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1.2.1.4 3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
- b) Accompany the object code with a copy of the GNU GPL and this license document.

1.2.1.5 4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

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- b) Accompany the Combined Work with a copy of the GNU GPL and this license document.
- c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.
- d) Do one of the following:
 - 0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
 - 1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the

user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

- e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

1.2.1.6 5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
- b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

1.2.1.7 6. Revised Versions of the GNU Lesser General Public License.

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1.3 MPEG Disclaimers

1.3.1 MPEGLA MPEG2 Patent

ANY USE OF THIS PRODUCT IN ANY MANNER OTHER THAN PERSONAL USE THAT COMPLIES WITH THE MPEG-2 STANDARD FOR ENCODING VIDEO INFORMATION FOR PACKAGED MEDIA IS EXPRESSLY PROHIBITED WITHOUT A LICENSE UNDER APPLICABLE PATENTS IN THE MPEG-2 PATENT PORTFOLIO, WHICH LICENSE IS AVAILABLE FROM MPEG LA, LLC, 4600 S. Ulster Street, Suite 400, Denver, Colorado 80237 U.S.A.

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1.4 Drastic Technologies Limited Warranty and Disclaimers

Drastic Technologies Ltd (the Company) warrants to the original registered end user that the product will perform as stated below for a period of ninety (90) days from the date of licensing or; in the case of hardware, for a period matching the warranty period offered by the original manufacturer of said equipment.

Hardware and Media—The Product hardware components, if any, including equipment supplied but not manufactured by the Company but NOT including any third party equipment that has been substituted by the Distributor or customer for such equipment (the “Hardware”), will be free from defects in materials and workmanship under normal operating conditions and use.

1.4.1 Warranty Remedies

Your sole remedies under this limited warranty are as follows:

Hardware and Media—The Company will either repair or replace (at its option) any defective Hardware component or part, or Software Media, with new or like new Hardware components or Software Media. Components may not be necessarily the same, but will be of equivalent operation and quality.

1.4.2 Software Updates

Except as may be provided in a separate agreement between Drastic Technologies and You, if any, Drastic Technologies is under no obligation to maintain or support the Software and Drastic Technologies has no obligation to furnish you with any further assistance, technical support, documentation, software, update, upgrades, or information of any nature or kind.

1.4.3 Restrictions and Conditions of Limited Warranty

This Limited Warranty will be void and of no force and effect if (i) Product Hardware or Software Media, or any part thereof, is damaged due to abuse, misuse, alteration, neglect, or shipping, or as a result of service or modification by a party other than the Company, or (ii) Software is modified without the written consent of the Company.

1.4.4 Limitations of Warranties

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Geographical Limitation of Warranty—This limited warranty is valid only within the country in which the Product is purchased/licensed.

Limitations on Remedies—YOUR EXCLUSIVE REMEDIES, AND THE ENTIRE LIABILITY OF Drastic Technologies Ltd WITH RESPECT TO THE PRODUCT, SHALL BE AS STATED IN THIS LIMITED WARRANTY. Your sole and exclusive remedy for any and all breaches of any Limited Warranty by the Company shall be the recovery of reasonable damages which, in the aggregate, shall not exceed the total amount of the combined license fee and purchase price paid by you for the Product.

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Further information regarding this limited warranty may be obtained by writing:

Drastic Technologies Ltd
523 The Queensway, Suite 201
Toronto, ON, M8V 1J7
Telephone: (416) 255-5636

2 Introduction

This manual is for ccConvert 7.x software from Drastic Technologies, Ltd.

2.1 Conventions

This manual assumes the following:

That the user knows how to operate a mouse and keyboard and perform the basic functions of Microsoft Windows, macOS or Linux operating system.

That the user is familiar with the creative software in use.

That the user has access to technicians capable of placing the device on the network and setting up any SAN systems if necessary.

The name of a control or display present on the interface will be displayed in **bold** text.

Where a portion of the manual is referred to the name of section mentioned will be displayed in *italics*.

Certain images in this document may have been grayed out where it is useful or necessary to place indicator marks to show specific controls or displays above a darker background.

2.2 About ccConvert

ccConvert Suite is a suite of tools for converting, verifying and visually displaying closed captions. The ccConvert suite is made up of three tools: **ccEmbed/ccExtract**, **verifyCC** and **ccReview**. Standalone caption formats like SCC, MCC and AAF as well as subtitle formats like STL, EBU, SRT, XML Final Cut, YouTube and iTunes formats are supported as well as most media embedded captions in MXF (SMPTE 436, compression embedded), MOV/MP4 text track, MPEG-2/h.264 user data, transport stream SEI, Sony IMX embedded, LXF and GXF files. Cross conversion from any type to SCC, MCC and AAF for use in editing programs is provided, as well as up convert from SD captions to HD MCC and AAF formats. Side bar formats can also be embedded back into MXF and MOV files for final distribution. The captions can also be auto verified and visually checked either in-stream, independently or as a sidebar replacement of existing captions.

Here is a list of formats supported by ccConvert:

Format	Read	Write
AJA KiPro Mov/ProRes	R	W
Avid AAF CC Data Track (708 for Avid Editors)	R	W
Avid Caption - txt	R	W
Belle Nuit - stp	R	W
CaptionMaker - cap	R	
Cheetah - cap	R	
Comma Separated - csv	R	W
Digital Cinema 2007/2010 - xml	R	W
EBU Sub Titles - stl	R	W
Final Cut Pro - xml	R	W
Final Cut Pro X - xml	R	W
Flash - xml	R	W
GV XML/N0 data anc	R	W
GXF SMPTE 360 CC	R	
h.264/MPEG-4/AVC1 'user' CC	R	
iTunes Timed Text - txt	R	W
JSON (various) - json	R	W
LXF Leitch/Harris CC	R	
MCC 708 (MacCaption/PC-Caption/Adobe/etc)	R	W
MOV SD/HD CC tracks	R	W
MP4 SD/HD CC tracks	R	W
MPEG-2 'user' CC	R	
MXF Avid embedded CC	R	W
MXF SMPTE 436M	R	W
Prores embedded	R	W
QuickTime Text - txt	R	W

SAMI - smi	R	W
SCC Scenarist (608 SD with 708 up convert)	R	W
SoftNI - sub	R	W
Sony DVD - txt	R	W
Sony DVD Architect - sub	R	
Sub Station Alpha - ssa	R	W
SubRip - srt	R	W
Swift - sif	R	W
Timed Text - ttml, dxfp, xml	R	W
WebVTT/VTT - vtt	R	W
YouTube - sbv	R	W
YouTube Annotations - xml	R	W
YouTube Transcript - txt	R	W

2.3 System Requirements

2.3.1 Recommended Environment

ccConvert software will run on most available computers, but to support real time playback of specific file types, typically a powerful, fast system will be required.

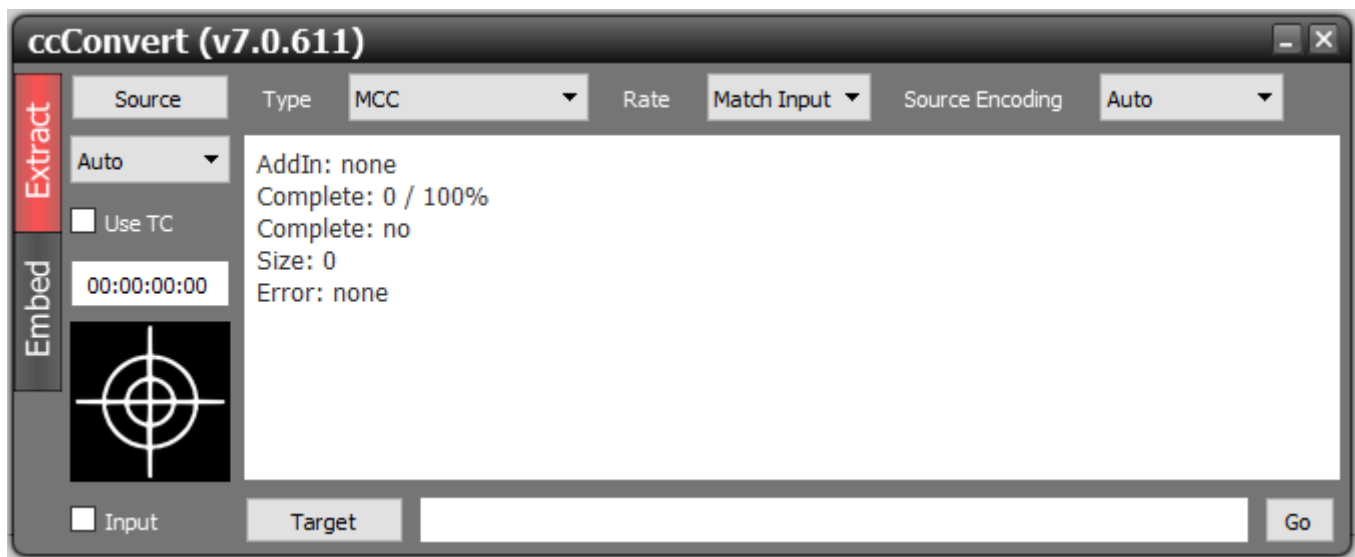
To install and take advantage of all the features of **ccConvert** the system may need to be connected to various other hardware devices.

To view the output using an AJA, Bluefish444, DekTec, or Blackmagic board, a supported board will have to be installed on the system, along with the required drivers. In these cases, suitable video and audio monitors and other devices would be useful.

3 Controls and Displays

3.1 Extract

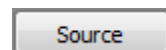
Pressing the **Extract** button (red in the diagram below) opens the Extract section of the GUI. The Extract section provides controls and displays for the extraction of closed caption files.



Extract button – press to select extract mode – this control turns red upon selection, and causes the interface to display controls specific to the extraction of closed caption files.



Embed button – press to select embed mode – this control turns red upon selection, and causes the interface to display controls specific to the embedding of closed caption files.



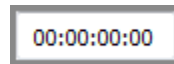
Source button – opens a browser, which allows the user to browse for a source file containing video and closed captions.



CC Data pulldown menu – use the pulldown menu to choose between **Auto** (automatically detect caption type), **Line 21** (Line 21 SD NTSC captions), **From Codec** (closed captions as contained in the codec), or **Compatibility Bytes** (CC data populates the 608 compatibility bytes and is converted and populated as native DTVCC data).



Use TC checkbox – when selected, will maintain the time code associated with the source file, and display the time code location in the associated field.



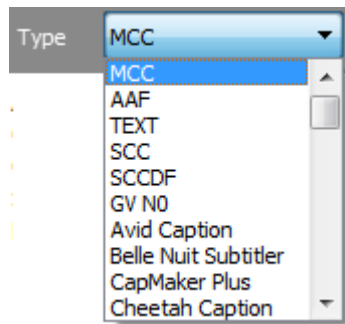
Time Code field – allows you to change the starting time of the captions being extracted. Some formats use seconds or real time. If the Use TC checkbox is selected, the user can enter a time code to create a caption file to match the time code of a video file.



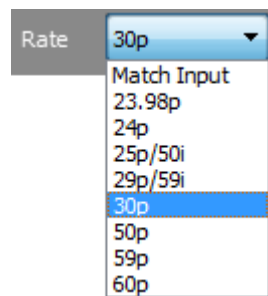
Drop field – to select a source file, the user can browse to a folder containing the source file, and drag and drop it onto the Drop field.



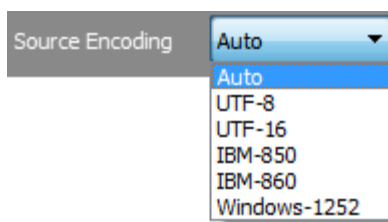
Input checkbox – selecting the Input checkbox means the new closed captions file will be created in the same folder as the source file. With the Input checkbox unselected, the user will be able to press the Target button and browse for a folder in which to save the new closed captions file.




Type pulldown menu – clicking on the Type pulldown menu reveals all supported types of closed captions. Use this pulldown menu to select the type of closed captions you intend to write.



Rate pulldown menu – use this pulldown menu to either select Match Input (use the same frame rate as the input file), or any of several other supported rates.



Source Encoding pulldown menu – use this pulldown menu to select the encoding method used.

A rectangular box with a thin grey border containing summary information.

AddIn: none
Complete: 0 / 100%
Complete: no
Size: 0
Error: none

Summary field – the Summary field displays details about the add-in (if any), the completion (percentage and yes/no), the size of the created file and whether any errors were observed in the conversion process.

A button labeled 'Target' followed by a text input field containing the path 'E:/aa01/forward/'.

Target E:/aa01/forward/

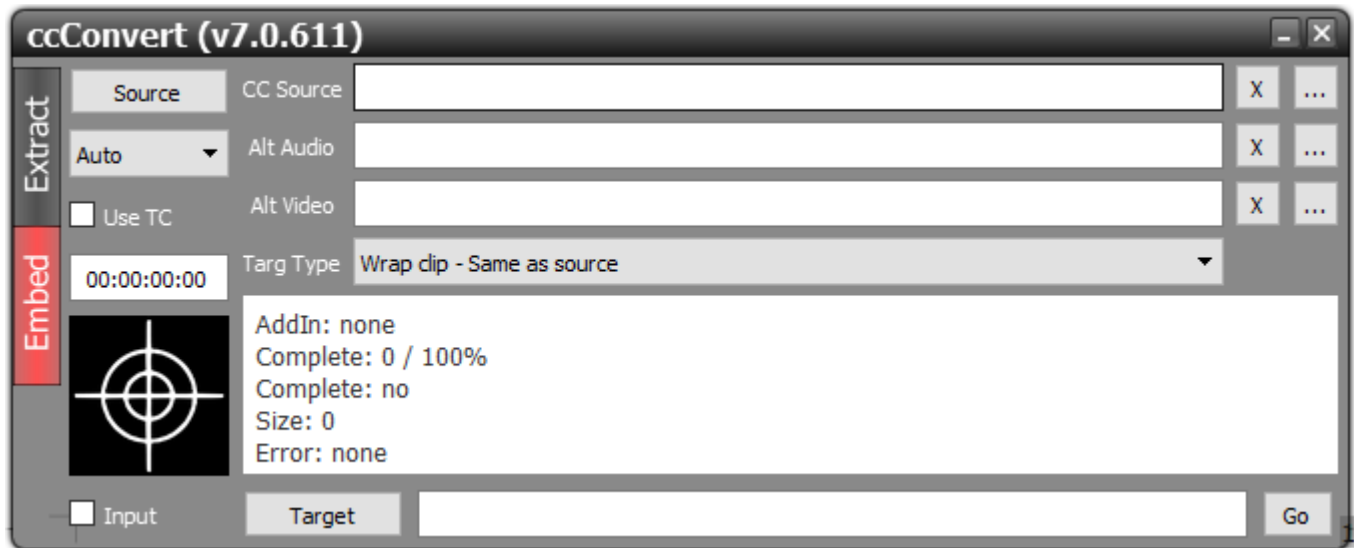
Target button and field – where the Input button is unselected, the user will be able to browse to a folder other than the folder in which the source file is located. In this case, press the Target button to browse for a folder in which to save the new closed captions file. Once selected, the location will be displayed in the field to the right of the button.



Go button – press the Go button to begin the extraction process.

3.2 Embed

Pressing the **Embed** button (red in the diagram below) reveals the Embed section of the GUI. The Embed section provides controls and displays for the embedding of closed caption files into video files.



Extract

Extract button – press to select extract mode – this control turns red upon selection, and causes the interface to display controls specific to the extraction of closed caption files.

Embed

Embed button – press to select embed mode – this control turns red upon selection, and causes the interface to display controls specific to the embedding of closed caption files.

Source

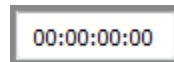
Source button – opens a browser, which allows the user to browse for a source file containing video and closed captions.



CC Data pulldown menu – use the pulldown menu to choose between Auto (automatically detect caption type), Line 21 (Line 21 SD NTSC captions), From Codec (closed captions as contained in the codec), or Compatibility Bytes (CC data populates the 608 compatibility bytes and is converted and populated as native DTVCC data).



Use TC checkbox – when selected, will maintain the time code associated with the source file, and display the time code location in the associated field.



Time Code field – allows you to change the starting time of the captions being extracted. Some formats use seconds or real time. If the Use TC checkbox is selected, the user can enter a time code to create a caption file to match the time code of a video file.



Drop field – to select a source file, the user can browse to a folder containing the source file, and drag and drop it onto the Drop field.



Input checkbox – selecting the Input checkbox means the new closed captions file will be created in the same folder as the source file. With the Input checkbox unselected, the user will be able to press the Target button and browse for a folder in which to save the new closed captions file.



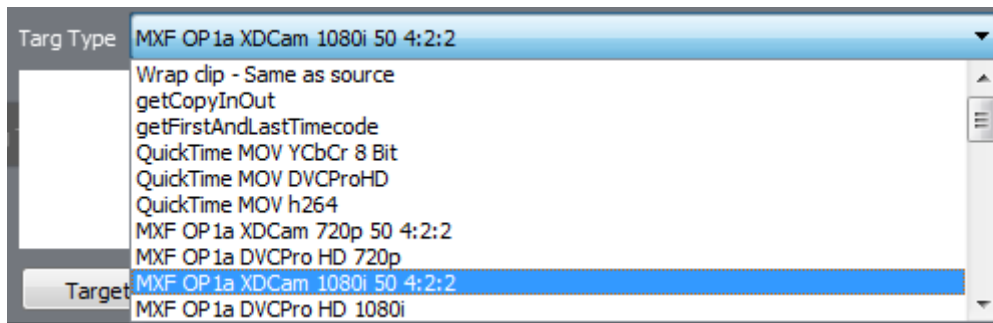
CC Source controls – the CC Source field displays the source for the closed captions to be embedded. The X button clears any selection that has been made. The ... button opens a browser to allow the user to locate and load a closed caption file.



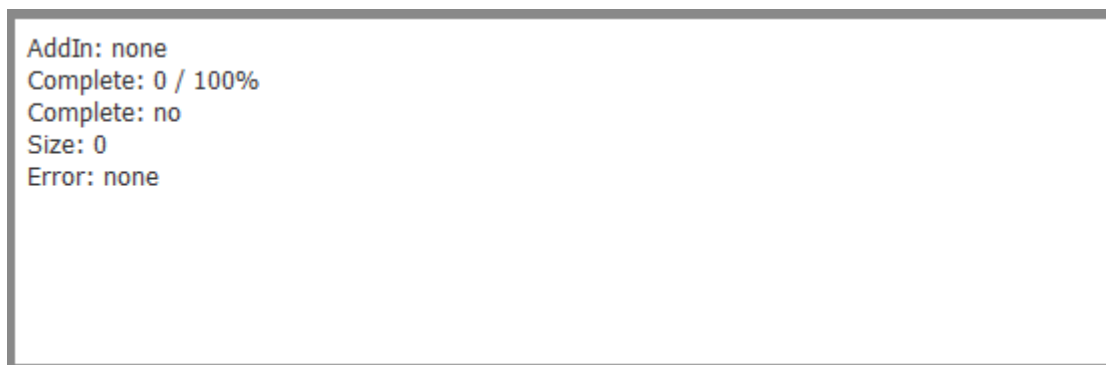
Alt Audio controls– the Alt Audio field displays the source for alternate audio to be embedded. The X button clears any selection that has been made. The ... button opens a browser to allow the user to locate and load an audio file.



Alt Video controls– the Alt Video field displays the source for alternate video to be embedded. The X button clears any selection that has been made. The ... button opens a browser to allow the user to locate and load a video file.



Targ Type pulldown menu– the Targ Type pulldown menu allows the user to select a target file type for the file being created during the embedding process.



Summary field – the Summary field displays details about the add-in (if any), the completion (percentage and yes/no), the size of the created file and whether any errors were observed in the conversion process.

A horizontal bar containing a button on the left and a text field on the right. The button is labeled "Target" and has a light gray background. The text field contains the text "E:/aa01/forward/" in a blue font.

Target button and field – where the Input button is unselected, the user will be able to browse to a folder other than the folder in which the source file is located. In this case, press the Target button to browse for a folder in which to save the new closed captions file. Once selected, the location will be displayed in the field to the right of the button.

A small rectangular button with a light gray background and a dark gray border. The button is labeled "Go" in a dark gray font.

Go button – press the Go button to begin the extraction process.

4 Getting Started

4.1 Setup

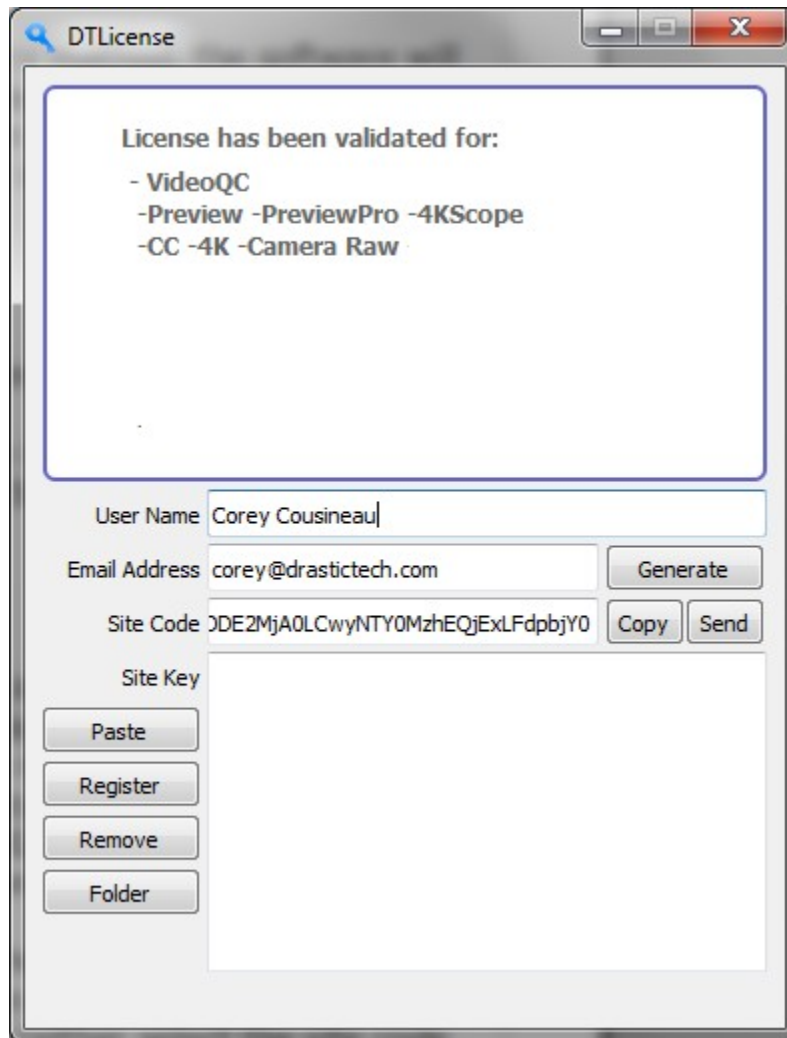
4.1.1 Install Software

Install **ccConvert** on the system. Regardless of the delivery method, the software will be available at some level as an (executable) installable file. In many cases the user will double-click on the file, or right click and select **Open** from the context menu. Follow the prompts to set where the software should be installed and make other installation-specific decisions.

4.1.2 Licensing

ccConvert will need to be licensed to run without demo limitations.

ccConvert installs an application called DTLicense which is included in the program folder. This may be accessed via the Start menu, at: **Program Files|ccConvert|License ccConvert**.



Enter contact details: Type a first and last name into the **User Name** field.

Enter an email address: Type a valid email address into the **User Email** field. This is the email address at which the user will receive the required site key.

Generate the Site Code: Press the **Generate** button. This will populate the **Site Code** field with the site code. The site code is a string of alphanumeric characters which will be used to generate the site key.

Email the Site Code to Drastic: If the system is set up with email, the user may press the **Send** button, or open up a new email addressed to authorization@drasticttech.com. Paste the

site code into the body of the email, and indicate which software the license is for.

Receive the Site Key: Authorization will reply with an email containing the site key, another string of alphanumeric characters.

Enter the Site Key into DTLicense: Copy the site key from the email into the buffer, and paste it into the **Site Key** field, either using a standard paste command, or by pressing the **Paste** button (the button with the icon to the left of the **Remove** button).

Register the License: Press the **Register** button, and restart the software. This will update the license status and enable all the features supported by the requested license level.

5 Run ccConvert

Run the software by selecting ccConvert in the **ccConvert x64 6** folder.

There are two modes of working in ccConvert.

Extract Mode can read most closed caption types, including video files containing closed captions, and make a new closed caption file in any of our supported write types.

Embed Mode can take a closed caption file, and embed it into an existing video file. It can also take a video file containing closed captions, and replace the closed captions. The audio may also be replaced during these embedding operations.

5.1 Select a Source File

There are two methods to select a source file.

- a) Press the **Source** button and browse for a source file. Select it and press the **Open** button.
- b) Open a standard browser and find the folder containing the source file. Drag it and drop it onto the **Drop** field.

5.2 Set the Conversion Type

Press the **Type** pulldown menu to reveal the available types of closed captions files, and select the desired type from this list.

5.3 Set the Target Location

There are two methods to set the target location.

- a) Click the **Input** button – this choice sets the target location to the same folder as the source file.
- b) Press the **Target** button and browse to the location in which you would like the converted closed captions file to appear. Once selected, this location should be displayed in the **Save To** field.

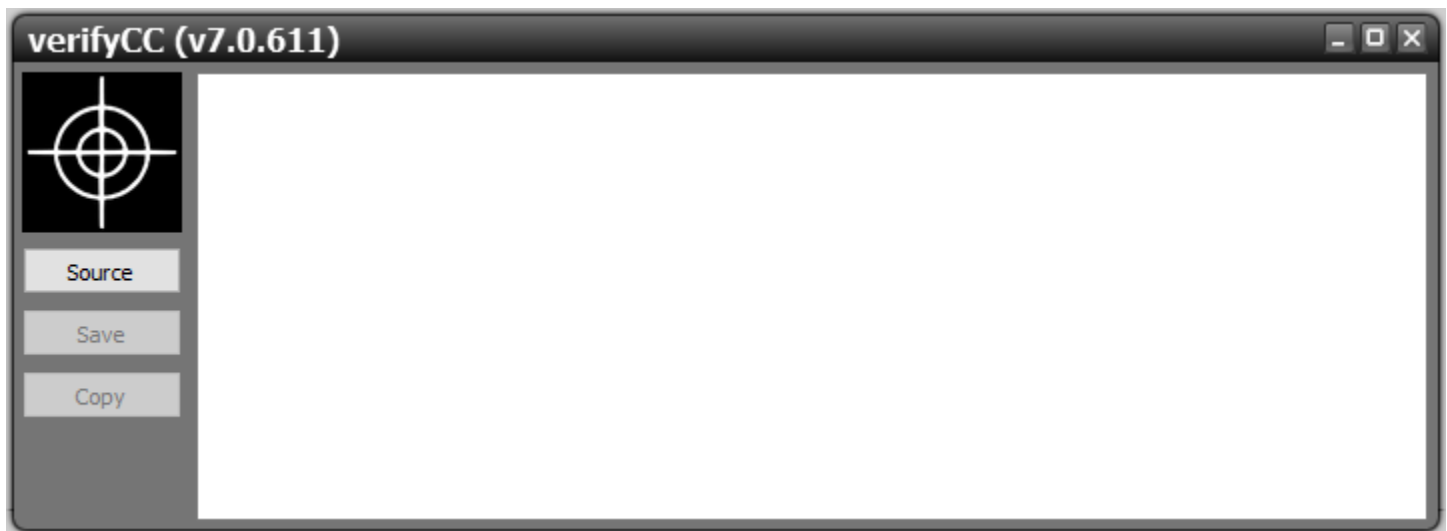
5.4 Begin the Conversion

Press the **Go** button.

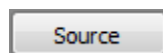
6 verifyCC

verifyCC software verifies many aspects of closed caption files, and displays the information in its summary field for review. The verification may be saved to a file for later review or collaboration, or copied for pasting into other documents.

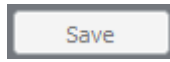
6.1 Controls and Displays



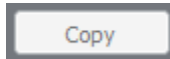
Drop field – to select a source file, the user can browse to a folder containing the source file, and drag and drop it onto the Drop field.



Source button – opens a browser, which allows the user to browse for a source file containing video and closed captions.



Save button – press the Save button to save the analysis into a file.



Copy button – press the Copy button to copy the analysis to the clipboard so you can paste it into documents, emails etc.



Summary field – the Summary field displays details about the add-in (if any), the completion (percentage and yes/no), the size of the created file and whether any errors were observed in the conversion process.

6.2 How to Use verifyCC

Here is how to use verifyCC to analyze a closed captions file

6.2.1 Run verifyCC

Run the software. If the default installation path is used, you can open it at: Start | Programs | ccConvert (x64 6) | verifyCC.

6.2.2 Select a Source File

There are two methods to select a source file.

- a) Press the **Source** button and browse for a source file. Select it and press the **Open** button.
- b) Open a standard browser and find the folder containing the source file. Drag it and drop it onto the **Drop** field.

Once the source file has been selected, analysis will begin immediately, with the information being displayed in the **Summary** field.

6.2.3 Save the Analysis to a File

Once a source file has been analyzed, press the **Save** button. This opens a standard browser. Navigate to your preferred location, type in a name for the file and save it.

6.2.4 Copy the Analysis to the Clipboard

Once a source file has been analyzed, press the **Copy** button. This copies the analysis to the clipboard, where it can easily be pasted into a document or email. verifyCC analyzes and displays the following information:

- header information
- time code validity
- preface
- size
- count
- count matching
- checksum
- valid 708
- valid 608

7 ccReview

ccReview is a hardware enabled media player included in ccConvert. The user will be able to open files and play them on their VGA monitor, and through supported video boards from AJA, Bluefish444 and Blackmagic. The **ccReview** player supports closed caption playback so you can review any incoming or delivery files you are processing.

Please refer to the documentation for videoQC for details on how to use this product.

Note: ccReview provides features equivalent to videoQC Pro. You can view information about the features included in videoQC Pro here:

<https://www.drastic.tv/productsmenu-56/videoiosoftwarelist>

7.1 How to Use ccReview

7.1.1 File Playback

Run the software. If the default installation path is used, you can open it at: Start | Programs | Drastic | ccReview.

7.1.1.1 Load a File

Press the **Open** button. A standard browser opens which allows the user to navigate to the location of the desired media file and load it for playback. Select a file and press the **Open** button in the browser.

Alternately, navigate to the folder where the desired media is located, and 'drag' the file onto the **ccReview** interface.

Once loaded, the file will be cued to the first frame and ready to play. Its name will appear in the Play List and in the Transport section.

7.1.1.2 Cue to a Location

Transport Controls: Jump through the file in 5 second increments using the **+5** button to get near the desired location. Press **Play** (or **Reverse Play**) if you're close, then **Pause** when you're real close. The **+1** (or **-1**) button can get you to the exact frame, just keep clicking.

Position Bar: Select a point on the Position bar at the top of the transport controls and click on it. The file will be immediately cued to that relative location. Click to 'drag' the pointer to the left or right to get to the desired location.

Use the Time Code Display: Click with the mouse in the time code display – now a cursor should appear in this display, which allows you to cue to an exact location. Enter a time code location after 00:00:00:00 and before the end of the file, and press the **Enter** button on the keyboard. The file will be immediately cued to that exact location.

7.1.1.3 Use the Transport Controls

With a file loaded, press the **Play** button to play the file from start to finish. The other transport controls are available for cueing (plus or minus 1 frame, plus or minus 5 seconds) and quick review (reverse play, fast reverse, pause, fast forward) functionality. **Stop** cues the first frame of the file.

ccReview supports the J-K-L keys for basic transport control.

7.1.1.4 Playback Modes

The **Mode** button on the Transport section lets you cycle through available playback modes.

Normal Mode - In **Normal Mode**, file playback starts at the cued location, and stops at the end of the file or PlayList.

Loop Mode - In **Loop Mode**, the file plays to the end of the file or PlayList, then restarts playback at the beginning, playing repeatedly until interrupted.

Palindrome Mode - In **Palindrome Mode**, the file plays forward to the end of the file or PlayList, then restarts playback at the end and plays in reverse, front to back and back to front repeatedly until interrupted.

7.1.2 Display

7.1.2.1 Zoom In/Out

Press the **Picture** button in the **Transport Control** section to enter **Picture** view. Press Ctrl+Z, and click (left mouse button) to drag the mouse pointer to the left or right. The size of the image will shrink or enlarge. This allows the user to see fine details in the video portion of the file.

To return to normal size, press **Ctrl+Right Click** on the keyboard and shift the mouse slightly.

7.1.2.2 Pan/Center

Press the **Picture** button in the **Transport Control** section to enter **Picture** view. Press Ctrl+C, and click (left mouse button) to drag the mouse pointer to the left or right. The image will move around the screen correspondingly. This allows the user to focus on a particular area of the image, which is especially useful where the user has zoomed in and wants to see a specific portion of the video in fine

detail.

To return to the normal location, press **Ctrl+Right Click** on the keyboard and shift the mouse slightly.

7.1.2.3 Full Screen Mode

Press the **Full** button to enter 'Full Screen' mode. In 'Full Screen' mode the portion of the interface within the GUI window expands to fill the VGA monitor. This setting does not affect the video output from the AJA, Bluefish444 or Blackmagic board, as the interface is not present through the video board's HD-SDI output.

Alternately the user may press **Ctrl+F** on the keyboard to enter full screen mode.

The **Full** button becomes a **Restore** button when in 'Full Screen' mode. To return to normal, non-full screen mode, press the **Restore** button or **Ctrl+F** on the keyboard.

Note: in normal, non-full screen mode the user can simply optimize the window to retain the minimize/resize/close controls yet still see a large image.

7.1.2.4 Closed Captioning

Where an existing file has a supported form of closed captioning the user may opt to display it over the video output. Once the file is selected, press the **CC** button and select the specific closed captioning type. When the file plays you should see the closed captioning.

To turn off the closed captioning display, press the **CC** button and select **Disabled**.

7.1.3 Lock/Unlock

The user may press the **Unlock** button to enter 'Unlocked' mode. This mode causes the controls to disappear when the mouse is not above the interface, and thereby increases the amount of screen available for displaying the video.

The **Unlock** button becomes a **Lock** button in 'Unlocked' mode, and pressing the button will return **ccReview** to the normal, 'Locked' mode with the controls and displays always shown.

7.1.3.1 Display Time Code Over Unlocked GUI

When in 'Unlocked' mode, and once the mouse is not above the interface, the controls and displays

will disappear. Press the **T** button on the keyboard to display the time code over the video in this mode.

To remove the time code overlay from the 'Unlocked' mode, press the **T** button on the keyboard.

8 MRMetaData

8.1 Extract a File's Metadata Information

There is a command line tool called by ccConvert called MrMetadata.exe. You can get the command line with

```
mrmetadata -?
```

mrmetadata - Extract metadata information from GXF, MXF, AVI, etc.

Usage: mrmetadata.exe -i <sourcefile> -t <targetfile> -qlx -r <01:00:00:00> -j # -k <picon.jpg> -e # -c -a -o <outdir> -f # -s # -t # -n 1 -w <output.wav> -v <outputvideo.raw>

-m <reference.mov>

-i <sourcefile> File to be referenced

Optional parameters:

-t <targetfile> File and path to write to

-q Quiet mode.

-l Loud mode.

-x Export metadata XMLS

-r 01:00:00:00 Override time code start

-j # Create a JPEG picon from frame #

-k <picon.jpg> Filename for JPEG picon frame

-e # Extract a JPEG picon for every # frame

-s Force CC in video stream

-c # Convert closed captioning to

0=MCC, 1=AAF, 2=TEXT, 3=SCC, 4=SCCDF, 5=N0

100=Avid Caption, 101=Belle Nuit Subtitler,

102=CapMaker Plus, 103=Cheetah Caption, 104=Csv, 105=Csv2, 106=Csv3,

107=D-Cine SMPTE 2007, 108=D-Cine SMPTE 2010,

109=EBU STL, 110=Final Cut Pro Xml,

111=Final Cut Xml Gap, 112=Final Cut Pro X Xml,

113=Final Cut Pro XCM, 114=Flash Xml,

115=iTunes Timed Text, 116=JSON, 117=JSON Type 2,

118=JSON Type 3, 119=JSON Type 4, 120=QuickTime text,

121=SAMI, 122=SAMI modern, 123=Scenarist, 124=DVD_SCC,

125=DVD_SCCDF, 126=SoftNi sub, 127=Sony DVDArchitect,

128=Sony DVD Exp dur, 129=Sony DVD line/dur,

130=Sony DVD Tabs, 131=SubRip, 132=Sub Station Alpha,

133=Swift V2, 134=Timed Text 1.0, 135=TT 2006-04 .dfxp,

136=TT 2006-04 .html, 137=TT 2006-04 .xml, 138=WebVTT,
139=YT Annotations, 140=YouTube sbv,
141=YouTube Transcript,
-f # Force frame rate (23, 24, 25, 29, 30)
-o <out-dir> CC output directory
-p # Detect scene changes, # = threshold
-d # Scene change output type, 0=XML, 1=ALE, 2=EDL
-n # First channel of source audio for the wave file (0,2,4)
-w <output.wav> Extract audio to a wave file
-w <outputvideo.raw> Extract video to raw stream file
-a # Interpret input file using encoding
0=Auto, 1=UTF-8, 2=UTF-16, 3=IBM-850, 4=IBM-860, 5=Windows-1252
-m <reference.mov> Create a QuickTime reference file

9 Controlling ccConvert

9.1 Keyboard/Clipboard Commands

ccReview has a full set of keyboard commands available. Key press events can be sent to control playback like:

c = play
v = pause
b = reverse play
z = fast reverse
x = fast forward

A full set of keyboard commands is available here:

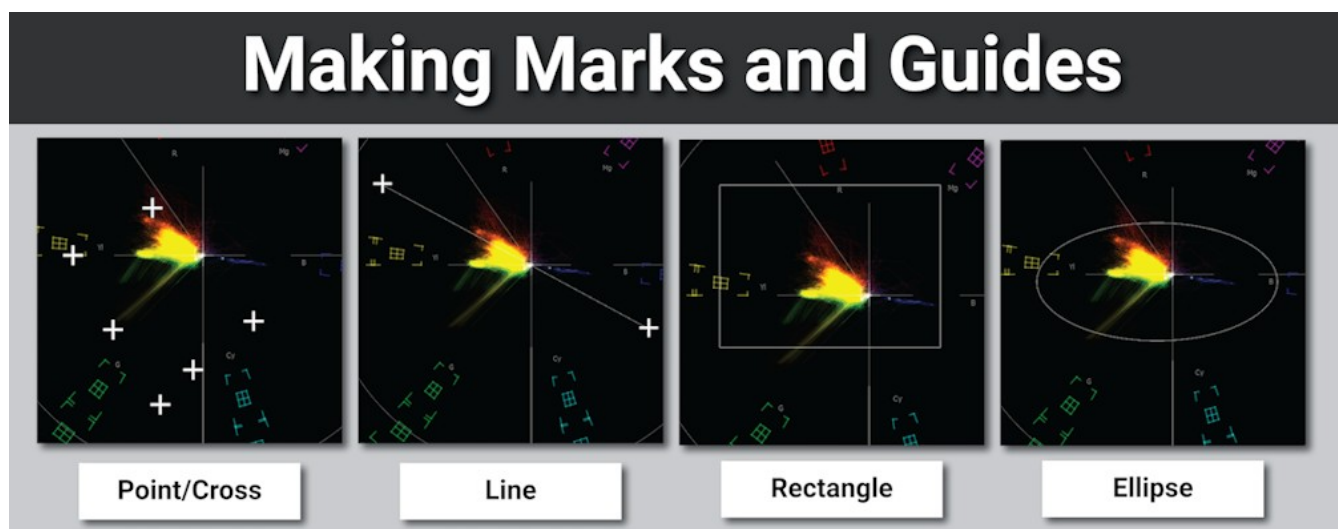
<http://www.drastic.tv/images/software/drastickeyboard.pdf>

ccReview also supports using the system clipboard. A cut/copy on the application (via keyboard or programmatically) will pull the current time code in a `###:###:###:###` format. Pasting a time code into the application will cause it to seek to that absolute (0 based) point in the file. If the pasted buffer contains a file URL, then that file will be loaded into that application.

9.2 Mouse Control

ccReview also features extended mouse controls. These include:

- <MouseWheel> - zoom in and out
- <CTRL><MouseWheel> - volume up and down (0..200%)
- <CTRL><LeftClick> - volume to 100% (unity)
- <CTRL><SHIFT><MouseWheel> - change background luminance
- <LeftClick>Drag - pan and scan the video image in the app
- <ALT><LeftClick> - view magnifying window
 - <LeftClick> - bring up color selector with color under cursor
 - <RightClick> - exit magnify mode
- <DoubleLeftClick> - enter and exit full screen mode
- <T> - enable or disable time code display in full screen



Making Marks/Guides (cross, line and box)

- <SHIFT><LeftClick> - Make a point/cross
- <SHIFT><ALT><LeftClick> - Undo last
- <SHIFT><CTRL><LeftClick> - Drag to make a line
- <SHIFT><CTRL><ALT><LeftClick> - Drag to make a box
- <SHIFT><RightClick> - Clear all markers/guides

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This manual has been compiled to assist the user in their experience using **DrasticScope** software. It is believed to be correct at the time of writing, and every effort has been made to provide accurate and useful information. Any errors that may have crept in are unintentional and will hopefully be purged in a future revision of this document. We welcome your feedback.

Drastic Technologies Ltd
523 The Queensway, Suite 201
Toronto, ON, M8Y 1J7
Canada
(416) 255 5636
(416) 255 8780

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