

# Closed Captioning Products

User Guide



## MacCaption 6.6 User Guide

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# Support

To obtain product information, watch tutorial videos, get technical support, or provide comments on this guide, contact us using our web site, email, or phone number as listed below.

Resource	Contact Information
Video Tutorials	<a href="http://www.telestream.net/telestream-support/captioning/tutorials.htm">www.telestream.net/telestream-support/captioning/tutorials.htm</a>
Technical Support, Information, FAQs, Upgrades	Web Site: <a href="http://www.telestream.net/telestream-support/captioning/support.htm">www.telestream.net/telestream-support/captioning/support.htm</a> Support Web Mail: <a href="mailto:www.telestream.net/telestream-support/captioning/contact-support.htm">www.telestream.net/telestream-support/captioning/contact-support.htm</a>
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# Overview

## Introduction

MacCaption allows you to easily author, edit, encode and repurpose video captions for television, web, and mobile delivery. Utilizing exclusive e-Captioning™ technology, MacCaption simplifies the process of complying with FCC regulatory requirements, enabling greater access to broadcast content for television, online, and mobile viewers.

In this chapter:

- [Captioning Process at a Glance](#)
- [Installation](#)
- [Video Tutorials](#)
- [Vantage and Switch Support Captioning](#)
- [Moving Files Between CaptionMaker and MacCaption](#)
- [Comparing CaptionMaker & MacCaption Versions](#)
- [Identifying Pro and Enterprise Features in This Document](#)
- [Prerequisites for Captioning](#)
- [Automatic Time Stamp \(ATS\)](#)
- [Caption Style Guidelines](#)
- [Captions vs. Subtitles](#)
- [Switching Between Caption and Subtitle Modes](#)
- [What is 608 and 708 Closed Captioning?](#)
- [MacCaption Workspace](#)

## Captioning Process at a Glance

Captioning is basically a three-step process.

1. Transcribing—Create a text file of the video dialog.
2. Caption File Creation—Implement the timing, placement, and appearance of the captions.
3. Encoding—Encode the caption data into the video, or export the captions as a separate file.

## Installation

When you purchase MacCaption you will receive a software license key. You can easily download and install the software by clicking on the downloads page at [telestream.net](http://telestream.net) and following the instructions.

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**Note:** As of version 6.3 of CaptionMaker and MacCaption, only Desktop, Pro, and Enterprise licenses issued by Telestream are supported. If you purchased CaptionMaker or MacCaption prior to October 2013, you need to upgrade to a Telestream Desktop, Pro, or Enterprise license before upgrading to the current software version. Please contact Telestream for more information.

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For detailed MacCaption installation, upgrading, and setup instructions, see the chapter, [Installing MacCaption](#), near the end of this guide.

## Video Tutorials

Video tutorials for MacCaption on the Telestream website provide a great way to get started, learn more about features, and get valuable tips and techniques.

Find the tutorials at:

<http://www.telestream.net/captioning/resources.htm>

# Vantage and Switch Support Captioning

The Telestream software tools, Vantage and Switch, are great companions to MacCaption to provide the complete workflow of tools to create, edit, encode, and verify caption data in professional file formats for TV and the Internet.

Telestream Vantage version 7.0 and newer, with the Timed Text Flip service, provides many caption encoding and transcoding features, including:

- MCC caption file support, including CEA-608 and CEA-708 caption data insertion.
- MXF caption data insertion for SMPTE 436M.
- MPEG-2 user data 608/708 insertion (A/53).
- Direct-convert caption data pass-through, such as MPEG-2 to MXF captions.
- Burn-in subtitle overlays.
- DVB Subtitling.

For a complete list of caption and subtitling features of Vantage Timed Text Flip, please visit <http://www.telestream.net/vantage/TimedText.htm>

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**Note:** MacCaption does not convert, or transcode, one type of input media file to a different type of output media file. However, it can convert caption/subtitle files to many different types. Vantage has great options to convert one media file type to one or more other media file types.

---

Switch can decode and play many caption and subtitle files, with features such as:

- Playing captions embedded in video and side-car caption files.
- Decoding embedded CEA-608 and CEA-708 caption data.
- Playing Internet caption files, such as WebVTT, iTT, TTML, and so on.
- MXF ancillary caption track decoding and playback.
- MPEG-2 user data caption decoding and playback.
- Decoding and playback of various caption and subtitle files, such as SCC, MOV, DV, DVB, LXF, GXF, SMPTE-TT, SRT, EBU-STL and so on.
- Viewing Vertical Ancillary (VANC) caption data on an external monitor.

---

**Note:** Common video players such as VLC, Windows Media Player, QuickTime Player, Sony XDCAM Viewer, and so on, do NOT display most types of closed captions. So even if your video will play in one of these players, it may not show the captions.

---

For more information and additional features of Vantage Timed Text Flip and Switch, go to [telestream.net](http://telestream.net).

## Moving Files Between CaptionMaker and MacCaption

Due to the architectural differences in CaptionMaker and MacCaption, the project files are not cross-compatible. To move from one platform to another you'll need to export and then import in a format that is used by both.

### Moving Caption Files

For captioning projects, the MCC (.mcc) file format is a good option for moving caption files between CaptionMaker and MacCaption.

The SCC (.scc) file format is another option, but these are limited to using only a 29.97 frame rate.

### Moving Subtitle Files

For subtitle projects, the IMSC TTML file type works well to move subtitle files between CaptionMaker and MacCaption.

The WebVTT or Cheetah ASC (.asc) formats are also good options for moving subtitle files between MacCaption and CaptionMaker. These allow for more than 32 characters per line.

# Comparing CaptionMaker & MacCaption Versions

The CaptionMaker and MacCaption applications are available in 3 levels:

- Desktop
- Pro
- Enterprise

Please refer to the following chart for the features of each level. You can purchase a software upgrade from one level to another to add capabilities.

	Desktop	Pro	Enterprise
Target uses	Caption authoring	Caption authoring, QC, asset management, TV broadcast exports	Automation & high volume caption asset management
Target customers	Corporate, Independent, academic, government, houses of worship	Caption service providers, TV networks, Post facilities	Major networks, content providers, asset management & distribution services
Authoring/Exports			
Caption Authoring, Timing and Formatting	√	√	√
Auto Time Stamp (sync text and audio)	√	√	√
Export SCC (CEA-608) & MCC (CEA-708) files	√	√	√
Streaming/Mobile Video (SMPTE 2052 timed text--TTML and DFXP, Vimeo, Safari, Android, IMSC 1.0, WebVTT, SRT, iOS, YouTube, WMV, SAMI, etc.)	√	√	√
Burn-in Subtitles and Basic DVD Subtitles	√	√	√
iTunes iTT subtitle creation, edit, and export*	√	√	√
Drop shadow option for subtitling workflows*	√	√	√
Japanese Ruby Annotation formatting support*	√	√	√
Subtitle overlay (movie w/alpha channel subtitle graphics)	√	√	√
Advanced DVD/Blu-ray subtitles		√	√
TV broadcast and VOD media (ProRes*, MPEG-2, H.264, MXF, Avid AAF, tape, etc.)		√	√
OP-47/OP-42 Teletext for MXF Workflows †		√	√
Export caption interchange files (CAP, TDS, ULT, EBU-STL, etc.)		√	√
V-chip/XDS/AFD Encoding		√	√
Live captioning† (via hardware encoder or web stream e.g. YouTube)		√	√
Caption Asset Management (Imports/Conversions)			
Import plain text, SCC & MCC, web formats	√	√	√
Import interchange files (Cheetah CAP, TDS, ULT, PAC, EBU-STL, etc.)		√	√
Extract CC from video files (MOV, MXF, MPEG-2, etc.)		√	√
Reformat Pop-on <-> Roll-up		√	√
Import Nexidia QC .XML Report†		√	√
Automation			
Assemble Captions* (conform to EDL)		√	√
Batch processing (GUI)			√
Scripting & External Control (CLI)			√

\*MacCaption only feature

†CaptionMaker only feature

## Identifying Pro and Enterprise Features in This Document

Some features described in this document are only available in the Pro or Enterprise versions of MacCaption. Features that are included in the Pro version are identified by the following *PRO* icon:



PRO

The Enterprise version includes all available features. Features that are included only in the Enterprise version, and not in Desktop or Pro, are identified by the following *ENT* icon:



ENT

---

**Note:** Features that have no icon are included in the Desktop version, and in the Pro and Enterprise versions.

---



## Prerequisites for Captioning

The two ingredients you need to start captioning a video are: (1) a video file, and (2) a transcript of the dialog in the video.

### Transcribing a Video

There is no magic solution to transcription. It is by far the most time-consuming aspect of the closed captioning/subtitling process. However, there are methods to transcribe in the most efficient way possible. If you do not have a script of the video, you can efficiently produce the script in one of these ways:

- Type the script on a regular keyboard. You can also use a foot pedal to speed up the transcription process by allowing you to control the video playback with your foot so that you can keep both hands on the keyboard.
- Train speech recognition software to recognize one person's voice and produce a transcript by listening to the video and repeating the dialog. Speech recognition software, such as Dragon Naturally Speaking, only recognizes one speaker's voice at a time, and that person must go through a voice training process with the software. You can't feed in various speakers' voices and expect to get a good result.

You can use a process called Shadow Speaking, or Voice Captioning. For this process you train a profile of one person's voice into the Dragon Naturally Speaking software so that it can recognize the speech accurately. Then you watch the video and repeat all of the dialogue into a headset microphone. This takes a little practice to get good at listening and speaking at the same time, but for most people, it's much faster than typing on a regular keyboard. As you continue to use the software and correct the errors, you can eventually expect to reach around 95% accuracy.

- Use a professional transcription service. This is the easiest way to generate the script, and can be cost-effective.
- Mac OS X also has built-in speech to text. This can be leveraged using the built-in microphone on a laptop or with a 3rd party USB microphone. When a microphone is present and MacCaption is open, users can press the "fn" key on the keyboard twice to enable this speech-to-text feature. This allows users to transcribe with their voice directly into the MacCaption text cell area. See [Start Dictation](#) in the Menus chapter for more information.

MacCaption can import scripts from a text file and most word processors, such as Word Rich Text Files (.rtf). Rich Text Files provide the option of importing colors and italics. However, because of special formatting and characters used in some kinds of document files, it is often best to start with a plain text (.txt) file.

### Using a Video File

The other ingredient you need for producing captions is a video file. Make sure you are using a digital video file, not videotape, as your video source. MacCaption can play back most types of QuickTime files. See [Opening a Movie](#) for a list of all file types that play in MacCaption.

If you have a file format that won't play, please see [Using a Proxy Movie](#) to learn about making a proxy movie for use with MacCaption.

## Automatic Time Stamp (ATS)

In most other captioning software, even after you import the transcript and video, you must go through a time consuming process to manually synchronize each piece of text so that it appears at the correct time in the video.

In MacCaption, Auto Time Stamp (ATS) automatically synchronizes the text transcript with your audio or video file, dramatically reducing the time it takes to caption a video. See [Using Auto Time Stamp](#) for instructions on ATS operation.

## Caption Style Guidelines

Adhering to good caption style is very important. The following is an excerpt from the Described and Captioned Media Program (DCMP), web site - <http://www.dcmp.org/>:

Captioning is the key to opening up a world of information for persons with hearing loss or literacy needs. There are more than 30 million Americans with some type of hearing loss. Millions of others are illiterate, learning to read, or use English as a second language.

The first captioning of any kind was performed in the late 1950's by Captioned Films for the Deaf, the ancestor of DCMP, two decades before the advent of closed captioning on broadcast television. The first edition of the Captioning Key was published in 1994, and these guidelines were based on decades of experience by DCMP (then called Captioned Films and Videos Program), review of captioning research, and examination of standards developed by various captioning vendors. The Captioning Key has been applied to both entertainment and educational media, has been used for consumers at all levels (children through adults), has received international distribution, and has been translated into other languages.

These guidelines are a key for vendors performing captioning for the DCMP. The vendor list can be found at this URL: <http://www.dcmp.org/caai/nadh11.pdf>. The DCMP provides information on how to become an approved vendor on the DCMP Web site.

The information is applicable to vendors and other businesses that provide closed captioning (CC) and subtitles for the deaf and hard of hearing (SDH) of all types of media at various levels. Thus, these guidelines are also useful to media producers/distributors and others considering captioning their products or learning about captioning.

The Captioning Key guidelines are available in PDF from the DCMP at: <http://www.captioningkey.org/captioning-key.pdf>

A Spanish translation of the Captioning Key is also available: <http://www.dcmp.org/caai/nadh52.pdf>

# Captions vs. Subtitles

Captions are text that appear on a video and contain the dialogue and cues to indicate sounds are occurring, such as music or sound effects. Subtitles are text that appear on a video or in a movie and typically contain only a translation of the dialogue.

## Captions

The purpose of captioning is to make a video accessible to those who cannot access the audio content, such as for people who are deaf or hard of hearing, and for other situations in which the audio cannot be heard due to environmental noise or a need for silence.

Captions can be either open captions (always turned on, aka "burned in") or closed captions (can be turned on/off by the viewer). For TV broadcast, closed captions are much more common because they allow each viewer to decide whether they want the captions to be turned on or off. Closed captions are transmitted as a special coded signal sent along with the video picture, and require a decoder in your television or set top box to display the text on the screen. This special coded signal is what broadcasters check for to ensure that your video is in accordance with the law.

### Caption Font and Style are Determined by the Decoder

For technical reasons, closed captions have many more rules and constraints that affect the timing and the appearance of the text. This means that in practical use, the caption author has limited or no ability to specify the font, size, text styling, and so on. These settings are determined by the decoder which renders the text to the screen when the captions are turned on.

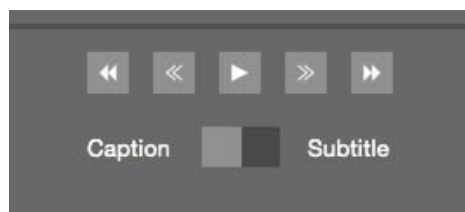
## Subtitles

Subtitles are text that appears on a video or in a movie and typically contains only a translation of the dialogue, typically because the dialogue is in a foreign language, or because the dialogue was difficult to hear clearly. Unlike captions, subtitles usually do not convey non-dialogue sounds such as background noise, sound effects, or music cues, because it is presumed that the viewer is able to hear them. Subtitles have fewer rules and limitations than closed captions, and generally have more fonts, styles, and colors available to choose from.

For more information on using subtitles, see the [Subtitle Mode](#) chapter.

## Switching Between Caption and Subtitle Modes

To switch MacCaption between caption and subtitle modes, simply click the button on the workspace. The keyboard shortcut is Command-D.



# What is 608 and 708 Closed Captioning?

## 608

CEA-608 (formerly known as EIA-608) was the original closed captioning standard used for analog TV broadcasts since 1980. This is also called "line 21" captions because they are embedded in line 21 of analog TV signals.

608 captions are typically limited to a single block character font with gray mono-spaced text on a black square background. Only the standard alphanumeric and certain accented characters are supported. Due to bandwidth restrictions, it is uncommon to see more than two languages encoded simultaneously.

CEA-608 captions also support different background colors. See images below for examples of background color when viewed in a CEA-608 decoder.



## Up-Converted from 608 to 708

608 captions that are up-converted to 708 do not take advantage of any of the new 708 caption features, such as multiple fonts and styles, multiple windows, Unicode character support, or proper support for more than four languages.

## 708

CEA-708 (formerly known as EIA-708) is the new closed captioning standard used for all DTV broadcasts, including HD and SD. 708 supports a number of features, including:

1. 708 captions can appear in multiple fonts, sizes, colors, and styles:



2. 708 captions are drawn into "windows" which allows more creative and flexible positioning of the captions, including use of the full 16x9 width of HD video.
3. 708 captions can contain up to 63 different captions tracks (although typically up to 6 are used simultaneously), without the bandwidth limitations of 608.
4. 708 captions also include a digital form of the 608 caption data for backwards compatibility with older analog gear.

708 captions are required for all captioned DTV broadcasts, which includes both HD and SD material. The DTV transition occurred on June 11, 2009. DTV broadcasts (with very few exemptions) must now include both 708 and 608 captions.

When submitting a captioned SD tape to a broadcaster, the 708 captions are automatically generated from the 608 data when the video is encoded for DTV. However, when sending a pre-encoded file for broadcast (such as a MPEG-2 transport stream), the file must contain both 708 and 608 data even if it is only SD, because it will be transmitted as-is (not re-encoded by the broadcaster). HD tapes must always contain both 708 and 608 captions as well.

---

**Note:** U.S. broadcast equipment does not support the full CEA-708 specification, therefore, MacCaption only encodes simple CEA-708 that does not include any of the advanced features. Unicode characters do not display properly.

---

## Industry-Standard Caption Format Data

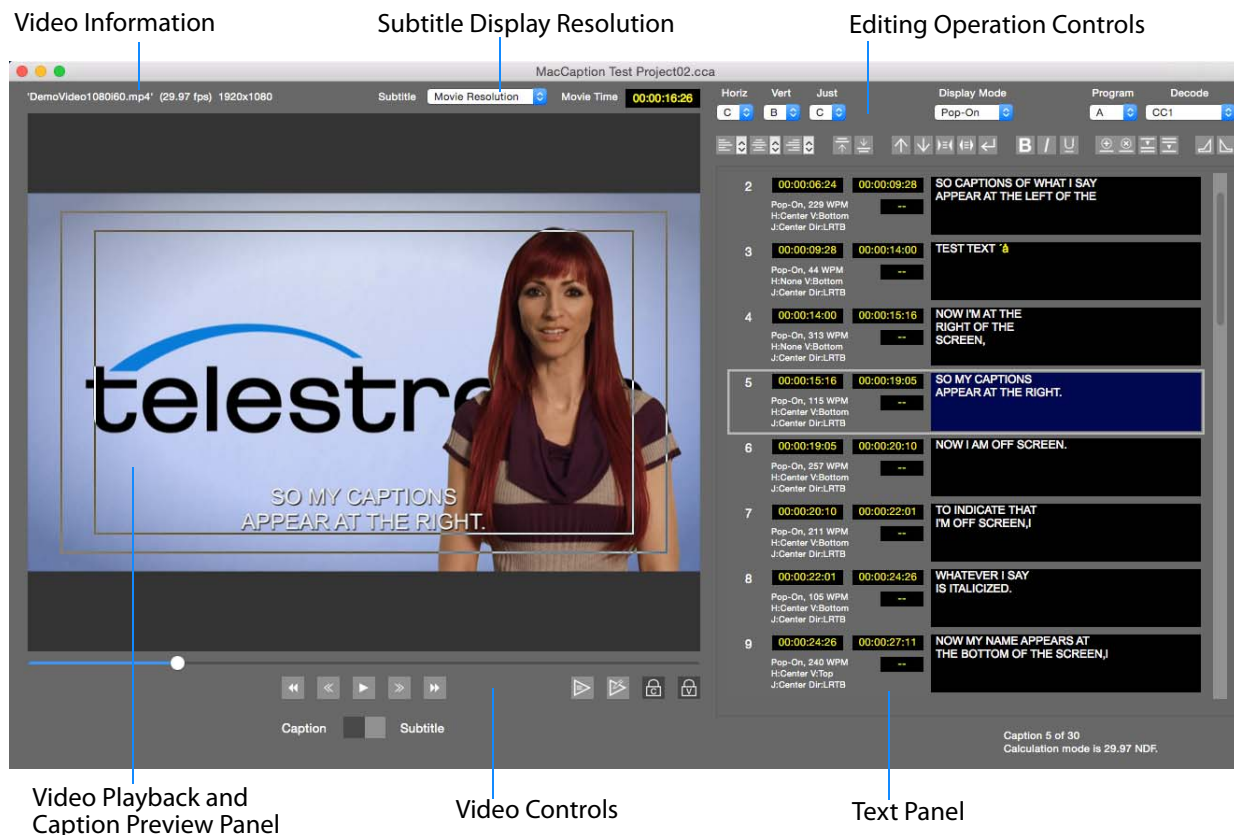
All existing industry-standard caption data formats, such as SCC files or CAP files, only store CEA-608 caption data. However, MacCaption can import any industry standard caption file format, and then up-convert the captions into CEA-708 caption data for embedding into a video file or exporting into new formats that support CEA-708.

MacCaption developers have created a new file specification called MCC (MacCaption Closed Caption file) which contains native CEA-708 encoded caption data. CaptionMaker also supports the MCC file format. The MCC format is an open specification and free for any hardware or software manufacturer to use. Please contact Telestream for more information.

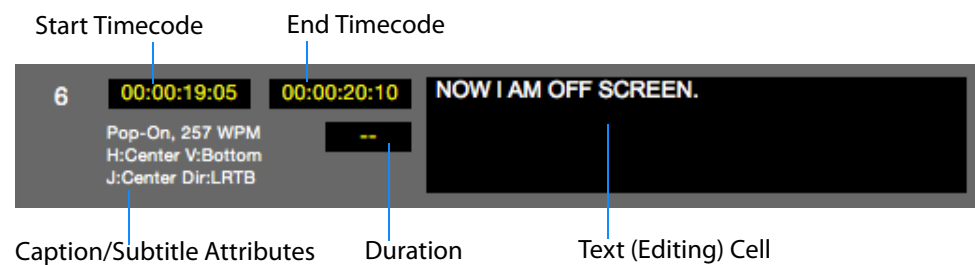
# MacCaption Workspace

The MacCaption workspace contains the following main sections.

- Video Playback and Caption Preview Panel—Play the video and preview the caption/subtitle timing, location, and look.
- Subtitle Display Resolution—Select the resolution of the display in Subtitle mode. See [Set Resolution With No Loaded Movie or for Export](#) for more information.
- Video Controls—Control video playback and synchronizing of captions with video, and caption/subtitle selection.
- Editing Operation Controls—Buttons provide controls for most of the common editing operations.
- Text Panel—Provides timing information, display parameters, and text editing.



## Text Panel Details





# Preparing and Importing Files

The topics in this chapter provide information on transcription, describe how to import various types of files into MacCaption, and explain how to use a proxy movie.

- **Transcription**
  - Speech to Text Technology
  - Avoid Italics and Bold Text
  - Indicate Change in Person Speaking
  - Using Tab Delimited
  - Plain Text is the Preferred File Format
- **Import Caption or Subtitle Files**
  - Types of Caption/Subtitle Files
  - Considerations When Importing Subtitles for Editing or Converting
  - Importing Captions or Subtitles
- **Using Copy and Paste for Text**
- **Opening a Movie**
  - To Open or Replace a Movie
- **Importing Captions/Subtitles from a Video**
- **Using a Proxy Movie**
  - Use Telestream Cloud or Vantage to Make a Proxy Movie
  - Proxy Movie Settings
- **Set Resolution With No Loaded Movie or for Export**

## Transcription

For non-live, prerecorded material, a transcript must be created of the dialog in the video before the closed captioning process can begin. While listening to a video, a typist can transcribe the video using any standard word processor.

## Speech to Text Technology

There are several ways that speech-to-text software can speed up the transcription process. One option is a fully automated solution, such as Dragon Naturally Speaking for Windows and Dragon Dictate for Mac, which is software that generates a transcript from an audio file or spoken voice. The software can read the audio waveform and try to match the sound to words in a dictionary. The results vary, and typically require the user to proofread and correct mistakes.

Another option is to train the user's voice to the speech-to-text software, and repeat what is being said in the video. The result is a plain text document. This is a good solution because it is very accurate. Punctuation will need to be corrected.

Recently, mobile phones have been equipped with speech-to-text technology that can be used to create a transcript for captioning. Some users find it practical to simply speak into their mobile phone while watching a video and create the transcript for captioning. Consult with your device manufacturer for details.

## Avoid Italics and Bold Text

When creating a transcript it is best to avoid using italics and bold. Italics in closed captioning generally mean that the speaker is off-screen. Do not use bold as it could result in text blinking on and off. TV sets and cable boxes do not have the ability to bold text, so we recommend avoiding bold.

## Indicate Change in Person Speaking

When importing a transcript into captioning software, the captioner looks for a change in the person speaking to start a new caption block. A good captioning project should have an indicator for the viewer to show a change in speaker. The transcript can help this effort by placing a symbol before the speaker change. The characters ">>" typically shows this change.

## Using Tab Delimited

If line breaks or timecode are critical for the captioning project, a simple tab character can be placed in the text. In the same way spreadsheet software can separate cells, captioning software can do so when it detects a tab character. For example, if a sentence is long, a tab character will create a line break in the text.

## Plain Text is the Preferred File Format

Although MacCaption can accept a variety of text files, the recommended file format for transcriptions is a plain text document (.txt). Many word processors include extraneous data in native file formats such as page numbers, margins, footnotes, column settings, and other non-text related code. Most word processors can save the document as a plain text file, for import into MacCaption.

## Import Caption or Subtitle Files

After you have created the transcription of the dialog, or if you already have a caption/subtitle file, you are ready to import it into MacCaption.

### Types of Caption/Subtitle Files

In addition to text documents, MacCaption can import a wide variety of file types, such as TV Caption files, Subtitle files, PAC files, and Web Caption files. For a complete list of file types see [File Types for Import/Export](#).

### Considerations When Importing Subtitles for Editing or Converting

MacCaption can import many kinds of closed captioning and subtitle files, but when dealing with subtitle imports, there is one extra consideration. MacCaption can only import subtitle formats which are "text based". This refers to how the subtitles are stored in the file. If they are stored in a textual format along with formatting information and time codes, they can be imported to edit or convert them. Some examples of text-based subtitle files are SubRip SRT, WebVTT, iTunes iTT, PAC, DLP Cinema XML, and EBU-STL.

However, if the subtitles are "image based," also known as "bitmap subtitles," then MacCaption cannot import them. When the text is converted into an image, it is very difficult to turn that image back into an editable text format. Some examples of image-based subtitle files are Blu-ray BDN, UYC/USF, and any other subtitle format that deals with image files like PNG, TIFF, BMP, and so on.

There are also some subtitle file formats that support both text-based and image-based subtitles. For these formats, MacCaption can only import the subtitle file if it is the text-based variant. Some examples of these formats are: DVD Studio Pro STL, Scenarist SST, and SMPTE Timed Text.

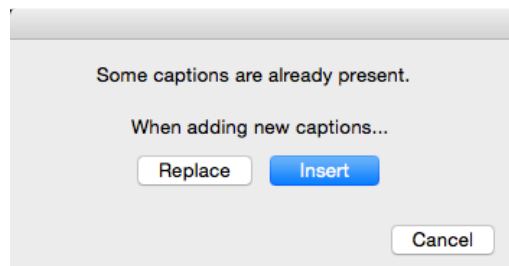
## Importing Captions or Subtitles

You can import caption or subtitle files in two basic ways:

- **Menu selection.** From the File menu choose Import and select the type of file to import.
- **Drag and drop.** You can drag and drop the caption/subtitle file directly into the MacCaption text panel. A white highlight border appears around the text panel when it is ready to accept the file.

During the import operation a dialog may appear for some file types, providing options for how to configure and place the captions. For text file options see [Text Import Options](#).

When captions are already present in MacCaption and you are importing a new text file, the following dialog asks if you want to Replace or Insert the captions.



**Replace.** The existing captions are deleted and content from the file is imported in its place.

**Insert.** The file content is inserted just above the current row that is selected.

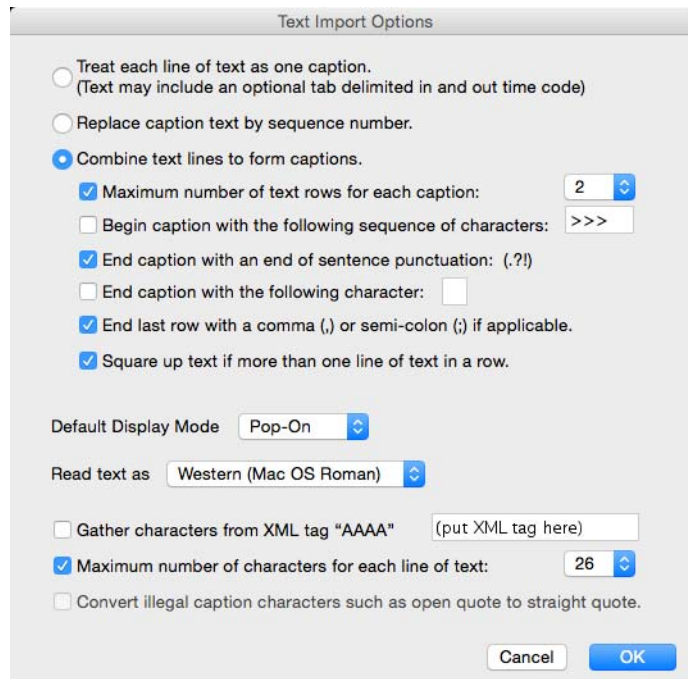
---

**Note:** When importing a standalone file, such as SCC, the above dialog does not appear. Standalone file imports are appended onto the end of the currently existing text in the editing cells.

---

## Text Import Options

When importing a Plain Text file the following Text Import Options dialog opens.



The Text Import Options dialog provides the following options:

**Treat each line of text as one caption.** Each line of text becomes one caption. The text can include an optional tab delimited in and out time code, which is used for timing.

**Replace caption text by sequence number.** Use this option when each line in the text document starts with a number, corresponding to each caption row. Start with number 1, and continue consecutively for each row, for example, 1 through 35. The numbers in the text document will place the captions in the corresponding numbered row in the MacCaption workspace.

The sequence number option is useful for translation into other languages. The line numbers will place the translation in the proper timing location if you replace the existing captions that have been timed to the video.

**Combine text lines to form captions.** Select this option to active the following choices for combining text lines:

- **Maximum number of text rows for each caption: [1-4].** (2 is the default value)  
Specify the maximum number of lines of text for each caption. The limit is 4 lines of text, according to the CEA-608 standard.
- **Begin caption with the following sequence of characters: [>>>].** Enter custom character(s) to start the next caption. When this character is encountered during import, MacCaption starts a new caption.

---

**Note:** Only one new row is started even if multiple consecutive instances of a character are in the text file. For example, if you enter the ">" character to start or end a row, MacCaption will start a new row when it sees ">", ">>", or ">>>" and so on.

---

- **End caption with an end of sentence punctuation: (.?!).** When selected, a caption ends and a new one is started when a period, question mark, or exclamation point is encountered during text import.
- **End caption with the following character: [\_\_].** Enter custom character(s) to end a caption. When this character is encountered during import, MacCaption ends the current caption and starts a new one.
- **End last row with a comma (,) or semi-colon (;) if applicable.** When selected, a caption ends and a new one is started when a comma or semi-colon is encountered during text import.
- **Square up text if more than one line of text in a row.** When selected, words are distributed more evenly in multiple rows of text.

#### Default Display Mode:

- **Pop-On.** Pop-on mode is recommended for most post-production captioning projects.
- **Paint-On.** The characters are painted on the screen one after another, from left to right.
- **Roll-Up 2 Lines.** Sets a maximum of 2 lines to appear on screen at a given time.
- **Roll-Up 3 Lines.** Sets a maximum of 3 lines to appear on screen at a given time.
- **Roll-Up 4 Lines.** Sets a maximum of 4 lines to appear on screen at a given time.

---

**Note:** Roll-up captions are typically used for live captioning, such as TV news. One line at a time rolls up from the bottom, up to the maximum number of lines that are set to appear at a given time.

---

See [Display Modes](#) for more information on display mode operation.

#### Read text as:

- **Western (Mac OS Roman)** (Default)
- **Unicode (UTF-8)**
- **Unicode (UTF-16)**
- **Unicode (UTF-16BE)**
- **Unicode (UTF-16LE)**
- **Automatic**

---

**Note:** UTF encodings are used for any languages or characters that are not part of the ASCII character set, such as Asian, French, German, Russian, Spanish, and so on.

---

**Gather characters from XML tag “AAAA” [\_\_].** Select this option and type in the XML tag you want to extract the text characters from.

**Maximum number of characters for each line of text: [1-68].** (26 is the default value) The maximum number of characters for each line is from 26 to 32 characters when in captioning mode. 32 characters is the limit for CEA-608. 26 or 28 characters is the recommended setting.

---

**Note:** Switch to subtitle mode, before importing, to use more than 32 characters per line.

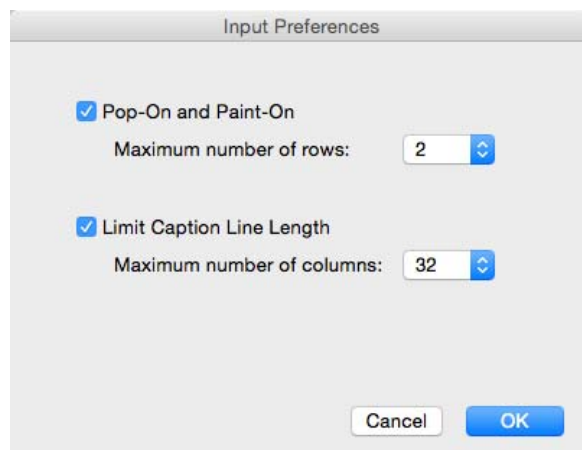
---

**Convert illegal caption characters such as open quote to straight quote.** Select this option to attempt to convert any illegal Unicode characters in the caption text into their standard ASCII equivalents. Some special Unicode characters cannot be used in 608 closed captions, such as the em-dash (long hyphen), ellipses (three dots as one character), curved quotes, and so on. For this option to be active, a Unicode option or Automatic must be selected in the “Read text as” menu.

## Using Copy and Paste for Text

Copy and paste is an easy way to import transcript text directly into the text the panel of MacCaption. This way you can get text from various sources, such as e-mail, Word docs, PDFs, or websites.

Place your cursor in a text row in the place you want to paste the text. MacCaption will automatically split up the text into the maximum number of rows per caption based on the setting in the Input Preferences dialog. To adjust the setting, choose Caption > Input Preferences.





# Opening a Movie

MacCaption can play videos that are compatible with your QuickTime player. If you need to play videos that are not playable by default with QuickTime, you may be able to add a plug-in or install an additional codec in your system.

XDCAM HD, IMX SD .MXF, and additional files are supported with Apple's Pro Video Formats 2.0.4 plug-in for QuickTime. You can download this plug-in from [https://support.apple.com/kb/DL1396?locale=en\\_US](https://support.apple.com/kb/DL1396?locale=en_US).

If you have a file type that cannot be played in MacCaption, you can create a proxy movie. For more information see [Using a Proxy Movie](#).

---

**Note:** Opening a movie only loads the video and its audio for playback. If the video contains closed captions, a separate import step is needed to bring in the captions. See [Importing Captions/Subtitles from a Video](#).

---

The following are typical video and audio files that can be played by default in the QuickTime player, and thus in MacCaption:

---

M4V (.m4v)

---

MPEG-4 (.mp4)

---

MOV (.mov) ProRes

---

MOV (.mov) H.264

---

MOV (.mov) DV25 and DV50

---

MOV (.mov) with Animation

---

MP3 (.mp3) (audio only)

---

AIFF (.aif) (audio only)

---

WAV (.wav) (audio only)

---

## To Open or Replace a Movie

You can open a new movie (or audio file), or replace the currently loaded movie. To open or replace a movie, go to the File menu and choose Open Movie, or simply drag and drop a video file into the MacCaption video preview panel. When you drag and drop and there is already a video loaded, the new video replaces the previous one.

## Importing Captions/Subtitles from a Video

Opening a video only opens the video and audio for playback. If the video contains closed captions, a separate import step is needed to bring in the captions.

When captions or subtitles are embedded in a movie, you can simple drag and drop the movie into the MacCaption Text Panel area. This will trigger the MacCaption import component that will pull the captions/subtitles out of the movie and load them into the Text Panel.

You can also go to File > Import > Extract CC from Media to choose a file type to extract the caption/subtitle from. You can select a specific file type, or use the QCC Multi-Format Import option, which covers most file types. See QCC Multi-Format Import below.

## QCC Multi-Format Import

### PRO

The QCC™ Multi-Format Import feature allows you to extract closed captions in 608/708 from a large variety of SD and HD video file types.

This is very useful when using Command Line Interface scripting. An entire archive of video files can be read with the QCC Multi-Format Import. Even obscure file types such as DV25/50, IMX30 with VBI, and ProRes .mov captions (both legacy Codec and Caption Track). In addition, users can extract multiple languages from the files such as CC1 and CC3.

This import function facilitates importing (retrieving/extracting) closed captions from the following file types:

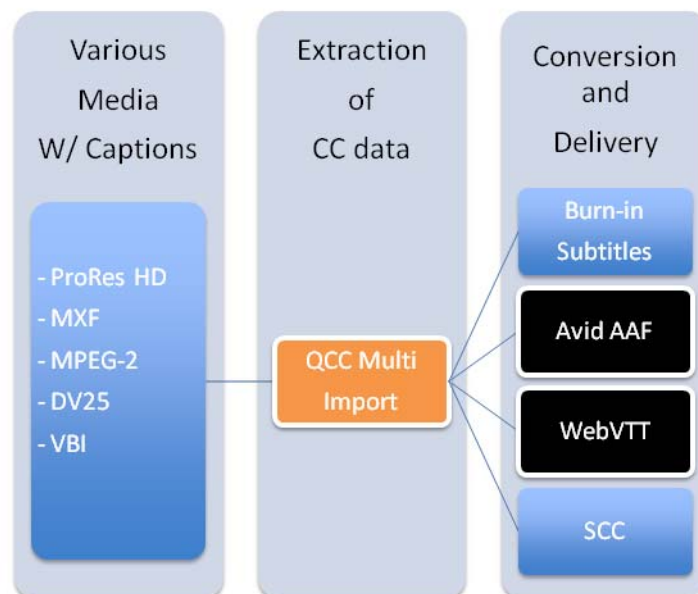
- .mpg .mpeg .m2v .mpv .ts .m2t .m2ts (MPEG-2 user data 608/708, line 21)
- .mov .mp4 .m4v .3gp (QuickTime CC tracks, line 21, H.264 NAL SEI 608/708, DV VAUX, ProRes VANC)
- .mxf (SMPTE 436m, MPEG-2 user data, line 21)
- .gxf (VANC, MPEG-2 user data, line 21)
- .avi .wmv (Line 21, DV VAUX)

---

**Note:** New formats and features are added regularly to the QCC Multi-Format Import.

---

The following diagram depicts the extraction of data from various types of media by the QCC Multi-Format Import and the conversion and delivery to multiple destinations.



## Using a Proxy Movie

A proxy movie is a lower quality video file that is used as a stand-in for the high quality master file when authoring captions or subtitles. Here are some reasons you may want to use a proxy movie for part or all of the captioning process:

- **Large original video file.** Downloading a large movie file takes a long time and uses a lot of space. Unless you need to embed the captions into the master video file, you can do the captioning using a much smaller and easier to download proxy movie.
- **Playback issues.** The original video may be very demanding to playback without dropping frames. Especially if encoded with high quality settings, or if you have an older or lower end computer, or if the video is sitting on an external drive like a flash drive or a network drive. Using a proxy movie will help the movie play smoother and make the captioning software feel more responsive.
- **Incompatible format.** The movie might be in a format that can't be played back well or at all in the captioning software. Some types of video files, such as MXF or MPEG-2 transport streams, require additional software to play them back. In this case you can use a proxy movie for the captioning process, and then you can still embed the caption data into the original master file if you need to.

## Use Telestream Cloud or Vantage to Make a Proxy Movie

Telestream Cloud and Vantage can be used to create proxy movies. These platforms support a wide range of formats, including all the major input output formats for web, streaming, VOD, production, broadcast and more.

For more information go to: <http://www.telestream.net/>

## Proxy Movie Settings

The resolution and bit rate of the proxy movie does not matter too much. You can keep these low for easy playback. What is important, however, is that you maintain the same frame rate of the master file. For example, if the master file is 59.94 frames per second, make sure the proxy movie is also 59.94 frames per second. This is because the video frame rate has a large impact on the captioning process, and using a different frame rate could cause the captions to not sync up with the original video. Additionally, if the original master video has a time code track, ideally the proxy movie should start at the same time code as well.

Here are some general guidelines for your export settings:

- MP4 or QuickTime MOV format.
- H.264 video at 640x360 (if HD) resolution using "baseline" profile.
- A bit rate of around 500 kbps to 1000 kbps (higher will make a larger file, but will make the video more clear).
- Uncompressed (PCM) audio at 44100 or 48000 Hz, stereo or mono.

### **Note on H.264 (MP4) Compression Settings**

Some encoders, such as x264, have different profile settings such as "High profile", "Main profile", or "Baseline profile". The higher profile makes a higher quality file at the same bitrate by using more advanced compression algorithms. The problem is that these advanced settings require more CPU power to decode, and some settings such as a higher keyframe interval can cause seeking within the video to take a long time.

When authoring captions, you tend to do a lot of seeking within the video, so this can slow down the process and make the software feel less responsive. Since quality is generally not a problem when using a proxy video, we recommend encoding using "baseline" profile. This will help with smoother playback and better responsiveness while captioning. Of course, you can still use a high profile or higher quality file as your final output.

## Set Resolution With No Loaded Movie or for Export

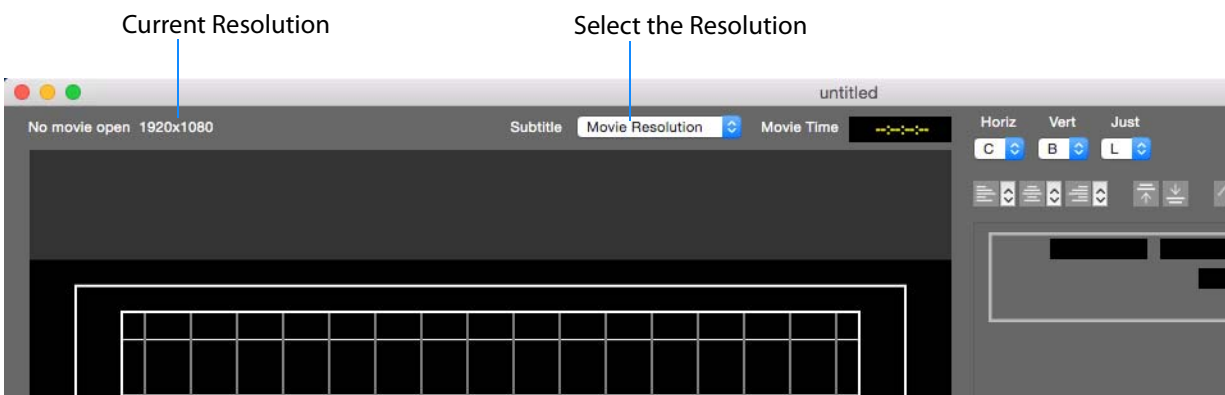
When in Subtitle mode you can use the Subtitle Movie Resolution feature to set the resolution of the display panel when no movie is loaded, or set the resolution to the final size you plan to export even when a proxy is loaded that is a different size.

This option allows you to preview and adjust subtitles in their final correct font display size. The default resolution is 1920 x 1080 when no movie is loaded.

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**Note:** In Caption mode, movie preview resolution defaults to 720 x 480 when no movie is loaded.

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These size options are available from the Subtitle Movie Resolution menu:

- **320 x 240**
- **720 x 480**
- **1280 x 720**
- **1408 x 792 (DLP Cinema 16:9)**
- **1920 x 1080**
- **2048 x 1080 (DCI 2K)**
- **3840 x 2160 (4K UHD)**
- **4096 x 2160 (DCI 4K)**
- **Custom**—Opens the Subtitle Preview dialog which allows you to enter a custom width and height for the display resolution, up to 4096 x 4096.

# Synchronizing and Adjusting Captions/Subtitles

The topics in this chapter describe how to perform automatic and manual time stamping, how to use the time code controls, adjust timing, and check for errors.

- [Time Code Overview](#)
- [Using Auto Time Stamp](#)
- [Checking the Timing](#)
- [Caption and Video Playback Controls](#)
- [Time Code Display and In/Out Points](#)
- [Manual Time Stamping](#)
- [Adjusting the Timing](#)
- [Setting the Time Code Mode](#)
- [Error Checking](#)

## Time Code Overview

MacCaption converts text to closed caption data and simulates sending control codes to captioning hardware for file-based delivery, or sends actual control codes to hardware devices. Start and stop time codes tell the captions when to turn and turn off. Start and stop time codes are also required for a blank space between captions, for a pause in speaking.

The following topics describe how to apply the time codes to each portion of text, so they line up properly with actions in the video. This is also called “time stamping”. MacCaption provides options for automatic time stamping, manual time stamping, and many ways to make manual and automatic adjustments.

## Using Auto Time Stamp

After you have all of the text loaded into the MacCaption Text Panel, and have it broken into the sections you want, you are ready to time stamp it for synchronization with the video. The easiest way is to use the Auto Time Stamp feature.

The Auto Time Stamp feature works very well for videos with high quality audio and containing mostly dialog. It does not work as well if the dialog is mixed with music or sound effects, so it is preferable to use a dialog-only audio mix to synchronize the captions.

## Requirements for Auto Time Stamp

The following are the basic requirements to perform an Auto Time Stamp operation:

- A video with a clear high quality audio dialog track, in the English language, with very little background noise or other interfering sounds.
- An accurate transcript of all the dialogue in the video.
- Java Runtime Environment (JRE), version 6 or later, must be installed.
- See [System Requirements](#) for the minimum computer specs.

## Auto Time Stamp Results

When you run an Auto Time Stamp operation, the following occurs:

- It automatically synchronizes each caption to the video dialog; no need to manually time-stamp captions.
- The process is much faster than real-time (15 times to 30 times faster, depending on the speed of your computer).
- When error checking is enabled, MacCaption automatically detects captions with poor synchronization or other issues and marks them with a red exclamation point, so you can spot check and manually correct these captions.

See [Error Settings](#) for more information.



## Best Practices for Auto Time Stamp

The following are important points to consider for getting the best results from an Auto Time Stamp operation:

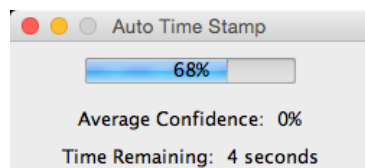
- An accurate transcript is vital. To get good results, the transcript cannot deviate significantly from the audio.
- High quality audio is also the key. Compression, sound effects, or music can distort the dialog.
- Speaker IDs that are indicated with ">> Name:" are treated as unspoken text.
- Non-verbal information in the transcript, such as music or sound effect indications, should be enclosed by brackets such as this: [MUSIC], or [Applause]. You can also insert the music symbols. See [Insert Music Symbol](#) for more information.
- If MacCaption indicates that some caption lines have errors, you may want to do a quick Preview Play to spot check these sections. In many cases the indicated captions may be fine or close enough for your needs. If not, you can do a manual time stamp just on these few sections to improve the alignment.

## Auto Time Stamp Operation

After the text is imported and broken into the sections you want, you are ready for Automatic Time Stamp (ATS).

To perform the Auto Time Stamp operation:

1. In the Time Code menu select Auto Time Stamp. The operation starts and the Auto Time Stamp dialog opens indicating the progress, confidence percentage, and time remaining.



2. The Auto Time Stamp dialog closes automatically when the operation is complete.

## Selecting a Range for Auto Time Stamp

You can also run Auto Time Stamp on a range of captions if there is a small portion that could use additional adjusting.

## ATS Error When File Name Contains Special Characters

If you use a video file that has a # (hash, pound) or some other special characters in the file name, you may get an error message when trying to use Auto Time Stamp (ATS).





If this error occurs, copy the video file to a local hard drive (not a network drive) and rename the video file so there are no special characters in the file name. That should allow ATS to read the video file.

## Checking the Timing

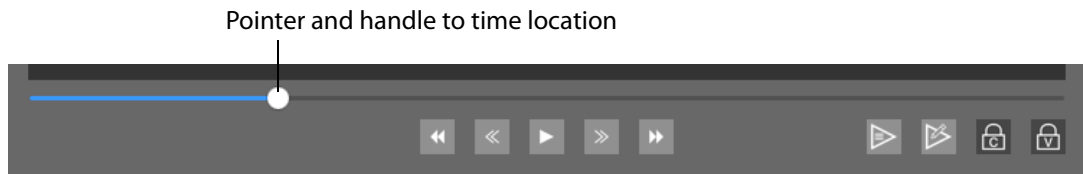
After running Auto Time Stamp, or after manual time stamping, you are ready to check the timing of the captions by using Preview Play. At the same time you can check the location of the captions to see if position adjustments are needed. For proper timing, each caption should start when the first word of the caption is spoken.

### Preview Play

To preview the caption and video synchronization:

1. Rewind the video all of the way to the beginning by dragging the slider, that's just below the video, all of the way to the left.
2. Press the Preview Play button . This engages the Captions Follow Video button  which makes the captions change with the video, following the Start and End times that are set for each caption.
3. To stop the video, press the Play/Pause button .
4. You can now use the Play/Pause button  to start and stop the video and the captions will stay synchronized since the Captions Follow Video button is engaged.

# Caption and Video Playback Controls



**Rewind.** Press to put the video into rewind mode. Press multiple times to incrementally increase the speed.

**Frame Step Reverse.** Press to go back one frame. Hold Shift and press to go back 10 frames (about 1/3 of a second at 30 fps), Option for 30 frames (about 1 second at 30 fps), and Control for 300 frames (about 10 seconds at 30 fps).

For an example of different frame rates, holding the Option key (moving 30 frames) would be about 1.25 seconds for 24 fps, about 1 second for 29.97 fps, and about 0.5 second for a 59.98 fps movie.

The Left Arrow key also moves the playhead back one frame. Hold Shift + Left Arrow key to move back 30 frames (about 1 second at 30 fps).

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**Note:** When your cursor is in a text edit field, pressing the Esc (Escape) key removes the focus from the text edit field so you can use the arrow keys to move the playhead. When focus is in a text edit field the arrow keys move the caption/subtitle position.

---

**Play/Pause.** Press to play and pause the video. You can also press the Space bar.

**Frame Step Forward.** Press to go forward one frame. Hold Shift and press to go forward 10 frames (about 1/3 of a second at 30 fps), Option for 30 frames (about 1 second at 30 fps), and Control for 300 frames (about 10 seconds at 30 fps).


For an example of different frame rates, holding the Option key (moving 30 frames) would be about 1.25 seconds for 24 fps, about 1 second for 29.97 fps, and about 0.5 second for a 59.98 fps movie.


The Right Arrow key also moves the playhead forward one frame. Hold Shift + Right Arrow key to move forward 30 frames (about 1 second at 30 fps).


**Fast Forward.** Press to put the video into fast forward mode. Press multiple times to incrementally increase the speed.

**Preview Play.** Press to start playback and engage the Captions Follow Video button . This makes the captions change along with the video, following the Start and End times that are set. Use this to preview captions after they have been synchronized to the video.

**Time Stamp.** This button starts video playback, but the captions do not play along. Use this mode when you want to edit the In points (start times) of the captions

with new timing by pressing the Mark In button  and you don't want the captions to advance using the existing timing.

**Captions Follow Video.**  When this is pressed (toggled on), the captions change along with the video, following the Start and End times that are set.

**Video Follows Captions.**  When this is pressed (toggled on), and you select a caption row, the video automatically jumps to the time of that caption. You can also quickly move through the caption rows using the up and down arrow keys, and the video follows along.

## J-K-L Playback Control

You can use the J-K-L keyboard controls to shuttle the video, the same way that popular video editing applications operate.

To use the J-K-L keyboard control, press J to rewind, K to stop, and L to play forward. Multiple presses of the J or L keys increases the speed of rewind or forward.

When your cursor is in a text edit field, the J, K, or L keys (and the space bar) operate in text entry mode. Click on the Video Playback panel to change the focus, then the J, K, and L keys will operate in video control mode.


### Use Esc Key to Exit Text Editing and Activate J-K-L Mode


When your cursor is in a text edit field, pressing the Esc (Escape) key removes the focus from the text edit field. The J-K-L keys, and space bar, can then be used for playback control.


For additional information on this and other keyboard shortcuts, see the "Guide to MacCaption Keyboard Shortcut Extensions". You can open this from Help menu > Keyboard Shortcuts.

## Time Code Display and In/Out Points

Information on the MacCaption Workspace shows the current time of the movie, the start and end time of each caption, and the duration. Buttons allow you to set the In and Out points.

**Movie Time.**  Displays the current time of the movie in HH:MM:SS:FF format. (H = hours; M = minutes; S = seconds; F = frames.)

**Mark In.** (Option-Command-M)  Click to set the In Point or Start Time of the first word of the currently selected caption. If multiple rows are selected, start time is set for the first, or top row.

**Mark Out.**  Click to set the Out Point or End Time of the last word of the currently selected caption. This only needs to be set when a space is needed between captions, such as when there is a pause in the speech, or when the captions have ended.

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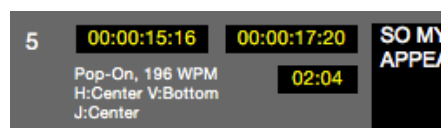
**Note:** When you set an Out Point or End Time, you must set an In Point or Start Time at the point you want the next caption to appear in the video. When a space is not needed between captions, you only need to set the In Point or Start Time for each caption.

---

## Caption Time Display




The following timing information is displayed for each caption row:

- **Starting Time.** The start time of the first word of the caption.
- **Ending Time.** The end time of the last word of the caption.
- **Duration.** The time duration of the caption in seconds and frames.
- **Words Per Minute (WPM).** The approximate word per minute reading speed of the caption.



## Manual Time Stamping


Manual time stamping allows you to associate a timecode to each block of text so it will be in sync with the dialog. Manual time stamping is needed for various situations, such as videos that are not in English or that have loud music. To perform manual time stamping:

1. Rewind the video all of the way to the beginning by dragging the slider, that's just below the video, all of the way to the left.
2. Click the Time Stamp button . Playback starts, but the captions do not play along.
3. Click the Mark In button  each time you hear the first word of a caption. Or you can press the Option-Command-M shortcut keys.
4. Every time you press the Mark In button, time code appears in Starting Time for that row and the next row is automatically selected. Continue until you have set the start time for each row of captions.
5. To stop video playback, press the Play/Pause button .


## Creating a Pause in Caption Display

Typically, closed captions are back-to-back to allow the reader enough time to read the text on the screen. But if there is a significant pause in the dialog, or credits and other information is displayed, there should be a pause in caption display.

To create a pause, you can press the Mark Out button  during a manual time stamping process.

After setting an Out Point, you must press the Mark In button  when you want the next caption to appear in the video.

## Check Your Timing




After you have performed a manual time stamping you should check the timing by using the Preview Play button . For more information see [Preview Play](#).

# Adjusting the Timing

Several timing adjustment options are available when you need to synchronize captions to a video, correct for changes over time, or create different versions for various delivery requirements.

## Adjusting Specific Caption Timing

During playback you may have discovered some captions that need to have their timing adjusted. The following describes some methods for adjusting specific captions:

- **New In Points.** Click on the row where you want to make the change, then move back a couple of caption rows before that. Click the Time Stamp button , and press the Mark In button  when at the point you want to synchronize the caption to the dialog. Continue for any captions you want to fix.
- **New Out Point.** When you want to create a space before the next caption displays, press the Out Point button . Then you will need to set a new In Point when you want the next caption to display.
- **Manual Time Entry.** You may also enter new times manually by typing into the Starting or Ending time fields. The time just before or after it is automatically adjusted.
- **Up/Down Arrow Keys.** You can place your cursor in a caption Starting time field, then press the up or down arrow keys to adjust one frame at a time.
- **Ripple Time code.** See [Applying Ripple Time Code Offsets](#).
- **Stretch/Shrink Time Code.** See [Stretch/Shrink Time Code](#).
- **Convert Time Code.** [Convert Time Code](#).

## Clock Time vs. Time Code

The numbers for the clock time and the time code of a caption can sometimes be different. The following provides a brief explanation of how these time measurements relate to each other.

### Clock Time

Clock Time is also referred to as Media Time or Real-World Time. This is the time that an event occurs relative to the start of the video. Imagine you start a stopwatch at the same time the video starts. At the time a caption is supposed to appear, the time shown on the stopwatch is the clock time (or media time) of the caption. The clock time of a caption is independent of the video frame rate. For example, if a section of dialogue occurs exactly 60 seconds after the start of the show, it will always occur at 60 seconds regardless of whether the video frames update at 10 frames per second, 25 fps, 100 fps, or any other frame rate.

The only case where a clock time of a caption might change is if the video speed is changed. This sometimes happens when converting film sourced material to TV formats—the video is slightly slowed down or sped up, and now the video version has a different duration than the original film (without any other edits to the content). This

results in the dialogue and its associated caption clock time occurring slightly earlier or later than before.

## Time Code

Also called SMPTE time code. Time Code is a system used to uniquely label each video frame with a time-based identifier in HH:MM:SS:FF format. Time code is the value displayed in the Movie Time field on the MacCaption interface. Due to some peculiarities of different video systems, you cannot always take a time code at its face value—the numbers shown in the time code are not always equivalent to the number of hours, minutes, and seconds that it actually represents. Thus it is important to keep in mind that the time code of a caption will sometimes appear to be a different number than the clock time of a caption, even though both they both reference the exact same moment in time.

Further complicating things is that time codes come in different modes, and so a given clock time can be represented by different time codes depending on which time code mode you are using. The [Convert Time Code](#) dialog allows you to switch modes depending on your needs.

For more information on time codes, see the Telestream knowledge-base article: [Time code for 23.976 / \(23.98\) frames per second video](#).

## Applying Ripple Time Code Offsets

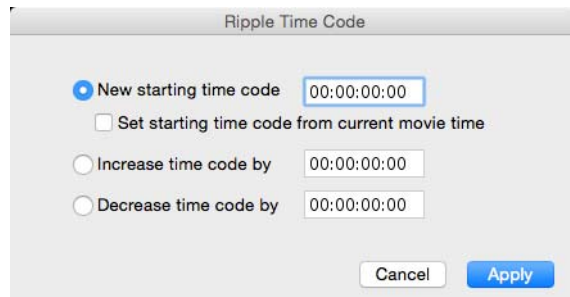
Ripple Time Code changes the time code within a currently selected range, or from a selected row to the end of the file. Use this when you want to change the time stamp of all the selected rows by a few frames, or if you want set a new start time for the selected range.

To make a Ripple Time Code adjustment:

1. Use one of these selection methods—
  - a. Select a range of rows that you want to adjust. Either using Shift-Click or by using the Edit menu > Select Range dialog. You can also use Edit menu > Select Up or Select Down.
  - b. To adjust all the way to the end, select the row where you want to start performing the Ripple Time Code offset.
  - c. If you want to create offsets for the entire file, choose Edit > Select All (Command-A).
2. From the Time Code menu choose Ripple Time Code. This is also available from a right-click menu in the text edit panel.



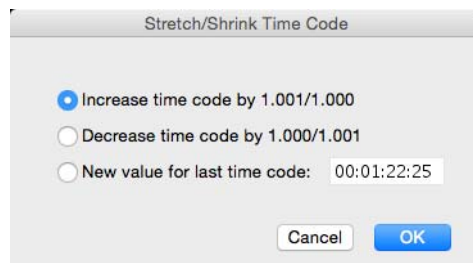
### 3. The Ripple Time Code dialog opens.



### 4. Enter the adjustments you want to make into the fields provided, then click Apply.

## Stretch/Shrink Time Code

If your caption timing is right on time at the start but is off a few seconds from the video at the end, you have “captioning drift”. This can be corrected by using the Stretch/Shrink Time Code option. Choose Time Code > Stretch/Shrink Time Code. This option is also available from a right-click menu in the text edit panel.



The time code value is in the HH:MM:SS:FF format.

Use the “Increase time code by 1.001/1.000” option when you want to convert 23.976 fps to 24 fps, 29.97 fps to 30 fps, or 59.94 fps to 60 fps. This difference is 3 seconds per hour of video.

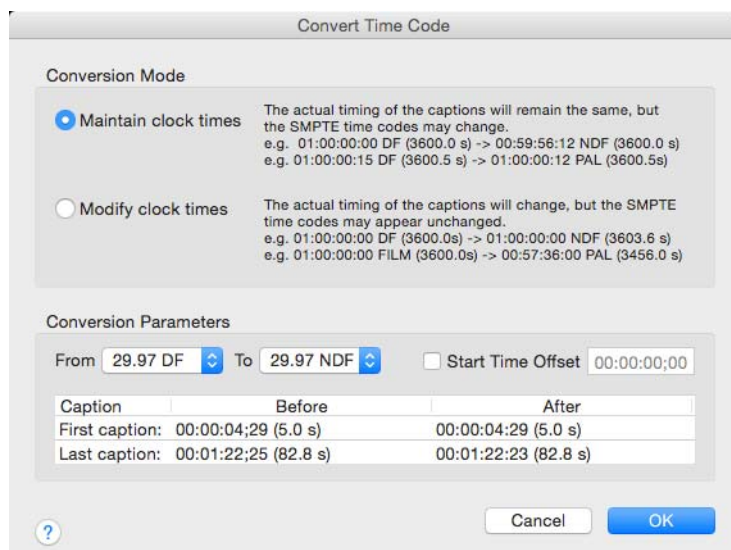
Use the “Decrease time code by 1.000/1.001” option when you want to convert 24 fps to 23.976 fps, 30 fps to 29.97 fps, or 60 fps to 59.94 fps. This difference is 3 seconds per hour of video.

This option is also useful when you use a “proxy movie” to do all the captioning and then need to match the time coded file with the master copy of the video, which may have a slightly different code by the end of the video. One reason this could happen is due to a drop frame/non-drop frame issue. To match the time code of the caption file with the video, make sure the first time code of the caption file matches with the master copy. Then choose this option and enter the last time code from the master copy. This will stretch or shrink all the time codes in the caption file to match the master copy.

You can also use the [Convert Time Code](#) dialog to match the time code of the master copy of the video.

## Convert Time Code

The Convert Time Code dialog provides several options so you can adjust the time code to match other versions or delivery destinations of the movie, or you can change the timing when captions do not sync up with the video. To open the dialog, go to Time Code > Convert Time Code. This option is also available from a right-click menu in the text edit panel.



### Maintain Clock Times

Use Maintain Clock Times if the captions are currently in sync with your movie (the clock times are correct), and you want them to stay in sync, but at a different frame rate or time code mode. For example, this option is used when your captions sync up with a 29.97 fps movie and now you want to apply them to a 23.976 fps version of the same movie, which has the same duration as the original, so that you can deliver a 23.976 fps caption file. When the time code or frame rate changes, the clock times that they represent will be unchanged.

### Modify Clock Times

Use Modify Clock Times if the captions currently do not sync with the movie (the clock times are not correct) and you want to bring them into sync. Or, if the captions sync with this movie but you need to make them sync with another version of the movie which plays faster or slower. For example, this mode is used if you imported a Non-Drop Frame (NDF) caption file which does not sync with your movie which is in Drop Frame (DF) mode. Or, when your captions sync with a 24 fps film and you want to apply them to a 25 fps PAL conversion which has been sped up by 4% from the original film. The time code modes are:

- 23.976: Film
- 24.0: Film (SMPTE 24)
- 25.0 or 50: PAL/SECAM (SMPTE 25, 50)

- 29.97 DF, 59.94 DF: Drop Frame (SMPTE DF)
- 29.97 NDF, 59.94 NDF: Non-Drop Frame (SMPTE 30, 60)

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**Note:** In some cases, when changing from one time code mode to another, Modify Clock Times might appear to leave the time codes unchanged. This is due to the fact that the same time code (in a different mode) can represent a different clock time. Thus the clock time actually did change, even though the time code appears unchanged.

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## Start Time Offset

Enable Start Time Offset if your captions have a starting time code offset such as 01:00:00:00 and you wish to preserve this offset even after the conversion.

For example, if your project and captions are in 29.97 DF mode, the captions start at 01:00:00:00 and are in sync with the video. You want to convert the project to 23.976 mode and have the start time remain at 01:00:00:00. In this case, select Maintain Clock Times, choose Convert From 29.97 DF, and Convert To 23.976. Then, enable the Start Time Offset option and set it to 01:00:00:00. The first caption will remain at 01:00:00:00 but the timing from that point forward will be adjusted. If you tried to do this conversion without setting the Start Time Offset option, the first caption time would change to 00:59:56:10 and not be in sync.

## Preview of Changes

In the Caption—Before—After section, each time is provided as both a video time code (in the given mode) in format HH:MM:SS:FF, and also as a clock time in the format NNNN.N s (seconds), so that you can see what adjustments will be made.

## Setting the Time Code Mode

It is important to know the time code mode when working with video time codes, because if you don't know the mode then the actual time they represent can be uncertain. This is the leading cause of synchronization issues, such as caption text that doesn't quite line up with the audio.

First, let's distinguish between video frame rate and time code mode:

- **Video frame rate**—the rate at which the image is updated.
- **Time code mode**—the numbering or labeling system used to uniquely identify each video frame.

Sometimes, these two items have a simple relationship. For example, PAL video uses 25.0 frames per second frame rate, and 25 fps time code. In other cases the relationship can be more complicated, which is the case for film-like digital videos that run at 23.976 frames per second but count time code as if they were 24.0 frames per second.

Here is how video systems, such as closed captioning software, correlate these two different measurements:

- Both 23.976 and 24.0 fps videos use the same type of time code (SMPTE 24). When using 24.0 fps video and SMPTE 24 time code, it syncs with a real time clock (similar to drop frame time code).
- When using 23.976 fps video with SMPTE 24 time code, it does not sync with a real time clock (similar to non-drop frame time code).

In MacCaption, you set the time code counter mode (SMPTE 30 non-drop frame, SMPTE 29.97 drop frame, SMPTE 24 Film, and SMPTE 25 PAL) via the Time Code > Mode menu. If your video is 24.0 fps or 23.976 fps and you're using SMPTE 24 time code, you'd select Time Code Mode > 24 for both cases because they both use the same time code counting system.

## Error Checking

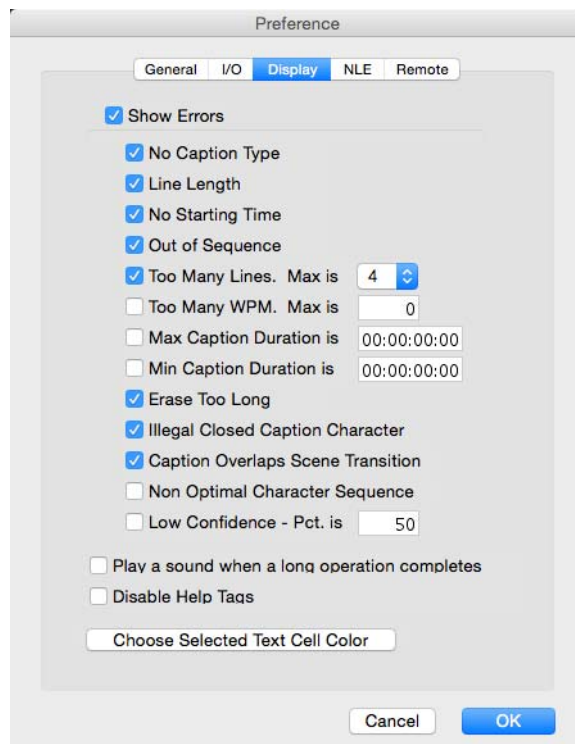
MacCaption provides various options for checking errors, such as missing timecodes, non-sequential timecodes, incorrect words per minute, and so on.

When you caption/subtitle a video, it is very important that you conform to recommended maximum words per minute for captions, depending on your audience. Similarly, it is customary not to have a pop-on caption covering a shot change. And finally, if you do not allow enough time for a pop-on caption to build up, the caption does not appear at the time you assigned.

For example, pop-on captions take about one second for every 50 characters of text. If the difference of time codes of the previous caption and the current caption is less than one second for a caption of 50 characters, the caption appears later than the assigned time code.

## Error Settings

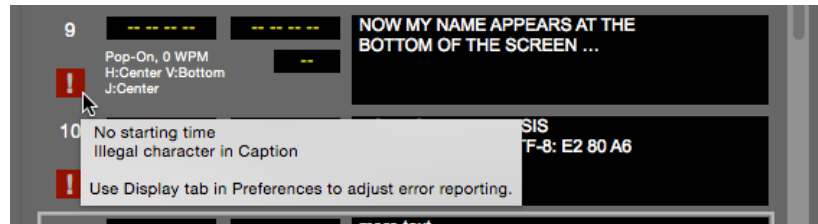
Options for error detection are available in the Display tab of the Preferences dialog. To open the dialog go to the MacCaption menu and select Preferences > Display.



When Show Errors is selected, the values and options selected are automatically checked for those errors.

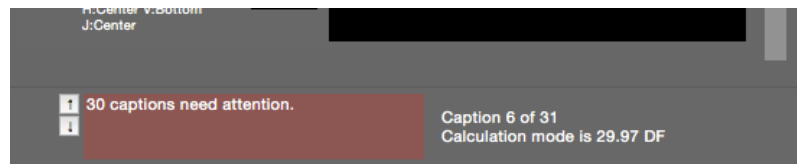
## Viewing Error Messages

When an error is detected for a caption, a red box with an exclamation point “!” appears in the caption row. When you hover your cursor over the red box, a message pops up indicating the detected error:



You can also double-click the red exclamation box to open a dialog and read the same error message.

When errors are detected, a red box appears in the bottom of the MacCaption workspace with arrows to move to the previous or next error:



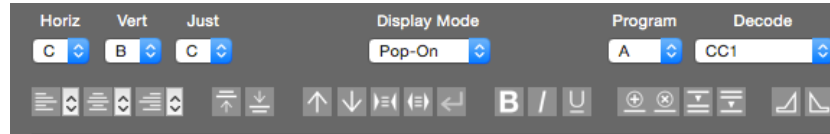
# Format and Edit Captions/ Subtitles

The topics in this chapter describe how to format and position captions/subtitles, perform row operations, adjust display modes, and includes some tips for creating captions.

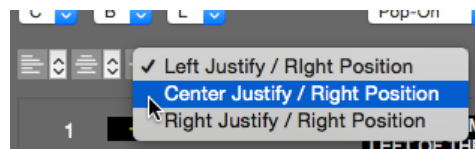
- **Formatting and Positioning**
  - Grid Locations and Position Options
  - Upper, Lower, or Sentence Case
  - Insert Music Symbol
- **Row Operations**
  - Selecting Multiple Rows
- **Display Modes**
  - Pop-On
  - Paint-On
  - Roll-Up
  - Changing the Display Mode
- **Captioning Tips**
  - Suggestions for Breaking Lines
  - On-Screen and Off-Screen Speakers
  - Centering or Not
  - General Captioning Guidelines
- **Special Characters**


## Formatting and Positioning


MacCaption provides a wide variety of tools to format and position your captions. The tools apply to the currently selected row, or to all text in any range you select.





Additional options are available for the Left, Center, and Right formatting buttons. Click the arrows on a button to open a menu to select from three Justify options, as shown in the following:





**Horizontal Alignment.**  Sets the caption horizontal alignment to Left, Center, Right, or to a grid location number.

**Vertical Alignment.**  Sets the caption vertical alignment to Top, Bottom, or to a grid location number.

**Justification.**  Sets the caption to Left, Center, or Right justification.


**Left Position.**  Sets the caption to the left position, with Left Justify, Center Justify, and Right Justify options.


**Center Position.**  Sets the caption to the center position, with Left Justify, Center Justify, and Right Justify options.


**Right Position.**  Sets the caption to the right position, with Left Justify, Center Justify, and Right Justify options.


**Move to Top.**  Moves the caption(s) to the top in the row(s) selected.

**Move to Bottom.**  Moves the caption(s) to the bottom in the row(s) selected.

**Pull Word Up.**  Pulls the first word of the next caption into the currently selected caption.

**Push Word Down.**  Pushes the last word of the currently selected caption to the next caption.

**Compress Line Length.** (Option+Left Arrow)  Compresses the text block in the selected row(s). Multiple clicking creates incremental changes.


**Expand Line Length.** (Option+Right Arrow)  Expands the text block in the selected row(s). Multiple clicking creates incremental changes.





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**Note:** Compress and Expand perform a word wrap to increase or decrease the number of caption lines, ranging from 1-4 lines. It is recommend to have 1-2 lines for most captions.

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**Alternate Break.**  Adjusts the way words are distributed in the text block. Multiple clicking provides different arrangements. It is better to make the text bottom heavy (shorter lines towards the top, longer lines towards the bottom).

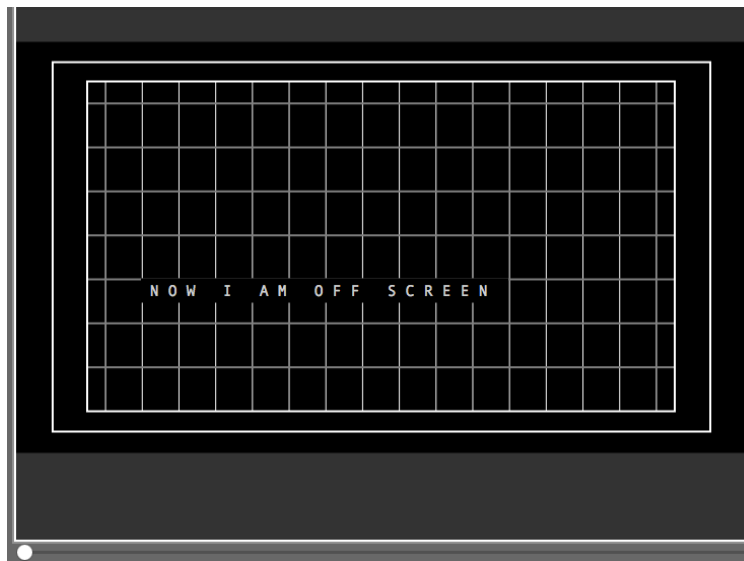
**Bold/Flash.**  Applies bold formatting to the row(s) selected, or only to specific selected text. It is recommended not to use bold formatting since in most TV display situations the text will flash.

**Italic.**  Applies italic formatting to the row(s) selected, or only to specific selected text.

**Underline.**  Applies underline formatting to the row(s) selected, or only to specific selected text.

## Grid Locations and Position Options

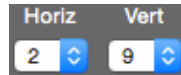
You can also position captions in increments, using the television caption grid locations. You can position the captions up or down, right or left, in half-grid increments. The adjustments apply to the currently selected row, or to all selected rows. To see the grid, choose Display > Show Caption Grid, as shown in the following:



There are various ways you can move the captions and subtitles into different grid locations:

- **Drag and Drop.** You can simply grab a caption and drag and drop it to a new position. The caption will snap to half-grid locations.

- **Arrow Keys.** First, click in the Video Preview Panel to highlight it. A white border appears. Then use your up, down, right, or left arrow keys to move the caption or subtitle one character at a time. Hold Shift when using the arrow keys to move the captions all of the way to the left, right, top, or bottom. For subtitles, holding Shift moves them 20 pixels in any direction.



- **Tool Bar Selection.** Use the Horizontal and Vertical Alignment menus to select grid locations by number.
- **1-9 Number Keys.** The 1-9 number keys are shortcuts to position locations. First, click in the Video Preview Panel to highlight it. A white border appears. Then use the number keys for the following positions:
  - **Keys 1-3:** Bottom Left, Center, Right.
  - **Keys 4-6:** One line up from bottom Left, Center, Right.
  - **Keys 7-9:** Top Left, Center, Right.

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**Note:** You do not need to see the grid to position captions. They will automatically snap to the half-grid locations.

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## Upper, Lower, or Sentence Case

To convert the selected row(s) to upper, lower, or sentence case, go to Format > Upper and Lower Case and choose one of the following options:

- **Convert to Upper Case.** Converts the selected text to upper case.
- **Convert to Lower Case.** Converts the selected text to upper case.
- **Sentence Wise Upper and Lower Case.** Converts text to “sentence style” with the first word of a sentence capitalized.
- **Upper and Lower Case Preferences.** Opens a dialog so you can choose to capitalize the first letter of each word following a period.


## Insert Music Symbol


To insert a music symbol, go to Format > Insert Music Symbol and choose one of the following options:


- **Single Music Symbol.** (Command-M) Inserts a music symbol (the quarter note) into the caption text at the cursor location.
- **Surrounding Music Symbols.** Inserts a music symbol at the beginning and end of selected text. If you select multiple rows and choose this option, it adds a pair of music symbols for all of the selected captions.

## Row Operations

The Row operations tools provide a quick way to insert, delete, split, and merge rows.

**Insert Caption Row.**  Create a new blank row above the currently selected row. When you have multiple rows selected it inserts that number of rows.

**Delete Caption(s).**  Delete the currently selected caption row(s).

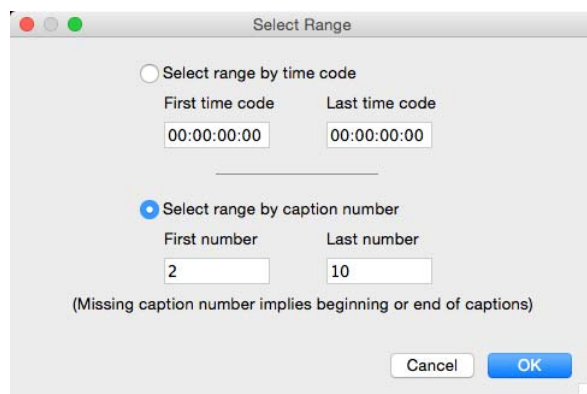
**Split Caption.**  Splits the current row at the position of the text cursor and places the text after the cursor in a new row. You can also press the Return key to split the row at the cursor position. When the cursor is at the end of the text and you press the Return key a blank row is inserted after the current row.

**Merge Caption.**  Combine the row below and the current selection into one row.

## Selecting Multiple Rows

The following describes various methods to select multiple rows:

- **Shift+click.** Select one row, hold Shift and select the row you want for the end of the range. You must first click in the row number or timing area, not in a text edit field.
- **Shift+arrow keys.** Hold the Shift key, then use the Up or Down arrow keys to select additional rows. You first must click in the row number or timing area, not in a text edit field.
- **Select All.** To select all rows, choose Edit > Select All, or Command+A.
- **Select Up.** Choose Edit > Select Up to select all rows up to number 1, from the currently selected row. Or use Option+Shift+Command+U.
- **Select Down.** Choose Edit > Select Down to select all rows down to the end, from the currently selected row. Or use Option+Shift+Command+D.
- **Select Range.** The Select Range dialog provides options to select a range by time code or caption row number. Open it from Edit > Select Range.



## Display Modes

Display Modes control the way captions appear or move onto the screen.

### Pop-On

Pops 1 to 4 lines of captions or subtitles onto the screen simultaneously. It is the most commonly used mode for subtitling, and is typically the preferred option for closed captioning. It is virtually impossible to use the Pop-On mode without using time code. The technical reason for this is that it takes time (roughly 1/60th of a second) to process each character of a caption line. Only when this processing has been completed is the caption line loaded onto the screen. Since this delay is variable (because the number of characters in each cell varies) it is almost impossible for a person to compensate for this delay. MacCaption precisely compensates for this delay when used with time code.

### Paint-On

Paints characters on the screen one after another, from left to right, so that the screen looks like the output of a human typist. When the first word of the next caption appears, the entire previous caption is erased.

### Roll-Up

Scrolls up captions from the bottom of the screen one line at a time. Two to four lines normally appear on the screen at any given time. Television news is a frequent user of Roll-Up captioning (often in conjunction with a teleprompter that generates captions).

## Changing the Display Mode

To change the Display Mode:

1. Select the row(s) in which you want to change the display mode.
2. Choose a mode from the Display Mode menu:

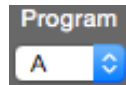


3. The new display mode is now active in the selected row(s).

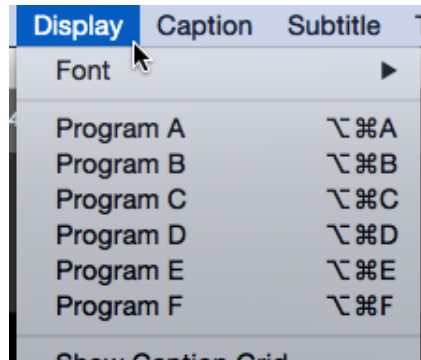
## Program A—F Selection

Use program selection to choose which program, A—F, to have active in the Text Panel. The program that is currently selected is the one in which text is placed during an import operation. Unless you are captioning a video with two channels, such as for English and Spanish languages, there is no need to use any program other than Program A.

You can use the Program menu to select the program to edit:



You can also select the program from the Display menu:



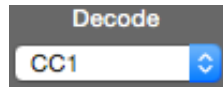
Or, use the keyboard shortcut "Option+Command+A through F" to select the program to edit.

## Display Multiple Programs in the Video

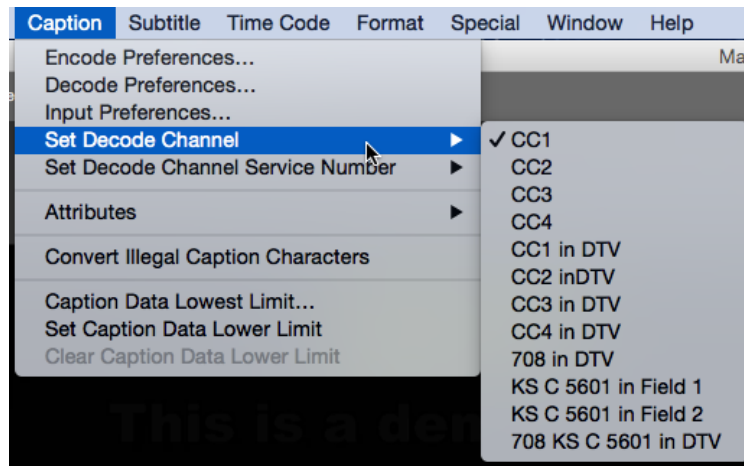
To have more than one program display subtitles in the video at the same time, use the Subtitle Preferences dialog to select the programs. See [Setting Subtitle Preferences](#) and [Display Multiple Sizes, Colors, or Locations](#).

## Decode Channel Selection

Captioned videos that you are importing from the Import menu are decoded according to the Decode Channel selected. You can use the Decode menu to choose the Decode Channel:



Or, go to Caption > Set Decode Channel to choose the Decode Channel:



For information on the Decode Channel selections see [Set Decode Channel](#) in the Menus chapter.

# Captioning Tips

The following tips provide suggestions for the best ways to break lines of text, how to represent on-screen and off-screen speakers, centering text, and various general captioning guidelines.

## Suggestions for Breaking Lines

Professional captioning methods include creating the best text break points, positioning the captions properly, and the use of time sequencing. Captions should be adjusted to provide uniform readability.

The following are common places to break lines into separate captions:

- End a caption at the end of a sentence. The [Text Import Options](#) dialog can make these breaks automatically using the end-of-sentence punctuation marks ".", "?", and "!".
- End captions at commas and semicolons if they come at a natural pause in the dialog and conclude a phrase. The Text Import Options can make these breaks automatically as well, but there are many commas in English that are *not* good places to break text.

When you break text into individual captions, they should make grammatical sense. Here is an example:

### Unformatted, Raw Text:

On the way to the airport, I got caught in traffic and ended up being late for my flight. I had to wait around for five hours to catch the next available flight.
---

### A poor way to caption it:

On the way to the airport, I got caught in
traffic and ended up being late for my flight. I had to wait
around for five hours to catch the next available flight.

### A good way to caption it:

On the way to the airport, I got caught in traffic
and ended up being late for my flight.
I had to wait around for five hours
to catch the next available flight.

## On-Screen and Off-Screen Speakers

One basic convention concerns the difference between how you represent on-screen and off-screen speakers. The words spoken by off-screen speakers (commonly narrators) appear in italics, but italics can be skipped if the speaker comes in and out of view. The words of on-screen speakers appear in the normal font.

## Centering or Not

Another convention concerns centering and not-centering. Captions can indicate the location of the speaker, and should appear under the speaker. However, if the speaker is in the center but centering the caption interferes with a graphic and/or important on-screen visual information, then the caption should be moved to another location.

## General Captioning Guidelines

The main objective is to have each caption represent a single thought. There is no single right way to caption a video, but a few additional guidelines may help:

- Your captioning style should be consistent throughout the video.
- Whenever possible, you should break captions into logical phrases. Captions randomly broken up may convey a different meaning than intended.
- Captions can indicate the location of the speaker. For instance, a caption on the left side of the screen indicates the speaker is on the left, while a centered caption shows that only one person is speaking throughout a scene.
- Words can be emphasized with underlining.
- Use Attribute > Insert Music Symbol(s) to place a musical note at the beginning and end of musical lyrics.
- Never paraphrase lyrics. Also include the title of the song when possible.
- Indicate sound effects in parentheses and in lower case, for example (boom) and (applause).



## Special Characters

Caption text can display certain special characters. These special characters can be generated either with a combination of keyboard characters or with a ‘\’ (backslash) character in combination with a second character, as listed in the following table.

Character Desired	Keyboard Combination	Backslash Combination
á	Option-e then a	\’a
à	Option-` then a	\`a
â	Option-i then a	\^a
é	Option-e then e	\’e
ê	Option-i then e	\^e
ç	Option-c	\c
í	Option-e then i	\’i
î	Option-i then i	\^i
Ñ	Option-n then N	\N
ñ	Option-n then n	\n
ó	Option-e then o	\’o
ô	Option-i then o	\^o
ú	Option-e then u	\’u
û	Option-i then u	\^u
÷	Option-=	\=
°	Option-shift-8	\o
ç	Option-4	\\$
£	Option-3	\l
®	Option-r	\r
™	Option-2	\t
1/2	Option-v	\v
¿	Option-shift-?	\?
Music note	Option-b	\b



# Subtitle Mode

The topics in this chapter describe subtitle operation and how to change the formatting and behavior of subtitles.

- [Subtitling Overview](#)
  - [Subtitle Mechanisms](#)
  - [Subtitle Export](#)
- [Converting Between Captions and Subtitles](#)
- [Setting Subtitle Preferences](#)
- [Display Multiple Sizes, Colors, or Locations](#)
  - [Simultaneous Subtitle Example](#)
- [Subtitle Colors, Styles, and Spacing](#)
  - [Setting the Font Style and Size](#)
  - [Adjusting Font Color](#)
  - [Changing Outlines and Backgrounds](#)
  - [Adjusting Line Spacing](#)
  - [Japanese Ruby Subtitling](#)
  - [Adding Drop-Shadows](#)

## Subtitling Overview

Subtitles are text that appears on a video or in a movie and typically contains only a translation of the dialogue, usually because the dialogue is in a foreign language, or because the dialogue was difficult to hear clearly. Unlike captions, subtitles usually do not convey non-dialogue sounds such as background noise, sound effects, or music cues, because it is presumed that the viewer is able to hear them. Subtitles have fewer rules and limitations than closed captions, and generally have more fonts, styles, and colors available to choose from.

Subtitles can be burned into the video so they can't be turned off. This is called "open subtitles", "burn-in subtitles" or "hard subtitles," and is used when the subtitles must always be available, such as when translating foreign language dialogue for a general audience. This is also useful when working with a video format or player that doesn't support soft subtitles or closed captions.

Some formats, such as DVD, Blu-ray, many web-based players, and a few other video formats, can contain one or more tracks of subtitles which can be selected and turned on or off by the player. This is called "soft subtitles" or "separate subtitles".

Subtitle tracks which contain non-verbal audio cues and mimic the look and feel of closed captions are called "SDH" (Subtitles for the Deaf and Hard of Hearing) tracks. SDH tracks are often used to emulate closed captions on formats that don't support closed captioning due to technical limitations, such as Blu-ray.

## Subtitle Mechanisms

Just as closed captions can exist embedded in a video file or in a separate sidecar file, there are several ways you can export subtitles:

- **Burn-in.** This permanently combines the subtitles and the video. They can't be turned off, but you never have to worry about whether they will work or not.
- **Overlay for Later Burn-in.** If you're working with a video editor that wants to burn-in the subtitles, you can send them an overlay file. They put the overlay into their NLE system and render the burn-in video from there. This way, the captioner doesn't need the full resolution master video from the editor.
- **DVD/Blu-ray.** Several prosumer and professional software packages for authoring DVD and Blu-ray discs can accept subtitle files. In this case the viewer can turn the subtitle tracks on or off. The type of file to export depends on which authoring software is being used to author the DVD or Blu-ray.

## Subtitle Export

For information about subtitle export see [Exporting Subtitles](#) in the Exporting / Encoding chapter.

## Converting Between Captions and Subtitles

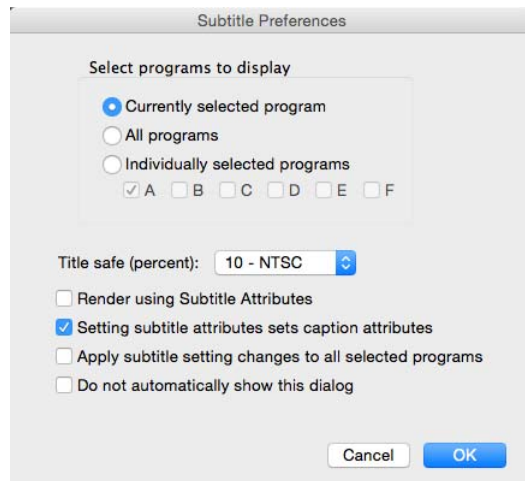
MacCaption has the ability to convert closed captions into subtitles and vice versa. When converting closed captions to subtitles, there isn't too much you need to worry about, because subtitles are generally much more capable than closed captions.

Where you need to be careful is when converting subtitles into closed captions. The subtitles might break some of the rules of closed captioning, for example, by having more than 32 characters per line. In this case, some manual reformatting needs to be done when conforming the subtitles into closed captions.

Making sure you are in the right mode when you start your project helps you avoid some extra work.

## Setting Subtitle Preferences

The Subtitle Preferences dialog provides options to select the program to display, set the title safe percentage, and other options. Go to Subtitle > Subtitle Preferences to open the dialog.



### Select programs to display

Offers options to select which Program's subtitles are displayed.

- **Currently selected program.** Display subtitles only from the currently selected program.
- **All programs.** Display subtitles from all programs that have subtitles.
- **Individually selected programs.** Display subtitles from the specific programs you select—A, B, C, D, E, or F.

### Title safe (percent)

Sets the amount of margin to leave around subtitles to ensure they are not cut off at the edges of the screen. The range is 0–20 percent of the visual image. 10 percent is the standard for NTSC.

### Render using Subtitle Attributes

Render subtitles using caption or subtitle attributes. For example, when working with languages that generate character ligatures, such as Arabic.

### Setting subtitle attributes sets caption attributes

Ties subtitle and caption attributes together so that setting them for subtitles also sets them the same way for captions.

### Apply subtitle setting changes to all selected programs

Applies changes in subtitle settings to all selected programs even if they are not currently displayed.

### Do not automatically show this dialog

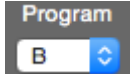
Turns off automatically showing the Subtitle Preferences dialog each time a subtitle export is performed. When unchecked, the dialog appears during each subtitle export.

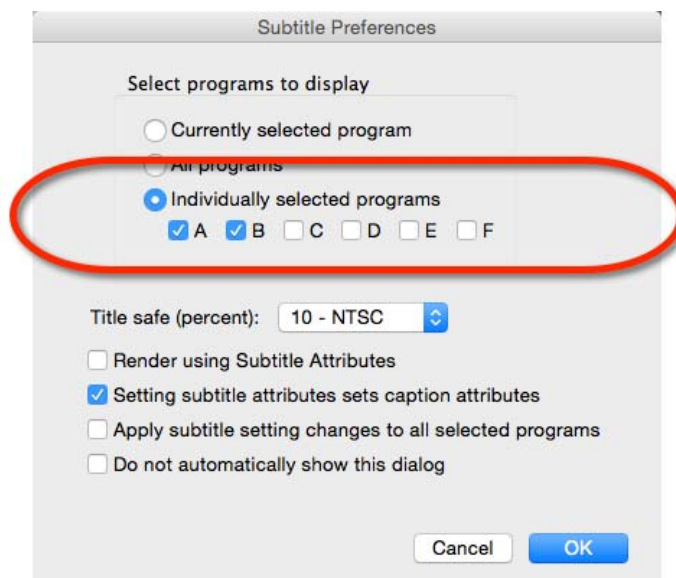
# Display Multiple Sizes, Colors, or Locations

When in subtitle mode, Programs A through F can be used to display multiple font sizes, colors, or additional simultaneous locations. This feature works in a similar way that layers do in a graphic editing application. Multiple programs can be set to display at the same time, and each one can have a different style or location.

## Simultaneous Subtitle Example

The following provides an example of how to use multiple programs to display different subtitles at the same time:

1. Program A contains the first layer of text, and provides the main content. You are currently working in Program A, in subtitle mode.
2. You want some text to have a different look and location, but display at the same time, so copy those text rows to place them in memory.
3. Select the Program menu and choose Program B:  .
4. Paste the copied rows into the blank rows of Program B.
5. From the Subtitle menu select Subtitle Preferences.
6. In the Subtitle Preferences dialog choose "Individually selected programs" and check both A and B, as show in the following:



7. In Program B, set the Start and End Times for each row so the subtitles display when you want them to. You can do this by typing in the Start and End time fields, or by using the Mark In and Mark Out buttons.
8. Go back to Program A and remove any subtitles you don't want there, and adjust timings.

9. Now, two different subtitles can display at the same time, as shown in the following image taken from the MacCaption Video Preview Panel:





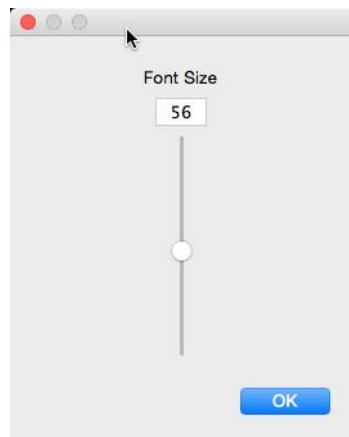
# Subtitle Colors, Styles, and Spacing

Subtitles have many options available to choose font styles and colors.

## Setting the Font Style and Size

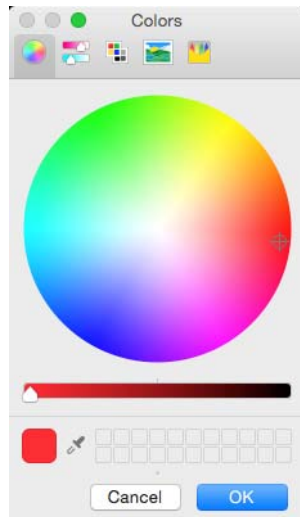
To change the font style and size for the whole project:

1. Choose Subtitle > Font, and select the font you want to use.
2. Choose Subtitle > Font Size to open a dialog so you can adjust the size with the slider or by typing a font size.



## Adjusting Font Color

To change the font color, choose Subtitle > Font Color to open the Colors dialog. Icons in the top of the dialog provide several options for color selection.



## Changing Outlines and Backgrounds

You can change the subtitle background color and opacity, and the font outline size and color.

### Font Outline

To change the font outline size choose Subtitle > Font Outline Size, and select a size from 0 to 10.

To change the font outline color choose Subtitle > Font Outline Color. The Colors selection dialog opens.

### Background Color and Opacity

To change the background color choose Subtitle > Background Color. The Colors selection dialog opens.

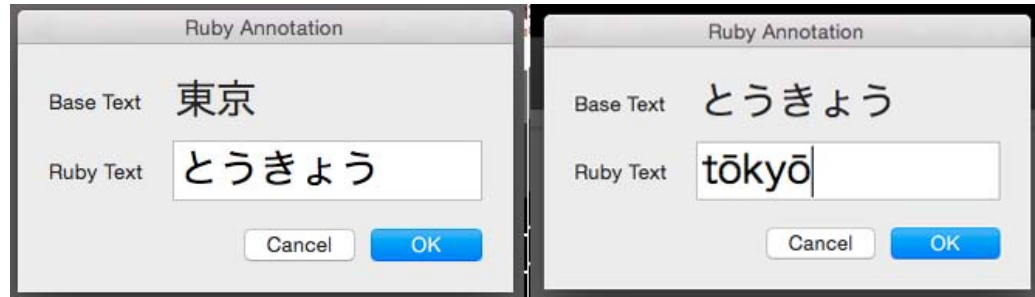
To change the background opacity choose Subtitle > Background Opacity, and select a size from 0 to 100.

## Adjusting Line Spacing

To adjust the amount of space between each line choose Subtitle > Line Spacing, and select a size from -2 to 28.

## Japanese Ruby Subtitling

MacCaption uses the Ruby Annotation method to create positioning for Japanese characters. To annotate words or phrases with Ruby, highlight the text inside the cell you want to change and go to the Subtitle menu and select Ruby Annotation. The Ruby Annotation dialog opens.



This dialog shows the "Base Text" you have selected and provides the Ruby Text area for entry of the annotated Japanese text. If the base text is longer than the annotation, the Ruby text kerning will be automatically adjusted to fit within the spacing of the base text. This feature is specifically designed for Japanese language subtitles, it is not recommended for other languages.

To edit Ruby text that has been entered, select the text in the cell that contains the Ruby text. Go to Subtitle > Ruby Annotation. The Ruby Annotation dialog opens to allow editing of the text.

When exporting a program to iTunes .itt (which is in Export > Web/Mobile Standalone Files) the export dialog's language value will be automatically be set to "ja" if Ruby text is in the program, or "en-US" when there is no Ruby text in the program. To use Ruby text in an export, the language value must indicate "ja" or a Japanese variant.

For more information see [Ruby Japanese Subtitle Formatting](#) in the Glossary.

## Adding Drop-Shadows

Drop-shadows can be added to all of the text in the currently selected program. To add drop-shadows, select Drop Shadow Configuration from the Subtitle menu to open the Drop Shadow Configuration dialog. See [Drop Shadow Configuration](#) in the Menus chapter for more information about the settings.



# Exporting / Encoding

MacCaption has a variety of exporting and encoding options, including formats for web and mobile video, DVD/Blu-ray, broadcast video formats for SD and HD, and so on. Depending on which version of the software you purchase, different features are available.

See [Comparing CaptionMaker & MacCaption Versions](#) for a summary of the exporting/encoding features in each version. See [Export File Types](#) for a detailed listing of all formats available for the different versions of MacCaption.

Topics in this chapter:

- [Embedding Captions into Video](#)
- [Exporting Standalone Caption Files](#)
- [Exporting Text Files](#)
- [File-Based Delivery for Broadcast TV](#)
- [Tape Delivery for Broadcast TV](#)
- [Exporting Subtitles](#)
- [MXF Export Workflow](#)
- [Avid AAF Export](#)
- [H.264 and MPEG-2 Exports](#)
- [QuickTime Podcast Captions](#)
- [Export a Subtitle Overlay for Vantage®](#)
- [Setting the Caption Data Lowest Limit](#)

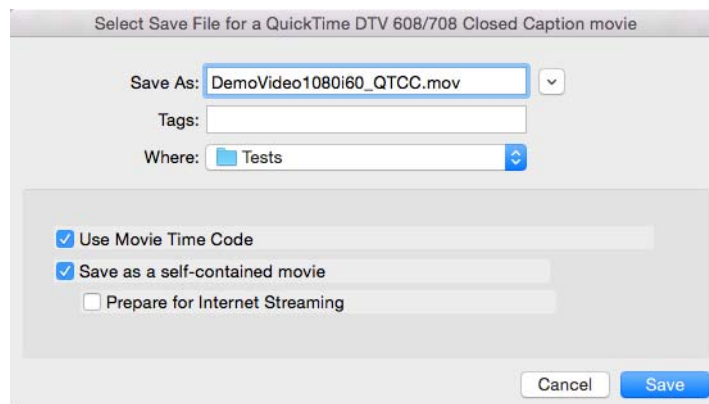
## Embedding Captions into Video

Captions embedded in video are typically used for broadcast video files such as ProRes, MPEG-2, and MXF. The captions are embedded directly into the video file instead of being saved to a separate file. MacCaption does not convert one type of video to another. This conversion is called transcoding and can be done in other Telestream software such as Telestream Cloud or Vantage.

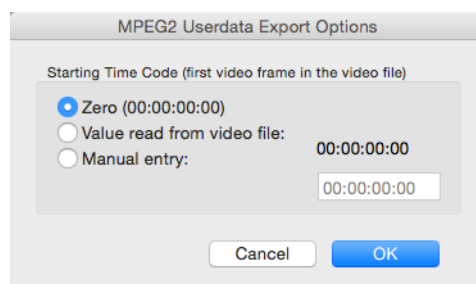
If you want to output, for example, an MPEG-2 file with embedded captions, you must provide an MPEG-2 video file in the desired format, and then MacCaption can embed captions into it.

To embed captions into a video file:

1. Have the video file loaded into MacCaption, and the associated captions edited, formatted, and finished.
2. Choose File > Export > Embed CC into Media and choose the desired format that works with the video loaded into MacCaption. The Save dialog opens.
3. In the bottom area of the dialog, select the options you want to use. The options vary, depending on the format selected. The following shows the options for a QuickTime format.



4. Select the location you want and click Save.
5. The Export Options dialog may open for the format you are using, or no dialog will open if additional options are not available. The options vary for different formats. The following is an example:



6. Choose the settings you want, then click OK. A progress bar appears. The file is processed and completed.
7. If a message indicates that errors occurred, you can view them by going to Window > Message.

## Exporting Standalone Caption Files

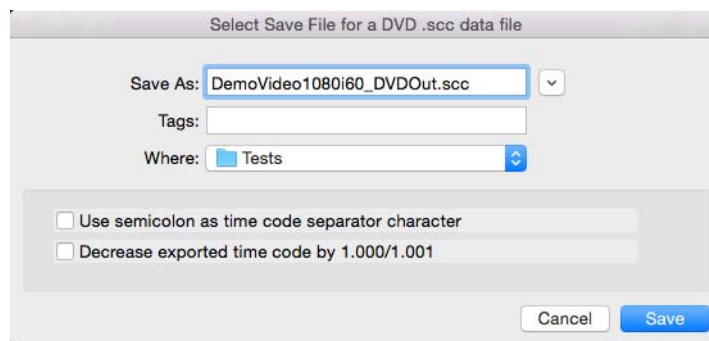
Many types of caption files are standalone, meaning the captions are in a separate file and not embedded into the video file. There are many different types of standalone caption files:

- For use on the web, such as Timed Text, WebVTT, and SRT (.srt) files. The type depends on the player being using on the web.
- Some are used in broadcast workflows, such as SCC (.scc) and MCC (.mcc). (SCC is also used for DVD closed captioning.)
- Some are used for working with an NLE system, such as Final Cut Pro, Avid, and Adobe Premiere Pro.
- Some are used for interchange with other captioners or captioning software, such as Cheetah, CAP, TDS, Ultech ULT, and so on.

See [Export File Types](#) for a full listing of all types of files.

To export captions as a standalone file:

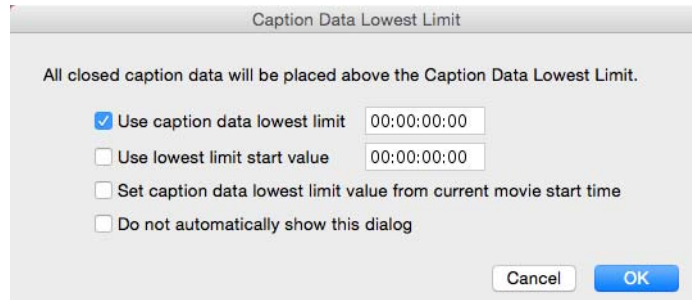
1. Have the captions loaded into MacCaption, edited, formatted, and finished.
2. Choose File > Export > [choose the appropriate file type] > [choose the desired format]. The Save File dialog opens.
3. In the bottom area of the dialog, if any options are available, select the ones you want to use. The options vary, depending on the format selected. The following shows the options for .scc files.



4. Change the file name, if you want to, or change the location by expanding the dialog using the down-arrow button. Then click Save.



5. An Export Options dialog may open for the format you are using, or no dialog will open if additional options are not available for that format; the options vary for different formats. The Caption Data Lowest Limit dialog opens for .scc files.



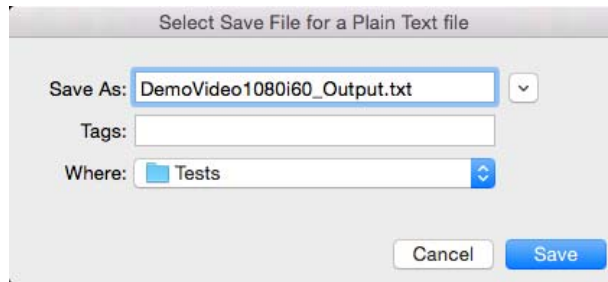
6. For information on settings, see [Setting the Caption Data Lowest Limit](#). Choose the settings you want, then click OK.
7. The file is processed and exported.
8. If a message indicates that errors occurred, you can view them by going to Window > Message.

## Exporting Text Files

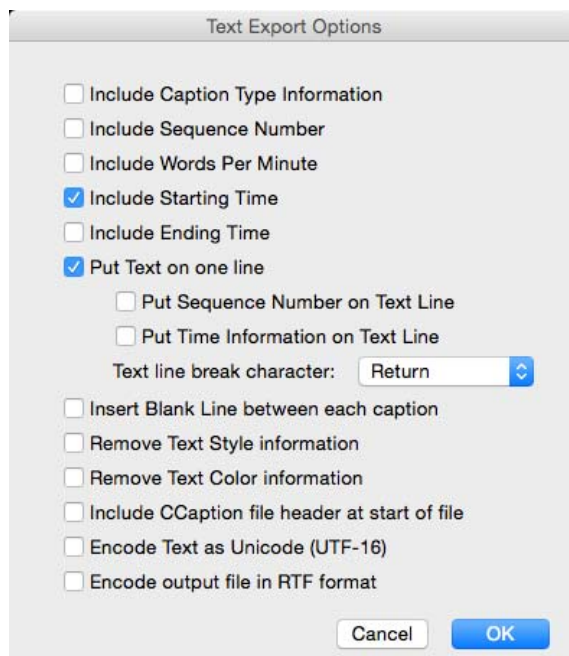
MacCaption has a number of different options available for exporting text files. The Export Options become available during a file export process.

To export a text file and select the export options:

1. Have the caption text loaded into MacCaption, edited, formatted, and finished.
2. Go to File > Export > Plain Text File. The Save File dialog opens.



3. Change the file name, if you want to, or change the location by expanding the dialog using the down-arrow button. Then click Save. The Text Export Options dialog opens.



4. The Export Options dialog provides the following options:
  - **Include Caption Type Information.** Inserts information such as POPON to indicate what type of captions the following lines are formatted in.
  - **Include Sequence Number.** This inserts numbering information, in sequence, such as Caption Number 1, 2, 3 and so on.

- **Include Words Per Minute.** Inserts words per minute of each caption, such as 450 WPM.
- **Include Starting Time.** Inserts Start timecode of each caption, such as T 00:00:09:25.
- **Include Ending Time.** Inserts End timecode of each caption, such as E 00:00:01:24.
- **Put Text on One Line.** All the text from each caption is placed on one line, regardless of how it is formatted in MacCaption.
  - **Put Sequence Number on Text Line.** Adds a sequence number to each text line.
  - **Put Time Information on Text Line.** Inserts the Start and End timecode before the text of each caption. It will look like this: 00:00:00:00 00:00:05:01 "caption text".
  - **Text Line Break Character.** Select the type of line break character you want: Space, Tab, \ (backslash), or Return.
- **Insert Blank Line Between Each Caption.** Spaces the caption lines by inserting a blank line between each caption.
- **Remove Text Style Information.** Removes style information from the text.
- **Remove Text Color Information.** Removes any text color information.
- **Include CCaption File Header at Start of File.** Inserts CCaption at the top of the text file.
- **Encode Text as Unicode (UTF-16).** Export text as a UTF-16 format file. Select this option when you are exporting for foreign languages.
- **Encode Output File in RTF Format.** Exports the file in .rtf format.

## File-Based Delivery for Broadcast TV

TV stations used to receive shows on tape, but most stations now use digital video files instead. Just as there were many different tape formats back in the day, such as BetaSP, DV, HDCAM, and so on, there are many different file formats that can be used for file-based delivery, such as QuickTime, MPEG-2, and MXF. Most formats support closed captions in one way or another, but each workflow is slightly different. It also depends on what the TV station is using to play back the file.

For example, many video servers installed at TV stations support playing back QuickTime video files, but this does not guarantee that they support the closed captions in QuickTime video files. Even if the captions seem to work on your end (such as playing them in QuickTime Player), this doesn't mean that the TV station can see the captions when played back on their server.

There are actually several different types of captions that can be inserted into QuickTime files. Your station might accept all of them (if they use Telestream Vantage, for example), or only some of them, or maybe even none of them. You might have to use a different type of video file other than QuickTime, such as MPEG-2 or MXF, to ensure that they can read the captions.

### Get the TV Station Spec Sheet

It is best to ask your TV station for a "spec sheet" and confirm with its engineers that the format you're using works for them. Make sure the spec sheet mentions specific types of captions that they support. Saying "QuickTime file" or "MPEG-2 file" isn't always sufficient, because there are many different types of captions that can be inserted into QuickTime files and MPEG-2 files.

### Get a Sample Captioned Video File

If the TV station can't provide you a spec sheet, ask them for a sample file that contains closed captions which work for them. You can then examine the file to determine what types of captions are known to work.

### Use Switch to Perform a Test

It is always a good idea to send the station a short captioned sample video and ensure that they can read the captions from your sample before proceeding with the full delivery.

We recommend using Telestream's Switch to check that your video has captions, before sending to the station. Get it at <http://www.telestream.net/switch/overview.htm>

## Overview of TV Formats

Here is an overview of the types of captions that can be used for broadcast TV files:

- **Captions embedded into the video file:**
  - **Closed Captioning track.** An extra track of closed captions is added to the file. This is most often used with QuickTime files (QuickTime CC track) and MXF files (SMPTE 436m VANC track). However, not every server that can play QuickTime or MXF files is able to read this closed captioning track.
  - **User data captions.** Captions are added as metadata into the contents of the file. This is often used with MPEG-2 (ATSC DTV 608/708 captions), and occasionally with H.264 video (NAL SEI 608/708 captions), or DV video for standard definition (DV VAUX captions).
  - **Line 21 VBI.** This is used for standard definition video only. The VBI line 21 "Morse Code" dots-and-dashes are embedded into the top line of the video. The video resolution must be 720x486 for most QuickTime and AVI formats (rather than 720x480, which excludes the extra 6 lines of VBI where the captions go), or sometimes 720x512 for certain MPEG-2 formats.
- **Sidecar caption file - a standalone file containing just the captions:**
  - SCC files are commonly used, but they contain 608 (analog) captions only. Make sure the station has a system that can upconvert this data into CEA-708 digital captions, such as using Telestream Vantage.
  - MCC files are a next-generation improvement on SCC files, and contain native CEA-708 digital captions. They are supported by Adobe Premiere Pro CS5.5 and later, Blackmagic Hyperdeck, Manzanita muxers, Harris Nexio, and some other systems.
  - If the station uses Avid systems, they may want an Avid AAF caption track file.
  - Rarely, a station might ask you for a different type of caption interchange file, such as Cheetah .CAP, TDS, and so on.
  - If the video will be shown on the internet, you may be asked to provide a web format caption file, such as SMPTE Timed Text (TTML), DFXP, WebVTT, and so on.

## Next Steps for Delivery to the TV Station

Once you have confirmed with a TV station what kinds of video files they can accept with captions, you need to export that type. Keep in mind that MacCaption is not transcoding software - that is, it does not convert one type of video file into another.

If you're editing your video in NLE software, you may be able to export directly to the format you need (without captions), but not every NLE can export to every format. If you're starting with a QuickTime file and need to deliver a MPEG-2 file, you need to do some steps outside of the captioning software to create the MPEG-2 file first. Only then can MacCaption insert the captions into the MPEG-2 file.

For transcoding, we recommend Telestream Cloud or Vantage software. Make sure you select the right bit rate and other specifications as required by the TV station.

## Tape Delivery for Broadcast TV

Some TV stations still rely on tape formats for their receivables. MacCaption can be used together with your NLE system, such as Adobe Premiere, Avid, or Final Cut Pro, and a tape deck such as DV, BetaSP, or HDCAM to deliver a closed captioned video tape to the TV station.

Note that the following descriptions only apply when outputting to a tape deck via your capture card. These instructions do not apply when exporting a video file from your NLE system. For more information on file-based workflows for TV please refer to the previous section.

### Adobe Premiere

Premiere versions CS 5.5 or later can use an MCC file to output HD digital captions via your capture card (such as AJA, Blackmagic, Matrox, and so on) to a tape deck, or a SCC file to output SD analog captions via your capture card or DV digital video via Firewire.

### Avid Media Composer

Media Composer version 5 or later can use an Avid AAF file to output HD digital captions via your Mojo DX or Nitris DX hardware. For SD analog output, you can use the MacCaption 720x486 line 21 overlay workflow.

### Final Cut Pro

Final Cut Pro version 7 can use a QuickTime CC track to output HD digital or SD analog captions via your capture card such as AJA, Blackmagic, Matrox, or DV via Firewire.

### Other NLEs and More Information

Most other NLEs that output SD analog video can use the 720x486 line 21 overlay workflow.

For more information on tape based workflows and how to check your captions after outputting to tape, please refer to the Telestream Knowledge Base. See the [Support](#) page in this guide for the web links.

# Exporting Subtitles

There are several ways you can export subtitles:

- **Burn-in.** This permanently combines the subtitles and the video. They can't be turned off, but you never have to worry about whether they will work or not.
- **Overlay for Later Burn-in.** If you're working with a video editor that wants to burn-in the subtitles, you can send them an overlay file. They put the overlay into their NLE system and render the burn-in video from there. That way, the captioner doesn't need the full resolution master video from the editor.
- **DVD/Blu-ray.** Several prosumer and professional software packages for authoring DVD and Blu-ray discs can accept subtitle files. In this case the viewer can turn the subtitle tracks on or off. The type of file to export depends on which authoring software is being used to author the DVD or Blu-ray.

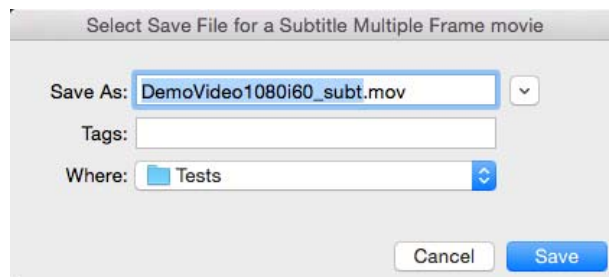
## Alpha-Channel Subtitle Overlay

### PRO

When in Subtitle mode, MacCaption can export a MOV QuickTime file with just the subtitle graphics. This will be exported using the Animation codec which provides the Alpha channel transparent overlay capability.

To use this export:

1. Set the resolution size you want to export by using the Subtitle Movie Resolution menu. See [Set Resolution With No Loaded Movie or for Export](#) for menu options.
2. Go to File > Export > Subtitles/Open Captions and select Black Movie with Subtitles. The File Save dialog opens.



3. Change the file name, if you want to, and select the location. Then click Save.
4. The file is processed and exported.
5. Play the exported file to verify the placement and look of the subtitles.

## Subtitling vs. Teletext

### PRO

EBU Subtitling Data Exchange Format STL (EBU-STL) is a widely used subtitle file type in Europe. It is designed to be used for both burn-in subtitle or to insert Teletext data into broadcast signals.

EBU-STL imports and exports have support for Teletext Level 1 encoding, including Double Height characters and text foreground color.



## Creating the Open-Captions Look for Burn-In Subtitles

### PRO

Subtitles can be created that look very similar to standard open captions. MacCaption can convert SCC or STL, and a variety of caption and subtitle formats, to burn-in subtitle-only graphics using QuickTime Animations with Alpha channel. After the subtitle graphics are created as part of a MOV video file, they can be used with a non-linear editing system, or a transcoding platform such as Vantage, to render them on top of corresponding video files.

The following are recommended choices and settings to make subtitles look similar to open captions, for a 1920 x 1080 video:

1. Switch into Subtitle Mode by using the Caption/Subtitle switch.
2. Set the font by selecting Subtitle > Font and choose Courier New.
3. Select Subtitle > Font Size to open the dialog, and set the size typically in the 42 to 54 range.
4. Set the color by going to Subtitle > Font Color. Set to White, then click OK.
5. Create a black box around the text to give the look and feel of standard closed captions on TV:
  - a. Select t Subtitle > Background Color. Set to Black, then click OK.
  - b. Select t Subtitle > Background Opacity and set this to 100.
6. Go to File > Export > Subtitles/Open Captions and select Black Movie with Subtitles. The File Save dialog opens.
7. For Export Size click the Choose button. The Export Size Settings dialog opens.
8. Select the export size you want to use, and click OK.
9. Change the file name, if you want to, and select the location. Then click Save.
10. The Compression Settings dialog opens.
11. Leave the Compression Type set to Animation, unless you have another type you want to use that works with Alpha-Channels.
12. For Compressor Depth select Millions of Colors+. (The "+" is for Alpha-Channels.)
13. Make any other adjustments you want, then click OK.
14. The file is processed and exported.
15. Play the exported file to verify the placement and look of the subtitles.

## MXF Export Workflow

### PRO

This export is specific to XDCAM HD MXF files. When exporting this file type you need an input file that has the correct codec and HD resolution based on XDCAM HD. MacCaption supports both 720P 59.94 and 1080i 29.97 XDCAM HD MXF OP1a clips.

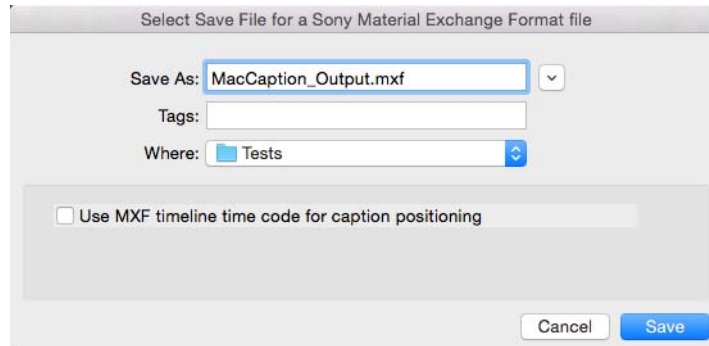
The export clones the MXF and inserts a SMPTE-436M caption track in the MXF wrapper of the exported file. There is no transcode happening in this operation. The MXF files can then be played via Sony XDCAM VTR, Telestream Switch 1.5 or above, Adobe Premiere Pro CC, and many video playback servers such as Harris and Omneon.

In addition, V-chip, AFD, and XDS data can be added to the SMPTE-436M track during export.

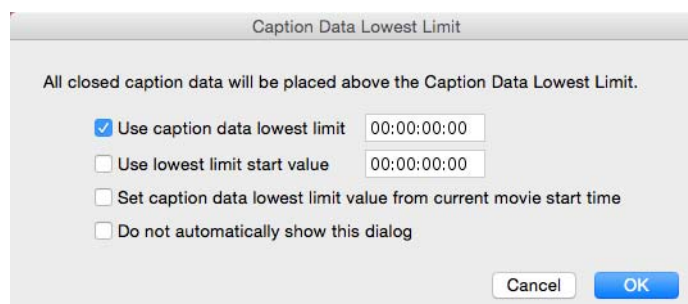
If you need to transcode (convert) some other type of video file to XDCAM HD MXF, consider using Telestream Cloud or Vantage (or another 3rd party transcoding software).

To embed your caption into an MXF file:

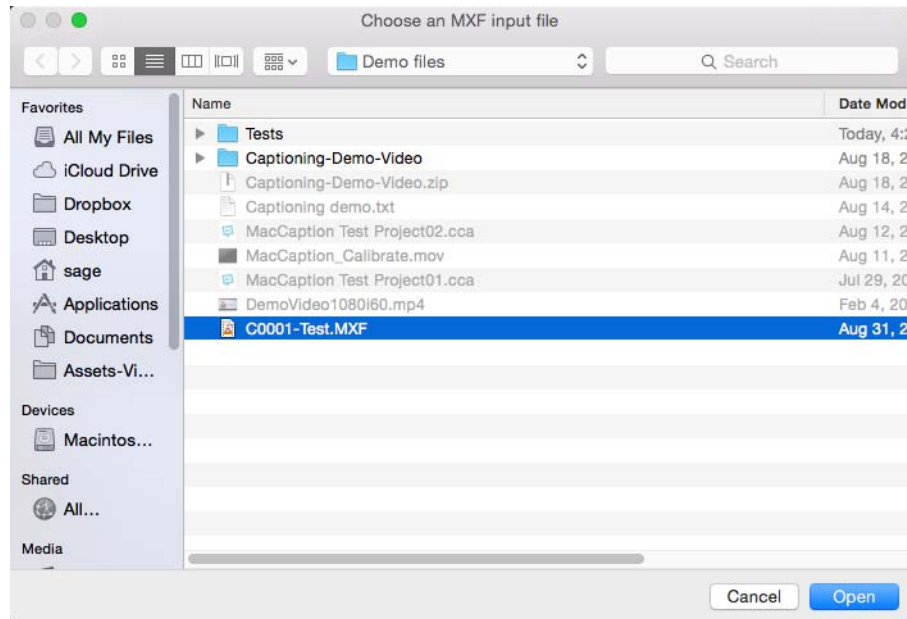
1. Prepare and finish your captions project.
2. Go to File > Export > Embed CC into Media and choose Sony Material eXchange Format (.mxf). The Save File dialog opens.



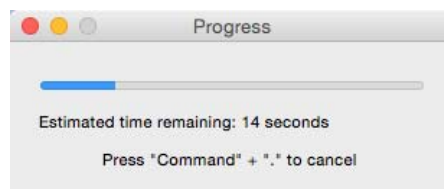
3. Change the file name, if you want to, and select the location. Select any options you want, then click Save. The Caption Data Lowest Limit dialog opens.



4. For information on settings, see [Setting the Caption Data Lowest Limit](#). Make the settings you want, then click OK.
5. A dialog opens to choose the MXF input file.



6. Select the file and click Open.
7. A dialog indicates the progress, and then the embed function is complete.



## Checking the Captions in a MXF File

To play the video and captions together and verify for timing/sync, you can use the Telestream Switch application. Switch (version 1.5 and above) is one of the few applications that can play a wide range of captioned files.

Note that common video players such as VLC, Windows Media Player, QuickTime Player (any version), Sony XDCAM Viewer, and so on, do NOT display MXF closed captions of any type. So even if your MXF video will play in one of these players, it will not show the captions.

## Playing XDCAM HD MXF files in the Preview Panel

MacCaption supports QuickTime 7. To play MXF files, certain conditions must be met:

You must have a "MXF decoder" plug-in installed for QuickTime. Some examples are Sony Cinémon, Calibrated MXF Import, and MXF4Mac. These plug-ins allow QuickTime-based applications to play MXF files.

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**Note:** Even if the MXF file cannot be viewed in the MacCaption Preview Panel, you can still use the MXF file for caption embedding and extraction. In other words, you can still put captions into it or read captions from it even if you can't play it.

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## Playing MXF Video in MacCaption with Captions in Sync

If you want to confirm that all of the captions were inserted correctly, you can re-import the captions back into MacCaption. Start by saving and closing any open project so you have a fresh blank project.

If the MXF can be played in the MacCaption Preview Panel, then you can use the following process to view the captions in sync with the movie:

1. Drag and drop the movie into the MacCaption Preview Panel.
2. Import the captions by going to File > Import > Extract CC from Media and choose QCC Multi-format Import.
3. Browse to select the file, then click Open.
4. The captions are extracted and imported.
5. Click the Preview Play button to play the movie in sync with the captions.

If the MXF file cannot be played in the Preview Panel, then you can use a proxy movie to check the timing and sync. See [Using a Proxy Movie](#) for information on creating a proxy movie.

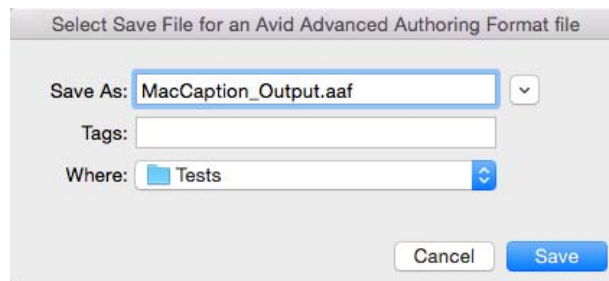
# Avid AAF Export

## PRO

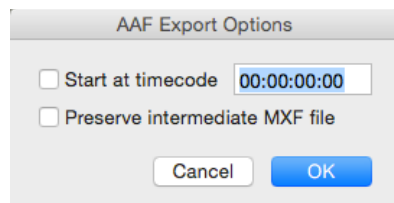
The Avid AAF workflow is designed to export a captions-only MXF file wrapped in the AAF container. This can then be imported into Avid Media Composer 5 or above. In Avid, the captions-only data file can be imported into the DATA-track on the Avid timeline. The Avid AAF file contains an MXF with SMPTE 436M data and includes CEA-608/CEA-708, V-chip, XDS, and AFD data.

To export for AAF:

1. Once captions are ready for export, go to File > Export > Broadcast Standalone Files > Avid Advanced Authoring Format (.aaf). The Save File dialog opens.



2. Change the file name, if you want to, and select the location. Click Save and the AAF Export Options dialog opens.



3. The AAF Export Options dialog has the following options:
  - a. Start at Timecode.** If your captions start at 00:00:00:00, you probably want the Start at Timecode field to contain 00:00:00:00 as well. If your captions start with a sequence time code such as 01:00:00:00, you want the Start at Timecode field to have the same start time as your Avid sequence. This might be 01:00:00:00, or if you have bars/tone/slate on your sequence, it might be 00:58:30:00 or similar.
  - b. Preserve Intermediate MXF File.** The AAF export first generates an MXF file, and then converts the MXF file to an AAF file. If this checkbox is not selected, the MXF file is erased when the export is finished. If this option is checked, the MXF file is not erased.
4. Click OK to complete the AAF export.

## H.264 and MPEG-2 Exports

### PRO

The following H.264 and MPEG-2 exports are only available in the Pro and Enterprise versions of MacCaption.

### H.264 SEI 608/708

The H.264 SEI 608/708 Captions export is sometimes referred to in the industry as "NAL SEI 608/708 captions" or "ATSC A/72 DTV 608/708 H.264 captions". For this export, caption data is inserted into the H.264 codec. This is especially useful for customers delivering MP4 with embedded captions to Akamai's Sola platform. This is used for streaming H.264 files. The wrapper can be MOV, TS, or MP4. These extensions need to be specified when saving the output file. TS is Transport Stream, MOV is the QuickTime container, and the MP4 wrapper is good for multiple player compatibility. The extension tells MacCaption how to multiplex the media and is not just an extension naming convention on export.

This export can create MP4 (ISO Base Media Format) files if the output file is named .mp4; M4V format if the output file is named .m4v; and QuickTime MOV files if the output file is named .mov. These formats are all closely related but have some minor differences. In these cases, the source video prior to captioning can be any of the above formats, but it can not be a Transport Stream.

This export creates an MPEG-2 Transport Stream (with H.264 codec) if the output file is named with a .ts or .m2t extension. In this case the source video must also be a Transport Stream (not a MP4, MOV, and so on). This export creates a generic profile Transport Stream that is sufficient for many uses such as web streaming, however it does not meet the strict specifications required by some broadcasters, such as the CableLabs spec. Users who need strict control over the Transport Stream parameters should use another multiplexing solution such as Manzanita MP2TSME.

### MPEG-2 User Data

The MPEG-2 Userdata 608/708 Captions export is similar to the "ATSC DTV 608/708 Closed Captions (to MPEG-2)" export, in that it exports the same type of caption data into MPEG-2 Elementary, Program, and Transport streams. The resulting Closed Caption data is the same, but each export has some pros and cons, discussed below, which is why they are both available. The export extensions should be either .mov, .ts, or .mpg.

This is a faster mechanism than MPEG-2 ATSC export. There is only one pass required to insert the captions into the MPEG-2 user data or A/53 style. The extension affects the multiplexing mechanism on export.

This export creates a generic profile MPEG-2 Transport Stream without the use of Manzanita multiplexer software. These Transport Streams do not meet the strict specifications required by some broadcasters, such as those that require the CableLabs spec. However, for users who just need a generic Transport Stream, it may be sufficient.

Users who need strict control over the Transport Stream parameters (including PIDs, muxrate, descriptors, and so on) should use the Manzanita-based workflow, that is, export "ATSC DTV 608/708 Closed Captions (to MPEG-2)" export together with a Manzanita multiplexer such as MP2TSMS.

## MPEG-2 ATSC Export and Manzanita

The ATSC DTV 608/708 Closed Captions (to MPEG-2) export adds userdata in A/53 into MPEG-2 Program streams or Transport Streams. Both 608/708 data are included in the export. If Manzanita Multiplexer is installed in the same computer (MP2TSMS, MP2TSME) then MacCaption can hand off the multiplexing part of the export operation to Manzanita. This is specially useful to deliver CableLabs compliant streams.

When creating Transport Streams there are three critical pieces of information to know: The video and audio PID numbers from the source file, and a Manzanita configuration file that matches your delivery spec. (Configuration files for CableLabs-compatible HD and SD files are included with MacCaption.)

The Video ID and Audio ID are determined by the source Transport Stream file. The configuration file depends on your delivery requirements. In many cases the default "CableLabs HD" configuration file works unless your target system requires a different setting.

- If you know your source file is already encoded for CableLabs, set and enable "Use Video ID" to 481 and set and enable "Use Audio ID" to 482. The source MPEG video must have already been encoded using these values, otherwise Manzanita will fail to demux the file. If your file was encoded with different IDs and/or you do not know the Video ID or Audio ID of your transport stream, please download MPEG Streamclip from [www.squared5.com](http://www.squared5.com) or use Manzanita MPEG ID to find the correct parameters. When you open the Transport Stream in MPEG Streamclip, you see the Video ID and Audio ID reported in the lower left corner of the window. These are the values you must set inside MacCaption.
- If you have a Manzanita configuration file it can be applied by selecting "Generate a Transport Stream using Manzanita software" and clicking "Configure". This feature is optional, and if left disabled Manzanita multiplexer will use the default CableLabs HD configuration for the multiplexing.
- Make sure your caption time codes match your MPEG-2 file. If you made the MPEG-2 file from an NLE system then it might start at 01:00:00:00 or 00:00:00:00. If it was captured from tape or video server it could have an odd starting time code such as 02:03:04:05. In any case your caption time codes need to match the MPEG-2 time codes within the file, otherwise the captions won't line up.

## MPEG-2 720x512 422P@ML Extreme Reach SD Delivery

This export is for a special 720x512 4:2:2 MPEG-2 format used by some distributors such as DG (DG Fast Channel), Pathfire, and Extreme Reach, and possibly others who use hardware made by Vela.

This export is for SD video only and incorporates the Main Concept engine to add VBI (Vertical Blanking Intervals) to the video. This is a render intensive process for these SD videos which are already in the MPEG-2 codec. There is a generation loss, but this can be minimized by using a higher bitrate option during export. This export is used by ad agencies to deliver to Extreme Reach.

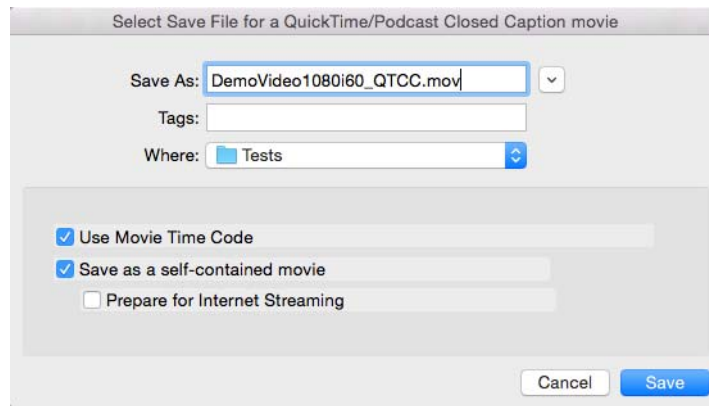
To use this option, go to File > Export > Embed CC into Media and choose "CCIR 601/4:2:2P@ML Movie with Closed Captions". For detailed instructions on implementing this export, see the Telestream Knowledge Base. The web link is on the [Support](#) page in this guide.



## QuickTime Podcast Captions

The QuickTime Podcast option embeds 608 caption tracks into MP4, MOV, 3GP, and M4V video containers. These containers are typically used for playing captions in QuickTime Player, iTunes, and iOS devices. It is recommended to apply the Podcast option to files that have the H.264 codec, but can be added to other codecs in the MOV container wrapper.

To use this option, go to File > Export > Embed CC into Media and choose QuickTime 608 Closed Captions (FCP/Podcast/Web). The following File Save dialog opens:



Select the options you want, then click Save to create the export.

## Export a Subtitle Overlay for Vantage®

### PRO

Rendering burned-in subtitles (also known as open subtitles or open captions) into a video requires recompressing or transcoding the video, because the images are being changed. If you need to transcode the video anyway, it is ideal to insert the subtitles during the transcode step, instead of transcoding the video once to add the subtitles and then transcoding it again to the final format. Vantage has a Movie Overlay filter (listed under Video Filters) within the Flip action which can overlay subtitles on top of the source video during a transcode.

First, you need to create a subtitle overlay video. This is a QuickTime MOV that contains the subtitles only (no video) with an alpha channel transparent background so that it can be overlaid on top of the video image. See [Alpha-Channel Subtitle Overlay](#) for details on creating this subtitle overlay video.

The movie can then be used in the Movie Overlay filter in Vantage. Set the Overlay Left and Top values to 0, with Width and Height values that match the source video. The path to the video can be hard-coded, or it can come from a variable.

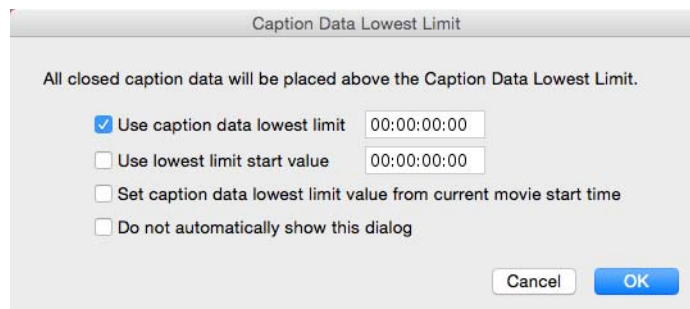
If you use the “Work Order” feature to submit a spreadsheet to Vantage, the variable that points to the subtitle overlay file can be one of the columns in the work order. This feature is handy if you want to transcode different versions of the same source video with and without subtitles, or multiple versions with different subtitle languages.

## Setting the Caption Data Lowest Limit

Setting the Caption Data Lowest Limit during export assures that all of the closed captioning technical data is placed into the actual video content area of the movie. The closed caption data for certain types of captions, such as Pop-on, must precede the display of the actual closed caption itself. For Roll-up and Paint-on closed captions some caption data is placed a few frames before the start of the caption display.

If you do not set a Caption Data Lowest Limit within the actual video content area, you may lose the first caption if the beginning of the video is edited to remove bars and tone, the slate, or the countdown.

The following shows an example of the Caption Data Lowest Limit settings dialog. This dialog is automatically displayed during the export process, for the appropriate file types.



The Caption Data Lowest Limit should be set to start when the actual video content starts. For example, If you are using pop-on captions and the movie time code starts at 0:58:00:00, the actual video content starts at 1:00:00:00 and the first closed caption appears at 1:00:01:00, which is one second into the video content, the actual closed caption data is placed into the movie before the caption is scheduled to pop on at 1:00:01:00. In this case you would set the Caption Data Lowest Limit to 1:00:00:00 to force MacCaption to begin putting the closed caption data into the movie no earlier than time code 1:00:00:00.

As with all closed captioning, be sure to verify the accuracy of your work by viewing a playback of the final product.



# Automated Workflow

## ENT

All of the features described in this Automated Workflow chapter are only available in the Enterprise version of MacCaption.

### ■ Overview

- [Batch Processing vs Command Line Interface](#)

### ■ Command Line Interface

- [Embed Closed Captions into Media](#)
- [Extract Caption Data for Re-Purposing and Internet Media](#)
- [Bulk Frame Rate Conversion of Caption and Subtitle Data](#)
- [Flip Caption Documents between Various Broadcast or Internet Types](#)
- [Converting Caption and Subtitle Files to Burn-In Subtitles](#)

### ■ Batch Processing

- [Batch Functions](#)
- [Running a Batch Operation](#)

## Overview

Automation is a great time saver and can handle much of the manual video file analysis, conversion, and repetitive tasks when you need to make sure content is properly transcoded and aired with accurate closed captioning.

You can automate many high volume caption processing tasks, such as:

- Caption insertion and extraction.
- Format conversion.
- Time and frame-rate adjustment.
- Sub-clipping and clip assembly.
- Processing archives of video files.
- Analyzing for quality assurance.
- Captioning data reporting.

## Batch Processing vs Command Line Interface

The following describes some differences between Batch Processing and using the Command Line Interface (CLI) option of MacCaption:

- Batch Processing runs only within the MacCaption user interface, whereas the Command Line Interface can be used with the Mac OS X Terminal application.
- Batch Processing only performs some basic and simple linear functions, but the Command Line Interface can perform complex multiple operations.
- The Command Line Interface can be operated with no interaction needed with the MacCaption user interface. This means that operators can perform a wide range of captioning operations and never need to learn how to use the MacCaption interface.

# Command Line Interface

MacCaption's Command Line Interface provides quick access to all of the parameters related to the necessary import, export, and processing options, and can greatly simplify custom tasks for technicians and operators. The MacCaption CLI scripts list the operating parameters in a logical and human readable way.

The Command Line Interface (CLI) is designed to be used with the Terminal application installed in Mac OS X, without needing to operate the MacCaption user interface. Software developers can also design mechanisms that will trigger these commands using 3rd-party applications and/or developer tools found in OS X.

The MacCaption Command Line Interface is very powerful and includes options not found in the Telestream CaptionMaker application for Windows. These powerful options that are exclusive to MacCaption include support for ProRes HD, caption embedding, and the [Assemble Captions](#) feature.

Once a Command Line Interface script is created, the functions it is set to perform can be easily initiated by any operator or from other applications. A complicated operation in the MacCaption user interface can be simplified by writing a CLI script. This is very useful when the same operation is needed on a regular basis.

For complete details on all commands for the Command Line Interface (CLI) feature, see the MacCaption Command Line Interface document. Open this document from Help > Command Line Interface.

## Embed Closed Captions into Media

Using the Command Line Interface (CLI) can simplify the process of inserting caption data into media files, such as MP4, MOV, and MXF. A script can be created to take a caption data file, such as .MCC or .SCC, and insert the data into a media file.

The script must define the input caption file name and location, input media file name and location, and the type of caption data that needs to be inserted. Finally, the script must define the export file name and location, which will be the media with the inserted captions.

---

**Note:** Embedding caption data does not convert the media file to a different format. It is imperative that the format of the input file matches the output file.

---

### Sample Script to Embed Closed Captions into Media

The following sample script will import CC1 captions from a .SCC file and create a QuickTime Podcast movie:

```
./MacCaption.app/Contents/MacOS/MacCaption \  
-import=scc -tcmode=29.97df -displaymode=caption -ioptions=A1 -  
input=my_input.scc \  
-movie=my_source_movie.mov \  
-export=quicktime_podcast -output=my_podcast.mov
```

## Extract Caption Data for Re-Purposing and Internet Media

A Command Line Interface (CLI) script can be configured to find and extract various types of caption data and convert it for multiple uses. There are two basic ways to set up a CLI script to extract caption data from a media file:

- a. Specific format.** The script can specify the type of data it needs to find. For example, if a media file is MXF HD with a SMPTE 436M caption track as the known input file type, then the script can look for that specific data.
- b. Multiple formats.** If the media files are in multiple formats and resolutions then the QCC Multi-Format Import option (QCC) can find caption data from a variety of video formats including, but not limited to, MXF, MPEG, MOV, MP4, M4V, TS, GXF, and LXF.

---

**Note:** If the incoming video format can be identified and is consistent, then specifying the caption data type in the CLI script will speed up the time it takes MacCaption to read the caption data.

---

In addition to reading caption data from a variety of video files. The Command Line Interface can specify a language channel such as CC1 or CC3 during extraction. This helps users select alternate languages that may be embedded within the video media.

### Typical Parameters for Extracting Caption Data

The following are some typical CLI parameters to use when reading embedded captions from video media:

#### **-import=QCC**

QCC imports a variety of formats. Use a specific type for an individual format. See the Help > Command Line Interface document for a complete list, under the "Import Parameters" heading in that document.

#### **-ioptions=options**

Where "options" can be a portion, or all, of the values "123456789hi" which specify the type of captions to import:

- Use 1, 2, 3, and 4 for CC1, CC2, CC3, and CC4
- Use 5, 6, 7, and 8 for CC1, CC2, CC3, and CC4 in DTV
- Use 9 for 708 captions in DTV
- Use h for KS C 5601 in Field 1
- Use i for KS C 5601 in Field 2
- The default is '1'

#### **-input=input\_file**

The "input\_file" parameter is the input caption file name and location.



## Bulk Frame Rate Conversion of Caption and Subtitle Data

Automation and caption data frame rate adjustments can be applied to an entire archive of caption files using the Command Line Interface (CLI), such as .SCC and .CAP. This can be very useful when the input media files do not match the timing of the caption data.

For example, caption files are generally timed for TV broadcast at 29.97 DF. When the media needs to be delivered in 23.98 fps the caption files will not be in sync with the deliverable, unless there is a timecode adjustment to change the frame rate of the caption file to match the 23.98 fps time base.

Using the CLI for this process is extremely fast and hundreds of files can be processed in under a minute. In certain cases, caption data can be extracted from media files which contain sync issues and fixed using this automation.

## Flip Caption Documents between Various Broadcast or Internet Types

TV caption data files, such as .SCC, can be converted to typical Internet caption files, such as SMPTE 2052 TTML and WebVTT, using the Command Line Interface or [Batch Processing](#).

Furthermore, caption data can also be extracted from media files and converted to Internet caption files. The main use of this automation is to do the conversion to Internet captions during a transcode, in a format that is acceptable to the content provider, such as iTunes, Netflix, and so on.

The key point is that automated conversions can retain the positioning and formatting of TV captions, which is required by many video distribution services and United States legislation under the Communications and Video Accessibility Act (CVAA).

## Converting Caption and Subtitle Files to Burn-In Subtitles

Caption and subtitle files contain timecode, positioning, and text that can be converted by a Command Line Interface (CLI) script to MOV graphics for subtitle overlay, or burn-in. See [Exporting Subtitles](#) for a description of overlay and burn-in files.

The resulting black QuickTime MOV movie with subtitle graphics can be used in your NLE to combine with the video, or use Vantage to perform this operation in an automated workflow.

A script can be applied to a an entire archive of .CCA files, or other caption and subtitle file formats, to create the desired look of the subtitle overlay.

### Sample Script to Create Subtitle Overlay for Burn-In

This example provides a sample script that converts a .CCA (MacCaption Project file) into a subtitle overlay graphic. The custom font, font size, background color, opacity, and resolution of the subtitle graphics are represented by command line parameters.

The script performs the following actions:

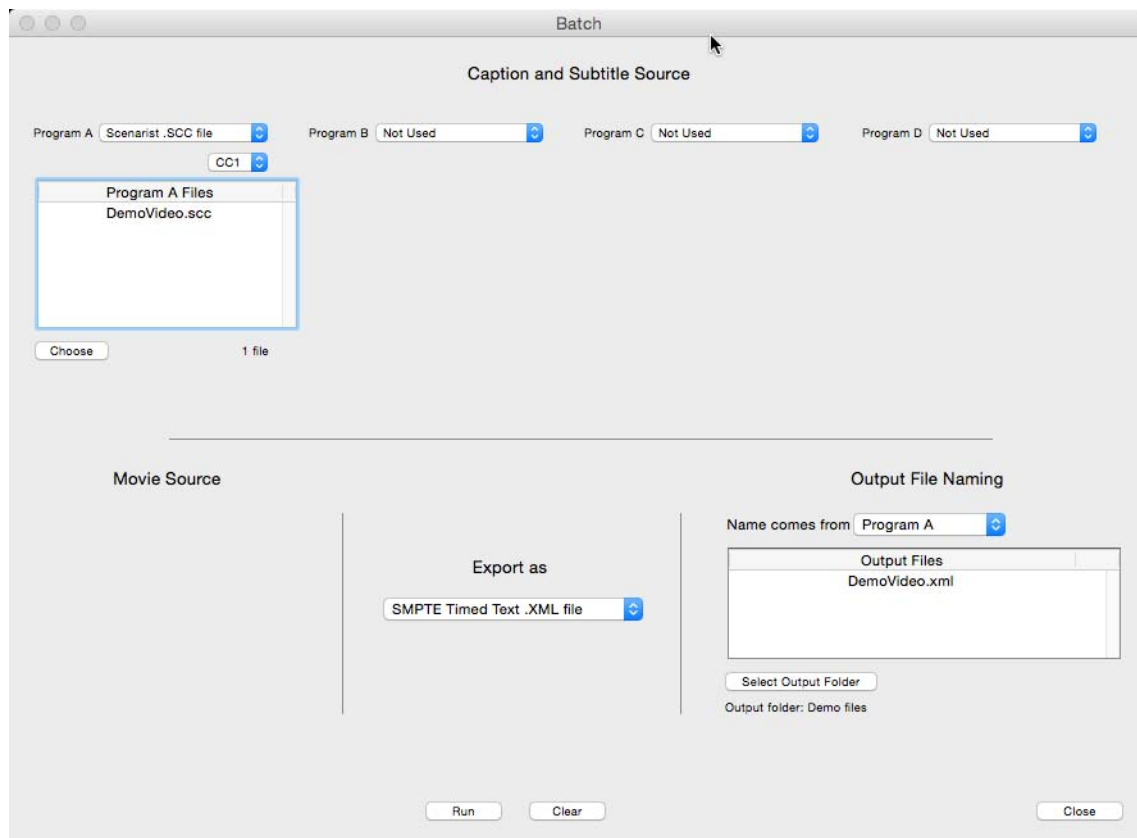
- When starting MacCaption, all preferences related to subtitle graphics are set to default values.
- Import the CCA file "sample.cca" into MacCaption's default text area, or Program A.
- Change the subtitle style settings to:
  - 36 point Zapfino font
  - Green text
  - Red background with 50% opacity
- Change the pixel resolution for exported raster images to 1024x768.
- Using all of these settings, export a Black Movie with Subtitles from the current program (A) and create the "result.mov" file.

```
MacCaption.app/Contents/MacOS/MacCaption -  
omit_reading_preferences_file -s -inhibit_gui \  
-import=cca -ioptions=Cc -input=sample.cca \  
-command=set_current_program=A \  
-subtitle_font=Zapfino -subtitle_font_size=36 \  
-subtitle_fg_color=#00FF00 \  
-subtitle_bg_color=#FF0000 -subtitle_bg_opacity=50 \  
-raster_export_extents=1024x768 \  
-export=black_movie_subtitles -output=result.mov
```

# Batch Processing

Batch processing is a feature that allows users to convert or embed multiple caption files with a single operation. A batch job can consist of the simple operation of extracting captions from a series of QuickTime movie files and creating a .SCC file for each of them, or a more complicated operation such as importing subtitles, putting them onto a second video and outputting the results to a third video. A specific example is described in a previous topic: [Flip Caption Documents between Various Broadcast or Internet Types](#).

To access the Batch dialog, go to File > Batch (Command+B).



## Batch Functions

The Batch dialog consists of five functional areas, described as follows.

### Caption and Subtitle Source

The top half of the batch dialog is where the caption, subtitle, and source files are specified. The Program A through Program D menus are used to select which programs are active and how caption and subtitle data is to be imported into that program. Each export operation examines all four caption and subtitle programs and imports data into the programs that require it. The CC1, CC2, CC3 and CC4 menus are used to specify

which caption data channel is to be extracted from the source file(s). When extracting caption data from a MacCaption .CCA file the CC1-CC4 selections are used to choose which .cca program data, Program A– D, is to be extracted.

## Export As

The Export As area is located in the middle of the bottom section, and is where the type of export operation is chosen.

## Movie Source

The Movie Source is where input movies are selected for all export operations that require a source movie. The “Use current open movie” check box selects the movie that is currently open in the Video Preview panel. This check box is hidden if no movie is open.

## Output File Naming

The Output File Naming area is used to specify the name(s) and output location for exported data. Output file naming is automatic. The method of naming output files is chosen with the “Name comes from” menu. All output files are placed in a single output folder. The output folder is chosen with the Select Output Folder button.

## Initiation Controls

The Run button activates when all of the required information for an operation has been selected. When information is needed for a specific section a red text message is displayed and indicates what information is required.

The Clear button removes all file names from the Batch dialog.

# Running a Batch Operation

Files in the Caption and Subtitle Source area and in the Movie Source area can be selected by their respective Choose button or by drag and drop. Drag and drop only works for appropriate file types. If a folder is dropped into a file acceptance area, only those files that have the appropriate file suffix are selected. Files are deleted by selecting them and pressing the delete key.

One output file is generated for each output file name. Usually there is a one-to-one correspondence between each Caption and Subtitle Source entry, each Movie Source entry and each Output file. During output, if there are fewer input files than output files the input file source selection begins again starting with the first input file source.

A check of all output files is performed when the Run button is pressed. The run operation is not performed if any output file is also an input file. Also, if any output file already exists the user is given the opportunity to cancel the Run operation. Once Batch is running all output files are silently overwritten.

Some export operations require specific information, such as specifying the output compression codec. This information is requested once for each batch job and will then be used for all subsequent processing on that batch job.

## Batch Operation Examples

The following examples describe some typical batch operations.

To create Scenarist .SCC files from QuickTime 608/708 Closed Caption movies:

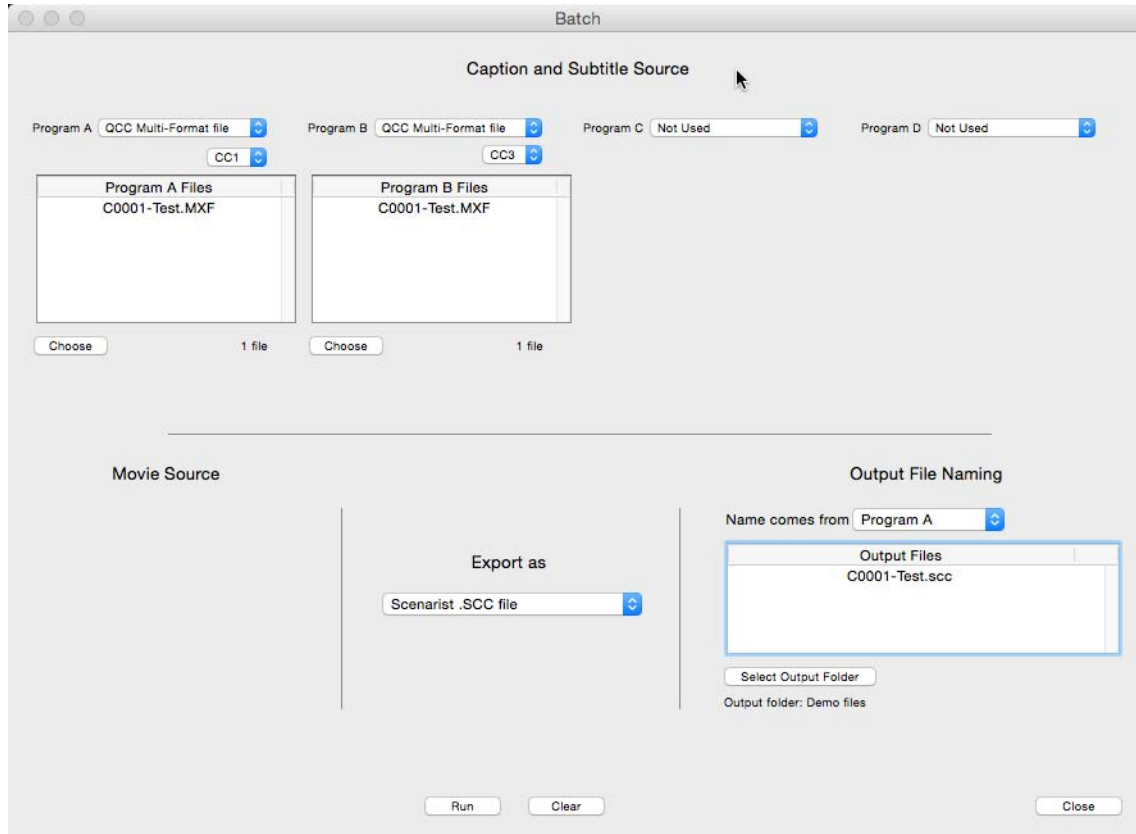
1. From the File menu select Batch, or use the Command+B shortcut. The Batch dialog opens.
2. Under Caption and Subtitle Source, Program A choose "QuickTime DTV 608/708 CC movie" from the menu.
3. Choose or drag-drop one or more movies into the Program A Files area.
4. Under Export As select "Scenarist .SCC file" from the menu.
5. Under Output File Naming, "Name comes from", choose "Program A". Or select "User" to create a custom name, and press Return to set the name.
6. Under Output File Naming click Select Output Folder and choose an output folder.
7. Press Run.

To add closed captions in previously prepared MacCaption project .CCA files to QuickTime Closed Caption movies for the Internet:

1. From the File menu select Batch, or use the Command+B shortcut. The Batch dialog opens.
2. Under Caption and Subtitle Source, Program A choose "Use .CCA File".
3. Choose or drag-drop one or more .CCA files into the Program A files area.
4. Under Export As select "QuickTime DTV 608 CC for FCP/Podcast/Web".
5. Choose or drag-drop one or more movies into Movie Source files area.
6. Under Output File Naming, "Name comes from", choose "Movie Source". Or select "User" to create a custom name, and press Return to set the name.
7. Under Output File Naming click Select Output Folder and choose an output folder.
8. Press Run.

## Batch Dialog Configured for Two Languages

The following screen capture shows the Batch dialog configured for two languages, using Program A set to CC1 and Program B set to CC3.



# Example Workflows

This chapter describes various workflows, such as those used for the web, mobile devices, video servers, DVD, and Teletext.

- [Captioning for the Web and Mobile Devices](#)
  - [Post-Production \(VOD\) Web Captioning](#)
  - [Web Formats with Closed Captions](#)
- [File-Based Workflows](#)
  - [Video Servers](#)
  - [Transcoding Software](#)
- [Multiple Languages](#)
  - [Example: Creating a Second Language Caption Export](#)
  - [Translation Text File Export and Import](#)
- [Creating a DVD or Blu-ray with Captions](#)
  - [Multiple Languages on DVD](#)
  - [Closed Caption File Format for DVD](#)
  - [Subtitle Format for DVD](#)
- [Assemble Captions](#)
  - [Assemble Captions Options](#)
  - [Performing the Assemble Captions Operation](#)

## Captioning for the Web and Mobile Devices

For web video, there are a number of different standards and types of video playback mechanisms: Flash, Silverlight, HTML5, QuickTime, HLS, HDS, MS Smooth Streaming, MPEG DASH, UltraViolet, and so on. To support a broad variety of different playback devices a provider may need to stream the video in multiple formats, because there is no single video format that is supported by every device. You may need to export the related captions into more than one of these formats.

Many mobile devices already support closed captions, although they require the captions in different formats depending on the device. With Telestream software it is easy to create captioned videos that work on multiple devices.

The iPhone and iPad are very common players for portable video and music media. The Apple devices support TV-style closed captioning in H.264 video files. Most Android-based phones which support Flash can display Flash closed captions.

For additional information on captioning for the web and mobile devices, see the Telestream Knowledge Base on the [Captioning Support page](#) of the Telestream web site.

## Post-Production (VOD) Web Captioning

MacCaption supports a large number of formats for captioning video files for video on demand (VOD) on the web, including:

- SMPTE Timed Text (SMPTE 2052): A new standard for captioning for both broadcast and the web, also for UltraViolet (DECE CFF format).
- WebVTT: Another new standard for captioning and subtitling web videos, frequently used with HTML5 and Apple HLS streaming.
- H.264 SEI Embedded CEA-608/708 Captions: Used for Akamai and Wowza VOD streaming, and other systems that support embedded 608/708 captions inside the video stream.
- DFXP (TTML): Used by many Flash players and providers such as Brightcove, Lime-light, Flowplayer, JW Player, and so on.
- iTunes Timed Text (iTT): Used for delivery to iTunes.
- SRT: Supported by many Flash players and also YouTube, however this format does not carry any positioning or formatting information, just plain text and timing.
- SCC: Supported by YouTube and some other web video players.
- QuickTime Closed Captions Track: Apple devices and browsers can play closed caption tracks embedded into QuickTime MOV and MP4 files, which mimics the look and feel of TV broadcast captions

With the exception of QuickTime Closed Captions Track and H.264 SEI Embedded CEA-608/708 Captions, all of the other above formats are sidecar files, meaning the captions/subtitles are delivered as a separate file rather than being embedded into the video file.



## Web Formats with Closed Captions

There are many formats for the web that have the ability to display closed captions. MacCaption can easily extract and convert closed captions to any required format, frame rate, or time code adjustment. This can also involve editing the video to remove commercial breaks or shorten the duration. MacCaption can make use of an edit decision list (EDL) from your editing system to automatically conform the original captions to the new web version.

### Flash Closed Captioning

Adobe CC, Flex, Flow Player, JW Player, Hulu, and the Captionate plug-in support closed captioning files for the web. Flash video has a wide range of different custom video players. There are a variety of caption file formats that Flash video can support. They include .SRT, DFXP Timed Text .xml, SAMI .smi, Captionate .xml, and embedded .FLV with captions. Telestream software can export any of these file formats to support a variety of custom video delivery websites.

### QuickTime Closed Captioning

Telestream software provides the best workflow for inserting closed captioning or subtitle tracks into QuickTime files. These work not only in QuickTime Player on your desktop, but also in a web browser or on Apple mobile devices.

### YouTube Closed Captioning

It is easier than ever to caption web videos through YouTube. Not only does YouTube have a speech recognition engine to help transcribe your video, but also an automatic time stamping tool to synchronize an already existing script. If you need the transcription to be perfect it is best to type it out manually in a word processor and upload a .txt file alongside your video to YouTube. This will result in accurate captioning text. However, there are times when you may have a closed captioning file or tape that already has captions but needs to be converted to a video that can be uploaded to YouTube.

Telestream software can quickly convert your TV closed captioning file or tape to the .SRT format that is native to YouTube. YouTube accepts other captioning file formats, such as SCC, WebVTT, DFXP, SAMI, and EBU-STL.

### iTunes Closed Captioning

iTunes software for Mac and Windows has the ability to display closed captioning for iTunes videos, including video podcasts and iTunes U. All you have to do is add closed captions to a QuickTime .mov or .m4v file. The closed captioning in these iTunes files is called closed caption tracks for QuickTime. Create this closed caption track quickly and easily by embedding them from any caption document or already captioned video into the QuickTime .mov, without re-compression or generation loss. You can also take existing video podcast archives that you are hosting and add closed captions to them using batch processing

## **Windows Media Closed Captioning**

If you are delivering captioning content to an all-Windows audience then Windows Media closed captioning could be the most compatible option. Windows Media can read the captioning either from a separate SAMI (.smi) file or from an embedded .wmv file with captioning. Telestream software can generate either one of these options for Windows Media servers needing to deliver accessible video content.

## **Akamai Sola Sphere Captioning**

Telestream software can automatically convert TV closed caption data to web closed caption data, which can then be streamed in HD quality by Akamai. Any organization with a large number of archived captioned video files can reduce captioning operational time and errors by using batch processing mode to convert all the files in a folder to desired web captioning formats.

# File-Based Workflows

MacCaption can embed closed captioning directly into files, including MPEG-2 Program and Transport Streams, MXF, QuickTime, MCC, and many more. It supports broadcast video servers, such as Harris Nexio, Omneon, SeaChange, Avid Airstream, as well as Manzanita's multiplexers for VOD CableLabs spec.

Delivering a closed caption file in the correct format depends on the kind of system or software that will be used to play or process the file on the receiving side. When confirming the delivery specs with your facility or client, here are some good questions to ask:

- What kind of server or software process will they be using to ingest (import) the file that you send them. Example answers could be: "We will be ingesting the file into our Omneon playback server", or "We are going to put the file in our Final Cut Pro system and output to tape", or "We use Telestream Vantage to transcode the file to XYZ format", and so on.
- What are the detailed specs of file type(s) they can accept with closed captions, such as wrapper/stream type, codec, resolution, frame rate, and bit rate.

## Video Servers

The following provides some information about typical video servers.

### Omneon

Omneon servers support different kinds of media files, depending on the options installed on the server:

- XDCAM HD-type MXF files with SMPTE 436M Closed Captions.
- XDCAM HD codec MOV files with internal MPEG-2 Closed Captions (MacCaption only).
- DVCPRO-HD codec MOV files with internal DVCPRO-HD VANC Closed Captions (MacCaption only).
- DV/DVCPRO (DV25/50) codec MOV files with internal VAUX Closed Captions.

### Harris Nexio

Harris Nexio servers, with the latest software updates, can use the MCC file format generated by Telestream captioning software for HD closed captioning.

### Seachange

Seachange servers can use XDCAM HD-type MXF files with SMPTE 436M Closed Captions, or DV25 (standard def) video with DV VAUX closed captions.

## **DG Fast**

Depending on your specific drop box for DG Fast, they may require either MPEG-2 Program or Transport streams with embedded closed captions for HD. For SD, they use the 720x512 MPEG-2 format, also supported by Telestream captioning software using the MainConcept plug-in.

## **MPEG-2 Files for CableLabs VOD**

Many VOD providers, such as Comcast, require MPEG-2 Transport Streams using the CableLabs spec (Transport Streams require the Manzanita plug-in, sold separately).

## **MPEG-2 for Generic or Unknown Servers**

Many file servers support MPEG-2 Program Streams or Transport Streams with embedded closed captioning (Transport Streams require the Manzanita plug-in, sold separately).

# **Transcoding Software**

Many facilities use a variety of transcoding solutions, such as Telestream Cloud or Vantage, in order to accept a wide variety of file formats and convert them to the preferred format. You should check to see if the transcoder being used preserves the closed captions embedded into the video file. In many cases, it can accept an SCC or MCC file with closed captions as a separate file. Or, you may need to identify the "final destination" format used by the facility, and provide that file type with embedded closed captions.

# Multiple Languages

MacCaption has options to export text to send out for translation, import the types of text files returned by translators, then add the additional services needed to export multiple languages. These services can be used to include more than one language in a caption file.

## Example: Creating a Second Language Caption Export

To add the second language of Spanish, for example, to an English caption file and set the encode options, follow these steps:

1. Go to Caption > Encode Preferences and create the settings shown in the following dialog and instructions.

**Encode Preferences**

**608 Encode Targets**

	CC1	CC2	CC3	CC4	None
Program A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program B	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Program D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**608 Closed Captioning Options**

- ☒ Blank between pop-on
- ☐ Duplicate control codes when sending captions
- ☐ Force an erase on a roll up caption base row change

**708 Closed Captioning Options**

- Caption Size: Default
- Font Style: Default
- Foreground Color: Default
- Foreground Opacity: Default
- Background Color: Default
- Background Opacity: Default
- Character Edge: Default

**708 Encode Service Number Targets**

	Service Number	Language
Program A	1	eng - English
Program B	2	spa - Spanish...
Program C	Do not encode	eng - English
Program D	Do not encode	eng - English
Program E	Do not encode	eng - English
Program F	Do not encode	eng - English

**Export Options**

- ☒ Include 608 captions in DTV export operations
- ☒ Include 708 captions in DTV export operations
- ☐ Encode 708 captions for 16:9
- ☐ Include SCTE-20 in DTV MPEG-2 export operations
- ☐ Precede DTV captions with a Reset command
- ☐ Use KS C 5601 encoding for Service Number 1

Cancel OK

- For 608 Encode Targets, set Program B to CC3, leaving Program A on the default CC1 target.
- For 708 Encode Service Number Targets set Program B to 2 and choose Spanish for the Language. Leaving Program A at the default target of 1 and English.

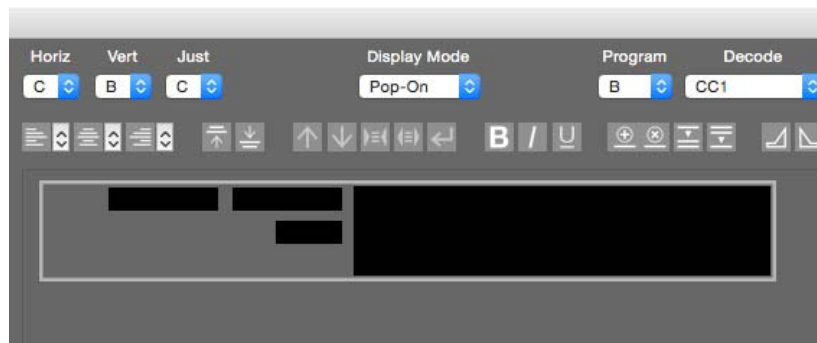
- Select to include 608 and 708 captions in DTV export operations.

---

**Note:** See [Encode Preferences](#) for more information on the encode options.

---

2. Make sure the English captions are in Program A and are timed, positioned, and edited correctly for the desired final output.
3. Choose Edit > Select All (Command+A) and then Edit > Copy (Command+C) to copy all captions and associated time codes.
4. From the Program menu select B. If there are no captions it will be blank, as shown in the following:



5. Choose Edit > Paste (Command+V) and all captions from program A are copied into Program B.
6. Program B can now be translated in MacCaption, and the translated phrases are in the proper time code locations.
7. You can now export the file in a format that supports multiple languages, such as QuickTime DTV 608/708 Closed Captions.

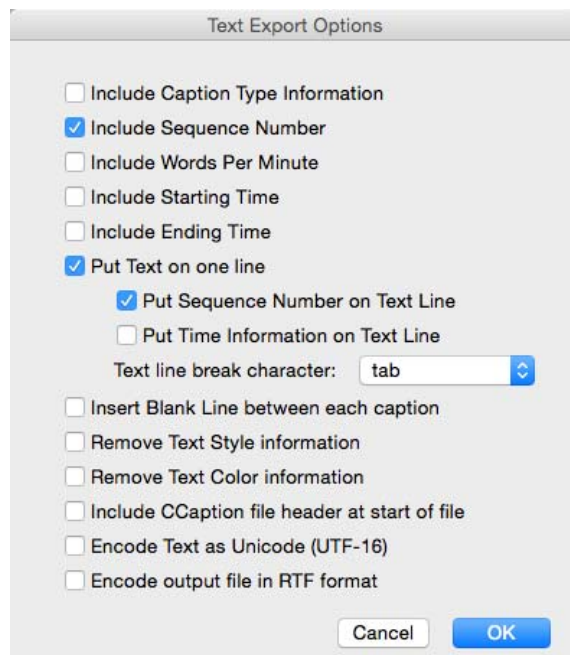
## Translation Text File Export and Import

You can export your finished caption text to send out to a translator, and import the translated version back into MacCaption. The techniques are similar to the previous example of adding a second language, where you use Program B—D to contain the additional languages.

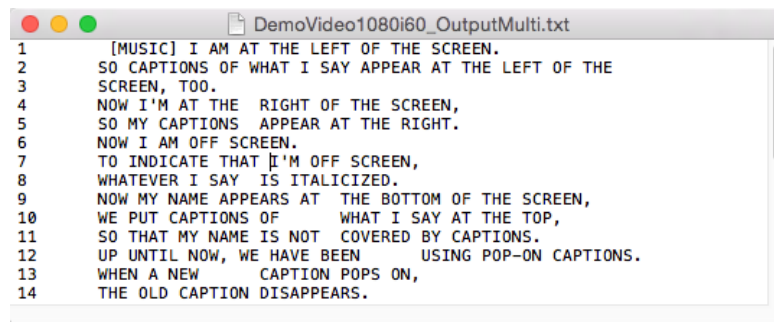
### Exporting Text for Translation

The following describes typical steps to export text for translation.

1. Make sure the primary language captions are in Program A and are timed, positioned, and edited correctly for the desired final output.
2. Choose Export > For Multiple Language. The Save file dialog opens.
3. Set the file name and choose the location, then click Save. The Text Export Options dialog opens.
4. The default options are: Include Sequence Number and Put Text on One Line, as shown in the following. Change other settings, if desired, then click OK to export the file.



5. The exported text file includes sequence numbers that matches the text row numbers in MacCaption, as shown in the following example.

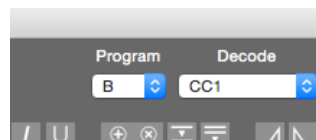


6. The file can now be sent out for translation, with instructions to the translator to retain the line numbers.

## Importing Translated Text

The following describes typical steps to import text that you receive back from a translator.

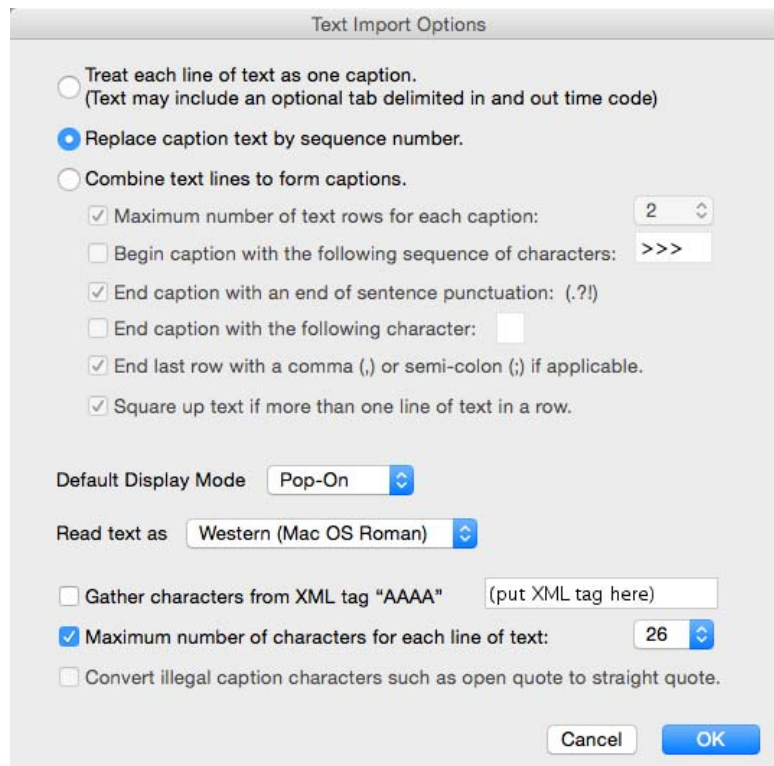
1. The text and timing in Program A should be the same as what you sent out for translation.
2. Program A needs to be copied to Program B (or C or D if using those) so the time codes that relate to each line are copied. To do this, choose Edit > Select All (Command+A) and then Edit > Copy (Command+C) to copy all captions and associated time codes.
3. From the Program menu select B (or C or D if using those), as shown in the following image.



4. Choose Edit > Paste (Command+V) and all captions and time codes from program A are copied into Program B.
5. Choose Import > For Multiple Language. A dialog opens to select the file.



6. Navigate to the translated file (containing line sequence numbers) and click Open. The Text Import Options dialog opens.



The image shows a 'Text Import Options' dialog box with the following settings:

- ☐ Treat each line of text as one caption.  
(Text may include an optional tab delimited in and out time code)
- ☒ Replace caption text by sequence number.
- ☐ Combine text lines to form captions.
  - ☒ Maximum number of text rows for each caption: 2
  - ☐ Begin caption with the following sequence of characters: >>>
  - ☒ End caption with an end of sentence punctuation: (.?!)
  - ☐ End caption with the following character:
  - ☒ End last row with a comma (,) or semi-colon (;) if applicable.
  - ☒ Square up text if more than one line of text in a row.
- Default Display Mode: Pop-On
- Read text as: Western (Mac OS Roman)
- ☐ Gather characters from XML tag "AAAA" (put XML tag here)
- ☒ Maximum number of characters for each line of text: 26
- ☐ Convert illegal caption characters such as open quote to straight quote.

Buttons: Cancel, OK

7. The default options are: Replace Caption Text by Sequence Number and the Maximum Number of Characters for Each Line of Text is set to 26. Change other settings, if desired, then click OK to import the file.
8. The existing text is replaced with the imported translation, going into each row based on the line numbers in the text file.

## Creating a DVD or Blu-ray with Captions

When your video and caption files are exported and ready for the final DVD Master with closed captioning, you create the DVD using DVD authoring software. Many consumer DVD burning software products do not have the ability to make a captioned DVD, so special "prosumer" or professional authoring software must be used. For prosumer options we recommend Sony DVD Architect Pro (Windows) or Apple Compressor 4.2 (Mac). You can use Adobe Encore or Apple DVD Studio Pro (Mac), if you have them, but they are not currently released. All of these software packages can accept a SCC caption data file to merge with the DVD video.

The standard format for a caption data file is the SCC (Scenarist Closed Caption) file. This caption data file is created with MacCaption and can be imported into DVD authoring systems. The captioning text cannot be checked until the DVD is compiled and/or burned. For best results, it's important to use a set top DVD-Player connected via analog connections to a TV, such as S-Video or Composite (RCA), since HDMI and Component connections don't support closed captions.

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**Note:** The Blu-ray specification does not support closed captioning. However, you can create an SDH subtitle track to mimic the look and feel of closed captioning.

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## Multiple Languages on DVD

After you have subtitled or captioned a video in one language and obtained the time codes, the same time codes can be used for subsequent languages. A translation prepared in a captioning file format can then be used to subtitle or caption in additional languages.

A DVD can contain closed captions in up to six languages: English, Spanish, French, Portuguese, German, and Dutch. MacCaption can produce closed caption (.cc or .scc) files for all of these six languages.

For subtitles, a DVD disk can contain up to 32 different languages. Telestream software can produce subtitles in almost every language, from Arabic to Zulu, using any Unicode font. This gives you a large number of languages from which to choose.

## Closed Caption File Format for DVD

A DVD closed caption file is a binary file consisting of a number of lines - one line for each closed caption. Each line starts with a time code which is separated from the closed caption data (in binary format) by a tab character.

## Subtitle Format for DVD

MacCaption creates as many files as the number of subtitles, and also a navigation file. The navigation file lists details (time code, size, and position) of each subtitle.

The first item on a line is the name of the graphic file, which is a picture file of a subtitle using a TrueType Windows font. The next two items are the in and out time codes of a subtitle. The following two items after that are width and height of a subtitle. The last two items are the position of a subtitle on a 720 x 480 screen.

## Assemble Captions

### PRO

The Assemble Captions feature can save you a lot of time when you have a show that is already captioned, and now you need to edit the video. When editing video that contains closed caption data, any cuts or inserts will cause the original caption track to no longer match the edited sequence. Also, any rendering such as transitions, color correction, or compositing of graphics can cause deletion of closed caption data. In the past, this would require the project to be re-captioned from scratch. The Assemble Captions feature can find the original captioning data, conform it to match the edited sequence, and re-insert it into the final video (including other video formats) after all the editing is complete.

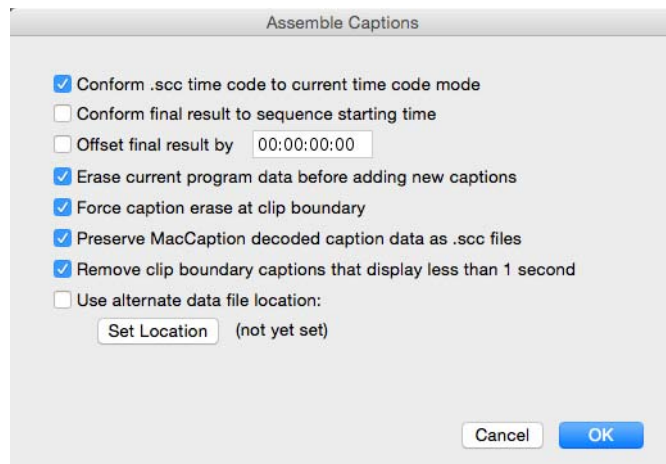
Assemble Captions is a feature that is very similar to an assemble edit feature in a non-linear editing system. It is designed to import an edit decision list (EDL) from Final Cut Pro via an Apple Interchange Formatted XML file. MacCaption can conform the closed captions to the video edits that were made in Final Cut Pro, provided that the original video clip had closed caption data.

Assemble Captions will work with both closed caption data and subtitle files in EBU-STL (.stl) and PoliScript PE2 (.txt) formats.

The following is a list of practical applications for the Assemble Captions feature:

- Editing previously captioned SD and HD video clips.
- Combining two or more previously captioned clips on one timeline.
- Adding graphics or overlays to a captioned video clip.
- Editing a vendor master for web or disc delivery without losing caption data.
- Color enhancing or correcting a video master after it has been closed captioned.
- Fixing flash frames in the final video master without losing caption data.
- Cutting foul language or adult content from a video master without losing caption data.
- Cutting a video master to clock, making space for more commercial time, without losing caption data.

## Assemble Captions Options



The following options are available in the Assemble Captions dialog:

- **Conform .scc time codes to current time code mode.** Adjust .scc time code values to the current time code mode.
- **Conform final result to sequence starting time.** Adjusts the starting timecode of the captions to the starting timecode of the video sequence. For example, if the video sequence starts at 01:00:00:00 then the decoded captions will also start at this time. When deselected, the starting timecode of the captions is set to 00:00:00:00 by default.
- **Offset final result by [00:00:00:00].** Enter a time value to offset the final result.
- **Erase current program data before adding new captions.** Erases all captions currently open in MacCaption prior to importing the new assemble caption. This feature saves the extra step of starting a new project in order to clear the caption project of caption data before performing the Assemble Caption operation.
- **Force caption erase at clip boundary.** Inserts a caption erase when a caption extends over a clip boundary. Depending on the caption data, there may be times when a cut in the video breaks the caption timecode that extends beyond the length of the cut. In addition, there may be captions that come in before the dialogue starts if dialogue was removed during editing. This option automatically deletes these captions in order to accurately represent the edits that were made.
- **Preserve MacCaption decoded caption data as .scc files.** Saves the captions extracted from source movies into .scc files in the movie's folder. MacCaption decodes captions from QuickTime videos into .SCC files in order to accomplish the Assemble Caption operation. This option permanently saves these .SCC files alongside the QuickTime videos in their corresponding folder, or in a user specified location.
- **Remove clip boundary captions that display less than 1 second.** Removes a caption that has a display time of less than 1 second and extends to the next clip

boundary. This function is similar to "Force caption erase at clip boundary" except that it only affects captions that display less than 1 second.

- **Use alternate data file location—Set Location.** Sets a new specific location for .scc files generated in the Assemble Captions operation. When not selected, MacCaption will save and/or look for SCC files in the same folder as the video file.

## Performing the Assemble Captions Operation

Follow these steps to perform an Assemble Captions operation:

1. After editing the captioned clips, export an XML (Apple Interchange Format Version 4) from Final Cut Pro or other NLE.
2. In MacCaption, go to Caption > Set Decode Channel and choose the channel for the type of captions you are decoding, for example:
  - a. Use "CC1" for Line 21 or DV captions.
  - b. Use "CC1 in DTV" for AJA KONA or BlackMagic captured files.
3. In MacCaption go to File > Import > Assemble Captions and choose the file type to import (.edl, .xml, or .fcpxml).
4. Browse for and open the .edl, .xml, or .fcpxml file that was exported from Final Cut Pro or other NLE.
5. The Assemble Captions dialog opens and has the following options. The recommended options to select for typical operations are in bold:
  - a. **Conform .scc time codes to current time code mode**
  - b. Conform final result to sequence starting time
  - c. Offset final result by 00:00:00:00
  - d. **Erase current program data before adding new captions**
  - e. **Force caption erase at clip boundary**
  - f. **Preserve MacCaption decoded caption data as .scc files**
  - g. **Remove clip boundary captions that display less than 1 second**
  - h. Use alternate data file location
6. Once you have set your desired Assemble Caption settings press OK, and the captions for the edited clip will now sync up to the final edited video and load into MacCaption.
7. Check the captions and make any final adjustments.
8. Export the finished project in the desired format.

# Menus

This chapter describes the MacCaption menus.

- [MacCaption Menu](#)
- [File Menu](#)
- [Edit Menu](#)
- [Display Menu](#)
- [Caption Menu](#)
- [Subtitle Menu](#)
- [Time Code Menu](#)
- [Format Menu](#)
- [Special Menu](#)
- [Window Menu](#)
- [Help Menu](#)

# MacCaption Menu

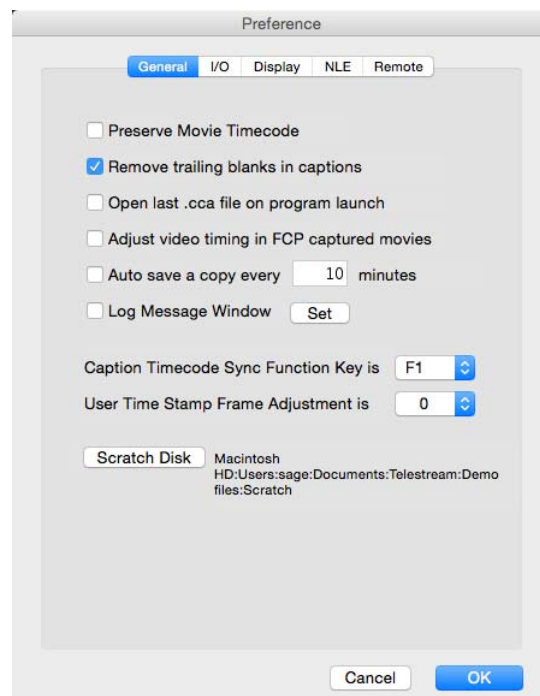
## About MacCaption

Opens the About MacCaption dialog. The dialog displays the version number, your edition, Telestream contact details, and other information.

## Preferences

(Command+,) Opens the Preference dialog, which contains five tabs.

### General Tab



- **Preserve Movie Timecode.** Preserves the current movie's time code when importing closed captions and calculating caption offsets and positioning. If this option is not selected, a starting time code of 00:00:00:00 is used. A movie's starting time can be changed with the Set Movie Time option in the Special Menu.
- **Remove Trailing Blanks in Captions.** When importing, deletes any trailing blanks on each line of caption data.
- **Open Last .cca File on Program Launch.** When starting MacCaption, opens the last project file that was in use.
- **Adjust Video Timing in FCP Captured Movies.** Adjust video timing, if necessary, when importing files produced from Final Cut Pro.
- **Auto Save a Copy Every \_\_ Minutes.** Enables periodic saving of your project every number of minutes set.
- **Log Message Window.** Enables the saving of Message Window contents to a log file. Click Set to choose the location and file name to use for the log file.



- **Caption Timecode Sync Function Key.** The default function key for time code sync is F1. You can assign any function key of your choice.
- **User Time Stamp Frame Adjustment.** This feature can compensate for your reaction time when pressing the Time Stamp button—as long as your reaction time is consistent. For example, if you consistently press the Time Stamp button 10 frames after the time it should ideally be pressed to sync the audio and captions, then set the time frame adjustment to -10. The software will automatically subtract 10 frames from the time code each time you press the Time Stamp button, thereby compensating for your 10 frame lag time.

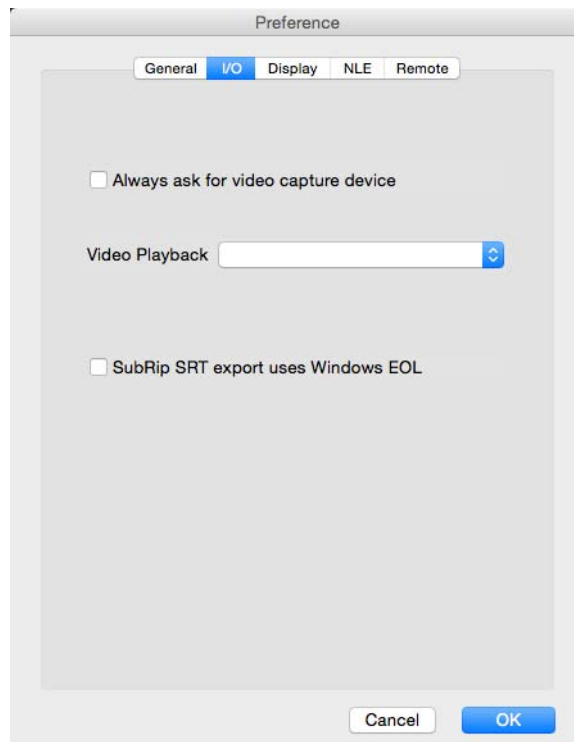
---

**CAUTION:** If there are multiple users of MacCaption and each has a different reaction time, you should reset the Time Stamp Frame Adjustment to zero after each session so as not to throw off the timing of the next user.

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- **Scratch Disk.** Sets the folder on one of your local hard drives which is used as the scratch disk. This folder is used for temporary files during some disk intensive import and export operations.

## I/O Tab

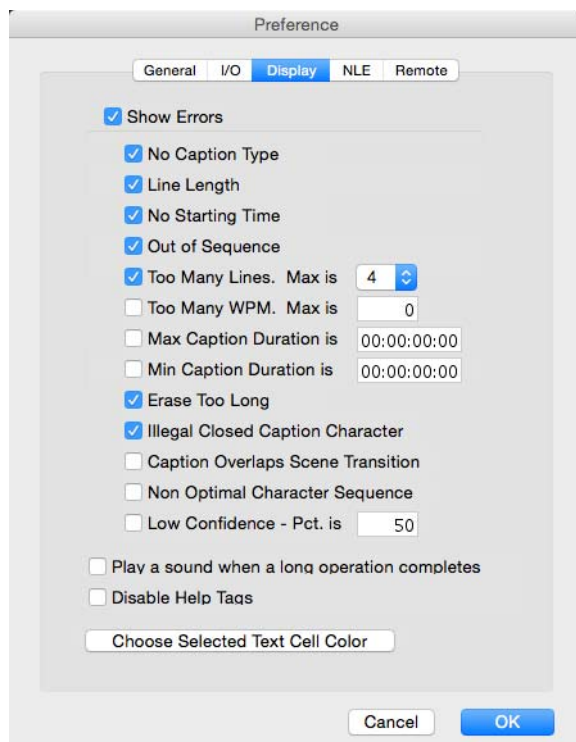


- **Always Ask for Video Capture Device.** When checked, MacCaption will always ask you which video capture device to use when initiating related operations.
- **Video Playback.** Choose the video playback device.

- **SubRip SRT Export uses Windows EOL.** When checked, SubRip SRT export uses Windows End Of Line characters. When not checked, UNIX End Of Line characters are used during a SubRip SRT export.

## Display Tab

The Display Tab controls the type of errors that are reported for individual captions and subtitles in the text panel. All errors are disabled by de-selecting the Show Errors check box.



- **No Caption Type.** The caption Type is missing.
- **Line Length.** A caption is more than 32 characters in length, or a subtitle is more than 68 characters in length.
- **No Starting Time.** The caption does not have a starting time.
- **Out of Sequence.** The Starting Time of the caption is ahead of the Starting Time of the previous caption.
- **Too Many Lines.** The caption has more than the specified number of lines (default is 4).
- **Too Many WPM.** The caption has more words per minute than the maximum specified.
- **Max Caption Duration.** Indicates an error when the caption duration is greater than the maximum specified.
- **Min Caption Duration.** Indicates an error when the caption duration is less than the minimum specified.

- **Erase Too Long.** The Erase Time of the current caption extends into the next caption
- **Illegal Closed Caption Character.** Indicates an error when a Unicode 16-bit character is detected in a caption, when in caption mode.
- **Caption Overlaps Scene Transition.** Enables scene detection errors to indicate if a caption overlaps a scene transition such as a cut or dissolve.
- **Non Optimal Character Sequence.** Indicates unusual formatting errors, such as a non-italics space between two italics words, and so on.
- **Low Confidence - Pct.** Provides a warning when an Auto Time Stamp operation confidence is below the specified percent.
- **Play a Sound When a Long Operation Completes.** Play a sound upon operation completion.
- **Disable Help Tags.** Disable some pop-up tool tips.
- **Choose Selected Text Cell Color.** Sets the background color of the currently selected text cell(s).

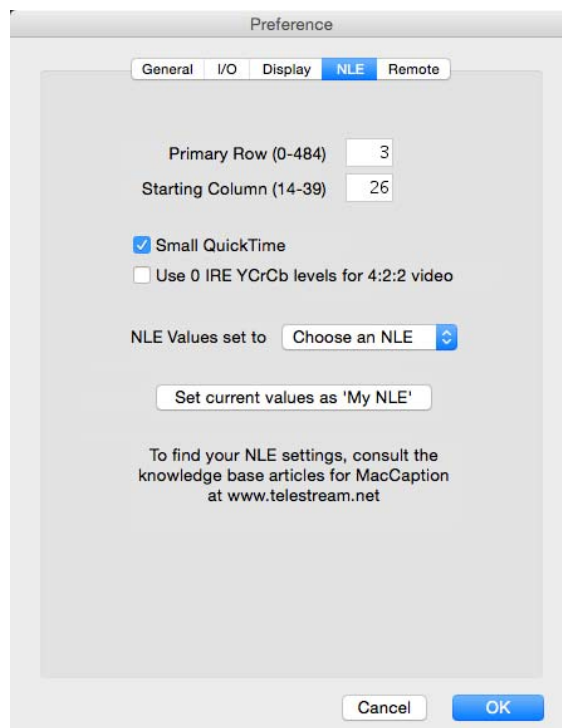
### NLE Tab

Video non-linear editing (NLE) systems from different vendors require specific values to generate proper closed-caption image data files. The information in the NLE Tab is not used when MacCaption adds closed captions to Digital Video.

---

**Note:** For information and more details on specific NLE settings, see the Knowledge Base for MacCaption on the Telestream website.

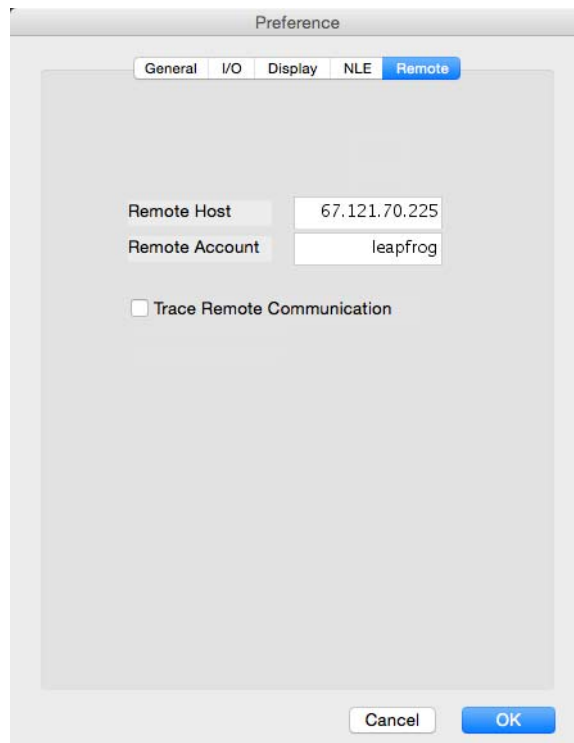
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- **Primary Row (0-484).** The primary row number where closed caption (field 1) data is placed. Field 2 data is placed on Primary Row + 1. The Primary Row data value must be between 0 and 484 inclusive for NTSC (0 and 574 for PAL).
- **Starting Column (14-39).** The column offset for the center point of the first closed-caption clock run-in bit. The Starting Column data value must be between 14 and 39 inclusive.
- **Small QuickTime.** Allows the generation of QuickTime data files that reuse a previously compressed image frame. For example, the QuickTime frame corresponding to the closed-caption binary values of "0, 0" occurs fairly often in a closed-caption QuickTime movie. With Small QuickTime selected, when a second "0, 0" frame is about to be compressed a pointer is built into the QuickTime file that references the previously compressed "0, 0" image frame. The use of the previously compressed image frame saves both the time needed to compress the image as well as the space needed to store it. A QuickTime movie file created in this manner is significantly smaller in size than one created without this option, however, not all non-linear editing systems are able to display video that is composed with this type of previously referenced frames.
- **Use 0 IRE YCrCb Levels for 4:2:2 Video.** Change luma from 16 to 0 for native 4:2:2 video. Checking this option will make line 21 CC IRE levels incorrect for all but native YCrCb output.
- **NLE Values Set To.** This menu contains specific presets for various NLE hardware systems. For example, select Avid ABVB when using an Avid Media Composer with the ABVB hardware board set, select Avid DS for an Avid DS system, select Avid Meridien for an Avid NLE with the Meridien hardware board set, select Blackmagic DeckLink Extreme or Media 100, and so on. AJA KONA can be used for Final Cut Pro. Blackmagic DeckLink or Matrox DigiSuite can be used for Adobe Premier Pro.
- **Set Current Values as 'My NLE'.** MacCaption can be configured for additional NLE systems by directly modifying the Primary Row and Starting Column data fields in this NLE Tab. The Set Current Values as 'My NLE' button copies the current Primary Row and Starting Column NLE settings into the 'My NLE' setting where they can be modified.

## Remote Tab

Set remote host URL and account settings for automatically matching text with audio.



- **Remote Host.** The URL of the remote host, for automatically matching text with audio.
- **Remote Account.** Account login name on remote host, for automatically matching text with audio.
- **Trace Remote Communication.** Enable detailed trace when communicating with automatic match-text remote site.

## Services

Make changes to services, if any apply.

## Hide MacCaption

(Command+H) Select to hide MacCaption.

## Hide Others

(Option+Command+Z) Select to hide everything on the screen other than MacCaption.

## Show All

Select to show all windows that were hidden.

## Quit MacCaption

(Command+Q) Select to quit MacCaption.

# File Menu

## New Window

(Command+N) Open a new window when there is not currently a window open.

## Open Project

Opens the Finder so you can choose an existing .cca project to open.

## Open Movie

(Command+O) Opens the Finder so you can choose a movie to open. If a movie is currently open you need to close it first by selecting Close Movie or Close Project.

---

**Note:** You can also drag and drop a movie file into the video preview panel.

---

## Open Recent

You can choose a recent project file to open.

## Close Window

(Command+W) Closes the current window.

## Close Project

(Option+Command+Z) Closes the current project.

## Close Movie

(Shift-Command+Z) Closes the current movie.

## Save

(Command+S) Saves the current project.

## Save As

(Shift+Command+Z) Save a new version of the current project.

## Properties

Opens a dialog that displays some properties for the current project.

## Import

Imports captions/subtitles from a vast number of file types. You can import text from caption files, subtitle files, document files, or extract captions from a variety of video file types.

---

**Note:** You can also drag and drop files directly into the interface. Text and caption files go into the Text Panel, and movies into the Video Panel.

---

- **Last Import Operation.** (Command+I) Shows the last import operation performed. This makes it easy to initiate the same one again.
- **MacCaption Project (.cca).** Import a MacCaption project file.
- **For Multiple Language.** Import a file that is used for adding languages to the caption project. The default options are ones typically used for multiple language captioning. See [Multiple Languages](#) for more information.
- **Plain Text File.** Import a plain text file. See [Text Import Options](#) for more information.
- **Extract CC From Media.** Select the file type that you want to extract closed caption media from. The QCC Multi-Format Import option allows you to extract closed captions in 608/708 from a large variety of SD and HD video file types.
- **Standalone Caption/Subtitle Files.** Select the file type for importing standalone caption or subtitle files.
- **Assemble Captions.** Select the file type for an assemble captions procedure. See [Assemble Captions](#) for more information.

## Export

Exports captions/subtitles to a wide range of file types. You can export caption, subtitle, and text files, or embed captions directly onto digital video without the need for encoding hardware.

- **Last Export Operation.** (Command+E) Shows the last export operation performed. This makes it easy to initiate the same one again.
- **For Multiple Language.** Export a file that has multiple languages in it.
- **Plain Text File.** Export a plain text file.
- **Embed CC Into Media.** Select the type of media file to embed closed captions into.
- **Broadcast Standalone Files.** Select the type of TV broadcast standalone caption file you want to create.
- **Web/Mobile Standalone Files.** Select the type of web or mobile caption file you want to create.
- **Subtitles/Open Captions.** Select the type of subtitle or open caption file you want to create.
- **Korean Closed Captions.** Select the type of Korean caption file you want to create.

- **Remote Caption Encode.** Create a file that is used for remote captioning.
- **Remove MPEG2 DTV 608/708 Closed Captions.** Remove the MPEG2 DTV captions from a video file.

## Add To File

Adds the current captions to the currently loaded movie file. The accepted movie file type is limited to QuickTime. You can view the Message Window to see the results of the operation. Open this window from Window > Message Window (Command+1).

- **Last Add To File Operation:** (Command+T) Shows the last Add to File operation performed.
- **QuickTime 608 Closed Captions (FCP/Podcast/Web).** Add the current captions in 608 format to the currently loaded movie file.
- **QuickTime DTV 608/708 Closed Captions Track.** Add the current captions in 608/708 format to the currently loaded movie file.

## Convert

Converts USF/UYC and SMPTE-TT subtitle files to other file types. The conversion option dialogs provide various options, such as image format, setting the start time, timecode adjustments, and entering XML content. The options dialog appears after the source file is selected

- **Last Convert Operation:** Shows the last Convert operation performed.
- **SMPTE-TT with PNGs to QuickTime (.mov).** Converts a SMPTE-TT with PNGs to a QuickTime black movie .MOV file.
- **USF/UYC to DECE CFF.** Converts a USF/UYC file to a DECE CFF file.
- **USF/UYC to QuickTime (.mov).** Converts a USF/UYC file to a QuickTime .MOV. Image format and time code options are available.
- **USF/UYC to Rhozet/PNG.** Converts a USF/UYC file to Rhozet/PNG files. You have the option to prepend text to the output file name, in addition to format and time code options.
- **USF/UYC to Text/PNG.** Converts a USF/UYC file to Text/PNG files.
- **USF/UYC to TI DLP Cinema/PNG.** Converts a USF/UYC file to a TI DLP Cinema/PNG, which includes an XML content file and multiple PNG files in the format you choose when the options dialog appears.

## Batch

(Command+B) Opens the MacCaption Batch dialog. Batch processing allows users to convert or embed multiple caption files in a single operation. See [Batch Processing](#) for a description of the dialog options.



# Edit Menu

## Undo

(Command+Z) Step back through your last actions to undo them.

## Redo

(Command+Y) Restore the states you just used Undo to roll back.

## Cut

(Command+X) Remove the highlighted text or selected object and store it in memory.

## Copy

(Command+C) Copy the highlighted text or selected object to memory.

## Paste

(Command+V) Place the previously copied or cut text or selected object from memory into the target component.

## Delete

Deletes the selected item.

## Clear All

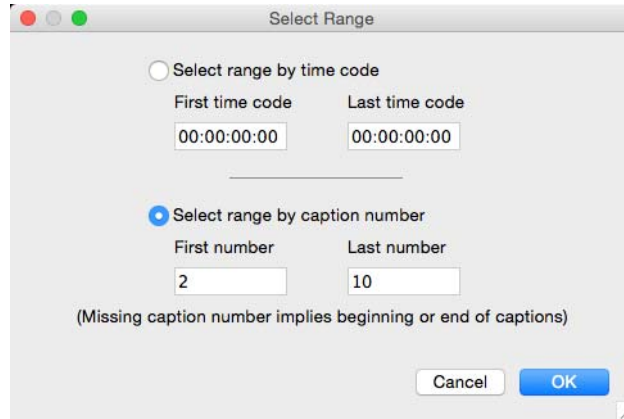
Clears all current selections.

## Select All

(Command+A) Select all captions/subtitles.

## Select Range

Opens the Select Range dialog. You can select a range of rows by time code or caption/subtitle row number.



## Select Up

(Option+Shift+Command+U) Select all caption/subtitle rows up to number 1, from the currently selected row.

## Select Down

(Option+Shift+Command+D) Select all caption/subtitle rows down to the end, from the currently selected row.

## Previous Error

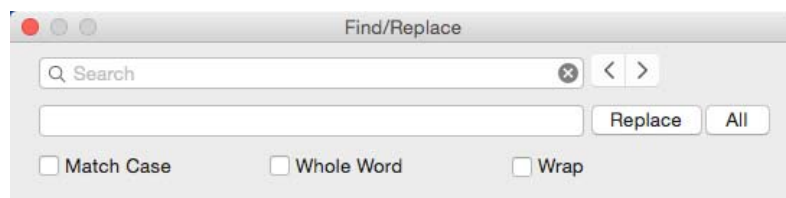
Jump to the next error above the currently selected caption/subtitle row, when errors are detected.

## Next Error

Jump to the next error below the currently selected caption/subtitle row, when errors are detected.

## Find

(Command+F) Opens the Find/Replace dialog. To insert the Music symbol in the Find/Replace dialog you can use the Command+M keyboard shortcut.



## Find Next

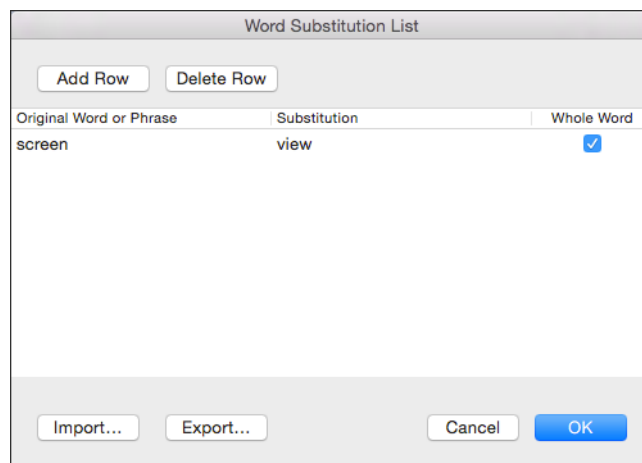
(Command+G) Find the next occurrence of text last entered into the Find/Replace dialog.

## Find Previous

(Shift+Command+G) Find the previous occurrence of text last entered into the Find/Replace dialog.

## Configure Word Substitution

Opens the Word Substitution List dialog. Enter any words or phrases that you want to have changed and enter the words or phrase to substitute. You can also import or export word substitution lists.



## Word Substitution

Initiates the word substitution operation, using the “Original and Substitution” words entered in the Configure Word Substitution dialog.

## Clear

Includes options to clear the following specific items from selected rows:

- **Duration(s)**
- **Positioning**
- **Starting and Ending Time(s)**
- **Subtitle Horizontal Increment(s)**
- **Subtitle Vertical Increment(s)**
- **Text**
- **Times and Text**

## **Duplicate Current Program**

Select to copy the current caption/subtitle information into another program. You can copy information in up to five other channels that can be available simultaneously on the same video (depending on output format).

This option is often used to copy all the time codes and positional information from one language (for example, Program A) to another language (for example, Program B). Then you can translate the text (Program B) to another language.

## **Start Dictation**

You can use the Start Dictation feature to speak into your computer microphone and MacCaption will convert the speech to caption text.

This feature works with Mac OS X Mavericks (10.9) and above, which supports built-in speech to text technology that allows users to speak into their microphone for text dictation into OS X software applications.

To use the OS X speech to text dictation, select Start Dictation, or press the fn shortcut key twice (fn fn) and begin speaking.

# Display Menu

## Font

Select the font to use in the text editing rows.

## Program A-F

(Option+Command+A through F) Select the independent text editing program to display.

## Show/Hide Caption Grid

Display or hide the caption grid in the movie panel. This feature shows the required locations for captions and can be useful when dragging your captions to desired locations.

## Show/Hide Safe Titles

Display or hide the title-safe boundaries in the movie panel.

## Show/Hide Time Code

Display time code in bottom right corner of movie panel.

## Play/Stop Movie

Start or stop movie playback.

## Preview Play

Start Preview Play mode.

## Time Stamp

Initiate a Time Stamp at the current time code location.

## Jump Forward/Back 1 Second

Go forward or back one second in the movie.

## Display as Subtitles/Captions

(Command+D) Switch between caption and subtitle mode. This is the same as clicking the Caption/Subtitle switch that is below the video controls on the main workspace.

# Caption Menu

## Encode Preferences

Opens the Encode Preferences dialog.

The screenshot shows the 'Encode Preferences' dialog box with the following sections:

- 608 Encode Targets:** A table with columns CC1, CC2, CC3, CC4, and None.
 

	CC1	CC2	CC3	CC4	None
Program A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Program C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Program D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- 608 Closed Captioning Options:**
  - ☒ Blank between pop-on
  - ☐ Duplicate control codes when sending captions
  - ☐ Force an erase on a roll up caption base row change
- 708 Closed Captioning Options:**
  - Caption Size: Default
  - Font Style: Default
  - Foreground Color: Default
  - Foreground Opacity: Default
  - Background Color: Default
  - Background Opacity: Default
  - Character Edge: Default
- 708 Encode Service Number Targets:**

	Service Number	Language
Program A	1	eng - English
Program B	Do not encode	eng - English
Program C	Do not encode	eng - English
Program D	Do not encode	eng - English
Program E	Do not encode	eng - English
Program F	Do not encode	eng - English
- Global Options:**
  - ☒ Include 608 captions in DTV export operations
  - ☒ Include 708 captions in DTV export operations
  - ☐ Encode 708 captions for 16:9
  - ☐ Include SCTE-20 in DTV MPEG-2 export operations
  - ☐ Precede DTV captions with a Reset command
  - ☐ Use KS C 5601 encoding for Service Number 1

Buttons: Cancel, OK

## 608 Encode Targets

Select the data channel to use for programs A through D. The CEA-608 standard for line 21 captioning provides four independent closed caption data channels. These are named CC1, CC2, CC3 and CC4. There is no direct correspondence between a program and a specific CC channel, but typically Program A is used for CC1 and Program B for CC2 or CC3. Data channels B through D are commonly used for additional languages.

If desired, it is also possible to encode a program to more than one CC channel.

**Note:** CC1 and CC2 are both transmitted in the Odd Field of a video frame and CC3 and CC4 are both transmitted in the Even Field of a video frame. Due to closed caption bandwidth limitations it is important to note that two closed caption programs containing a lot of text may appear fine when placed in CC1 and CC3, but may appear later than their intended display time when placed in CC1 and CC2 or CC3 and CC4. As with all closed captioning, a careful review of the final output that contains all closed captioned channels is recommended.

## 608 Closed Captioning Options

You can choose these options:

- **Blank between pop-on.** Inserts a blank frame between pop-on captions.
- **Duplicate control codes when sending captions.** Generate pairs of identical control codes when encoding closed caption data.
- **Force an erase on a roll up caption base row change.** When the base row of a roll-up caption changes, the new roll-up position will not contain any previous caption data.

## 708 Closed Captioning Options

These are considered advanced CEA-708 options. It is recommended to leave these set to Default for broadcast TV delivery, in order to pass quality assurance testing using professional broadcast monitors and equipment. The non-default options are only intended to be used for directly testing consumer-grade televisions and set-top boxes. Many new HDTVs also allow the user to override the caption display settings to their own preferences.

In addition to Default, these options are included:

- **Caption Size.** Small, Standard, Large.
- **Font Style.** Monospaced with serif, Proportional with serif, Monospaced no serif, Proportional no serif, Casual, Cursive, Small capitals.
- **Foreground Color.** White, Black, Red, Green, Blue, Yellow, Magenta, Cyan.
- **Foreground Opacity.** Solid, Flash, Translucent, Transparent.
- **Background Color.** White, Black, Red, Green, Blue, Yellow, Magenta, Cyan.
- **Background Opacity.** Solid, Flash, Translucent, Transparent.
- **Character Edge.** None, Raised, Depressed, Uniform, Left drop shadow, Right drop shadow.

---

**Note:** Not all TVs and decoders will respect all possible 708 setting options.

---

## 708 Encode Service Number Targets

Select the Service Number and Language to use for each Program.

The CEA-708 standard provides 64 independent closed caption data channels called "Service Numbers." These are named Service Number 1 through 63, however typically only the first six (1-6) are used. MacCaption can generate closed captions for up to six of these closed caption data streams. There is no direct correspondence between a Program and a specific Service Number, but typically Program A is used for Service 1, Program B for Service 2, and so on.

## Additional Encode Preferences Options

The following describes the additional options available in the Encode Preferences dialog:

- **Include 608 captions in DTV export operations.** Encode 608 closed captions in DTV caption exports.
- **Include 708 captions in DTV export operations.** Encode 708 closed captions in DTV caption exports.
- **Encode 708 captions for 16:9.** Encode captions for a 16:9 screen aspect ratio.

---

**Note:** The 16:9 option is intended only for testing consumer TV sets and set-top box hardware. This option should not be selected when delivering to professional broadcast mechanisms and facilities.

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- **Include SCTE-20 in DTV MPEG-2 export operations.** Encode SCTE-20 captions in DTV MPEG-2 caption packets.
- **Precede DTV captions with a Reset command.** Include a leading reset command when encoding 708 enclosed captions.
- **Use KS C 5601 encoding for Service Number [1-63].** Encode Korean KSC 5601 in DTV caption packets. Only use this option for South Korean television, which uses a specific type of CEA-708 encoding. Do not enable this when delivering captioned video content to other countries, such as the United States, Mexico, and Canada.

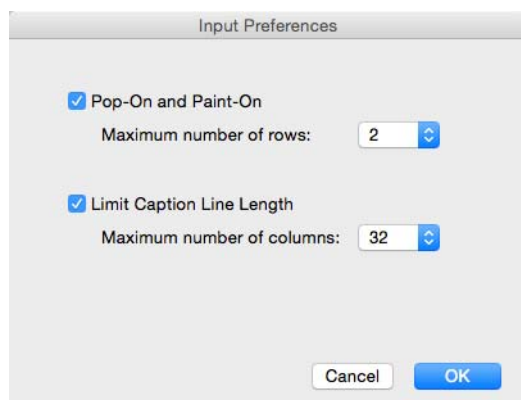
## Decode Preferences

Opens the Decode Preferences dialog, which includes the following options:

- **Import captions using movie frame rate and convert to current time code mode.** When decoding captions, use the frame rate of the source movie.
- **Enable Direct Icon when importing captions if possible.** Enables the use of an exact image of imported captions when exporting.
- **Remove erase if caption blanking is less than [ ] frames.** (default is 5) Removes existing caption erase commands when the time from the erase to the next caption is less than the indicated number of frames.

## Input Preferences

Opens the Input Preferences dialog.



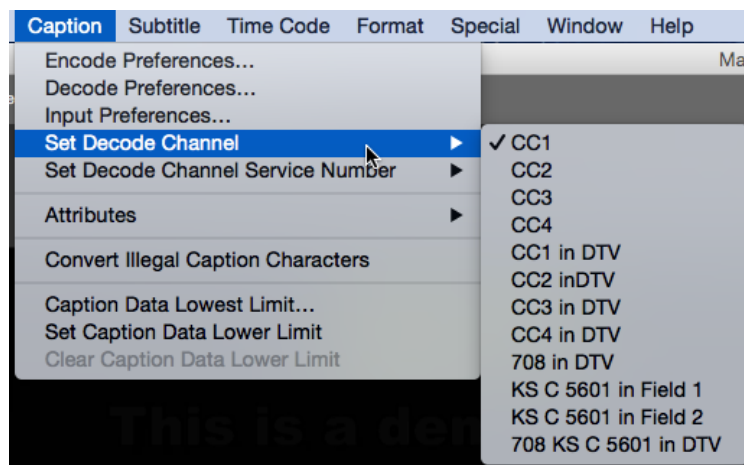


- **Pop-On and Paint-On.** When checked, enables text input auto-advance to the next text edit row for pop-on and paint-on captions. The value sets the maximum number of rows for pop-on or paint-on captions, then it auto-advances to the next text row. The default is 2 rows, and this is the recommended maximum.
- **Limit Caption Line Length.** When checked, enables text input auto-advance to the next text edit row for all caption types, when the designated maximum number of text columns, or characters, have been entered. The default maximum is 32 columns, or characters.

## Set Decode Channel

Captioned videos that you are importing from the Import menu are decoded according to the Decode Channel selected. Choose from the following options to set the decode channel:

- Select CC1, CC2, CC3, or CC4 for decoding line 21 captions.
- Select CC1 in DTV through CC4 in DTV to decode 608 captions from DTV encoded files.
- Select 708 in DTV and then select a service number in the Set Decode Channel Service Number menu to decode 708 captions.
- Select KS C 5601 in Field 1 or Field 2 for South Korean captioning.
- Select 708 KS C 5601 in DTV for South Korean captioning.



## Set Decode Channel Service Number

Choose the desired channel service number when Set Decode Channel is set to "708 in DTV". Numbers range from 1–63, but typically only 1–6 are used.

## Attributes

Choose options for display mode, formatting, and position.

- **Display Mode.** Set for Pop-On, Paint-On, Roll-Up 2, 3, or 4 lines.

- **Text Color.** Choose the color for the caption text.
- **Bold/Flash.** Makes the selected text bold for subtitling, and flashing for captioning.
- **Italic.** Makes the selected text italic. Italics is often used to indicate off-screen speakers in captioning or untranslatable words in subtitling.
- **Underline.** Underlines the selected text.
- **Horizontal Justification.** Choose one of three possible horizontal justifications: Left, Center, or Right.
- **Horizontal Position.** Choose one of three possible horizontal positions: Left, Center, or Right.
- **Vertical Position.** Choose a vertical position of Top, Bottom, Move Up 1 Line, or Move Down 1 Line.

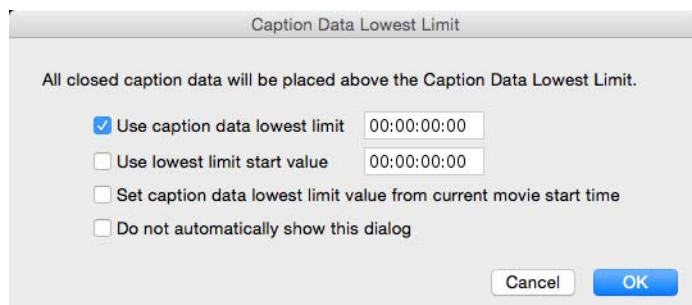
## Convert Illegal Caption Characters

Select this option to attempt to convert any illegal Unicode characters in the caption text into their standard ASCII equivalents. Some special Unicode characters cannot be used in 608 closed captions, such as the em-dash (long hyphen), ellipses (three dots as one character), curved quotes, and so on.

## Caption Data Lowest Limit

Opens the Caption Data Lowest Limit dialog. This allows you to set the lowest limit, or starting time, for caption data to begin in your exported file. Certain exports, such as Black Movie or Matrox 4VANC, use this time as the starting time code of the exported file.

See [Setting the Caption Data Lowest Limit](#) for more information and examples.



## Set Caption Data Lower Limit

Sets the lower limit for caption encoding at the currently selected row. Captions before the lower limit will not be encoded. The lower limit mark "LL" is placed in the formatting information of the affected row.

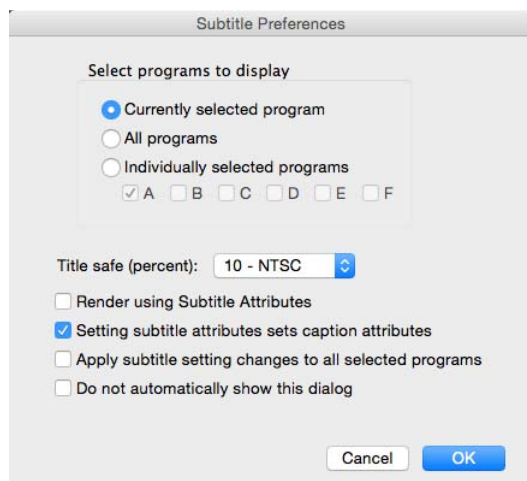
## Clear Caption Data Lower Limit

Clears the lower limit, when set, of the selected row. The "LL" mark is removed.

# Subtitle Menu

## Subtitle Preferences

Opens the Subtitle Preferences dialog. See [Setting Subtitle Preferences](#) for information about the available options.



## Font

Select the font to use for subtitles.

## Font Size

Opens the Font Size dialog. Move the slider or type the size you want.

## Font Color

Opens the Colors dialog which provides many options for color selection.

## Font Outline Size

Select the font outline size, from 0 to 10.

## Font Outline Color

Opens the Colors dialog to set the font outline color.

## Background Color

Set the color for the background of the subtitle text area.

## Background Opacity

Set the opacity of the subtitle text background, from 0 to 100 percent.

## Line Spacing

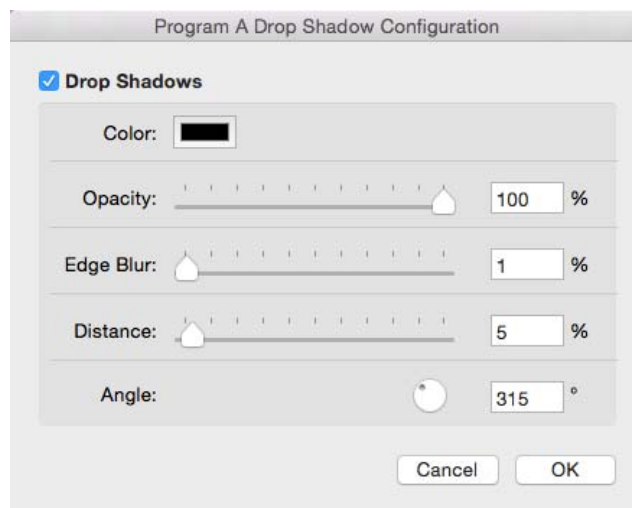
Set the spacing between lines of subtitle text.

## Ruby Annotation

Opens the Ruby Annotation dialog that allows entry of Japanese characters. See [Japanese Ruby Subtitling](#) in the Subtitle chapter and [Ruby Japanese Subtitle Formatting](#) in the Glossary for more information.

## Drop Shadow Configuration

Opens the Drop Shadow Configuration dialog for the currently selected program.



- **Drop Shadows.** Select this check box for all of the text in the currently selected program to have the drop-shadow settings applied.
- **Color.** Click to open the color selection dialog, then select the color to use for the drop-shadow. The default is black.
- **Opacity.** Set the percent of drop-shadow opacity. 100% is solid, or fully opaque, and 0% is fully transparent. The default is 100%.
- **Edge Blur.** Set the amount of blur for the edges of the drop-shadow. Zero gives the shadow a sharp edge, and higher percentages create softer edges. The default is 1%.
- **Distance.** Set how far the drop-shadow is from the text, as a percent of the font size. The default is 5%.
- **Angle.** Set the direction the drop-shadow is from the text. Zero degrees is right, 90 degrees is up, 180 degrees is left, 270 degrees is down. The default is 315 degrees, which is common for drop-shadow settings, and is down and to the right.

# Time Code Menu

## Mode

Set the time code mode to use for captions/subtitles to one of the frame rates listed. It is important to make the right choice to match the movie being used, or the caption/subtitle hardware (if any). See [Setting the Time Code Mode](#) for more information.

## Set Blank Frames

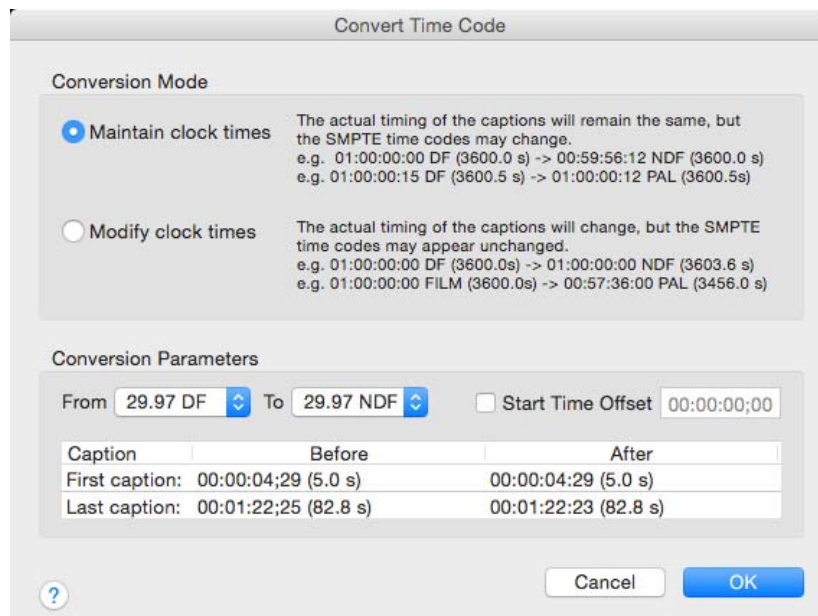
Opens the Blank Frames dialog. Choose the minimum number of blank frames to insert between the out-point of each caption/subtitle, and the in-point of the next one. The commonly used interval is from 2 to 6 frames.

## Convert Time Code

Opens the Convert Time Code dialog. This feature allows you to maintain or modify the clock time, change the frame rate, switch between drop frame (DF) and non-drop frame (NDF), and set a time offset.

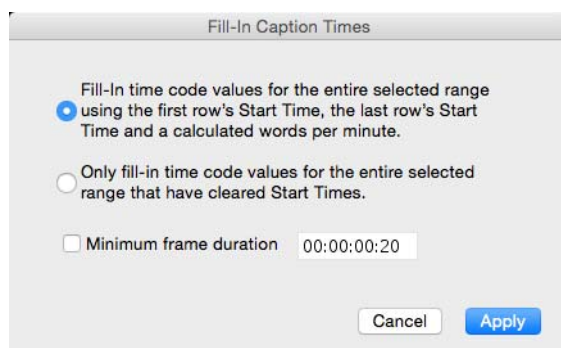
Click the "?" icon to view the Convert Time Code Help.

See [Convert Time Code](#) for more information about the options and settings.



## Fill-In All Caption Times

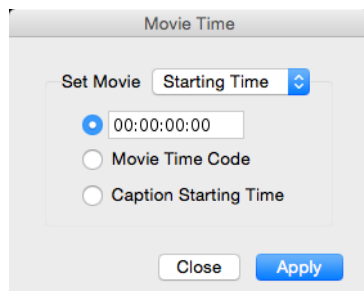
Opens the Fill-In Caption Times dialog. Assigns a time code to selected rows if a time code is set for the first and last line of the selected rows. This can be used, for example, when a person is speaking for a long period of time (a lecture or speech) at a fairly steady rate, or for a language translation. This feature can save time when subtitling a video, since it does not require you to enter a time code for each row.



- **First Radio Button: Fill-in time code values...** Fills in the time code values for the selected range using the first row's Start Time, the last row's Start Time, and a calculated words per minute.
- **Second Radio Button: Only fill-in time code values...** Select this option to only fill in time code values that have cleared start times.
- **Minimum frame duration.** Select this option to maintain a minimum time or frame duration so captions/subtitles with a single or few words continue to display for the minimum duration that is set. The default is 20 frames and 20 to 30 frames is a typical value range.

## Movie Time

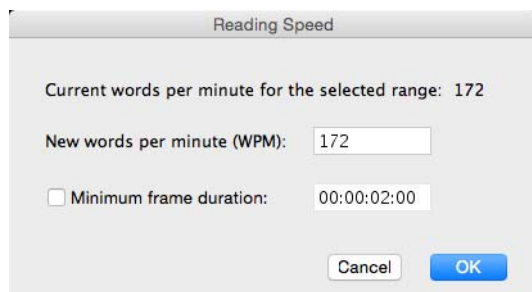
Opens the Movie Time dialog. You can set the movie Starting Time or Current Time to a specified value, or switch to use the Movie Time Code or use the currently selected Caption Starting Time code.



## Reading Speed

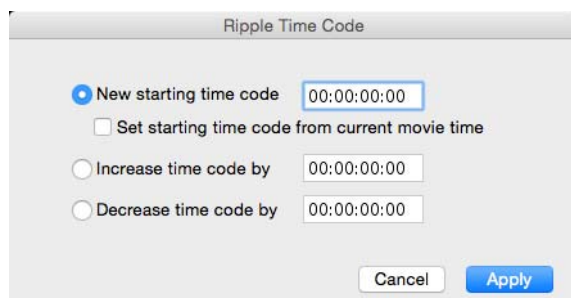
Opens the Reading Speed dialog. This option is useful for young children, since they may not read as fast as older children or adults, and for persons reading captions or subtitles in a non-native language. This option has three functions:

- a. You can check the average reading speed for selected rows, if they have time codes assigned. This *does not* change the actual time codes.
- b. You can also assign a desired words per minute reading speed to a block of selected rows. You need to assign time code only for the first row of the selected block. In this case, the reading speed of each row is going to be exactly the reading speed you assign. This option *does change* the actual time codes.
- c. You can set a Minimum Frame Duration. Select this option to maintain a minimum time or frame duration so captions/subtitles continue to display for the minimum duration that is set. The default is 2 seconds.



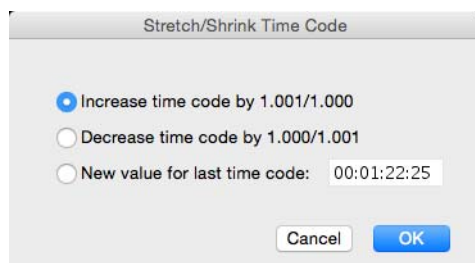
## Ripple Time Code

Opens the Ripple Time Code dialog. You can change the time code within the currently selected block, or from a selected row to the end of a file. See [Applying Ripple Time Code Offsets](#) for more information.



## Stretch/Shrink Time Code

Opens the Stretch/Shrink Time Code dialog. If your caption timing is right on time at the start but is off a few seconds from the video at the end, you have “captioning drift”. This can be corrected by using the Stretch/Shrink Time Code option. See [Stretch/Shrink Time Code](#) for more information.

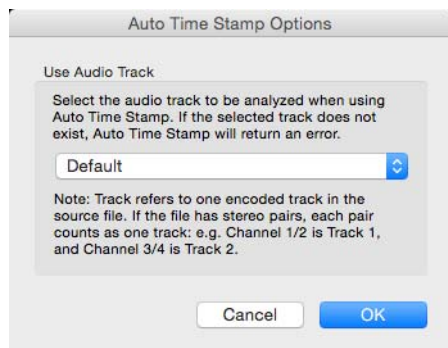


## Auto Time Stamp

Initiates the Auto Time Stamp operation. See [Using Auto Time Stamp](#) for details on operation and usage.

## Auto Time Stamp Preferences

Opens the Auto Time Stamp Options dialog. Select the audio track to be analyzed when performing the Auto Time Stamp operation.



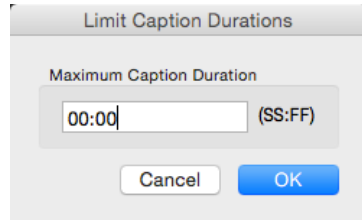
## Non-Linear Time Shrink

Opens a Finder window so you can choose a text file that contains the information to shrink the timecode.



## Limit Caption Durations

Opens the Limit Caption Durations dialog. Sets a maximum duration for the selected range of captions/subtitles, with values in seconds and frames (SS:FF).



## Mark In

Choose this to set the In Point or Start Time of the first word of the currently selected caption to the current Movie Time. If multiple rows are selected, the start time is set for the first, or top row. You can also use the Mark In button in the main workspace. See [Time Code Display and In/Out Points](#) for more information.

## Mark Out

Choose this to set the Out Point or End Time of the last word of the currently selected caption to the current Movie Time. This only needs to be set when a space is needed between captions, such as when there is a pause in the speech, or when the captions have ended. You can also use the Mark Out button in the main workspace.

## Format Menu

### Insert Row

(Shift+Command+I) Adds a new text row above the one currently selected. You can also use the Insert Caption button in the main workspace. **Hint:** If you need to insert a row at the very bottom, click at the end of the text in the last cell and use the Split Row option to do so.

### Delete Row

(Shift+Command+D) Removes the currently selected row from the Text Panel. You can also use the Delete Caption button in the main workspace.

### Split Row

Splits the selected row into two rows at the cursor's current position. You can also use the Split Caption button in the main workspace.

### Merge Rows

(Shift+Command+M) Merges all selected rows into a single row. You can also use the Merge Caption button in the main workspace.

### Consolidate Blank Rows

Removes all blank rows in the Text Panel that do not contain text. (This option is only active when the condition exists.)

### Remove Blank Rows without Time Code

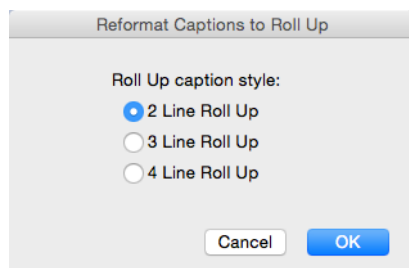
Removes all blank rows in the Text Panel that do not contain a Start Time. (This option is only active when the condition exists.)

### Remove Leading and Trailing Spaces

Removes any leading or trailing text spaces from the currently selected row(s). (This option is only active when the condition exists.)

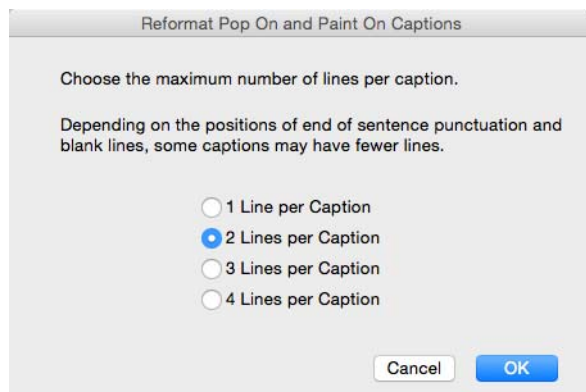
### Reformat Captions to Roll-up

Opens the Reformat Captions to Roll Up dialog. Reformats the selected rows to apply the roll-up style, based on settings you choose in the dialog.



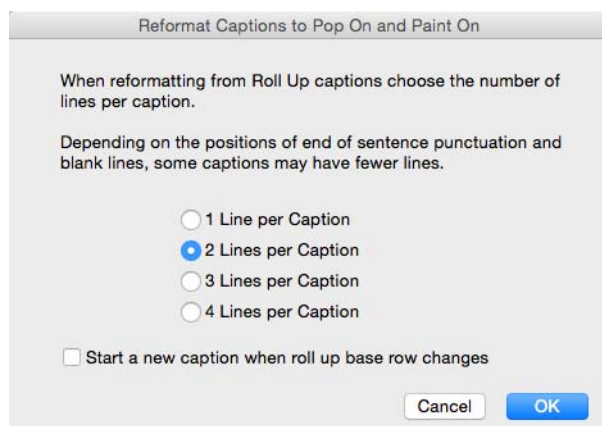
## Reformat Captions to Pop-on

Opens the Reformat Captions to Pop On and Paint On dialog. Reformats the selected rows to apply the pop-on style, based on settings you choose in the dialog.



## Reformat Pop-on Captions

Opens the Reformat Pop On and Paint On Captions dialog. Use this option to adjust the number of lines in the selected pop-on or paint-on captions. For example, if your project is already in pop-on mode and you want a different number of lines per row, or if many rows were edited and now have too many lines.



## Compress Text Block(s)

Compresses the line length of the currently selected captions, reducing the margins for the current cell and increasing the number of lines. You can click multiple times to add incremental compression. You can also use the Compress Line Length button in the main workspace.

## Expand Text Block

Expands the line length of the currently selected captions. Increases the margins within a cell and decreases the number of lines, adjusting the text into fewer rows that are wider. You can click multiple times to add incremental expansion. You can also use the Expand Line Length button in the main workspace.

## Alternate Break

Selects alternate line break words in the currently selected captions. Clicking multiple times toggles between possible line breaks. It is better to make the text bottom heavy (shorter lines towards the top, longer lines towards the bottom). You can also use the Alternate Break button in the main workspace.

## Compress Text Blocks for Captions

This option will reduce any caption in the project, or selected caption cells, to not have more than 32 characters per line, including spaces. When a caption is found with more than 32 characters, an additional caption line is created for the extra characters.

Captions can only have a maximum of 32 characters per line, as per the CEA-608 specification. If a project was created for subtitles, or created using a non-compliant application, it could have more than 32 characters per line.

## Insert Music Symbol

- **Single Music Symbol.** (Command+M) Inserts a music symbol (the quarter note) into the caption text at the cursor location.
- **Surrounding Music Symbols.** Inserts a music symbol at the beginning and end of selected text. If you select multiple rows and choose this option, it adds a pair of music symbols for all of the selected captions.

## Upper and Lower Case

The following options are available to change the text case:

- **Convert to Upper Case.** Converts the selected text to upper case.
- **Convert to Lower Case.** Converts the selected text to upper case.
- **Sentence Wise Upper and Lower Case.** Converts text to “sentence style” with the first word of a sentence capitalized.
- **Upper and Lower Case Preferences.** Opens a dialog so you can choose to capitalize the first letter of each word following a period.

## Pull First Word

(Option+Up Arrow) Pulls the first word of the next caption into the currently selected caption. You can also use the Pull Word Up button in the main workspace.

## Push Last Word

(Option+Down Arrow) Pushes the last word of the currently selected caption to the next caption. You can also use the Push Word Down button in the main workspace.

## **Move to Top**

Moves the selected caption to the top of the screen. You can also use the Move to Top button in the main workspace.

## **Move to Bottom**

Moves the selected caption to the bottom of the screen. You can also use the Move to Bottom button in the main workspace.

## **Move Caption/Subtitle Up**

Moves the selected caption or subtitle one line up.

## **Move Caption/Subtitle Down**

Moves the selected caption or subtitle one line down.

## **Move Caption/Subtitle Left**

Moves the selected caption or subtitle one character to the left.

## **Move Caption/Subtitle Right**

Moves the selected caption or subtitle one character to the right.

## Special Menu

### Captions Follow Video

When selected, the captions change along with the video, following the Start and Stop times that are set. This is the same as selecting the Captions Follow Video button in the movie control section.

### Video Follows Captions

When selected, and you select a caption row, the video automatically jumps to the time of that caption. You can also quickly move through the caption rows using the up and down arrow keys, and the video follows along. This is the same as selecting the Video Follows Captions button in the movie control section.

### Position Video When Selecting Caption

When selected, the video moves to the time code of a selected caption row.

### Position Video When Selecting Caption Text

When selected, the video moves to the time code of a caption row in which you place the text editing cursor.

### Show Actual Captions During Time Stamp

This option is used when time-stamping a new project. When enabled, the Video Playback/Preview Panel will behave like a closed caption decoder and show the captions as they are being encoded into a video. When this setting is not enabled the Video Playback/Preview Panel will show the captions that are cued to be sent but not yet time-stamped.

### Select Playback Audio Tracks

When there is more than one audio track, use this option to select the audio track(s) you want to hear.

### Customize Keystrokes

Opens a message dialog that describes how to set a keyboard shortcut. To set a keyboard shortcut:

1. Find the command that you want to assign or change a keystroke to at its place in the menu.
2. Hold down Control and click on the command. The Customize Keycode dialog opens.
3. Select the key you want to assign this command to, and whether you want to hold down the Shift, Option, or Command button when using it.

4. Click OK & Continue. If the keyboard shortcut is already in use, a dialog appears that asks if you want to assign the shortcut to the new command. If the keyboard shortcut is not being used, it is now set and active.

## NLE Calibration Movie

Opens a Finder window to set the file output name and location, then click Save to open the Compression Settings dialog. This option creates a black NLE movie that you can play using any NLE (Non-Linear Editing) system. The resulting Calibration Movie contains Row and Column information that will display captions telling you which rows and columns have available pixels for storing captions. This is especially helpful if you are not familiar with the specific type of NLE system or hardware you are using.

The Animation codec should be used, unless a certain codec is specified by a video editing platform. Avid users are recommended to use Avid Meridian Compressed codec.

### Example Calibration Movie Information

The closed caption content of the first 5 seconds of the movie is "R 0, C 14" and it is generated with Primary Row set to 0 and Starting Column set to 14. The next 5 seconds of the movie has the CC content of "R 0, C 15" and is generated with Primary Row set to 0 and Starting Column set to 15. This continues through Row 0 and Column 40 at which time it shifts to Row 1 Column 15. The last movie segment is Row 3 Column 40. The entire movie is approximately 4 minutes long.

When the you import the video into your NLE system, put it on the timeline and play the video through your NLE hardware to a TV with the built-in closed caption decoder set to CC1 channel. You will see the content of the Primary Row and Starting Column only when it successfully decodes the captions. You just have to watch the TV screen for up to 4 minutes until you see a few captions like these:

R 0, C 21  
R 0, C 22  
R 0, C 23  
.  
.  
R 0, C 29

To avoid errors, we will pick the mid value of all visible column numbers. In this example it is C 25. So the preset NLE values for your NLE system is Primary Row: 0 and Starting Column: 25. Once you have determined these values, go to the NLE tab in the MacCaption Preferences dialog and enter the numbers into the appropriate boxes.

## Scene Detection Scan

Scans the entire movie looking for changes in the luminance of successive video frames. If there is a gradual change in the luminance of successive video frames then a dissolve is indicated; if the change is abrupt then a cut is indicated.

To enable Scene Detection:

1. Go to the MacCaption menu and select Preferences and then the Display tab.
2. Check the box labeled Caption Overlaps Scene Transition, and click OK.
3. In the Special menu select Scene Detection Rescan.

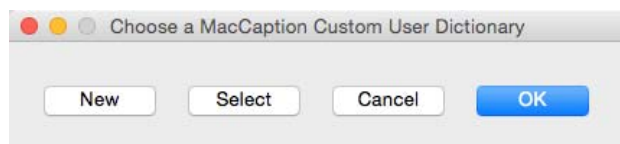
After the scan, MacCaption will display a red "!" error indicator whenever a caption is found to appear during a dissolve or cut transition. The details of the transition violation can be obtained by putting the cursor over the "!" character or by directly clicking on the "!" character.

If you want scene transition data, you must rescan whenever a new movie is imported into MacCaption.

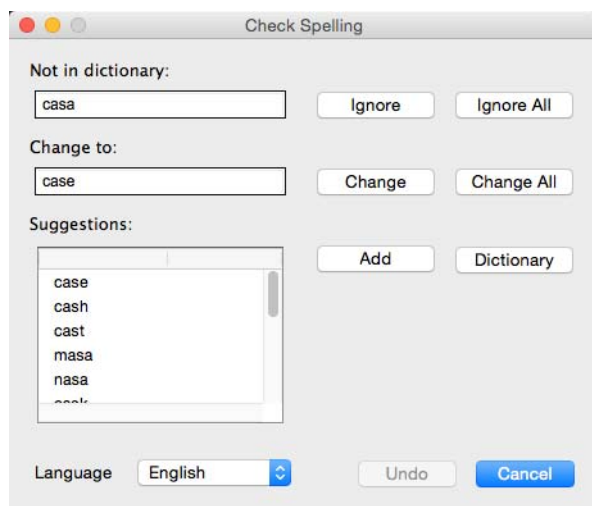
## Spell

Checks the spelling of the caption text. Spell checking begins with the first caption and ends with the last caption unless you specifically highlight a caption or a word.

When Spell is selected, the following dialog opens:



Select *OK* if you want to use the current dictionary. Select *New* to make a new dictionary, or click *Select* to choose a different dictionary. The Check Spelling dialog opens.



Words that are not found in the dictionary are displayed in the *Not in dictionary* box. To change a word to the *Change to* suggestion, press the *Change* button or double click the appropriate word in the *Suggestions* box. If no suggestion is presented or you wish to enter your own corrected word, type the correct word in the *Change to* box and click *Change*. To change all occurrences of the word in the caption text click *Change All*.



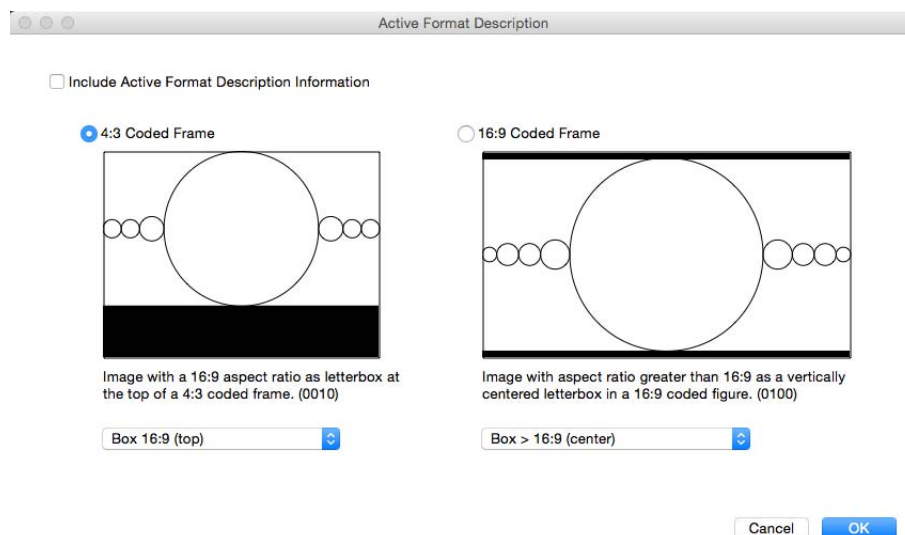
To ignore the specific word click *Ignore*. To ignore all occurrences of the word click *Ignore All*.

MacCaption maintains a dictionary of user supplied words. To add the current word to the User Dictionary click *Add*. To create a new User Dictionary or change the current User Dictionary click *Dictionary*. The MacCaption User Dictionary typically has a file name that ends with the .ccd suffix although this is not required. Words are stored in the User Dictionary as 16-bit Unicode with one word per line. The User Dictionary can be edited with a text editor that supports 16-bit Unicode.

To switch the language, choose the appropriate language from the *Language* menu in the Check Spelling dialog. To restart spell checking at the beginning of the caption text after choosing a new language, click *Cancel* and reopen the Check Spelling dialog.

## Active Format Description

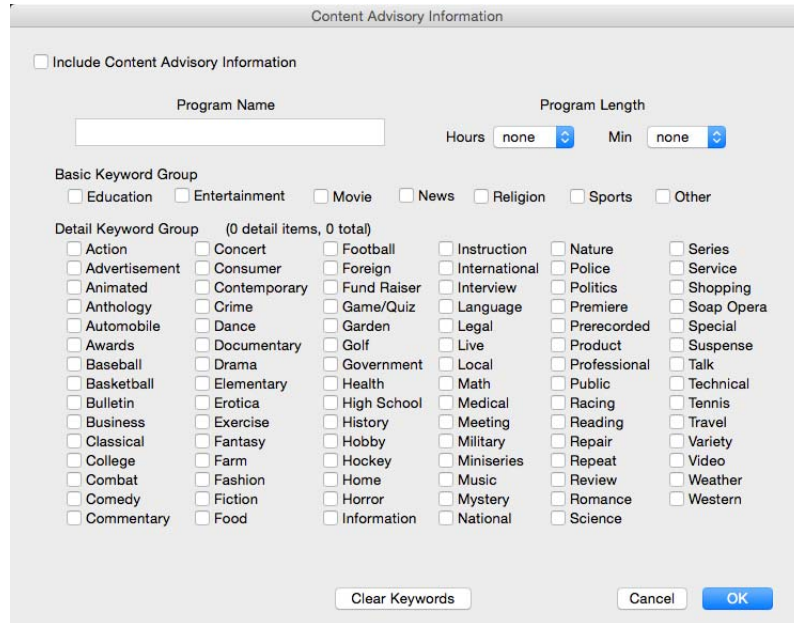
Active Format Description (AFD) is metadata contained in the digital video signal describing the aspect ratio of the picture. This allows monitors capable of receiving AFD metadata to switch the displayed aspect ratio as the received picture changes.



To enable AFD to be included in the video, check the box labeled Include Active Format Description Information, and then select the aspect ratio—either 4:3 or 16:9 as shown in the display graphics. Below the graphics, drop-down menus let you choose the specific ratio and configuration.

## Content Advisory Information

Allows you to include Content Advisory Information and V-Chip Program Rating Data for embedding in the video signal.



The dialog box is titled "Content Advisory Information". It contains the following elements:

- A checkbox labeled "Include Content Advisory Information".
- A text field for "Program Name".
- Two dropdown menus for "Program Length": "Hours" (set to "none") and "Min" (set to "none").
- A section for "Basic Keyword Group" with checkboxes for: Education, Entertainment, Movie, News, Religion, Sports, and Other.
- A section for "Detail Keyword Group" with the text "(0 detail items, 0 total)". It contains a grid of checkboxes for various categories:
 

Action	Concert	Football	Instruction	Nature	Series
Advertisement	Consumer	Foreign	International	Police	Service
Animated	Contemporary	Fund Raiser	Interview	Politics	Shopping
Anthology	Crime	Game/Quiz	Language	Premiere	Soap Opera
Automobile	Dance	Garden	Legal	Prerecorded	Special
Awards	Documentary	Golf	Live	Product	Suspense
Baseball	Drama	Government	Local	Professional	Talk
Basketball	Elementary	Health	Math	Public	Technical
Bulletin	Erotica	High School	Medical	Racing	Tennis
Business	Exercise	History	Meeting	Reading	Travel
Classical	Fantasy	Hobby	Military	Repair	Variety
College	Farm	Hockey	Miniseries	Repeat	Video
Combat	Fashion	Home	Music	Review	Weather
Comedy	Fiction	Horror	Mystery	Romance	Western
Commentary	Food	Information	National	Science	
- Buttons at the bottom: "Clear Keywords", "Cancel", and "OK".

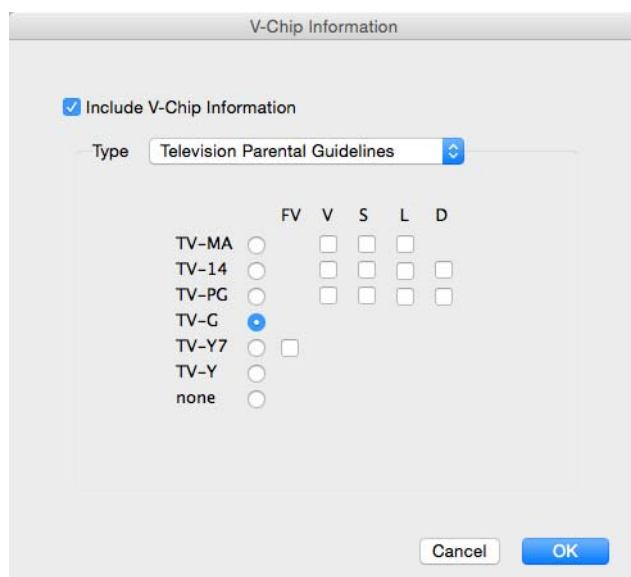
Content Advisory Information is specific information about the program material. The Content Advisory Information is sent along with video and close caption information to the end user. You can enter any, all, or none of the information in the Content Advisory Information dialog box.

Select Include Content Advisory Information to generate Content Advisory Information. The dialog allows you to enter information about your program, including: Program Name, Length (hours and minutes), Keyword Group, and Details.

In the United States, the Television Parental Guidelines rating system should be used for all productions that are not motion pictures. Use the V-Chip option to set this rating.

## V-Chip

The V-Chip program rating information can be sent along with the video and closed caption information to the end user. To enable this function, select *Include V-Chip Information* to generate V-Chip Program Rating Data. Use the Type menu to choose which V-Chip information to send, and check a rating box. Only one rating system can be specified for a program.



MacCaption generates rating information for the Television Parental Guideline Rating system, the Motion Picture Association of America (MPAA) Rating system, the Canadian English Language Rating System and the Canadian French Language Rating System.

The rating abbreviations are explained on each menu except the Television Parental Guidelines, which are as follows:

TV-MA – Mature Audiences Only  
 TV-14 – Parents Strongly Cautioned  
 TV-PG – Parental Guidance Suggested  
 TV-G – General Audience  
 TV-Y7 – Directed To Older Children  
 TV-Y – All Children

-----  
 FV – Fantasy Violence  
 V – Graphic Violence  
 S – Explicit Sexual Activity  
 L – Crude and/or Indecent Language  
 D – Intensely Suggestive Dialogue

Additional information on the V-Chip, Television Parental Guidelines, Motion Picture Guidelines and Canadian Guidelines can be found at TV Parental Guidelines (<http://www.tvguidelines.org/>), Motion Picture Association of America (<http://www.mpaa.org/>), and V-Chip Canada (<http://www.vchipcanada.ca/>) web sites.

# Window Menu

## Clear Message Window

Select to clear the current contents of the message window.

## Main Workspace

The main workspace window is shown with its file name. The shortcut is Command+0 (zero).

## Message Window

Select *Message Window* to open or view the window that displays messages about various operations that have occurred. The shortcut is Command+1.

# Help Menu

## Quick Start Guide (Local)

Opens the Quick Start Guide, in PDF format, that is installed with MacCaption.

## User Guide (Local)

Opens the User Guide, in PDF format, that is installed with MacCaption.

## Command Line Interface

Opens the MacCaption Command Line Interface guide in your default browser.

## Feature Comparisons

Opens the Feature Comparison page on the Telestream web site.

## Online Technical Support

Takes you to the Telestream web site Closed Captioning Support page, where you can find a range of support information or enter a technical support ticket.

## Keyboard Shortcuts

Opens the Keyboard Shortcut Extensions guide in your default browser. This describes the standard keyboard shortcuts for MacCaption.

## Download

Opens the Download Options dialog. Click the Download button to open the Telestream Closed Captioning downloads page. Click Read Me to open the current version of the MacCaption Release Notes.

## Upgrade HASP4 License

Opens a dialog so you can upgrade a HASP4 License.

## Upgrade HASP SRM License

Opens a dialog so you can upgrade a HASP SRM License.

## Open the HSRP SRM Admin Control Center

Opens <http://localhost:1947> in your browser. You should see the "Sentinel Admin Control Center" page appear. If you do not see this page, then either the HASP driver is not installed, or the driver is experiencing a problem. This could be caused by a firewall or anti-virus software which is blocking the HASP driver or blocking TCP/UDP port 1947. Please make sure TCP and UDP port 1947 are not blocked for internal communication (Internet access is not required, just local network). If you can't access

this page in your browser, the problem **MUST** be resolved before the dongle can be used. For more information see [HASP Network Dongle](#).

### **Manage MacCaption License**

Opens the MacCaption License dialog. Provides options to upgrade or deactivate the license and a field for reading or entering your license number. Click the lock icon to allow changes. First a dialog appears to enter your computer password, then options for making license changes become available.

### **Purchase/Upgrade**

Takes you to the Telestream Online Store for the captioning products, where you can choose a version for purchase or to upgrade.

### **Clear Preferences**

Opens a confirmation dialog. Click OK if you want to delete the preferences and restart MacCaption.

# File Types for Import/Export

This chapter provides lists of all file types that CaptionMaker and MacCaption can import or export, categorized by purpose, and by what is available in the different versions of Desktop, Pro, and Enterprise.

- [Command Line Interface File Types](#)
- [Identifying MacCaption and CaptionMaker File Types](#)
- [Import File Types](#)
  - [Text Files](#)
  - [Extract Closed Captions from Media](#)
  - [Standalone Caption/Subtitle Import Files](#)
  - [Web and Mobile Standalone Import Files](#)
  - [Assemble Captions](#)
- [Export File Types](#)
  - [Text Files](#)
  - [Embed Closed Captions into Media](#)
  - [Broadcast Standalone Files](#)
  - [Web and Mobile Standalone Export Files](#)
  - [Subtitle and Open Caption Export Files](#)

## Command Line Interface File Types

Not all of the file types listed in this chapter are supported when using the CaptionMaker or MacCaption Command Line Interface (CLI).

- To see the files that are available when using the CLI in CaptionMaker, open the CLI document from Help > CommandLine Documentation (Local).
- To see the files that are available when using the CLI in MacCaption, open the CLI document from Help > Command Line Interface.

## Identifying MacCaption and CaptionMaker File Types

File type descriptions, in the tables in this chapter, for MacCaption and CaptionMaker are color coded and marked with asterisks to indicate which platform they work with. The following designations are used:

- **Blue and one asterisk (\*)**: Indicate file types that only work with MacCaption
- **Green and two asterisks (\*\*)**: Indicate file types that only work with CaptionMaker.
- **Black**: Works for both MacCaption and CaptionMaker.



# Import File Types

The following tables provide the import file types, along with relevant notes.

## Text Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
	MacCaption Project (.cca)*	
	For Multiple Language*	
Plain Text File*	Plain Text File*	
ASCII Text (.txt)**	ASCII Text (.txt)**	
Rich Text Format (.rtf)**	Rich Text Format (.rtf)**	
Word Document (.doc)**	Word Document (.doc)**	
WordPerfect Document (.wpd, .doc)**	WordPerfect Document (.wpd, .doc)**	
	Translation (.rtf)**	

## Extract Closed Captions from Media

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
	ATSC DTV 608/708 CC SD (to MPEG2, .ts .m2v)	MPEG2 data. Manzanita can add to Transport Stream. Cable station broadcast. XDCAM MOV.
	ATSC DTV 608/708 CC HD (to MPEG2, .ts .m2v)	Same as above note, but only looking at line 708.
	AVI 720x486 for NLE (.avi) - NLE 720x486 video/gray-scale	VBI importer, line 21 data, QuickTime, AVI.
	QCC Multi-Format Import (.mpg .mpeg .m2v .mpv .ts)	This is a catch-all import that includes many formats. See <a href="#">QCC Multi-Format Import</a> for more information.
	Apple ProRes 422 Metadata VANC Closed Captions*	For KiPro - puts caption data in VANC of ProRes.
	Ccube/LSI DVx 608 Linear Closed Captions	
	Ccube/LSI DVx 608 Temporal Closed Captions	
	DV AVI 720x480 (.avi)	

Desktop	Pro/Enterprise	Notes
	DV/DVCPRO 720x480 (DV25/50)	Not enough to do Closed Captions (CC) because it doesn't have enough resolution. Ancillary field.
	<a href="#">DVCPROHD (DV100)*</a>	Mac only. Can be FireWire. MOV wrapper.
DVD Closed Cap (from MPEG2)	DVD Closed Cap (from MPEG2)	MPEG2, not the same as SCC.
	<a href="#">DV QuickTime 720x480 (MOV)**</a>	
	<a href="#">MPEG2 720x480 New Tek TriCaster (.mpg, .mpeg)**</a>	
	<a href="#">MPEG2 720x512 422P@ML (.mpg, .mpeg)**</a>	
	<a href="#">Matrox 4VANC*</a>	Matrox MXO2 hardware, MOV, 16 channel audio, CC data in 16th channel, cross convert, currently uses SCC or MCC.
	Media eXchange Format .mxf	XDCAM MXF only, OP1A, HD. Support for 608/708 caption data or OP-47 Teletext from SMPTE-436M track.
	<a href="#">Nexidia QC report files .XML**</a>	These files contain notes that help CaptionMaker find errors. See <a href="#">Using a Nexidia XML QC Report to Locate Errors</a> .
	QuickTime DTV 608/708	CC 608 track only, for iDevice and desktop- viewable in QuickTime player.
QuickTime Podcast CC 608	QuickTime Podcast CC 608	CC 608 track only, for iDevice - viewable in QuickTime player.
	<a href="#">SCTE20 CC 608*</a>	Older insertion style for broadcast.
	<a href="#">SeaChange CC*</a>	Older SeaChange hardware, MOV specific area for caption.
	<a href="#">Sony XDCAM MOV*</a>	User data from Final Cut Pro XDCAM media.
<a href="#">QuickTime Subtitles (MOV, .m4v)*</a>	<a href="#">QuickTime Subtitles (MOV, .m4v)*</a>	Alternate for subtitle tech, multiple tracks, QuickTime player, iDevice.
<a href="#">QuickTime Text Track (MOV, .m4v)*</a>	<a href="#">QuickTime Text Track (MOV, .m4v)*</a>	Text played below video, low quality, mobile.

## Standalone Caption/Subtitle Import Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
	Anystream .xml*	XML, not SMPTE.
	Avid DS .txt	Subtitle file for Avid. Time code and text only. Render using Avid tools.
	Caption Center .tds	Use WGTS software. Slightly encoded text file.
	Captions Inc. .cin	Caption file for captioning company - Captions Inc.
	CCaption Description File .asc*	Old version of CPC software encoding, for embedding caption data.
	Cheetah INT .asc	Uses less control coding interspersed with text.
	Cheetah INT .cap	Caption file used with hardware encoding, very popular.
	CPC/LeapFrog CCaption (.onl)/ CPC-715 File .onl	Online file for use with old CPC software, tape to tape.
	DirecTV GLA (.gla)**	Based on .SCC (Scenarist Closed Captioning) file format, with special formatting for DirecTV.
	DLP Cinema DCI Iterop .xml	Digital light projection package. Used more for subtitles.
DOS CPC-600/CPC-700 (.)**	DOS CPC-600/CPC-700 (.)**	
DVD Caption File .cc	DVD Caption File .cc	Generic for Scenarist files. Very limited, only 29.97. Used by most products.
DVD Caption File .scc	DVD Caption File .scc	Generic for Scenarist files. Very limited, only 29.97. Used by most products.
	DVD Studio Pro .stl*	Subtitle for DVD Studio Pro.
	EBU Subtitling Data Exchange .stl	EU broadcasters standard format. Open subtitling - text file burn-in. Includes Teletext Level 1 encoding, Double Height characters, foreground color.
	Evertz ProCAP .txt	Software file that interacts only with Evertz hardware.
	EZTITLE Format (.txt)**	
	Inquirium InqScribe .txt*	Transcription software file. Import only.

Desktop	Pro/Enterprise	Notes
iTunes .itt	iTunes .itt	Subtitling for iTunes. XML file.
MacCaption VANC .mcc*	MacCaption VANC .mcc*	
MacCaption MCC 608/708 .mcc	MacCaption MCC 608/708 .mcc	Allows for additional Active Format Description metadata. Support for OP-47 Teletext.
	National Captioning Institute .cap	NCI company proprietary format.
	National Captioning Institute .flc*	Additional format for NCI.
	PAC Subtitles .pac	Popular EU subtitle format.
	PoliScript PE2 (.txt)*	
	PowerPixel Format (.txt)**	
	ProCap Author.doc (.doc)**	
	ProCap Transfer (.txt)**	
Windows CaptionMaker (.cap)**	Windows CaptionMaker (.cap)**	
Windows CaptionMaker V 1.xx (cap)**	Windows CaptionMaker V 1.xx (cap)**	
	QuickTime Text Track .txt*	Mobile text format from Apple. Text vs. embedded text, rare.
	Rhozet .xml*	Competitor file for Carbon Coder, 608 only.
SAMI Sync Accessible Media Interchange .smi	SAMI Sync Accessible Media Interchange .smi	Original web streaming file format, used for Windows Media Player, stand-alone file format.
	Same as Windows Media SAMI file .smi	Original web streaming file format, used for Windows Media Player, stand-alone file format.
	Sofni .sub	EU subtitler. Often used for DirecTV.
Softitler (.txt)	Softitler (.txt)	EU subtitler, text file format.
	Sonic Text .txt	Sonic solutions, for Sonic DVD.
	Sony Blu-ray Subtitles .txt*	Just for Sony Blu-ray platform. Blu-print file.
Subrip .srt	Subrip .srt	Format to optically pull subtitles from DVDs, simple time-in time-out. Different than YouTube. Works with Vimeo.
Timed Text DFXP .xml	Timed Text DFXP .xml	Multipurpose. Use for TTML, Netflix Timed Text, SMPTE 2052, Crackle Timed Text, and more.

Desktop	Pro/Enterprise	Notes
	Ultech Caption .ult	From Ultech. Originally hardware, multi frame rate, multi platform.
WebVTT .vtt	WebVTT .vtt	Next generation of Subrip .srt. Contains positioning and style. Popular with media players, web format.
YouTube .sbv, .srt	YouTube .sbv, .srt	.sbv is used solely for YouTube. .srt is slightly different from Subrip.

## Web and Mobile Standalone Import Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
Google/YouTube Video Subtitle Script (.srt)	Google/YouTube Video Subtitle Script (.srt)	
iTunes Timed Text (.itt)	iTunes Timed Text (.itt)	
Netflix TT .xml	Netflix TT .xml	Netflix Timed Text
SMPTE Timed Text / Magic Time Text .xml	SMPTE Timed Text / Magic Time Text .xml	Constraint of DFXP, follows SMPTE rule, strict formatting.
SubRip (.srt)	SubRip (.srt)	Simple text. Used for web.
TT / TTML .xml .ttml	TT / TTML .xml .ttml	Timed Text. IMSC 1.0 TTML subtitle files
WebVTT .vtt	WebVTT .vtt	Next generation of Subrip .srt. Contains positioning and style. Popular with media players.
Windows Media SAMI file .smi	Windows Media SAMI file .smi	Slight derivation of SAMI. Different than plain SAMI.
Windows Media Player [Embedded Captions] (.wmv)**	Windows Media Player [Embedded Captions] (.wmv)**	

## Assemble Captions

**PRO**

The Assemble Captions import formats are only available in the Pro and Enterprise versions of MacCaption.

\* Indicates MacCaption only.

Pro/Enterprise	Notes
CMX 3600 (.edl)*	
Final Cut Pro 7 (.xml)*	
Final Cut Pro X (.fcpxml)*	

## Export File Types

The following tables provide the export file types, along with relevant notes.

### Text Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
For Multiple Language	For Multiple Language	
Plain Text File	Plain Text File	
ASCII Text (.txt)**	ASCII Text (.txt)**	
Rich Text Format (.rtf)**	Rich Text Format (.rtf)**	
Word Document (.doc)**	Word Document (.doc)**	
WordPerfect Document (.wpd, .doc)**	WordPerfect Document (.wpd, .doc)**	

### Embed Closed Captions into Media

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
	ATSC DTV 608/708 CC SD (to MPEG2, .ts .m2v)	Adds user data to XDCAM or MOV.
	ATSC DTV 608/708 CC HD (to MPEG2, .ts .m2v)	Adds user data to XDCAM or MOV.
	AVI 720x486 for NLE (.avi)**	
	Black AVI 720x486 for NLE (.avi)**	
	CCIR 601/4:2:2P@ML Movie w/ CC	SD export to add line 21 to 720x512. Extreme Reach.
	CCube/LSI DVx 608 Linear CC	MPEG1 608 export, older.
	CCube/LSI DVx 608 Temporal CC	MPEG1 608 export, older.
	DV AVI 720x480 (.avi)**	
	DV/DVCPro 720x480 DV25/50 CC	Puts in the VAUX (vertical aux) to send to tape.
	DVCPro HD DV100 .mov CC	Add to the VANC of DVCPro file.
	DVD CC (to MPEG2)...	Not broadcast spec, but can be converted into spec.
	DVD Style CC (to MPEG2)	Not broadcast spec, but can be converted into spec.
	H.264 SEI 608/708 captions	User data for H.264, for V-Brick, SOLA streaming platform for Akamia.

Desktop	Pro/Enterprise	Notes
	MPEG-2 Userdata 608/708 captions	Different method than ATSC. Put data in Transport Stream without Manzanita. Not Cable Lab spec.
	QuickTime DTV 608/708 CC Track...	Track for broadcast. In wrapper of file MOV (ProRes or H.264).
QuickTime 608 CC (Final Cut Pro/Podcast/Web)	QuickTime 608 CC (Final Cut Pro/Podcast/Web)	Track for web content, iOS, and related.
	Sony Material eXchange Format .mxf/MXF	XDCAM MXF. Used for XDCAM decks, Omneon servers.  Support for 608/708 caption data or OP-47 Teletext into SMPTE-436M track.
Windows Media Player [Embedded Captions] (.wmv)**	Windows Media Player [Embedded Captions] (.wmv)**	
	YUY2 AVI 720x12 (.avi)**	
	SeaChange CC	Specifically for SeaChange hardware, MOV proprietary.

## Broadcast Standalone Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
	Avid Advanced Authoring Format .aaf	Avid MC export either HD MXF or HD tape. Used with Nitris DX and MOJO DX.  Support for OP-47 Teletext.
	Avid DS .txt	Subtitle file for Avid. Time code and text only. Render using Avid tools.
	Black 720x486 movie w/ CC	To create line 21 black movie to add line 21 caption data in any NLE. SD only.
	Black 720x512 NTSC Movie for Matrox DigiServer	For Matrox server. Adds caption data. SD only.
	Caption Center .tds	Use WGTS software, slightly encoded text file.
	Captions Inc .cin	Caption file for captioning company - Captions Inc.
	Cheetah International .asc	Uses less control coding interspersed with text.

Desktop	Pro/Enterprise	Notes
	Cheetah International .cap	Caption file used with hardware encoding. This is a most widely used format.
	Convert MCC to Avid Captions Only AAF (.aaf)**	
	Convert SCC to Avid Captions Only AAF (.aaf)**	
	CPC/LeapFrog CCaption (.onl)/CPC-715 File .onl	Online file for use with old CPC software. Tape to tape.
DOS CPC-600/CPC-700 (.)**	DOS CPC-600/CPC-700 (.)**	Works for various file extension types.
DVD Caption File (.cc)**	DVD Caption File (.cc)**	
DVD Caption File (Scenarist .scc)	DVD Caption File (Scenarist .scc)	Generic for Scenarist files. Very limited, only 29.97. Used by most products.
DVD T2 Links File (.scc)**	DVD T2 Links File (.scc)**	
	Evertz ProCAP .txt	Software file that interacts only with Evertz hardware.
	EZTITLE Format (.txt)**	
MacCaption VANC Data File .mcc	MacCaption VANC Data File .mcc	Text file that contains 608/708 data. Support for OP-47 Teletext.
MacCaption MCC V2 .mcc*	MacCaption MCC V2 .mcc*	Allows for additional Active Format Description metadata.
	Matrox 4VANC Closed Captions	Matrox MXO2 hardware, MOV, 16 channel audio, CC data in 16th channel, cross convert, currently uses SCC or MCC.
	Multiplexed File for Manzanita	Multi language data, SCC.
	PowerPixel Format (.txt)**	
	Ultech .ult	From Ultech, originally hardware. Multi frame rate, multi platform.
	Ultech ULT Caption (multi-language merge) (.ult)	
Windows CaptionMaker (.cap)**	Windows CaptionMaker (.cap)**	
Windows CaptionMaker Ver 1.xx (.cap)**	Windows CaptionMaker Ver 1.xx (.cap)**	



## Web and Mobile Standalone Export Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
Crackle Timed Text .xml	Crackle Timed Text .xml	1 of 2 Sony XML TTL timed text. Used to output to Crackle only.
	Echo360 .xml	XML captioning format
EBU-TT	EBU-TT	Subtitle XML file
	Flash Text .txt	Old method of adding captions to Flash.
Flash XML for Captionate .xml	Flash XML for Captionate .xml	Used just for Captionate. Simple XML.
Flash XML for CS4 [Timed Text DFXP] .xml	Flash XML for CS4 [Timed Text DFXP] .xml	Designed for flash CS4. Still used frequently (DFXP).
Flash XML in Timed Text Authoring Format without header (.dfxp)**	Flash XML in Timed Text Authoring Format without header (.dfxp)**	
Generic DFXP w/o Positioning .xml*	Generic DFXP w/o Positioning .xml*	Very limited use. No positioning.
IMSC 1.0 Text Captions (.ttml)	IMSC 1.0 Text Captions (.ttml)	Also can process SMPTE-TT files.
IMSC 1.0 Text Subtitles (.ttml)	IMSC 1.0 Text Subtitles (.ttml)	
MAGIC TT (timed Text) (.xml)**	MAGIC TT (timed Text) (.xml)**	
Mijo XML in seconds format (.xml)**	Mijo XML in seconds format (.xml)**	
PBS COVE (.sami)**	PBS COVE (.sami)**	
iTunes .itt*	iTunes .itt*	Subtitling for iTunes. XML file.
Netflix TT Captions .xml*	Netflix TT Captions .xml*	Netflix Timed Text. For closed captions and subtitles.
QuickTime .txt, .smi	QuickTime .txt, .smi	Text played below video. Low quality, mobile.
RealText .rt, .smi	RealText .rt, .smi	For RealPlayer. SAMI for RealPlayer.
	SAMI Sync Accessible Media Interchange .smi	Original web streaming file format. Used for Windows Media Player. Standalone file format.
SMPTE 2052 Timed Text Captions (.xml)*	SMPTE 2052 Timed Text Captions (.xml)*	
SMPTE TT (Timed Text) (.xml)**	SMPTE TT (Timed Text) (.xml)**	Constraint of DFXP. Follows SMPTE rule, strict formatting.
SubRip (.srt)	SubRip (.srt)	Simple text. Used for web.
Sony Pic Timed Text .xml	Sony Pic Timed Text .xml	Constraint of DFXP.
Timed Text DFXP .xml	Timed Text DFXP .xml	Multipurpose. Least constrained of DFXP exports.

Desktop	Pro/Enterprise	Notes
WebVTT .vtt	WebVTT .vtt	Next generation of Subrip .srt. Contains position and style. Popular for media players. Web format.
Windows Media SAMI file .smi	Windows Media SAMI file .smi	Slight derivation of SAMI. Different than plain SAMI.
YouTube .srt	YouTube .srt	.srt is slightly different from Subrip. Only for YouTube.

## Subtitle and Open Caption Export Files

\* Indicates MacCaption only. \*\* Indicates CaptionMaker (Windows) only. Black: MacCaption and CaptionMaker.

Desktop	Pro/Enterprise	Notes
(Burn Subtitles) Any Video File (.) to (.avi)**	(Burn Subtitles) Any Video File (.) to (.avi)**	
	(Encode Subtitles) Black AVI 720x486 for NLE (.avi)**	
	OP-42 SD Teletext	Black movie with VBI for NLE.
	Black Movie with Open Captions	Open captions burned in. Uses alpha channel. SD only.
	DirecTV GLA (.gla)**	Based on .SCC (Scenarist Closed Captioning) file format, with special formatting for DirecTV.
Movie with Open Captions	Movie with Open Captions	Burns in straight. No alpha channel. SD only.
Black Movie with Subtitles	Black Movie with Subtitles	Alpha channel, any resolution subtitle. Can be made to look like captions.
Movie with Combined Subtitles	Movie with Combined Subtitles	Burned in, open subtitles. Flattens movie. Any resolution.
Movie with Separate Subtitles	Movie with Separate Subtitles	Burned in, open subtitles. Any resolution.
	HD Black AVI for NLE (.avi)**	Alpha channel, any resolution subtitle. Can be made to look like captions.
(Encode Subtitles) HD Black QuickTime for NLE (*.mov)	(Encode Subtitles) HD Black QuickTime for NLE (*.mov)	Exports .mov animation with alpha channel.
Adobe Encore V2 .txt	Adobe Encore V2 .txt	Subtitle for Encore. Simple - no formatting.
	Apple XML Interchange Format .xml	Subtitle format for working in Final Cut Pro.

Desktop	Pro/Enterprise	Notes
	Avid DS .txt	Subtitle file for Avid. Time code and text only. Render using Avid tools.
	Blu-ray BDN .xml	Generates XML + PNG. Can choose colors. Indexed files.
	CFF-TT Image Subtitles .xml	Subtitles for UltraViolet platform. Text file + image file.
	CFF-TT Text Subtitles .xml	Subtitles for UltraViolet platform. Text file.
	Digital Cinema Distribution Master .xml	XML for package to distribute to theaters. Subtitle.
DVD Studio Pro 3 .txt	DVD Studio Pro 3 .txt	Text file for DVD Studio Pro.
	DVD Studio Pro / Sonic Creator .son	Text file for DVD Studio Pro. For Sonic Creator. File + TIFF.
DVD Studio Pro .stl	DVD Studio Pro .stl	Text file for DVD Studio Pro. Native. Option for images.
	EBU Subtitling Data Exchange Format .stl	EU market. Used for open subtitles. Includes Teletext Level 1 encoding, Double Height characters, foreground color.
IMSC/SMPTE-TT XML with PNG (.XML and .PNG) **	IMSC/SMPTE-TT XML with PNG (.XML and .PNG) **	
	NetBlender Blu-ray .DoST	Similar to Blu-ray, contains image files (PNG).
Netflix TT Subtitles .xml	Netflix TT Subtitles .xml	SMPTE XML for Netflix Timed Text.
QuickTime Subtitles Track	QuickTime Subtitles Track	Embedding into QuickTime. Subtitles. Multiple track capable.
QuickTime Text Track	QuickTime Text Track	3GP file for mobile devices.
	Rhozet .xml	Used for Rhozet Carbon Coder. Generates XML + PNG. Can choose colors. Indexed files.
	CVC DVD (.scr + .bmp)**	
	Daikin Scenarist TIF Graphics (.sst + .tif)**	
DVD Architect Pro (.sub)**	DVD Architect Pro (.sub)**	
DVD Caption File (.cc)	DVD Caption File (.cc)	
DVD Caption File (.scc)	DVD Caption File (.scc)	
DVD T2 Links File (.scc)**	DVD T2 Links File (.scc)**	
	DVDit Pro HD Subtitle Script (.txt)**	

Desktop	Pro/Enterprise	Notes
	Generic DVD Subtitles (.txt + .bmp)	
	HD-DVD (.hdt + .tif)**	
	Pinnacle Impression DVD Pro (.txt + .bmp)**	
	Sonic Producer Text (.txt)**	
	Sonic Solutions Text (.txt)**	
	Sonic Solutions TIF Graphics (.nav + .tif)**	
	Spruce DVDMaestro TIF Graphics (.son + .tif)	
	Spruce STL Script (extended positioning) (.stl)	
	Spruce STL Script (standard positioning) (.stl)	
DVD Caption File (Scenarist .scc)	DVD Caption File (Scenarist .scc)	Generic for Scenarist files. Very limited, only 29.97. Used by most products.
	Scenarist .sst	Used for subtitling. Text and image.
SubRip .srt	SubRip .srt	Simple text. Used for web.
	Texas Instruments DLP Cinema (DCI Interop) XML (.xml)	
	Ultech DV2000/3000 .usf, .uyc	Subtitle added to DV2000/3000 box. Real time subtitling (NBC).
<b>Korean Closed Captions</b>		
	NTSC DV 720x480 Video with Korean CC	708 Korean for special characters. SD only.
	Black 720x482 movie with Korean CC	708 Korean for special characters. SD only. Line 21 overlay.
<b>Remote Caption Encode</b>		
	Remote MPEG2 DTV 608/708 Closed Captions	
<b>Convert</b>		
	USF/Uyc to DECE CFF*	
	USF/Uyc to Rhozet/PNG*	
	USF/Uyc to Text/PNG*	





# Installing MacCaption

The topics in this chapter provide system requirements, explain how to install or upgrade MacCaption, and describe how to use the HASP Network Dongle.

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**Note:** The Demo version of MacCaption can only run in trial mode. When you purchase a license, you must download and install a licensed version in order to activate MacCaption.

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The following topics are included:

- [System Requirements](#)
- [Available Subtitling and Captioning Characters](#)
- [Installing and Activating MacCaption](#)
  - [Buying and Activating MacCaption](#)
  - [Activating MacCaption Offline](#)
  - [Upgrading MacCaption](#)
  - [Deactivating Your MacCaption License](#)
- [HASP Network Dongle](#)
  - [Troubleshooting HASP](#)

## System Requirements

The following provides the minimum operating system and computer requirements to run MacCaption.

Supported operating systems:

- OS X 10.9 (Mavericks)
- OS X 10.10 (Yosemite)
- OS X 10.11 (El Capitan)

Computer requirements:

- Intel Processor
- QuickTime Player 7.6 or later
- 2GB RAM
- 5GB free Hard Disk space
- Minimum screen resolution: 1280x720 (720p)
- One free USB port (only if using a dongle-based license)
- Internet access required for some online features
- PDF reader required to view documentation
- Auto Time Stamp requires 2GB RAM and Java Runtime Environment (JRE) version 6 or later.

## Available Subtitling and Captioning Characters

For subtitling, you can generate any character or symbol that you can generate on the computer's screen, though you may have to download a font into the memory of your external device depending on which one you are using.

However, captioning is a different case. The closed caption encoder does not actually draw the characters, but tells the closed caption decoder which characters to display. The languages supported by typical closed caption decoders include the following:

- Dutch, English, French, German, Portuguese, and Spanish.



# Installing and Activating MacCaption

Follow these steps to install MacCaption:

1. Download the Desktop, Pro, or Enterprise licensed version (depending on what you purchased) of the MacCaption installer and open the disk image.
2. Double-click the installer package to open it. The installer displays a Welcome screen and important information. Click Continue. Follow the on-screen instructions in the installation dialogs.
3. The installation continues, and at completion, a window opens to indicate success. Click Close to complete the installation.

## Buying and Activating MacCaption

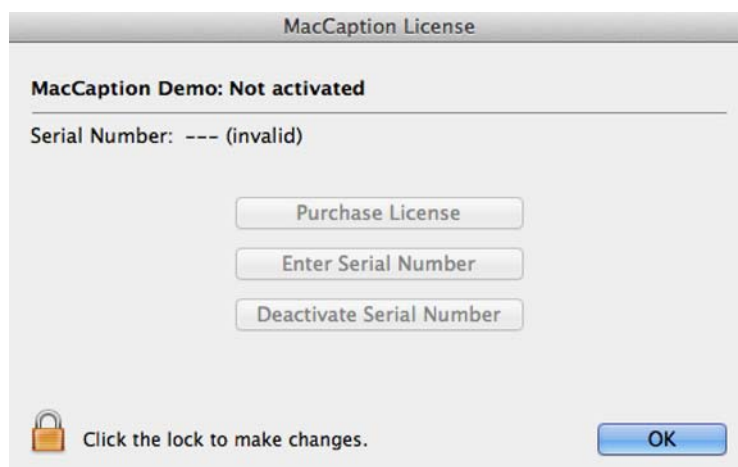
Buy and activate a MacCaption license as follows:

1. After purchasing MacCaption, you will receive instructions to download the licensed (non-Demo) version of the software. You must install the licensed version of MacCaption in order to activate your license. See the previous section for instructions on installing MacCaption.
2. To run MacCaption, find the MacCaption icon in your Applications folder, and double click it.

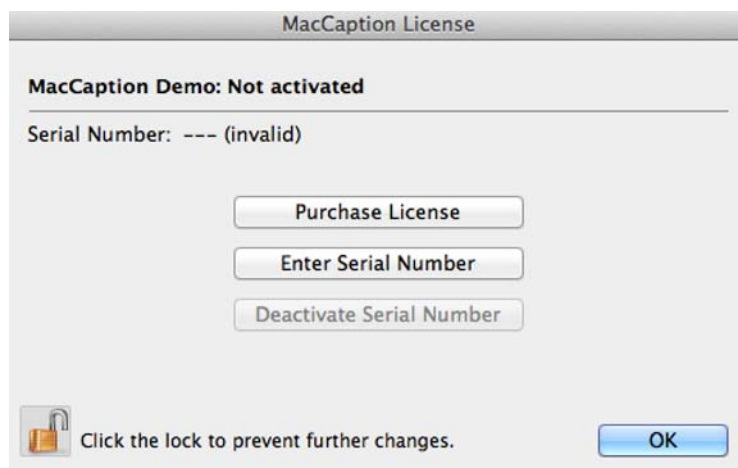
The first time the software runs, if you have not already activated it on this computer, you will be running in demo mode and restrictions may apply.

3. Open the Help menu, and select Manage MacCaption License.

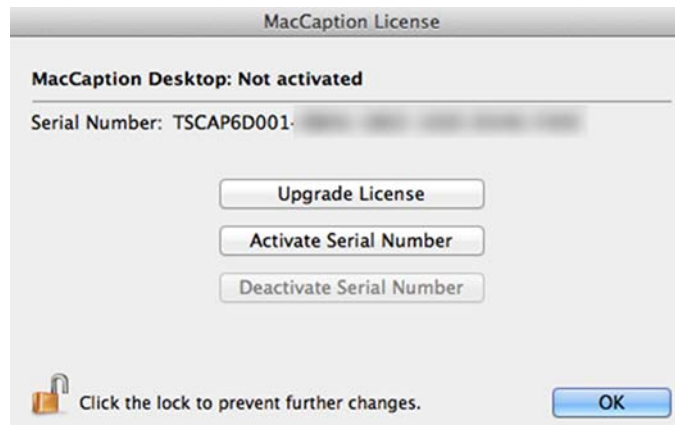
The MacCaption License dialog opens, indicating the software is not yet activated.



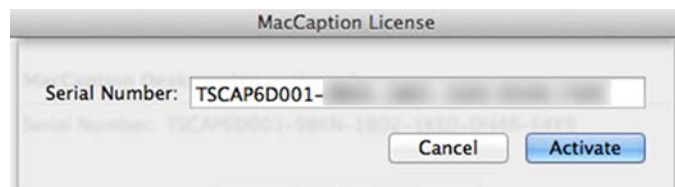
3. Click the lock icon and enter your Mac user name and password to authenticate your user account. Then return to the MacCaption License window.



4. If you already have a serial number, click Enter Serial Number and type in your serial number. If not, click on Purchase License and follow the on-screen instructions to purchase a license online. After entering your serial number, you can choose whether to Upgrade or Activate your serial number.



5. Click Activate Serial Number. Next, you'll be asked to confirm your serial number.



6. Confirm your serial number, and click Activate. Activation will complete automatically and MacCaption will say "MacCaption (Version): Activated."  
(**Note:** If you don't have Internet access, you can activate using a different computer that has Web access. See [Activating MacCaption Offline](#).)
7. Click OK, and then quit and restart the MacCaption software.
8. Go to MacCaption > About MacCaption, and verify that you are running the proper license type (for example, Desktop, Pro, or Enterprise).

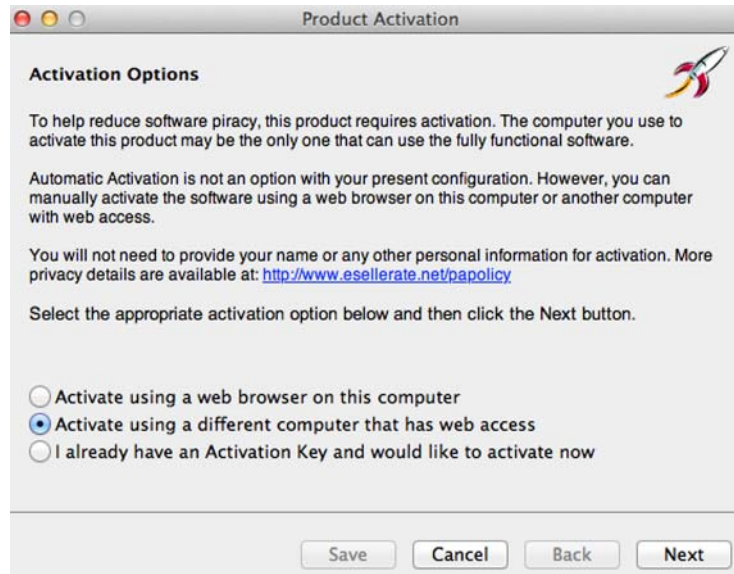


9. Click OK. MacCaption is now installed and ready to use.

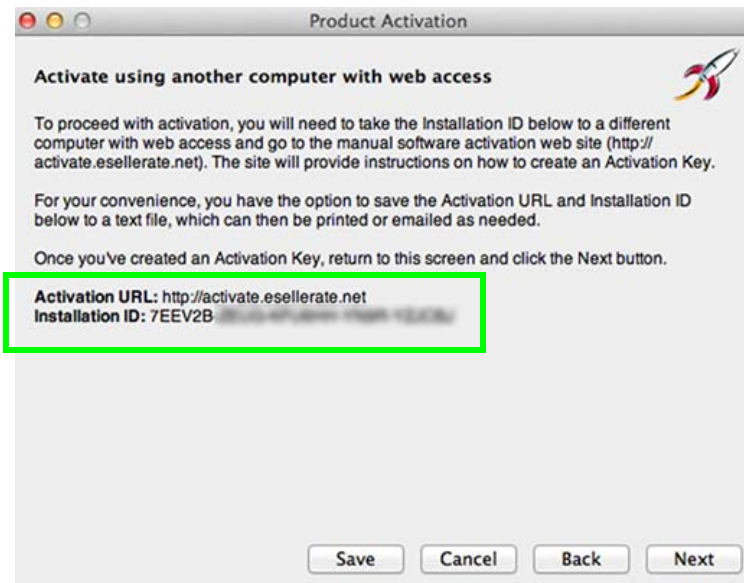
## Activating MacCaption Offline

If you don't have Internet access from the MacCaption computer, you can activate MacCaption using a different Internet-connected computer. Follow these steps:

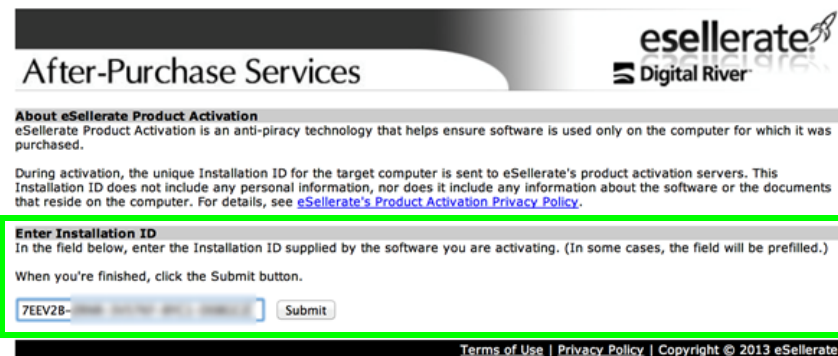
1. After starting the Activate Serial Number process described in the previous procedure, make the following selection: *Activate using a different computer that has web access* and click Next.



2. Using the Internet-connected computer, access the URL that is presented on the MacCaption computer.



3. On the eSellerate activation website, enter the Installation ID that MacCaption provided, and click Submit.



Esellerate displays your new activation key at the bottom of the page. You can also enter your email address to receive a copy of your activation key by email.

**After-Purchase Services**

**About eSellerate Product Activation**  
eSellerate Product Activation is an anti-piracy technology that helps ensure software is used only on the computer for which it was purchased.

During activation, the unique Installation ID for the target computer is sent to eSellerate's product activation servers. This Installation ID does not include any personal information, nor does it include any information about the software or the documents that reside on the computer. For details, see [eSellerate's Product Activation Privacy Policy](#).

**Enter Installation ID**  
In the field below, enter the Installation ID supplied by the software you are activating. (In some cases, the field will be prefilled.)  
When you're finished, click the Submit button.

7EEV2B-

**Activation Key**  
Use the Activation Key below to activate your purchased software.

**Notes:**

- If you are activating the software on this computer, you can save time by copying the Activation Key from this page and then pasting it into the appropriate wizard screen.
- You may want to print out this page for future reference.
- Adding this page to Bookmarks or Favorites in your web browser will not save the Activation Key information.

On the computer that will use the software, bring up the Manual Product Activation Wizard. (If you've closed the wizard since beginning the activation process, you'll need to use the activation features of the software to bring it up again.) Navigate to the Enter Activation Key screen and follow the instructions provided to complete activation.

R8D64Q-T6VX-882F1J-4

Enter your e-mail address and press "E-mail Activation Code" to send via e-mail.

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4. Enter the Activation Key into the MacCaption Enter Activation Key page, and click Activate. If the key is entered correctly, a message saying "Success" should be displayed.

**Product Activation**

**Enter Activation Key**

Enter your Activation Key in the fields below, using the Tab key to advance through the fields.

If you've copied the Activation Key to the Clipboard, you may paste the entire key in at once (using Cmd-V).

When you've finished, click the Activate button.

Activation Key: A B C D E  
4 N X V Y Z

F G H I J  
2 0 3 2 1 4

5. Click Done to finish the activation process. MacCaption should now say "MacCaption (version) Activated."

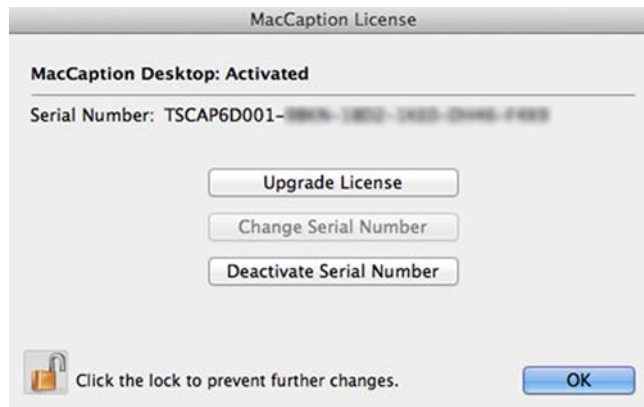
6. Quit and restart MacCaption. Then go to MacCaption > About MacCaption, and verify that you are running the proper license type (for example, Desktop, Pro, or Enterprise).



## Upgrading MacCaption

If you need to use features that are in a higher level of the software, you can purchase an upgrade.

1. Open the Help menu and select Manage MacCaption License. The MacCaption License window opens.
2. Click the lock icon to authenticate your Mac account.
3. Enter your Mac user name and password when prompted.
4. Click Upgrade License.



5. The MacCaption online store window will open. Follow the on-screen prompts to select and purchase your upgrade.

## Activating a MacCaption Upgrade

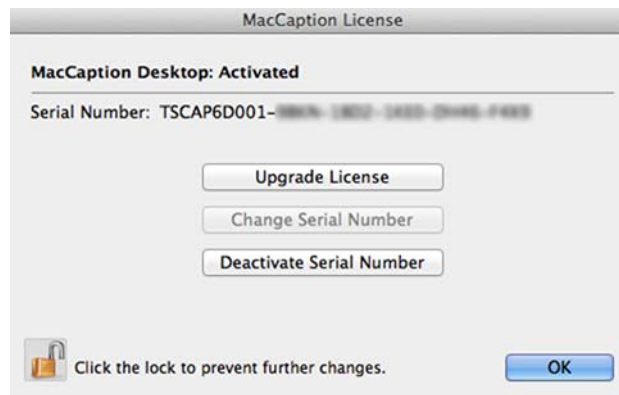
Usually the upgrade process will complete automatically, but in some cases you may receive the upgrade key via email. In that case you must deactivate your old key in order to enter the new key.

1. Open the MacCaption Help menu, and select Manage MacCaption Activation. The MacCaption License window opens.

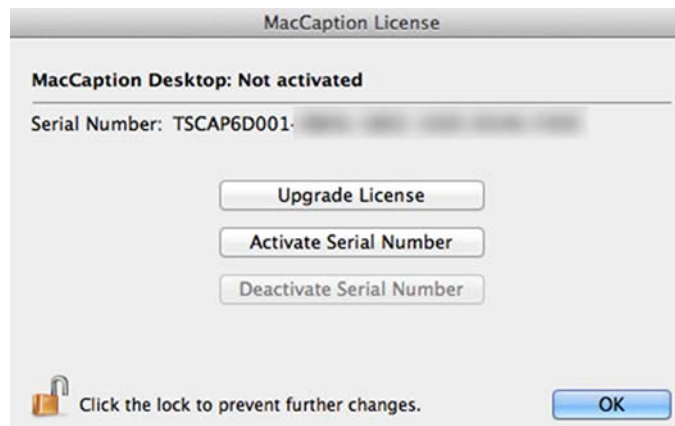




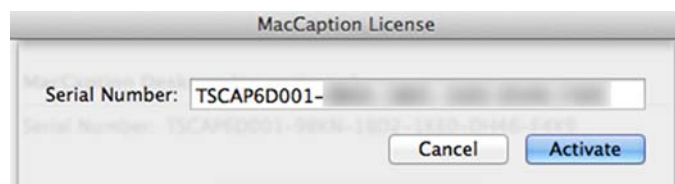
2. Click the lock icon, and enter your Mac user name and password to authenticate your Mac user account. The lock unlocks and the license options are enabled.



3. Click on Deactivate Serial Number. This step requires Internet access.
4. After deactivation, MacCaption will automatically exit. Start the software again. It will start in Demo mode.
5. Open the Help menu, and select Manage MacCaption Activation.
6. Click the lock icon, and enter your Mac user name and password to authenticate your Mac user account. The license options are displayed again.



7. Click Activate Serial Number. The Serial Number entry form opens.



8. Enter the new upgrade serial number that was emailed to you, and click Activate.

9. Confirm that the screen now shows "MacCaption (Version): Activated" and displays the upgraded license level.



10. Click OK. Then quit and restart MacCaption.

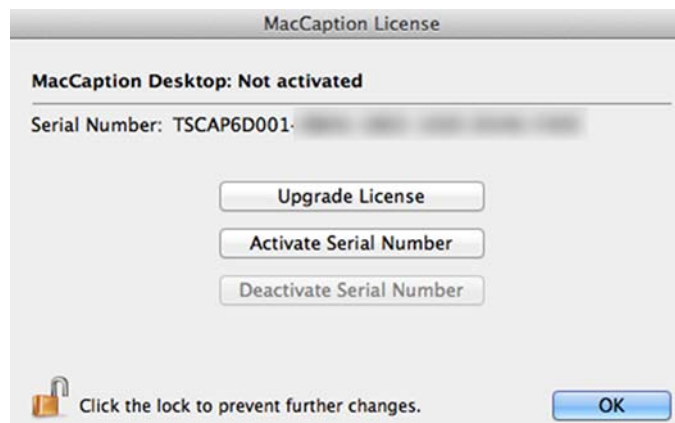
## Deactivating Your MacCaption License

If you want to move the MacCaption license to another computer, you must first deactivate it on the current computer. This step requires Internet access.

1. Go to the MacCaption Help menu and select Manage MacCaption Activation. The MacCaption License window opens.
2. Click the lock icon and enter your Mac user name and password to authenticate your Mac account.



3. Click on Deactivate Serial Number.
4. Confirm that the screen shows "MacCaption (Version): Not Activated"



5. After waiting 15 minutes for the server to update your license status, you can activate this serial number on another computer where you have installed CaptionMaker or MacCaption.

## HASP Network Dongle

The network dongle option avoids the need to physically keep or move standalone (single user) dongles around to individual machines. For example, if you need Telestream software for 4 concurrent users at your organization. Instead of receiving 4 single user dongles, you would receive one physical network dongle. It would be connected to any Windows or Mac physical machine on the LAN, and provides a floating license available to any physical or virtual machine on the LAN. Any computer on the LAN or VPN can make use of one of these licenses.

Another advantage is that the network licenses can be shared over the LAN or VPN (including over the Internet) without having to physically move the USB keys. This allows remote users to run the software on their computers while traveling or working remotely. Only the license itself is shared over the network, the actual software is running directly on the computer, so there are no speed issues like with "remote desktop" or screen sharing solutions.

The number of concurrent users of the software is limited to the number of licenses purchased. For example, if you have 4 licenses on your network dongle, any 4 machines can open the software at the same time; if a 5th machine tries to run the software, it will give an error until one of the other 4 open copies is closed.

If you are interested in upgrading your existing single user keys to a network key or have any questions about the network key option, please feel free to contact Telestream.

The network dongle uses TCP/UDP port 1947 for local (LAN only) communication. This port must not be blocked in order for a station to access the network license.

## Troubleshooting HASP

On any machine with Telestream captioning software (or just the HASP drivers) installed, you can check the status of HASP drivers and keys by going to:

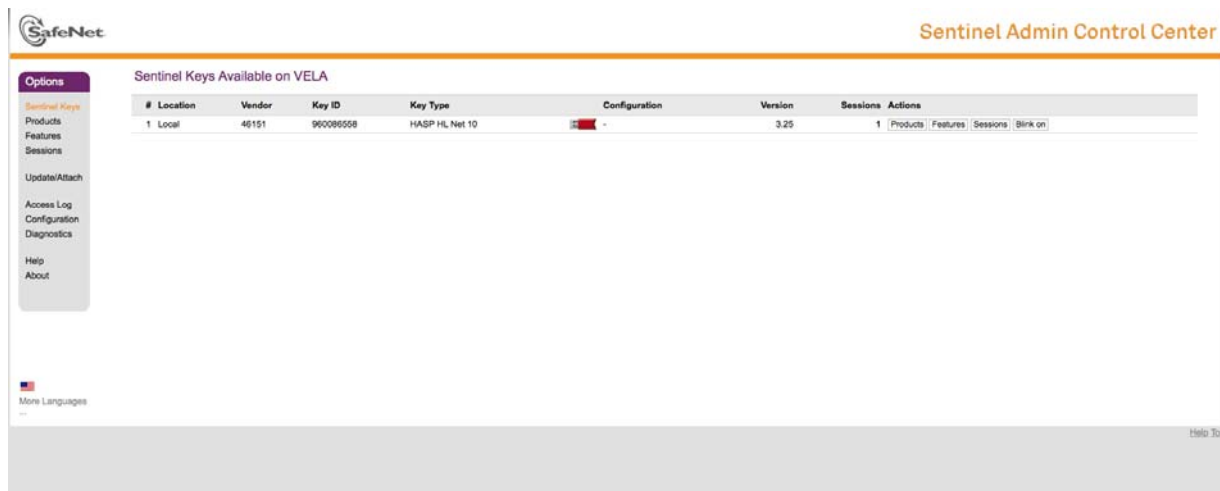
<http://localhost:1947>

If the web page doesn't open as "Sentinel Admin Control Center", then the HASP driver is not installed or not running. You can get some troubleshooting tips in the Telestream web Knowledge-Base under "HASP dongle troubleshooting".

If the page opens, click "HASP Keys" or "Sentinel Keys" (depending on the version) on the left.

### On the Server Machine

The network key will show up under Location: Local. If not, then the server is not recognizing the dongle.

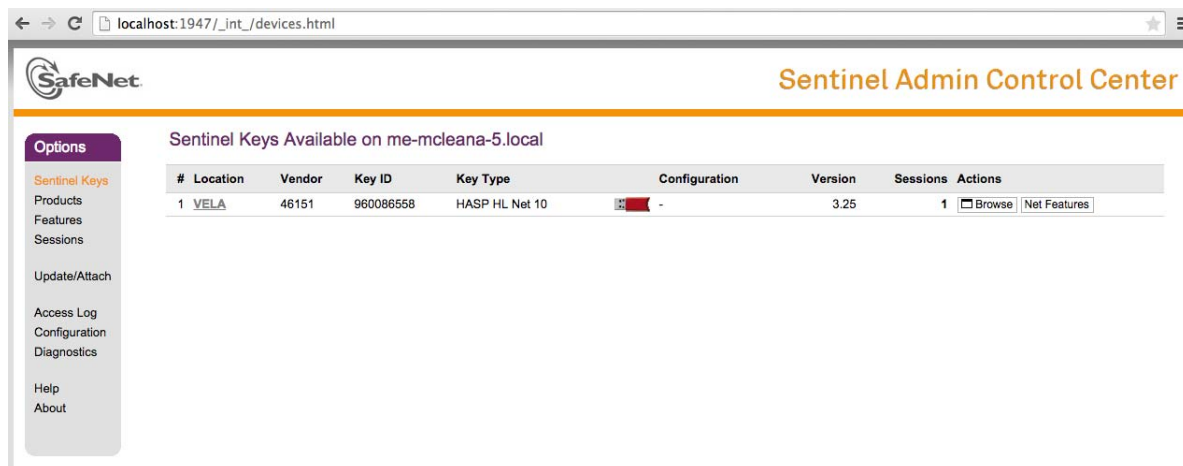


Click Configuration on the left, then go to the tab "Access from Remote Clients". Make sure "Allow Access from Remote Clients" is checked. If not, check it, then click Submit.

Click "Show Recent Client Access" to see IP addresses and client names that have communicated with the key. Under Access it should always say "allowed". On this list you should be seeing the names/addresses of clients that are trying to access the key.

## On the Client Machines

The server's network key should show up under Location, and contain the name or IP address of the server. For example, VELA in the following screenshot.



Click Configuration on the left, then go to the tab "Access to Remote License Managers". The following checkboxes must be checked: "Allow Access to Remote Licenses" and "Broadcast Search for Remote Licenses". You can also try checking "Aggressive Search for Remote Licenses".

## Pointing a Client to a Specific License Server

The following steps can be used if the client is not seeing the subnet broadcast packets from the license server, or if you have multiple license servers and want to restrict a specific client to only use a specific license server. Also, in general this may help if you are having trouble getting the server's key to show up on the client.

1. On each client, open <http://localhost:1947>.
2. Click Configuration on the left, then select the tab "Access to Remote License Managers".
3. Uncheck the checkbox "Broadcast Search for Remote Licenses", and check the checkbox "Aggressive Search for Remote Licenses".
4. Under "Specify Search Parameters", enter the IP address of the license server.
5. Click Submit. (You may need to wait a few minutes.)

## To Disable Remote Network HASP Keys on a Particular Client

If you have a client that you don't want to access a remote network key, you can disable access to remote keys. For example, a client has a single user HASP key and you don't want it to preferentially grab the network key instead.

To disable access to remote keys:

1. Click Configuration on the left, then go to the tab "Access to Remote License Managers".
2. Uncheck the option "Allow Access to Remote Licenses".

## If You're Still Having Trouble

If the network key still does not show up on the client, and/or if the client does not show up on the server under "Show Recent Client Access", then TCP/UDP port 1947 communication between the server and the client is getting blocked somehow. Unfortunately this opens up a wide range of possible issues specific to the network setup, and may require a networking guru to get involved.

# Glossary

This glossary provides information about terms used in captioning and subtitling.

## #

### Section 508

Section 508 refers to accessibility law, which requires video broadcasts and many webcasts to be made accessible to the deaf and hard of hearing. Please see the official Section 508 web site for more details. This is not directly related to CEA-608 and CEA-708, which are technical standards.

### CEA-608

CEA-608 refers to the technical standard for captioning standard-definition NTSC video. It is also commonly referred to as "Line 21 closed captioning". See [What is 608 and 708 Closed Captioning?](#) for an in-depth look at the difference between 608 and 708.

### CEA-708

CEA-708 refers to the technical standards for captioning high-definition video. It is also commonly referred to as the VANC data or "Line 9 closed captioning".

## A

### Active Format Description

Active Format Description (AFD): A standard for telling a receiving device how to best frame video. For example, without AFD, a 16:9 signal which contains a pillarboxed 4:3 video would then be letterboxed for display on a 4:3 TV, making a tiny image surrounded by black bars on all sides. With AFD, the TV knows that it can crop the video so that the actual picture fills the whole screen.

## ATSC

ATSC (Advanced Television Systems Committee) is the digital television (DTV) standard used by broadcasters for HDTV and the digital broadcast of SD in the United States and Canada. ATSC supports closed captioning (608 and 708) in the metadata of the video signal.

## B

### Burn-in

Burn-in refers to a graphic, text, or image that is superimposed on video, and thus becomes part of the video itself. Closed captions are not burned in, since they can be turned on and off, unlike open captions and many subtitles which cannot.

## C

### .CAP

A .cap file can refer to many different types of files, so you need to be careful when using them. Several formats of caption files have the .cap extension, including the popular Cheetah .cap format. A .cap file can also be a project file for CaptionMaker, which must be opened in CaptionMaker before exporting to another caption format.

### Capture Card

A capture card is a piece of hardware for your computer that allows you to bring video into your computer for editing and output back to a physical format like tape. Many capture cards support closed captioning for HD and SD, including ones from Matrox, AJA, and Blackmagic.

### Caption Decoder

A caption decoder is a device that enables closed captions to be turned on if they are present in the video signal, essentially turning closed captions into open captions. Typically a decoder is inside your TV or cable box and you can turn captions on using your remote or a setting in the menus. There are also hardware and software decoders available that allow you to preview captions on your computer or a master tape to ensure that they are present.

### CaptionMaker

CaptionMaker is closed captioning software by Telestream for the Windows platform. CaptionMaker reads and writes all major captioning formats and supports many traditional workflows involving hardware encoders. In addition to broadcast SD video, CaptionMaker encodes captions for web formats like Quicktime, Flash, YouTube, and Windows Media, and also tapeless workflows like MPEG-2 Program Streams.



## Closed Captioning

Closed Captioning is text that appears over video, and can be turned on and off using a decoder which is built into most consumer television sets and cable boxes. Closed Captions differ from subtitles in that they contain information about all audio, not just dialogue.

## Codec

Codec stands for "coder-decoder". It is a hardware or software technology which allows for the compression and decompression of video and audio in order to strike a balance between file size and quality. Different codecs have different data rates, aspect ratios, and methods of closed captioning in order to achieve this balance. Some examples of codecs are DV, MPEG-2, WMV, H.264, Uncompressed, and ProRes. To watch a video, your computer needs the specific codec that video uses, otherwise it will not play. Not all codecs are available for all operating systems, and they may not be free to use.

## Container Format

A container format is a way to encapsulate video so that it can be viewed in a video player, edited in a non-linear editor, or processed in some other way. Examples of container formats are QuickTime, AVI, and MXF.

## D

### Drift

"Drift" is a term used to describe a specific behavior of closed captions. It can either mean they are appearing progressively later than they should, or progressively earlier. Most often, this occurs slowly over the duration of a program, resulting in a discrepancy of over three seconds by the end of an hour. Drift is most often caused by a drop-frame / non-drop discrepancy, or frame rate differences.

### Drop-Frame

Drop-frame timecode refers to a method of counting timecode in 29.97 fps video. It does not refer to actual frames of video being dropped that would affect video quality. Since 29.97 fps is not exactly 30 fps, when counting in drop-frame certain numbers in the timecode counter are skipped in order to ensure that the timecode will reflect the real-time length of the program. The counterpart of drop-frame is non-drop which does not skip numbers when counting timecode. To prevent drift, it is important to timestamp in the correct mode (or convert your captions' timecode using Telestream software) when closed captioning a 29.97 fps program. Also see [Non-Drop Frame](#).

## DTV

DTV stands for "digital television" and is a general term encompassing digital television around the world to distinguish it from analog television (such as NTSC). In the US the standard for DTV is ATSC.

## E

### Elementary Stream

A data stream that contains either video or audio data, but not both. Usually associated with MPEG video files and given the extension .m2v for video, or .m2a or .ac3 for audio. Elementary MPEG-2 video streams can contain closed caption data. A Program or Transport stream can be demultiplexed, or separated, into its component Elementary streams.

### Encoder

The term "encoder" typically refers to a hardware encoder, but can refer to software encoders as well. A hardware encoder is usually a rack-mounted device that accepts a video signal, marries it to closed captions, and then outputs a new closed captioned video signal, usually resulting in generation loss. A software encoder, such as CaptionMaker or MacCaption, can add captions to video without a hardware encoder. You can simply encode captions to video files already present on your computer, or to file formats that will add captions as you output from your NLE with no generation loss.

## H

### High Definition (HD)

High Definition is a television standard with either 720 or 1080 lines in the video signal. Closed captioning for HD is sometimes called Line 9 or VANC, and is codified under the 708 standard.

## L

### Line 9

Line 9 refers to the location of the VANC closed captioning data in an HD video signal. In the full raster, it appears as the 9th line from the top of the frame.

### Line 21

Line 21 refers to the location of the VBI closed captioning data in an NTSC720x486 signal. It actually appears on lines 21 and 22 since line 22 is the second field of the closed captioning data.

## Live Captioning

Live captioning is a captioning process used for live webcasts or broadcasts to add captions to video on the fly. It requires several important tools. The first is a source of transcription such as a stenographer or speech recognition software. Please note, getting speech recognition software to usable levels of accuracy still requires an individual to operate it. The second item required for live captioning is a hardware encoder which will accept the video signal and the closed caption data and combine them for output. Also, you may need captioning software to tie these two things together (especially if you're using speech recognition software).

## M

### MacCaption

MacCaption is closed captioning software developed by Telestream for the Mac platform. MacCaption reads and writes all major captioning formats and supports the latest closed captioning workflows for Final Cut Pro. In addition to broadcast HD and SD video, MacCaption encodes captions for web formats such as QuickTime, Flash, YouTube, and Windows Media, and also tapeless workflows such as MPEG-2 Transport Streams, DVCPRO HD and XDCAM.

### .MCC

MCC is a MacCaption closed captioning file, and the only file format that supports both 608 and 708 (SD and HD) closed captioning, unlike SCC, which only can encode 608 (SD) closed captions. CaptionMaker can also use this format. This comprehensive format is being used by several companies for integration into their closed captioning workflows.

### MPEG-2

MPEG-2 can refer to not only a video codec, but also a container format. MPEG-2 can come in three different file types, Elementary Streams, Program Streams and Transport Streams. MPEG-2 files are becoming a more common form of video delivery because it allows a broadcaster to put it directly on their server instead of ingesting from tape. MacCaption can add captions to all three forms of MPEG-2 files.

## N

### Non-Drop Frame

Non-Drop Frame timecode refers to a method of counting timecode in 29.97 fps video. It does not refer to actual frames of video being dropped that would affect video quality. Since 29.97 fps is not exactly 30 fps, when counting in non-drop, the timecode will get progressively further and further behind "real time." For instance, after 2000 frames a drop-frame counter will display 00:01:06:22, while a non-drop counter will

display 00:01:06:20, but the content and real-time length of the video will be the same. The drop-frame counter is slightly ahead because it goes straight from 00:00:59:29 to 00:01:00:02. To prevent drift, it is important to timestamp in the correct timecode mode (or convert your captions' timecode using Telestream software) when closed captioning a 29.97 fps program. Also see [Drop-Frame](#).

## Non-linear Editor

A non-linear editor (NLE) is software that allows you to edit video by moving pieces of it around in a timeline with multiple layers of video. This is in contrast to linear editing, which forces you to add one piece of video after another to tape in a linear fashion. Many NLEs support closed captioning for HD, SD, or both. Examples of non-linear editors are AVID, Final Cut Pro, Premiere Pro, and Sony Vegas.

## NTSC

NTSC (National Television Systems Committee) is the analog, standard definition (SD), television standard for North America, Japan, and some other parts of the world. NTSC supports closed captioning (608 only) on Line 21 of the video signal.

## O

### Open Captions

Open captions are captions that do not need to be turned on, they are always visible. This is opposed to closed captions which must be turned on with a decoder. Open captions are actually part of the image itself. Open captions are also called burned-in captions.

## P

### Paint-on

Paint-on captions appear on the screen from left to right, one character at a time. This mode of displaying captions is uncommon, except as the first caption of many commercial spots to reduce lag.

## PAL

PAL (Phase Alternating Line) is a system for analog television used in Europe, Asia, Australia, and most of South America and Africa. Broadcasting at 625-line / 50 field (25 frame) per second (576i).

### Pop-on

Pop-on captions appear on the screen one at a time, usually two or three lines at a once. This mode of displaying captions is typically used for pre-recorded television.

## Program Stream

A data stream that multiplexes, or combines, a single video and a single audio stream together. Usually given the extension .mpg, and used for files to be played on a computer, some DVD authoring systems, and some tapeless distribution.

## R

### Roll-up

Roll-up captions appear from the bottom of the screen one line at a time, usually with only three lines visible at a time. This mode of displaying captions is typically used by live television, such as news broadcasts.

### Ruby Japanese Subtitle Formatting

(Ruby is currently only available in MacCaption)

Ruby subtitle formatting is a popular style of formatting that allows viewers to see an annotated description of a word on screen. Typically, the annotation is located above the text and is shown in smaller text size. This formatting is compatible with subtitle burn-in exports such as "Combined Subtitles" and with TTML OTT formatted files such as iTunes .ITT.

## S

### .SCC file

SCC stands for "Scenarist Closed Caption", a file type developed by Sonic. SCC files have become a popular standard for many different applications of closed captions. Some programs that use .scc files are Sonic Scenarist, DVD Studio Pro, Final Cut Pro, and Compressor.

### Shadow Speaker

When using speech recognition software, a shadow speaker is a person who repeats everything said in a program into a microphone so that the speech recognition software only has to interpret that shadow speaker's voice and not the multiple voices in the program. After training the software to the shadow speaker's voice (about 15 minutes), it can achieve accuracy rates up to 90-95% in a clean audio environment.

### Speech Recognition

Speech recognition software takes spoken word and translates it into text. State-of-the-art speech recognition technology can only achieve 60-80% accuracy without the use of a shadow speaker. Software that uses a shadow speaker can achieve up to 90-95% accuracy, but is limited to recognizing one person's voice at a time and needs to be used in a clean audio environment.

## Standard Definition (SD)

Standard Definition is a television standard with (typically) 480 lines in the video signal (486 when NTSC). Closed captioning for SD is sometimes called Line 21 and is codified under the 608 standard.

## Stenographer

A stenographer is a person who can transcribe audio into written form on the fly (like a court reporter). Stenographers can also dial-in to a hardware encoder remotely over a phone line so that closed captions can be added to a video signal for live broadcast. See also: [Live Captioning](#).

## Subtitling

Subtitling is text that appears on screen that normally only gives information about dialogue that is spoken. With the exception of DVD and Blu-ray, subtitles cannot be turned off, but are burned into the image.

## T

## Transport Stream

A data stream that multiplexes, or combines multiple video and audio streams together with other metadata. Usually given the extension .ts, .m2t, or .m2ts, and used for DTV broadcast, VOD, tapeless delivery, and other systems where multiple channels are mixed together.

## V

## VANC

VANC stands for "Vertical ANCillary data space" and refers to the data stored on Line 9 in HD video (outside the display area) that holds the 708 closed captioning data while it is going over an HD-SDI signal or on an HD tape format. VANC data appears on only the part of Line 9 towards the left, but VANC data can also carry different information, such as V-chip data.

## VBI

VBI stands for "Vertical Blanking Interval" and is the time between the last line or field drawn in a video frame and the first line or field of the next frame. This is usually measured with lines, in NTSC there are 40 lines for VBI. Closed Captioning data for NTSC video is stored on Line 21 of the VBI.