- Poor, out-of-sync, or out-of-specification audio signal.
- Abrupt luminance changes not indicated in advance by production.



## QA Reports: Error Code Severity Ratings and Action Items

**FYI:** Something that we would like to draw attention to without becoming a problem.

Next step: Will not trigger a return request - No action required.

**Needs review:** Subjective issues that may not be detected by the customer. For example: subjective translation, possible pronunciation problems, color correction skips, minor sound mixing errors...

Next step: A resubmission request is made and the production company is expected to review it.

**Needs Correction:** objective problems with the translation or technical aspects that violate the specifications of the destination or the intention of the author.

For example: incorrect terms of names and places, problems of objective translation that would affect the customer experience and other problems that would negatively affect the quality and / or the preservation of creative intent.

Next step: A resubmission request is made and the producer is expected to review it.

**Blocking Error:** Issues that make the file unusable on the destination. For example: bad language, lack of dubbing, poor timing, offensive / derogatory language.

Next step: You will trigger a return request to correct and redeliver in priority before launch.

## Quality control (QC) of localized content localization

The QC is a linguistic quality control that qualifies the quality of the translation, the coherence and the conformity with the style guides of the main audiovisual content platforms. This process involves a quality control operator who suggests changes and a verifier who reviews and implements them accordingly.

The localization quality control is carried out on the following types of assets:

- Scripts, spotting lists and dialogue lists for dubbing and audio description.
- Subtitle.
- Forced subtitles.

## Common Media Assets Localization QA Errors: We

catalog localization errors in two ways: technical and linguistic.

- Technical errors: Positioning of subtitles, font format, scene changes, reading times, synchronization with audio, etc ...
- Linguistic errors: Translation that negatively affects reading time, subjective translation, grammar and spelling errors, lack of objectivity in the translation, breakage of reading lines, consistency, etc ...