



Technical Specifications

Revision: July 2022

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1. Change history log

Revision – July 2022

- Redirection of questions concerning technical issues or file transfer systems to the initial contact of the client at programming, who will redirect internally if necessary (sections 2 and 6)

Revision - May 2022

- Added change history and renumbered sections
- Addition of a note concerning the typography to be provided for acquisitions intended for dubbing (section 3.4)

2. Notice on the profiles

Bell Media now offers two technical specification profiles for program material deliveries.

An "**OPTIMIZED**" profile, desired for most content, focused on high-quality, native files, as well as a "**SIMPLIFIED**" profile, in a broadcast-ready format, which may be required for some deliveries.

Please refer to your Bell Media programming contact who can indicate the profile to use for your production, based on certain criteria such as delivery times, target channel or platform, or other considerations.

Any exceptions must be accepted by a Bell Media technical representative prior to delivery. Your programming contact will make sure you get in touch with the right resource person, depending on the target channel or the need (technical details, file transfer system, etc.).

3. Technical specifications

3.1 General Requirements

- All video sources **must not be upscaled**; 4K video must come from a 4K source as HD video must come from an HD source
- Be aware that **Bell Media broadcasts in 29,97 fps drop frame**, so if a fixed length was agreed on contract with programming for delivery (ex. 45min30sec), any product delivered in another frame rate (e.g. 23,976) should make sure to have a length that matches real time when converted, and not just consider the timecode out of the source.

- Here's a few examples.

Lenght in 23.98 fps	Length in 29.97 fps
00:21:58:18	00:22:00;02
00:22:28:16	00:22:30;00
00:43:57:10	00:44:00;02
00:45:27:06	00:45:30;00

3.2 Video Requirements

	OPTIMISED PROFILE		SIMPLIFIED PROFILE
Image Frame Size	Native Resolution 4K/Ultra HD – (4096 x 2160/3840 x 2160) 2K/HD – (2048 x 1080/1920 x 1080/1280 x 720)		1920x1080
File Types	IMF*, ProRes, XAVC-I ou JPEG2000, or other (to validate)		MXF OP1a – XDCAM HD422 @ 50Mbps (1080i60)
Type of stream	(variable, depends on source)		MPEG-2 Transport or Program Stream
Frame Rates	Native Frame Rate (23.976, 24, 25, 29.97, 30, 50, 59.94, 60)		29.97
Scan Type	Progressive		Interlaced (Upper field first)
Dynamic Range	HDR (as per Dolby Vision spec)**	SDR***	SDR
Colour Encoding	RGB 4:4:4	RGB 4:4:4, YCbCr 4:2:2	YCbCr 4:2:2
Colorimetry	P3D65/ITU-R BT.2020, SMPTE ST 2084 (PQ)	ITU-R BT.709	ITU-R BT.709
Bit Depth	12 bit	10 bit	10 bit
Pulldown cadence (if required)	3:2	3:2	3:2

* If IMF packages are available, they should be generated from an uncompressed source file.

** If Dolby Vision specs are not available for HDR content, other options can be discussed.

*** If SDR specs are not available, other options can be discussed.

3.3 Audio Requirements

	OPTIMISED PROFILE	SIMPLIFIED PROFILE
Sample Rate	48 kHz	48 kHz
Bit Depth	24 bit	24 bit
5.1 Channel Mapping	Channel 1 – Left Channel 2 – Right Channel 3 – Centre Channel 4 – LFE Channel 5 – Left Surround Channel 6 – Right Surround Channel 7 – Videodescription left (or left stereo) Channel 8 – Videodescription right (or right stereo) English brands only: Channel 9 – Left stereo Channel 10 – Right stereo)	Channel 1 – Left Channel 2 – Right Channel 3 – Centre Channel 4 – LFE Channel 5 – Left Surround Channel 6 – Right Surround Channel 7 – Videodescription left (or left stereo) Channel 8 – Videodescription right (or right stereo) English brands only: Channel 9 – Left stereo Channel 10 – Right stereo)
Stereo Channel Mapping *	Channel 1 – Left stereo Channel 2 – Right stereo Channel 3 – Silence Channel 4 – Silence Channel 5 – Silence Channel 6 – Silence Channel 7 – Videodescription left (or left stereo) Channel 8 – Videodescription right (or right stereo) English brands only: Channel 9 – Left stereo Channel 10 – Right stereo	Channel 1 – Left stereo Channel 2 – Right stereo Channel 3 – Silence Channel 4 – Silence Channel 5 – Silence Channel 6 – Silence Channel 7 – Videodescription left (or left stereo) Channel 8 – Videodescription right (or right stereo) English brands only: Channel 9 – Left stereo Channel 10 – Right stereo
Loudness	-24 LKFS ± 2 LU	-24 LKFS ± 2 LU
Max Peak	-2dBFS	-2dBFS

* The material of stereo programs will be converted to 5.1 when ingested or aired.

3.4 Titles and positioning

Subtitles and other on-screen information must be located within the safe title area as per SMPTE ST2046-2:2009.

Please note that for on air broadcasting, station identification logo is keyed over the entire program in the lower right corner. The use of graphic overlays, subtitles or other text elements should be avoided in this area.

Also avoid overlays during the first 10 seconds following a return from break, this is often required to insert channel branding elements.

3.5 Material for dubbing purposes and promotions

If material is intended for dubbing (especially for French channels) or promotions, please include as much original and separate channels as possible (stems), in order for the dubbing to be of better quality. This should include:

- Original mix
- BG/FX
- Music
- Narration/ Dialogue
- On-camera Dialogue

Textless elements must be present at the tail of the video document and be clearly identified, ideally with another slate that says "Textless elements".

Please also include, if possible, the list of fonts used for the titles and subtitles of the original content, so that the dubbing services can translate them while respecting as closely as possible the artistic choices made on the document in the original language. This list can be communicated by email to your programming contact, or preferably, be included in a text file (.docx or txt) attached when delivering the main content.

4. Additional Requirements

4.1 Accessibility Files

Captions delivered **must be timed and synced with the accompanying video track and in the same language as the audio tracks of the latter, and delivered at the same rate as the picture format.**

Captions are also accepted in all other available languages, provided they are properly identified.

OPTIMISED profile

If possible, close captions need to be embedded into the video file, in both EIA-608 and EIA-708 formats.

In addition, if available, we would also like to receive the caption separately, ideally in .scc format, and with the same name and timecode as the main file. If the .scc format is not available, other options can be discussed.

SIMPLIFIED profile

All close captions need to be embedded into the video file, in both EIA-608 and EIA-708 formats.

4.2 Described Video

Any available descriptive audio tracks (English and/or French) **must be timed and synced with the accompanying primary video track.**

OPTIMISED profile

Described video must be delivered on tracks 7 + 8 of the video file and must be a full stereo mix including descriptive dialogue mixed into left and right channels.

As a second choice, we also accept that the description video be delivered separately in an uncompressed linear PCM format in WAV format. These separate tracks should also be a full stereo mix, including descriptive dialogue mixed into the left and right channels, not just the narrative voice.

SIMPLIFIED profile

Described video must be delivered on tracks 7 + 8 of the video file and must be a full stereo mix including descriptive dialogue mixed into left and right channels.

4.3 Metadata

OPTIMISED profile

All assets should come, **if available**, accompanied with a side car file in a machine readable file format (ie. XML, JSON) that includes at minimum the following details:

- EIDR-ID
- Start and End of video for all segments
- Audio Layout
- Title Sequence, credit and recap In/Out Points

In terms of format, metadata should be structured following the MovieLabs Media Manifest specification. If not available, metadata structured according to the CableLabs ADI 3.0 specification will be accepted.

SIMPLIFIED profile

No metadata required.

5. Filenames

All assets should have human readable file names and follow the naming convention outlined below:

{showTitle}_S{season#}_E{episode#}_{codec}_{frameSize}_{colorSpace}_{bitDepth#}bit_{chromaSampling}_{audioPackage1}_{audioPackage2}_{language*}_{dateCreated}

Example: Frontier_S1_E02_XAVCI_3840x2160_REC709_10bit_422_51_DV_FR_2019-09-15.mxf

**Language values include EN for English, FR for French, ENFR for English and French*

6. File delivery

There are a couple of ways a file can be electronically submitted to Bell Media. To request access to our file exchange services, refer to your programming contact who will be able to redirect you to the right internal team.

Before any file exchange can happen, arrangements must be setup between Bell Media and the partner. For first time users, a test file is required to make sure the product can be ingested and treated properly by our transcoding and airing systems.

For commercials we have interfaces with the major ad delivery services. Please contact the service providers directly to deliver commercial material.