Titles

Must be in Title Safe area. For use on internet and other similar usages the action safe area can be used.

Subtitles

- Broadcast Safe
  - <--! Must be plain HTML not broadcast safe colors -->
  - Broadcast safe means that the subtitles fulfill these specs:

  - **Must**:
    - *Visual:*
      - Must be in title safe area.
      - Not more than 30(32) characters for SCC, not more tan 40(42) for EBU per line - including spaces.
      - Not more than 4 lines for SCC, Not more than 25 lines for STL. Default up to 2 lines.
      - Open-, close-note character for music and sounds.
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    - *Technical:*
      - Includes pre-buffer timing. It differs for different usages. It additionally has to be set for standard or rolling titles.
      - Maximum of 4 language tracks (this might differ by station).

  - **Option**:
    - *Visual:*
      - Different colors for different protagonists/music. These are broadcaster, usage and country specific.
      - Specific placement per person. These are broadcaster or usage specific.

Closed Captions

Main difference between open and closed captions: closed captions can by switched on or off by the viewer - except for 'forced' subtitles.
Fonts are specified by 'families'. They are depended on TV or disk player brand and model. Subtitles are rendered on the fly.

- **TV:**
  - They must be full broadcast safe and fulfill country specs and station requirements.
  - Closed captions be in different formats: Scenarist Closed Caption SCC CEA-608, SCC CEA-708 for NTSC regions (Japan has slightly different SCCs) or TeleText EBU N19 STL for all other regions. TTML is an option world wide.
  - Closed caption are mainly thought to help hearing impaired. They reflect the language mainly spoken in country and/or region, See examples.
    - Switzerland for example requires French, German and Italian.
    - Some regions in the US require English, Mexican
    - etc.
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  - **Delivery options**
    - Audio, video and subtitles mixed into one MXF container.
    - Audio, video mixed into one MXF container and subtitlestream in one container.
    - Audio, video mixed into one MXF container and subtitle TTML in one folder.

- **TV related**

  - **DVD, BluRay**
    - **Must**:
      - They must be full broadcast safe, except character limits - more see options.

    - **Option**:
      - Subtitles are not limited to country or region languages. For different languages can be stored in authoring specific formats. On Mac: DVD Studio (STL text), Adobe Encore (Encore Text). The finished disc's subtitle handling (technical broadcast specs) will be done by the player.

    - **Specific:**
      - Subtitles can be pre-rendered for higher quality kerning and forced fonts.

- **iTV Web etc.**
  - iTunes and Apple devices can use either SCC or ITT (iTunes Text). See the Apple docs. For more information about ITT see W3 documentation.
  - YouTube can use SCC, SRT, SBV, that are the most popular for a full listing see below.
  - Vimeo can use SCC, SRT and some VTT. Latter must be verified.i
  - Wndows Media Player can use SAMI. There might be more formats supported.
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- **Digital Cinema (DCP)**
  - DCP can be either Texas Instruments DLP or SMPTE DCP. The main difference between those 2 is the usage of timecode. With TI DLP the timecode is HH:MM:SS:fraction of seconds, SMPTE is as the name says HH:MM:SS:FF timecode. While TI DLP only supports 24 and 48 frame rates, SMPTE does supports all standard frame rates.
  - Fonts must be installed on the DCP server.
  - Size of font packages are limited. For example Chinese fonts must run thru a font compressor for every different movie.
  - DCP supports pre-rendered titles for example as a work around for font compression.
  - DCP CCs for obvious reasons can't be switched by the user.

Open Captions

Open Captions are subtitles burned into the picture. They should be in the title safe area. They can be visually full broadcast safe, which is really recommended for documentaries.
<--! Should/Must be broadcast safe colors -->

YouTube formats

Format name	File extension	Additional information
SubRip	.srt	Only basic versions of these files are supported. No style information (markup) is recognized. The file must be in plain UTF-8.
SubViewer	.sbv or .sub	Only basic versions of these files are supported. No style information (markup) is recognized. The file must be in plain UTF-8.
MPsub (MPlayer subtitle)	.mpsub	"FORMAT=" parameter is supported.
LRC	.lrc	No style information (markup) is recognized, but enhanced format is supported.
Videotron Lambda	.cap	This file type is primarily used for Japanese subtitles.
SAMI (Synchronized Accessible Media Interchange)	.smi or .sami	Only timecodes, text, and simple markup (<b>, <i>, <u>, and the color= attribute within a <font>) are supported. Positioning is not supported.
RealText	.rt	Only timecodes, text, and simple markup (<b>, <i>, <u>, and the color= attribute within a <font>) are supported. Positioning is not supported.
WebVTT	.vtt	In initial implementation. Positioning is supported, but styling is limited to <b>, <i>, <u> since CSS class names are not yet standardized.
TTML (Timed-Text Markup Language)	.ttml	In partial implementation. SMPTE-TT extensions supported for CEA-608 features. iTunes Timed Text (iTT) file format is supported; iTT is a subset of TTML, Version 1.0. Styling and positioning are supported.
DFXP (Distribution Format Exchange Profile)	.ttml or .dfxp	
Scenarist Closed Caption	.scc	These files have an exact representation of CEA-608 data, which is the preferred format whenever captions are based on CEA-608 features.
EBU-STL (binary)	.stl	European Broadcasting Union standard.
Caption Center (binary)	.tds	Supports CEA-608 features.
Captions Inc. (binary)	.cin	Supports CEA-608 features.
Cheetah (ASCII text)	.asc	Supports CEA-608 features.
Cheetah (binary)	.cap	Supports CEA-608 features.
NCI (binary)	.cap	Supports CEA-608 features.