

# Technical specifications

Standard definition video (SD)



**Direction technique**  
**Tel. 514 521-2424, ext. 3100**  
**[Normestechiques@telequebec.tv](mailto:Normestechiques@telequebec.tv)**

### Table of contents

1.	FORMAT.....	3
1.1	CASSETTE.....	3
1.1.1	IDENTIFICATION.....	3
1.2	FILE.....	3
2.	VIDEO.....	4
2.1	SIGNAL PARAMETERS.....	4
2.2	VIDEO LEVELS.....	4
2.3	USING 4:3 IMAGES IN A 16:9 PROGRAM.....	4
2.4	TIMECODE.....	5
2.5	SAFE ACTION AND SAFE TEXT AREAS.....	5
2.6	AD INSERTIONS.....	5
2.6.1	For programs broadcast offline.....	5
2.6.2	For programs broadcast live.....	5
2.7	PROGRAM ON MULTIPLE TAPES.....	5
2.8	SEVERAL PROGRAMS ON THE SAME TAPE OR FILE.....	6
3.	AUDIO.....	7
3.1	MAIN PROGRAM TRACKS.....	7
3.2	PROGRAM VIDEO DESCRIPTION TRACKS.....	7
3.3	REFERENCE LEVEL.....	7
3.4	AUDIO LEVELS.....	7
4.	LEAD-IN AND LEAD-OUT.....	8
5.	CLOSED CAPTIONING (CC).....	9
6.	RIGHT OF REFUSAL.....	9

# Technical specifications

## Standard definition video (SD)



### 1. FORMAT

#### 1.1 CASSETTE

The SD format accepted by Télé-Québec is DVCPPro 50 or Betacam Digital. Télé-Québec recommends using Panasonic or Fujifilm tapes for DVCPPro 50 cassettes.

**All programs delivered on another format than DVCPPro 50 or Betacam Digital must have been authorized through a prior agreement with Télé-Québec.**

##### 1.1.1 IDENTIFICATION

Each tape must be supplied in its own case. Each cassette and case must be labelled with the following information:

- French title (and original title, if applicable)
- Episode title and number
- Video format identification
- Identification of audio tracks
- Closed captioning (if applicable)
- Program duration

#### 1.2 FILE

##### **FOR PROGRAMS OF MORE THAN 2 MINUTES DURATION:**

IMX (D10) encapsulated in a MXF container, bitrate of 50 Mb/s, audio format PCM, sampling of 16 bits at 48khz.

##### **FOR PROGRAMS OF LESS THAN 2 MINUTES DURATION:**

Choice of:

IMX (D10) encapsulated in a MXF container

Avid DV/DVCPRO

ProRes 422 (HQ)

Bitrate of 50 Mb/s, audio format PCM, sampling of 16 bits at 48khz

**Before sending us a program in file format, an agreement must be made with a representative of Télé-Québec technical service. In addition, files are to be uploaded.**

## 2. VIDEO

### 2.1 SIGNAL PARAMETERS

- The image format is 720 X 486
- The sampling structure must be 4:2:2
- The frame rate must be 29.97 frames per second, interlaced
- The image ratio must be 16:9
- The image must be full frame; letterbox will not be accepted
- The production chain must be entirely digital

### 2.2 VIDEO LEVELS

Video levels must conform to the following values:

- White maximum: 700 mV
- Black minimum: 0 mV
- Chrominance Cb Cr:  $\pm 350$  mV

### 2.3 USING 4:3 IMAGES IN A 16:9 PROGRAM

When the use of 4:3 images is required, two display modes can be used: pillar-box or top-bottom crop. When reframing, it is important to make sure that the entire closed-captioned signal is eliminated from lines 21 and 284 of the 4:3 images before conversion.

Whenever converting from 4:3 to 16:9:

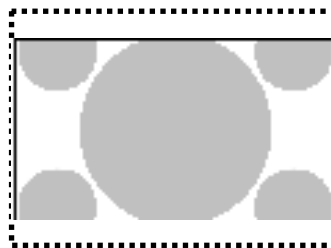
- No deterioration (geometrical distortion) of the horizontal and/or vertical proportions from the original picture will be accepted.
- Pay close attention in order to preserve the major elements of the original 4:3 image (action, graphics, etc).

#### Pillar-box



The black areas (columns) are shown within the 16:9 picture.

#### Top-bottom crop



The dotted areas show the parts of the original 4:3 image not shown on a 16:9 screen.

### 2.4 TIMECODE

The timecode must be drop frame and constant from beginning to end.

The timecode corresponding to the first image of the program must be 10;00;00;00.

### 2.5 SAFE ACTION AND SAFE TEXT AREAS

The safe action area must be within the central 90% portion of the complete frame, in both height and width.

The safe text areas must be within the central 80% portion of the complete frame, in both height and width.

The network's identifying logo is embedded in the lower right-hand corner of the screen during the entire broadcast. The logo is 66 X 32 pixels, located in the safe title area of the screen. Never use this space for subtitles, captions, or any other superimposed text or image.

### 2.6 AD INSERTIONS

#### 2.6.1 For programs broadcast offline

The commercial breaks are flagged with ten black frames in the program. The duration of those ten black frames must be included when calculating the total expected length of the program.

#### 2.6.2 For programs broadcast live

The ad insertions recorded on the tape will match the actual duration of the commercial blocks broadcast for live programs.

For example, if the commercial block is 3 min. 30 sec. long, the ad insertion recorded on the tape will also be 3 min. 30 sec. long, and so on for all commercial blocks. The duration of these ad insertions will not be part of the total duration of the program.

### 2.7 PROGRAM ON MULTIPLE TAPES

For programs which require multiple tapes due to their length, the second tape must start at a scene take change and without any overlap. The time code must start at the following hour.

For example, if the first tape starts at 10;00;00;00 and lasts less than one hour, the second tape should then start at 11;00;00;00. If the first tape starts at 10;00;00;00 and its length is more than an hour but less than two hours, the second tape should then start at 12;00;00;00 and so on for the following tapes.

If the tape is to be changed at the insertion point of a commercial break (for offline broadcasts only), leave one more second of black at the end of the first tape and one more second of black at the start of the second tape. These seconds are to be included in calculating the total expected duration of the program.

### **2.8 SEVERAL PROGRAMS ON THE SAME TAPE OR FILE**

If there is more than one program on the same tape or file, the additional program(s) must be preceded by colour bars and tone (5 seconds), a 5-second slate and 10 seconds of black.

In this case, provide a list of the programs (French titles and original titles, if applicable) along with the tape or file.

### 3. AUDIO

#### 3.1 MAIN PROGRAM TRACKS

The main program soundtrack must be in Dolby Surround or stereo, on tracks 1 and 2.

Note that **track 1** represents the **left** channel and **track 2** represents the **right** channel.

#### 3.2 PROGRAM VIDEO DESCRIPTION TRACKS

The program video description soundtrack must be in stereo, on tracks 3 and 4.

Note that **track 3** represents the **left** channel and **track 4** represents the **right** channel.

#### 3.3 REFERENCE LEVEL

Our reference level is -20 dBFS, which corresponds to a reference level of +4 dBu.

#### 3.4 AUDIO LEVELS

- The average dialog levels must be -24 LKFS (+/-1 dB)
- Peak readings may not exceed -3 dBFS
- Dialogue must be intelligible throughout the entire program

# Technical specifications

## Standard definition video (SD)



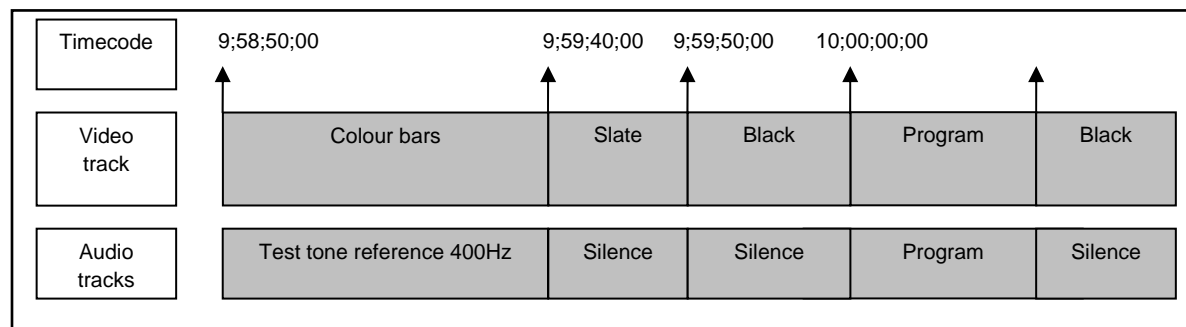
### 4. LEAD-IN AND LEAD-OUT

The audio and video lead-in is 70 seconds and serves to calibrate the equipment and to identify the contents of the tape or files. The lead-out portion should be a minimum of 20 seconds. Each tape or file must contain a lead-in, a program and a lead-out without any breaks.

Timecode	Duration: (seconds)	Video track	Audio tracks
09:58:50;00	50	Colour bars	Test tone reference 400Hz
09:59:40;00	10	Slate	Silence
09:59:50;00	10	Black	
10:00:00;00	----	Program	Program
-----	20	Black	Silence

The test tone reference and color bar levels must be consistent with the audio and video levels of the recorded program.

Schematic layout of the tape or file:



The slate must include the following information:

- French title (and original title, if applicable)
- Episode title and number
- Audio identification (Dolby Surround or stereo)
- Program duration



# Technical specifications

## Standard definition video (SD)



### 5. CLOSED CAPTIONING (CC)

When the program is closed captioned, it can be delivered in two different formats depending on the agreement negotiated:

#### Closed captioned video format:

- The code must be inserted in line 21 of the video, according to the EIA 608 standard.

#### Closed captioned file format

- The code must be delivered in an individual file for each program. The type of file format accepted is **Scenarist (.SCC)**.

### 6. RIGHT OF REFUSAL

**Any departure from these specifications must have been authorized by prior agreement with Télé-Québec.**

Télé-Québec reserves the right to refuse any program that does not comply with the technical specifications described in this document.

Consult our website at [www.telequebec.tv](http://www.telequebec.tv) to make sure you have the latest version of this standard.