

# CAPTIONMAKER®

(Windows 2000/NT/XP/Vista)  
Closed Captioning/Subtitling Software  
[Includes patented [#6,895,166] software engine]

CaptionMaker-Live, WebPlus, Classic, DV, NLE & HD  
*The complete closed captioning and subtitling  
preparation & encoding software*

CaptionMaker Encoder-DV, Classic, NLE, DTV & HD  
*The closed captioning and subtitling encoding software*

## User's Guide

Version 5

July 2009

CaptionMaker does the entire captioning and subtitling processes, from text entry, positioning and time coding to encoding DV, NLE, MPEG-2, HD and video residing on the hard drive without using a closed caption encoder.

This manual covers all features of all versions of CaptionMaker. Please check the feature comparison chart for the features available in the version you are licensed to use. You can always upgrade your software to a higher version by paying the difference in the price of the software you are licensed to and the price of the software you like to upgrade to.



*Computer Prompting & Captioning Co.*

The Industry Leader Since 1985

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# Overview

CaptionMaker software is designed to run on an IBM compatible computer running Windows 2000/NT/XP/Vista.

## Capabilities at a Glance

Post-Production (Off-line) Captioning using CPC's patented engine to caption videos directly on the hard drive without using traditional closed caption encoder. (DV, NLE, HD)

Traditional Post-Production (Off-line) Captioning using traditional closed caption encoder. (Classic)

DVD Post-Production (Off-line) Captioning & Subtitling (WebPlus)

Retrieve Caption Data from a Captioned Video

Realtime (On-line) Captioning (Live)

Webcast (Off-line) Captioning (WebPlus)

Traditional Post-Production (Off-line) Subtitling (Classic)

For most up-to-date manual, please check the software downloads page:  
[www.cpcweb.com/download/complete\\_downloads.htm#Windows\\_Captioning\\_Subtitling](http://www.cpcweb.com/download/complete_downloads.htm#Windows_Captioning_Subtitling)  
Also check <http://www.cpcweb.com/TechSupport/CapMaker>  
for CPC knowledge based documents for different topics.

## Video Tutorials and Support

### Knowledge base documents, Updates and Upgrades

- Video Tutorials: [www.cpcweb.com/tutorial](http://www.cpcweb.com/tutorial)
- Tutorials: <http://www.cpcweb.com/TechSupport/CapMaker>
- Forum: [www.cpcweb.com/forums](http://www.cpcweb.com/forums)
- Updates and Upgrades: [www.cpcweb.com/free\\_updates](http://www.cpcweb.com/free_updates)

## WebEx Training

CPC conducts training sessions for both CaptionMaker and CaptionMaker on a regular basis. There are separate training sessions for beginning, intermediate and advanced users... For more information, check the page: [www.cpcweb.com/training](http://www.cpcweb.com/training).

## Telephone Support Contract

Free five (5) hours of support following three (3) months from date of purchase of CPC software. Free two (2) hours of support following one (1) month from the date of purchase of a CPC software update.

You can buy additional support from the following plan. If you sign up for additional software support at the time of purchase of the software, pay only 50% of standard support fees listed at [www.cpcweb.com/support/support-costs.pdf](http://www.cpcweb.com/support/support-costs.pdf)

## One Price - Both Platforms (Mac and Win)

Whether you work with Mac or Windows, we have a solution for you. When you purchase CaptionMaker, you will receive a USB key that will work with both Windows and Mac captioning software.

If you decide to work on Windows, you can easily download and install the Windows software by clicking on our downloads page: [www.cpcweb.com/download](http://www.cpcweb.com/download).

## CaptionMaker Software - Many Flavors

CPC offers a complete line of captioning/subtitling CaptionMaker software packages.

CaptionMaker- Live

CaptionMaker- WebPlus

CaptionMaker- Classic

CaptionMaker- DV

CaptionMaker- NLE

CaptionMaker- HD Enterprise

In July 2009, CPC added and rearranged a few new flavors of CaptionMaker. To see a complete list of software, check the link:

[www.cpcweb.com/products/product\\_summary.htm](http://www.cpcweb.com/products/product_summary.htm)

In short,

CPC-500 is replaced by CaptionMaker-Live (Live broadcast captioning)

CPC-700 is replaced by CaptionMaker-Classic (Live and Post broadcast captioning)

CPC-710 is replaced by CaptionMaker-Classic Encoder (Encoding software only)

CPC-600 is discontinued

CaptionMaker-Web is enhanced to CaptionMaker-Web (Webcast and DVD)

## Two flavors – Complete and Encoding only

CaptionMaker comes in two flavors, CaptionMaker and CaptionMaker Encoder, and they are available for most versions of CaptionMaker.

**CaptionMaker** is a caption/subtitle editor and closed caption/subtitle encoder. It allows you to do a complete captioning/subtitling job from start to finish. It accepts text from a variety of sources. CaptionMaker lets you edit, position, and synchronize the captions/subtitles with video using time code. It then combines the captions/subtitles with the video as open captions, closed captions or subtitles, and allows you to save them in a number of different formats. CaptionMaker supports drop frame as well as non-drop frame NTSC/PAL video.

**CaptionMaker Encoder** does not have caption/subtitle preparation and editing capabilities. It is closed caption/subtitle encoding software only. It requires a prepared caption/subtitle file from a different source such as CPC CaptionMaker (full version), CaptionMaker (full version) or other caption preparation software. After you import a prepared file, you can encode captions/subtitles to a video as open captions, closed captions or subtitles, and it allows you to save the file in a number of different formats. CaptionMaker Encoder supports drop frame as well as non-drop frame NTSC/PAL video.

## Complete Preparation and Encoding Software

You can enter/import raw text, format and timecode captions, and encode captions to multiple formats and multiple media – with each of the below software packages.

**Live** (Realtime captioning, Live text streaming)

Caption live video using speech recognition software or a steno machine. Also stream text on the web for live events.

**WebPlus** (Caption preparation, Web video-on-demand, Live text streaming, DVD, Realtime captioning)

If webcast (QT, WMP, Flash, YouTube, Real) and DVD captioning are your main needs, *WebPlus* is your solution. It lets you prepare captions for web video-on-demand. You can also use it for live text streaming and live broadcast captioning, with your choice of caption inputs, including: speech recognition, steno, pre-scripted text, and traditional keyboard text entry.

**Classic** (WebPlus + Post caption using CC hardware interface)

Do you own a hardware closed caption encoder? If so, the Classic version is designed for you. It lets you enter, position and time-stamp captions, and it encodes captions with a hardware encoder. The Classic is compatible with every manufacturer's hardware closed caption encoder.

**DV** (Classic + Caption/subtitle for DV video)

If you work with DV 720x480 video and use FireWire to transfer the video in and out of the computer, DV is for you.

**NLE** (DV + Caption/subtitle 720x486 NLE video)

If you edit with uncompressed 720x486 video with FCP, Avid, Adobe Premier, etc. and use AJA, Blackmagic or other NLE hardware to transfer uncompressed video in and out of the computer, choose NLE.

**HD Enterprise** (All features included)

Are you a major captioning provider? If so, HD Enterprise is your designated software. It contains every captioning feature CPC offers, allowing you to meet virtually any captioning requirement today and in the future.

## Encoding Only Software

Do you already have a formatted and timecoded caption file from a caption service provider? If so, our encoder only software is the right choice for you.

**Classic Encoder** (Classic without caption preparation option) [formerly CPC-710]

If clients provide you with time-stamped caption files, and you just need to encode captions with a hardware encoder, Classic Encoder is your economical caption software solution.

**DV Encoder** (DV but no caption preparation option)

If you only need to do caption encoding because your clients provide a time-stamped caption file, and you go in and out of your NLE with FireWire, then DV Encoder will encode your captions with software only – no hardware encoder required.

**NLE Encoder** (NLE but no caption preparation option)

Same as DV encoder, plus encodes uncompressed 720x486 video.

**HD Enterprise Encoder** (HD but no caption preparation option)  
Same as NLE encoder, plus captions HD materials.

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**Note:** Encoder versions allow 40 changes (key strokes & a limited number of other things) to an imported file.

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## Captioning Process at a Glance

To caption a video, you need to go through the following steps:

Captioning is a three-step process.

- Transcribe the video.
- Caption file creation; this is when the timing and placement of the captions are done.
- Encoding process; the caption data is encoded on to the video for display on TV sets with built-in closed caption decoder, or using an external decoder.

## Captioning Digital Videos

(No generation loss)

If you are dealing with digital videos, once the caption file has been created, you have three distinct options for creating your captioned master directly on the hard drive without using a closed caption encoder hardware.

If you are dealing with 720x480 DV25 or DV50 (compressed) video, or MPEG-2 video, you choose the DV and MPEG-2 route. No need for any Non-Linear system. On the other hand if you are using a Non-Linear system and want to work with 720x486 uncompressed video, then you choose the NLE route. For HD video, there are a few options.

## Captioning DV Video

If your original digital video is a DV video, and you transfer the video to a tape via FireWire, then the DV function will work well. CaptionMaker can create a copy of your 720 x 480 DV video file with the caption data in the VAUX data area. You would need a caption compatible DV deck or a Sony DVMC-DA2 digital to analog (in case you want a BetaSP or Digibeta) converter to dump the DV video on a tape.

For details on compatible hardware for DV video, visit  
[www.cpcweb.com/dv/dv-hardware.htm#Sony\\_DVMC-DA2](http://www.cpcweb.com/dv/dv-hardware.htm#Sony_DVMC-DA2)

You can then use the CaptionMaker's "print to video" function to get a closed captioned version of the video out to tape.

## Captioning MPEG-2 (SD & DVD) Video

You can also add captions to the data area of all SD (720x480 or so) and DVD MPEG-2 video directly, without using an NLE system. After adding captions to a DVD MPEG-2 video you can burn a DVD.

After adding captions to a SD MPEG-2 video, you can store the video on your video data server, and transmit the video to a different location. Captions are going to stay in the data area of the video.

## Captioning MPEG-2 (HD) Video

CaptionMaker (including the demo version) can decode/retrieve both 708 and 608 captions from MPEG-2 transport streams, including ATSC DTV broadcast streams. You can verify that your stream is compliant with FCC regulations and that the 708 captions are encoded properly.

CaptionMaker-HD ties into Manzanita's multiplexing software to generate 708/608 closed captions in CableLabs-compliant HD MPEG-2 transport streams (requires Manzanita software to be installed separately) for tapeless delivery to networks and VOD.

Users without Manzanita software can add captions to generic MPEG-2 Elementary and Program streams. The MPEG-2 can be SD or HD. Captions can be formatted in any one of the following styles: ATSC DTV 608/708, DVD, CCube/LSI DVx 608 Linear or CCube/LSI DVx 608 Temporal. SCTE20-style 608 captions can also be decoded.

## Captioning NLE Video

The advantage of a non-linear solution is that you can work with your 720x486 uncompressed video and add captions without losing any quality.

The editing software package that you use to create the video is not as big of a concern as the hardware path used to get the video off of your system and onto the tape. Some hardware boards / break-out boxes will ignore the caption data. See the link [www.cpcweb.com/nle/nle-hardware.htm](http://www.cpcweb.com/nle/nle-hardware.htm) for a list of compatible NLE systems.

## **Captioning Webcasts**

CaptionMaker can generate captions for video on the web for players like QuickTime, Podcast, iTunes, Flash, Google, YouTube, RealVideo and Windows Media. For sample webcasts with captions, check the link:

[www.cpcweb.com/webcasts/webcast\\_samples.htm](http://www.cpcweb.com/webcasts/webcast_samples.htm).

## **Subtitling Digital Videos**

### **Adding Subtitles to DV**

CaptionMaker can add subtitle to a DV video and print the video to a tape via FireWire.

### **Adding Subtitles to DVD**

CaptionMaker can generate subtitle files for use with DVD Studio Pro and Spruce, Sonic and Scenarist DVD authoring systems.

### **Adding Subtitles to 720x486 NLE Video**

CaptionMaker can add subtitles directly to a 720x486 NLE video, or transfer subtitles to a 720x486 NLE video using a 720x486 black video with subtitles.

### **Adding Subtitles to DV-2000 and DV-3000**

CaptionMaker can generate subtitle files for use with Ultech DV-2000 (SD) and DV-3000 (HD).

### **Adding Subtitles to Digital Video**

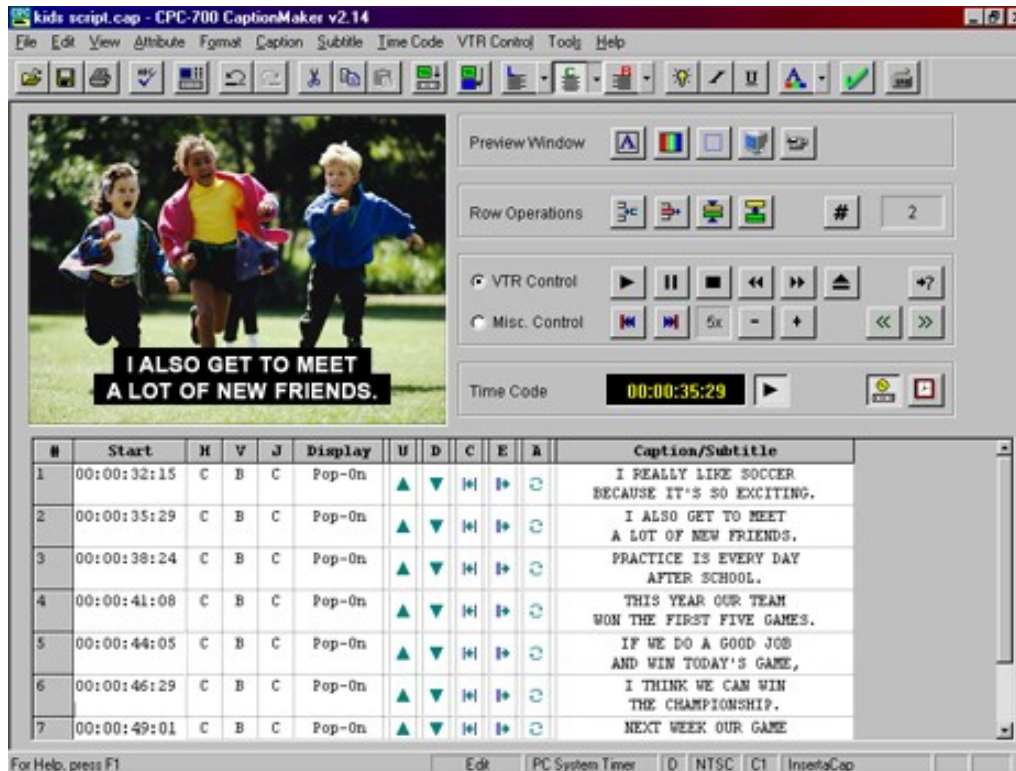
With CaptionMaker-NLE you can add subtitles to a digital video. You can add subtitles to most movies that can be displayed by CaptionMaker. Video can be of any size 320x240 to 720x480. Features include multi-language capability, border around characters, translucent backgrounds, proportionally spaced fonts, kerning, and line spacing.

## Feature Comparison

	Live	Web Plus	Classic	DV	NLE	HD Enterprise
<b>Import:</b>						
Plain Text files	√	√	√	√	√	√
Industry standard caption files		√	√	√	√	√
Retrieve captions from existing video		√	√	√	√	√
<b>Caption Preparation*:</b>						
Transcribe & Time Stamp videos		√	√	√	√	√
Formatting & Editing	√	√	√	√	√	√
<b>Export Captions:</b>						
Plain Text files	√	√	√	√	√	√
All caption formatted files		√	√	√	√	√
DVD closed captions (.scc)		√	√	√	√	√
DV (720x480) video (for DVCAM, miniDV, etc.)				√	√	√
MPEG-2 608 captions					√	√
Line 21 CC ("Black Movie") for SD 720x486					√	√
<b>Export for Web:</b>						
Flash		√	√	√	√	√
QuickTime		√	√	√	√	√
YouTube		√	√	√	√	√
Windows Media		√	√	√	√	√
RealPlayer		√	√	√	√	√
<b>Export Subtitles:</b>						
DVD subtitles (DVDSP, Encore, etc.)		√	√	√	√	√
Advanced subtitles (Scenarist, Blu-ray BDN)				√	√	√
Subtitles with Alpha channel					√	√
<b>Hardware Encoder Support:</b>						
Live Captioning for broadcast	√	√	√	√	√	√
Post Captioning w/SMPTE timecode from tape			√	√	√	√

## How CaptionMaker Works

If you can use a word processor and a VCR, you can caption with the CaptionMaker software. Video can be seen in a video window of the CaptionMaker software using an inexpensive video display device. Captions can be dragged and dropped to any position in the video window.



CaptionMaker Screen

The lower part of the CaptionMaker screen is the Work Area. This area holds all the information on the individual captions: text, formatting, positioning and timing. The software offers a number of toolbar icons at the top of the screen that let you perform the most frequently used functions with a simple mouse click.

The software also has toolbar icons that are geared towards specific tasks, such as machine (VTR) control, time code options, and preview window options. In addition, most icons can be accessed via keystrokes, which can be assigned by the user.

## Entering the Script

If you do not have a script of the video, you can get the script in many ways, such as:

If you use a digital video, you can use foot pedal controller to transcribe the video. Foot pedal control [vPedal](http://www.cpcweb.com/caption_common/VPedal-AllAbout.pdf) which costs less than \$100. For details, check the page:

[http://www.cpcweb.com/caption\\_common/VPedal-AllAbout.pdf](http://www.cpcweb.com/caption_common/VPedal-AllAbout.pdf)

Train a speech recognition software such as Naturally Speaking or ViaVoice ([www.nuance.com](http://www.nuance.com)) for a few hours. Then listen to the videotape and repeat the dialogue into the microphone. At the beginning, you are going to get lot of errors. But you can teach the software to fix the errors and down the road you can expect to get about 95% accuracy.

Use a professional transcription service. This is the most expensive way to generate the script.

The CaptionMaker can import scripts from a text file and most word processors (such as WordPerfect and Microsoft Word) files.

## Formatting the Text

When you import a raw text file into the CaptionMaker software, the software breaks the script into captions according to your specifications (e.g., number of characters per line and number of lines per caption). Using the five icons ( ▼ ▲ ⏪ ⏩ ↺ ) on the left side of the text area, you can fine-tune the text in each caption in an efficient way. For example, the icon ▼ is used to push the last word from one caption to the beginning of the next caption with just one mouse click. Highlighting is not needed. The ⏪ icon is used to square up a multiple line caption. The formatting of text is done taking into consideration the readability and the aesthetic appearance of the captions.

## Generating Captions

### CaptionMaker-Live

Start the playback and record VCRs. When you hear the first word of each caption spoken, press the (+) key. Pressing the (+) key outputs the caption the cursor is on to both the record tape and the CaptionMaker screen. The captions are recorded onto the video in real time.

### CaptionMaker-Classic

Start the playback VCR. When you hear the first word of each caption spoken, press the (+) key. When you press the (+) key CaptionMaker-Classic reads the time code via the time code reader and also outputs the caption the cursor is on to the encoder. The time code is automatically captured and displayed on the far left side of the CaptionMaker screen. After assigning time codes to each caption, you are ready to AutoSync.

When all the captions have time codes, rewind the tape to the beginning. Start the playback and record machines and click on the icon for AutoSync. As each time code is read, the caption associated with it will be output automatically at precisely the correct time. The result is perfect synchronization between dialogue and captions. The video with the captions is sent to the record machine. The CaptionMaker minimizes the use of

expensive VCRs by allowing you to perform every-thing but the final AutoSync process off-line on inexpensive VCRs (e.g., a VHS deck with two linear audio channels). You only need the higher-level VCRs (e.g., Betacam SP, Digital decks) for the final AutoSync process.

## CaptionMaker-Classic Encoder

The vast majority of CaptionMaker-Classic users do not need the CaptionMaker-Classic Encoder because the CaptionMaker-Classic has all the AutoSync encoding capabilities of CaptionMaker-Classic Encoder. It only lets you do AutoSync and make minor changes in the file; it cannot be used to prepare captions. It is ideal for those who need to do encoding of captions only. For example, suppose the video to be captioned is on professional BetaSP tape. However, the caption script preparation, formatting, and time coding are done at a facility that does not have professional BetaSP tape decks. The formatted text with time code could then be e-mailed to a facility that does have BetaSP decks, and using CaptionMaker-Classic Encoder that facility can easily and quickly encode the captions onto a BetaSP tape.

## DVD Captioning and Subtitling

To caption or subtitle a DVD, you need a DVD authoring system in addition to the CaptionMaker-Classic software. The process is the same as that described earlier for CaptionMaker-Classic users up to the point of AutoSync. Instead of AutoSync, the file is exported to your DVD authoring system, which then inserts captions or subtitles onto the DVD. The CaptionMaker-Classic supports all major DVD authoring systems. You do not need a closed caption encoder or a character generator.

## Webcast Captioning

You can caption both existing videos and live productions on the Web with both the CaptionMaker-Live and CaptionMaker-Classic. To caption an existing video, which is known as a *Video-on-Demand Webcast*, the process is the same as that described earlier up to the point of AutoSync. Instead of AutoSync, the CaptionMaker exports a caption file for your Webcast. The CaptionMaker can create files for all three video players: Windows Media Player, RealPlayer and QuickTime.

Captioning a live production, which is known as a Live Webcast, requires none of the formatting, positioning or timing processes described earlier. Simply broadcast the live video using Windows Media Encoder, RealPlayer Server, or QuickTime Streaming Server, and start entering the dialogue using either a steno machine or Speech Recognition software.

## Captioning a DV Video

Create a time-stamped caption file using the CaptionMaker software exactly the same way you would when captioning a videotape. If you have CaptionMaker-DV, you can caption a DV (\*.mov or \*.avi) video directly on your hard drive.

## **Captioning a Video with NLE**

Create a time-stamped caption file using the CaptionMaker software exactly the same way you would when captioning a videotape. If you have CaptionMaker-NLE, you can add captions directly to the video residing on the computer running your NLE system (Avid, Media-100, etc.), without the need for a closed caption encoder.

## **Captioning a SD and HD Mpeg-2 Video**

Create a time-stamped caption file using the CaptionMaker software exactly the same way you would when captioning a videotape. If you have CaptionMaker-HD Enterprise, you can caption a MPEG-2 SD and HD video on your hard drive directly. If you have lower version of CaptionMaker-HD Enterprise, you can use CaptionMaker-HD Encoder software to insert the captions onto the MPEG-2 digital video directly, without the need for a closed caption encoder.

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# Chapter 1

## Hardware Installation

### System Requirements

#### Computer

The CaptionMaker works with IBM PC compatible computers (Pentium recommended) with:

Windows 2000/XP/Vista

At least a 500 MHz, 512MB of RAM (off-line captioning/ subtitling or, at least a 1 GHz, 1 GB RAM (on-line captioning), or, at least 2 GHz, 1 GB RAM (caption/subtitle digital video with CaptionMaker-DVE/HD)

At least 40 GB of hard drive space

If using videotape source, an internal video capture card such as ATI All-In-Wonder, or an external video capture device (e.g., Pinnacle DVC-80). (This allows you to display the video on your VGA monitor so that you can drag and drop captions or subtitles onto the video.)

A sound card and speakers supported by Windows

A Parallel printer or USB port (for software security key)

If using an external CC encoder, a Serial port (also known as a COM port or RS 232 port)

For most up-to-date manual, please check the software downloads page:

[www.cpcweb.com/download/cmplete\\_software\\_downloads.htm](http://www.cpcweb.com/download/cmplete_software_downloads.htm)

Also check <http://www.cpcweb.com/TechSupport/CapMaker>

for CPC knowledge based documents for different topics.

#### CPC Protection Key (Key)

A CPC Protection Key (USB type) is supplied with CaptionMaker software. The Key must be attached to a USB port on the computer for CaptionMaker to work. CaptionMaker is protected by this hardware.

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**Warning:** If you lose the CPC Protection Key, you will not be able to run the software! You will have to pay a hefty price to replace it. You may move the Protection Key from computer to computer, allowing different users to operate the CaptionMaker software on different computers, but only one user may run the software at a time.

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## Compatible DV Decks & NLE Systems

### CaptionMaker-DV

CaptionMaker-DV works with both DV25 and DV50 video. You can create your DV video in any NLE system or simply import from a video tape format.

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**Up-to-date List:** For most recent list of caption compatible DV decks, please check [www.cpcweb.com/dv/dv-hardware.htm](http://www.cpcweb.com/dv/dv-hardware.htm).

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After you caption a 720x480 DV video sitting on your hard drive, using Windows or Mac CPC software, you need to dump the video to a tape format via FireWire using any DV or mini-DV deck.

Caption data sits in the VAUX Data area of a 720x480 DV video. On the other hand, caption data sits in Line 21 of NTSC (525 lines) video. When you transfer the DV video to NTSC, you must use a deck which can transfer the caption data from the DV VAUX data area to the NTSC Line 21.

We have tested the following decks and media converters, which do the job successfully. If your deck is not listed below, you can use the compatibility check below to test your deck.

#### DV Decks - Caption Compatible (partial list)

- Panasonic AJ-D650, AJ-D455
- SONY DHR-1000
- SONY DSR-11, DSR-20, DSR-30, DSR-40, DSR-80
- SONY GV-D300 portable
- SONY DCR-TRV110, TRV720, TRV820 Digital8 camcorder
- JVC DV-3000

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## **Sony DVMC-DA2 Media Converter - Caption Compatible**

Converts Analog Video to Digital Video, or Digital Video to Analog with timecode information. Sony brings a new media converter that allows to convert analog signal, such as 8mm or VHS to a digital video signal that is output to i.LINK/FireWire interface.

## **DV Decks - Not Caption Compatible (partial list)**

The following video decks and video cameras do not do the proper transfer of caption data onto NTSC video. But you can still record closed captioned DV video using any DV video deck, including the ones below, even though you cannot play back the video with captions from these decks. This is a subtle, but important distinction.

- CANON XL-1 camcorder
- SONY DSR-PD100
- SONY DSR-85
- Panasonic AG-DV1000

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### **Note from a Sony Rep. on DSR 45, 50 and 85:**

The DSR-45 does output Closed Captions only in NTSC and only on the monitor out connector. Not the component, main video or S-Video outputs. There is no magic mod to my knowledge to turn this on and it has been asked for previously to my recollection.

By the way, among the DVCAM products, CC only exists in NTSC machines or NTSC mode. The DSR-85 never supported Closed Captioning, the DSR-45 as you now know only outputs CC on the monitor output and the DSR-50 only outputs CC on the video output. All the other DVCAM machines basically output Closed Captioning. The POSC Group at 800-883-6817 has this information in their FAQ database.

Please refer the customer to the Sales brochure and maybe give a heads-up to the other Sales people who may need to know this gotcha. Sorry again for the bad news.

The Sony Business Solutions & Systems Product Operations Support Center:  
<http://bssc.sel.sony.com/BroadcastandBusiness/minisites/HDV/support.shtml>

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**DV Compatibility Check 1**

There are many other DV hardware devices which work with CPC CaptionMaker. To check whether your specific hardware is caption compatible or not, you can do the following test.

Take a commercial video with closed captions and save it via FireWire on your hard drive. Now print the video out of your computer via FireWire to your DV hardware and then finally to a TV with its closed caption decoder turned on. If you see captions, your hardware is caption compatible.

**DV Compatibility Check 2**

Download one of the following videos (295 MB) which are already captioned using CPC software

Demo\_DV\_720x480\_CC.mov (QT mov)

CPCDemo\_DV\_720x480\_CC.avi (avi)

and open the video in your NLE system or any software which allows you to dump the video via FireWire to your deck. Now connect the deck to a TV with its closed caption decoder turned on and output the video. If you see captions, your hardware is caption compatible.

**CaptionMaker-NLE**

CaptionMaker can add captions directly to video using NLE systems. After adding captions to a 720x486 video with an NLE system you typically write the final video to video tape. You output the 720x486 video from your NLE system to NTSC videotape using the hardware associated with your NLE system.

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**Up-to-date List:** For most recent list of caption compatible NLE Systems, please check [www.cpcweb.com/nle/nle-hardware.htm](http://www.cpcweb.com/nle/nle-hardware.htm).

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## NLE Hardware

Caption data sits in 720x486 video in Row 0 or Row 1 depending on the NLE system. In NTSC (525 line) video caption data sits in Line 21. When you transfer the video to NTSC, you must use an NLE system that can transfer the caption data from Row 0 or Row 1 of 720x486 video to NTSC video Line 21. The following NLE systems can do this, which makes them caption compatible. Caption data for use with NLE systems is stored in the following locations:

NLE Systems	Primary Row	Starting Column
AJA Io LA *	1	24
AJA KONA *	2	24
AJA KONA (alternate) *	1	24
AJA KONA LH/Lhe, LS/LSe *	2	24
AJA KONA LH/Lhe, LS/LSe (alternate)*	1	24
Avid ABVB	0	35
Avid ABVB (alternate)	480	35
Avid Adrenaline	0	22
Avid Adrenaline (alternate)	1	35
Avid DS Equinox	1	26
Avid Express Pro	1	26
Avid Meridien	1	26
Blackmagic DeckLink #	1	26
Blackmagic DeckLink (alternate) *	2	26
Leitch DPS Velocity	1	26
Matrox DigiSuite#	1	30
Media 100	1	26
NewTek Video Toaster 3 & 4 #	1	19
Sony XPRI	1	26
TARGA 1000-3000	1	26

\* Works with Mac Final Cut Pro

# Works with Windows Adobe Premier

The Primary Row is the row number, 0 – 484, where caption data is placed in a 720x486 video for use within an NLE system. The Starting Column is the middle pixel number, 14 – 40, of the first caption run-in white small dashed line of the caption placed onto the Primary Row.

### **NLE Compatibility Check 1**

There may be other NLE hardware devices which work with CPC CaptionMaker and CaptionMaker software. To check whether the CPC software works with your specific hardware, you can do the following test.

Take a commercial video with closed captions and save it uncompressed via your video input/output device (not FireWire) on your hard drive. Now send the uncompressed video out of your computer to a TV with its closed caption decoder turned on. If you see captions, your hardware is most likely compatible.

### **NLE Compatibility Check 2**

You can download one of the two sample NLE 720x486 black videos containing closed captions which were created with CPC software:

MOV files for a number of NLE systems:

[http://www.cpc-usa.com/1ccaption/NLE\\_MOV\\_Exports.zip](http://www.cpc-usa.com/1ccaption/NLE_MOV_Exports.zip)

AVI files for a number of NLE systems:

[http://www.cpc-usa.com/1ccaption/NLE\\_AVI\\_Exports.zip](http://www.cpc-usa.com/1ccaption/NLE_AVI_Exports.zip)

Choose either the mov or the avi zip file, unzip it and choose the appropriate mov or avi file for your system. Open the video in your NLE software and output the video via your video input/output device (not FireWire) to your video deck. For details, click [here](#). To see the captions, you would need a TV with its closed caption decoder turned on. If you see captions, your NLE hardware is compatible.

### **NLE Systems Not Listed Above**

Closed Caption data sits on Line 21 in NTSC (525 line) video. Captions sit on 720x486 NLE video somewhere on row 0 through Row 2 depending on the NLE system. When you transfer the 720x486 video to NTSC, you must use an NLE system which can map the caption data from Row 0, 1 or 2 of 720x486 video to Line 21 of NTSC video.

CPC created a calibration video (7:30 minutes). The closed caption content of the first 5 seconds of the calibration movie is "Row 0, Col 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 "Row 0, Col 15" and is generated with primary row set to 0 and Starting Column set to 15. This shifting continues through Row 0 and Column 40 at which time it shifts to Row 1 Column 15. The last movie segment is Row 4 Column 40.

Please download and play one of the following caption encoded calibration videos (created with different codecs) from [www.cpcweb.com/blackmovie](http://www.cpcweb.com/blackmovie) on your NLE system and print the video through your NLE hardware (not FireWire), you would be able to determine the preset values (row/column) for your NLE system.

- [Avid Meridian Codec \(Adrenaline, Symphony\)](#)
- [Uncompressed 8 bit 422 \(AJA, Blackmagic, Premiere, Final Cut\)](#)
- [QuickTime Animation \(Generic Codec\)](#)

- Apple ProRes 422 (Final Cut Studio 2)

**Finding row/column**

Download and unzip the Caption Encoded Calibration QuickTime movie that corresponds with your NLE sequence codec settings. (A matching codec can cut down or avoid render time)

Import the caption encoded calibration movie into your NLE system. For Avid, import 720x486/Non-Squared/Upper Field First)

For details on how to find the row and column for your NLE system, please check the page [www.cpcweb.com/blackmovie](http://www.cpcweb.com/blackmovie)

If do not see any captions at all, your NLE system is not caption compatible. And if you do see captions, you need to pick a row and column value pair from the numbers you see. To avoid errors, you 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, you can use these values in the CPC software and caption your videos using your NLE system.

# Chapter 2

## Software Installation

### Installing the Software

The CPC CD-ROM disk is designed to automatically execute a setup program that will install the CPC CaptionMaker onto your hard disk. You can choose the directory where you want the program to reside.

It is important to run the installation routine, rather than just copying the files from a previous installation, because the installation routine creates registry keys and makes sure all of the appropriate DLLs are installed in the computer.

New updates are released regularly. For the latest version of the program, go to [www.cpcweb.com](http://www.cpcweb.com) and choose “Downloads” near the top right hand corner.

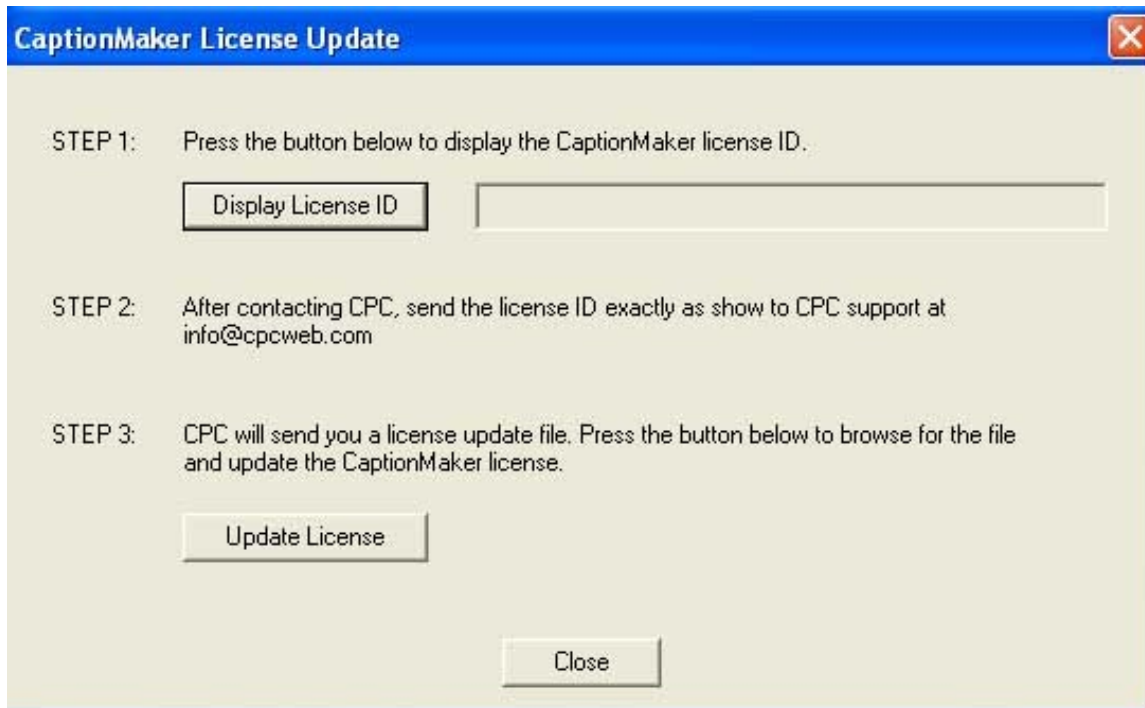
For most up-to-date manual, please check the software downloads page: <http://www.cpcweb.com/TechSupport/CapMaker/CaptionMakerManual.pdf> Also check <http://www.cpcweb.com/TechSupport/CapMaker> for CPC knowledge based documents for different topics.

### Upgrading CPC Software

(This will only work if your received the software key after 1/1/2002)

1. You can upgrade your CPC software from any level to a higher level (i.e., CaptionMaker-Classic to CaptionMaker-NLE) via email. You do not need to send the USB or the parallel hardware key via mail to be replaced. We will upgrade the key via internet.

2. Run the CPC software. Go to the Help menu and click on Upgrade License (If you do not find the menu item Upgrade License, follow the step below to install the most recent version of your level of software. Now you will see the Upgrade License Screen under the Help menu.)



3. Now click on Display License ID.

4. Copy and paste the string of characters to info@cpcweb.com

We will email you a \*.dat file.

Now you need to follow step 3 inside the Upgrade License screen to upgrade your software to a higher level.

Install most recent version of software:

You can download the most recent version of the software from our Software Downloads page: [www.cpcweb.com/download/complete\\_software\\_downloads.htm](http://www.cpcweb.com/download/complete_software_downloads.htm)

Now follow the steps:

1. Uninstall the old version of the software. (Keep note of your caption and TC devices)
2. Disconnect the USB or Parallel hardware key from the computer.
3. Install the new upgraded version of the software.
4. Connect the USB or Parallel hardware key to the computer.

## Computer Screen Resolution

CaptionMaker works at a screen resolution of 800 x 600 or more. If your computer monitor display is below that, go to *Start* → *Setting* → *Control Panel* → *Display* and change the screen resolution to at least 800 x 600.


## Time Code Reader

If you haven't already installed the driver for the time code reader card or the USB module, read the section in Chapter 1 entitled "Time Code Readers". Once you have installed the card, you must select it in the CaptionMaker software. Go to *Time Code* → *Time Code Reader properties* menu, and select your specific time code reader.

If you use an Adrienne PCI-TC or USB-TC, choose AEC PCI-TC/USB-TC from the menu. Make sure you set it to the correct IO port. See Chapter 1 for more information.

## Video Capture Device

If you are using video from a videotape, you must have a video capture device (like ATI card or USB Pinnacle) installed in the computer. Make sure the device works with the appropriate software that comes with the device first as described in "Chapter 1: Hardware Installation".

Click on the  icon (located at the top right corner of the Operations Area) to invoke this option. This button brings up a dialog box to configure the video on the Preview Window. You must check the box to enable the video, and also check the box to render text.

Click on the Source button and make sure the video source (Composite or Component) you feed into the device is right.

## Caption/Subtitle Device

You will probably need to select a caption/subtitle device such as InsertaCap or Codi. The computer will remember one captioning and one subtitle setup at any given time. The menu bar will show a menu named either *Caption* or *Subtitle*.

In the Current Settings area of the *Caption/Subtitle* → *Device* dialog box, there is a pull-down box that will let you select a caption/subtitle device. Note that some manufacturers, such as Link, have a standard for talking to their devices, so you do not have to choose the individual model, only the manufacturer.

After you have selected a device, click on the Configure button. It will open a *Device Settings* dialog box that will display the COM Port settings for the device, as well as several other settings. It is highly unlikely that you will ever need to adjust any setting but the COM port setting, unless you have changed dip switches or otherwise

reconfigured your device. Your caption/subtitle device communicates with the computer through a serial or COM port. A computer can have up to 8 COM ports, called COM1 through COM8.

RS232 Settings			
• Connect via RS232 serial port			
Port:	<u>COM1</u>	Parity:	<u>Odd</u>
Baud rate:	<u>1200</u>	Stop bits:	<u>1</u>
Data bits:	<u>7</u>	<b>Restore Defaults</b>	

The Restore Defaults button is very useful. It will restore every one of the settings to the device's factory defaults. It is highly unlikely that the factory defaults will be incorrect for your configuration, except for the choice of COM port. The best way to test your device is to send a few characters to it.

## DVD/DV2000 Subtitling Device

There are several DVD Subtitling Systems supported by the CaptionMaker software. Choose the appropriate system for which you are going to create the files for. You do not need to configure the COM port or associated parameters, because no DVD/DV2000 subtitling device is going to be attached to the computer. See the discussions under Ultech DV2000 and DVD Interface in "Chapter 5: Subtitling" for details.

## MagniCoder Pro

Select *Subtitle Device* → *MagniCoder Pro* → *Configure*. Select the COM Port that will be used to interface the MagniCoder Pro. See "Chapter 5: Subtitling" for more details.

## Choosing Keyboards

The CaptionMaker is designed to be completely compatible with Windows conventions for International Language Fonts and Keyboards. You can type the accented and special characters using any one of the following methods.

### Multiple Keystroke Method

If you do not know how to use a keyboard for characters used in a particular foreign language, you can install your keyboard to type those characters with multiple keystrokes.

1. To install the keyboard to type accented characters, go to *Start* → *Settings* → *Control Panel* → *Keyboard*, and click on the *Language/Input Locales* tab.
2. Click on the Properties button. On a Standard United States version of Windows, a pull-down box will appear containing many keyboard layouts.
3. Select the keyboard layout *United States - International*. Then click OK.

This keyboard will allow you to type accented English characters used in most European languages, including French, German, Spanish, Danish, Italian, Dutch, Finnish, Portuguese, Norwegian and Swedish.

To type the following characters on the left side of the table below, type two characters on the same row one after another. When you type the first character you will not see anything appearing on the screen. As soon as you type the next character, you will see the accented character. It is very simple to type the accented characters this way. You do not have to know the keyboard used for the associated language or any character code number associated with that character.

Character	First Key	Second Key
á	' (under the ")	a
à	` (under the ~)	a
ä	"	a
ã	~	a
â	^ (under the 6)	a
ç	' (under the ")	c
é	' (under the ")	e
è	` (under the ~)	e
ë	"	e
ê	^	e
í	' (under the ")	i
ì	` (under the ~)	i
ï	"	i
î	^	i
ñ	~	n
ó	' (under the ")	o
ò	` (under the ~)	o
õ	~	o
ô	^	o
ú	' (under ")	u
ù	` (under ~)	u
ü	"	u

û	^	u
ý	'(under ")	y
ÿ	"	y

Any of the above characters can be typed in uppercase, simply by pressing the [Shift] key while you type the second character.

The following characters can also be typed by a combination of keystrokes.

Character	Combination
À	Shift-Control-Alt-W
Á	Control-Alt-W
Æ	Shift-Control-Alt-Z
Ɔ	Control-Alt-Z
Ð	Shift-Control-Alt-D
Đ	Control-Alt-D
Ø	Shift-Control-Alt-L
Œ	Control-Alt-L
Þ	Shift-Control-Alt-T
þ	Control-Alt-T
ı	Control-Alt-1 (!)
ı	Control-Alt-/ (?)
ß	Control-Alt-S
§ (Music)	Shift-Control-Alt-S
©	Control-Alt-C
®	Control-Alt-R
¥	Control-Alt-(-)
×	Control-Alt-[+]
¾	Control-Alt-8
½	Control-Alt-7
¼	Control-Alt-6
€	Control-Alt-5
¤	Control-Alt-4
³	Control-Alt-3
²	Control-Alt-2
¬	Control-Alt-\(())
¶	Control-Alt-;
°	Shift-Control-Alt-;
«	Control-Alt-[
»	Control-Alt-]
¹	Shift-Control-Alt-1
£	Shift-Control-Alt-4
¢	Shift-Control-Alt-C
µ	Control-Alt-M

## Character Map Method

To find out how to type any given character on the keyboard, go to *Start* → *Programs* → *Accessories* → *System Tools* → *Character Map*. This will show the entire character set. To insert a certain character at the cursor location, simply double-click on the character in the character map table.

## Single Keystroke Method

If you know how to use a keyboard for characters used in a particular language, you can install your keyboard to type those characters with a single keystroke.

1. To install more languages, go to *Start* → *Settings* → *Control Panel* → *Keyboard*, and click on the *Language/Input Locales* tab.
2. Click on the Add button. On a Standard United States version of Windows, a pull-down box will appear containing many languages.
3. Select the language you would like to use. Then click on OK.

An indicator will appear in the lower right corner of your screen (Task Bar) next to the clock. By clicking on this, you can select any of the keyboards that you have installed, or you may press [Alt]+[Left Shift] to cycle through the keyboards.

Now you have set your keyboard the same way as the characters are accessed in the language in the associated country. For example, if you choose Portuguese, a single keystroke will give the following result:

If you type	You will get
;	ç
:	Ç
=	«
Shift =	»

## Available Subtitling and Captioning Characters

If you are 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 the closed caption decoders include the following:  
Dutch, English, French, German, Portuguese and Spanish

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# Chapter 3

## Importing and Exporting Files

### Import/Export Capabilities

CaptionMaker can import from and export to the following three groups of file types:

Word Processor Group (including text file)

Caption Formatted Group

DVD/DV2000/Webcast Subtitle Group

DV (Export only)

NLE (Export only)

HD (Export only)

Word Processor Group

1. ASCII Text File (\*.txt)
2. Word Document (\*.doc)
3. WordPerfect Document (\*.wpd, \*.doc)
4. Rich Text Edit File (\*.rtf)

Caption Formatted Group

1. Caption Center File (\*.tds)
2. Captions Inc. File (\*.cin)
3. Cheetah Caption File (\*.asc & \*.cap) (Export to \*.cap not available)
4. DOS CPC CaptionMaker File (\*.\*)
5. DVD Caption File (\*.cc, \*.sc)
6. CCaption (\*.onl)
7. Power Pixel Format File (\*.txt)
8. Softni (\*.sub)
9. Ultech DV-2000 (\*.onl, \*.ult)
10. Windows CaptionMaker File (\*.cap)
11. Windows CaptionMaker File ver 1.xx (\*.cap)

DVD/DV2000/Webcast Subtitle Group (TIF file formats cannot be imported)

1. Adobe Encore (\*.txt)

2. Daikin Scenerist TIF (\*.zip)
3. Daikin Scenarist Text (\*.txt)
4. DV2000 USF/UYC (\*.zip)
5. Sonic Solutions TIF (\*.zip)
6. Sonic Solutions Text (\*.txt)
7. Spruce DVDMaestro TIF (\*.zip)
8. Spruce STL Script File (\*.stl)
9. Webcast SMI/RT (\*.zip)

#### DV Group

1. DV 720x480 AVI/MOV

#### NLE Group

2. NLE 720x486 AVI/MOV

#### HD Group

3. MPEG-2

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**Note** You can import files from the Word Processor & Caption Formatted Groups and you can import the text/script files from the DVD/DV2000/Webcast Subtitle Group. But you cannot import the DVD/DV2000 picture files.

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## Word Processor Group

If you have any file containing just the text (no time code or formatting) in Microsoft Word Document (\*.doc), Rich Text Edit File (\*.rtf), and Word Perfect File (\*.wpd, \*.doc), you may import the file into CaptionMaker using the *File* → *Import* option and choosing the appropriate file format.

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**Note** Microsoft Word version 97 or higher must be installed in the computer, but does not have to be running. CaptionMaker uses the Word engine to import and export Word, WordPerfect and Rich Text files.

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## ASCII Text Files (Tab Delimited)

Text broken up into individual caption/subtitles

Text with *In* time code (Tab delimited)

Text with *In* and *Out* time codes (Tab delimited)

### Text Only (Must Be Separated by Tab)

You can import text files with text separated by Tab characters.

When you click on the *File* → *Import* options, the *Import File* dialog box will appear. Make sure to choose File Type as ASCII Text File (\*.txt) and click on the Browse button to import the file. An example file *Text-tab-delimited.txt* is included in the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder.

1. To import this file, press the Next button for the *Import Format* dialog box to appear which gives you several options.
2. Then select the *Tab Delimited* option and choose *Text Only and text* option from the fields of import files.
3. Now click on the Next button for the *Import Options* dialog box to appear. All options must be **unchecked** and clear.
4. Press the Finish button to import the file.

Here is a short example of the file with text only and the individual captions separated by a Tab character. The Tab inside each line will separate the text into two lines of caption.

```
NOW MY NAME APPEARS      AT THE BOTTOM OF THE SCREEN,
WE PUT CAPTIONS    OF WHAT I SAY AT THE TOP,
SO THAT MY NAME IS NOT    COVERED BY CAPTIONS.
```

After opening the file in the CaptionMaker software, it will look like the following. The lines within each caption are broken at the Tab position.

NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,
WE PUT CAPTIONS OF WHAT I SAY AT THE TOP,
SO THAT MY NAME IS NOT COVERED BY CAPTIONS.

**Note:** If you do not have a Tab character inside the text line, the line would break into multiple lines according to the choice of *Max characters per line*.

### Time Code In and Text (Must Be Separated by Tab)

Import text files with time code in and text separated by Tab characters.

When you click on the *File* → *Import* options, the *Import File* dialog box will appear. Make sure to choose File Type as *ASCII Text File (\*.txt)* and click on the Browse button to import the file.

An example file, *Tc-in-and-text-tab-delimited.txt*, is included in the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder. To import this file,

Press the Next button for the *Import Format* dialog box to appear.

Select the *Tab Delimited* option and choose *Time Code in and text* option from the fields of import files.

Click on the Next button for the *Import Options* dialog box to appear. All options must be **unchecked** and clear.

Press the Finish button to import the file.

Here is a short example of the file with time code in and the individual caption separated by a Tab character. The tab still marks the desired line breaks.

```
01:03:31:08 NOW I'M AT THE      RIGHT OF THE SCREEN,
01:03:33:07 SO MY CAPTIONS     APPEAR AT THE RIGHT.
01:03:35:13
01:03:36:13 NOW I AM GOING OFF-SCREEN.
```

After opening the file in the CaptionMaker software, it will look like the following.

01:03:31:08	NOW I'M AT THE RIGHT OF THE SCREEN,
01:03:33:07	SO MY CAPTIONS APPEAR AT THE RIGHT.
01:03:35:13	
01:03:36:13	NOW I AM GOING OFF-SCREEN.

### **Time Code In, Out and Text (Must Be Separated by Tab)**

You can also import a text file with *time code in*, *time code out* and text separated by Tab characters.

When you click on the *File* → *Import* option, the *Import File* dialog box will appear. Make sure to choose File Type as *ASCII Text File (\*.txt)* and click on the Browse button to import the file.

There is an example file *Tc-in-out-and-text-tab-delimited.txt* that is included under the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder. To import this file,

Press the Next button for the *Import Format* dialog box to appear which gives you several options.

Select the *Tab Delimited* option and choose *Time code in, out, and text* option from the fields of import files.

Click on the Next button for the *Import Options* dialog box to appear. All options must be **unchecked** and clear.

Press the Finish button to import the file.

Here is a short example of the file with time code in, out and the individual caption separated by a Tab character. The Tab character separates lines of caption.

```
01:03:31:08 01:03:33:05 NOW I'M AT THE    RIGHT OF THE SCREEN,
01:03:33:07 01:03:35:15 SO MY CAPTIONS  APPEAR AT THE RIGHT.
01:03:35:17 01:03:36:11
01:03:36:13 01:03:38:06 NOW I AM GOING  OFF-SCREEN.
```

After opening the file in the CaptionMaker software, it will look like the following.

01:03:31:08	NOW I'M AT THE RIGHT OF THE SCREEN,
01:03:33:07	SO MY CAPTIONS APPEAR AT THE RIGHT.
01:03:35:17	
01:03:36:13	NOW I AM GOING OFF-SCREEN.

**Note:** In the original text file, the difference between time-out of one caption and the time-in of the next caption is two frames. But in the file imported to the CaptionMaker, the time-out information seems to be lost. CaptionMaker ignores the difference of time-out of one caption and the time-in of the next caption if it is less than 6 frames. If the difference is more than five frames, then and only then it adds a new row with the proper time code.

In the Caption Maker software, we have an option to add blank frames between the captions. It is available under the option

*Caption* → *Properties* → *General*, or  
*Subtitle* → *Properties* → *Options*

You may add a number of blank frames here to have the same effect as you had in the original text file.

## Caption Center Files (\*.tds)

You can import or export Caption Center files from the Import/Export menu

There is a sample Caption Center file in ASCII format *Caption-center.tds* in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. Here is a sample example of the file:

```
Timecoded Data Services
øBeginHeaders
Title =title: RADIO ACTIVE #1018 "Radio Activist"
```

```

CreationDate = 1999 09 22 21:22:02
Creator = The Caption Center, WGBH, Boston, MA
Contact = +1 617 492-9225
FramesPerSecond = 30d
L21F1Stm = F
L21F1Chn = CC1
L21F1APD = YES
L21F1XparBreaks = NO
L21F1Lev = FCC/TC2
L21F1TakeOnStartup = YES

Authorization = uqmlgtpjlsqmrsp

øBeginMessages
øBeginComments

øBeginData
ù00593825
úFû14 û14Rû11.RADIO ACTIVEû11 #RAD-1018û14tCLOSED
CAPTIONEDû14,û14/
ù00594925
úFû14,
ù01000004
úFû14.û14,
ù01000109
úFû14 û11Rû17#û11.YOU'RE LISTENINGû11rû17#û11.TO RADIO
ACTIVE.û14,û14/
ù01000418
úFû14,
ù01000826
úFû14 û11Tû117 RADIO ACTIVE û117û14,û14/

```

When the file is imported in the CaptionMaker software, it will look like this:

Start	H	V	J	Display	Caption/Subtitle
00:59:38:25	5	B	C	Pop-On	RADIO ACTIVE #RAD-1018 CLOSED CAPTIONED
00:59:49:25	5	B	C	Pop-On	
01:00:00:04	5	B	C	Pop-On	
01:00:01:09	8	T	C	Pop-On	YOU'RE LISTENING TO RADIO ACTIVE.
01:00:04:18	8	T	C	Pop-On	
01:00:08:26	C	T	L	Pop-On	§ RADIO ACTIVE §

## Captions, Inc. Files (\*.cin)

There is a sample Captions, Inc. file in ASCII format *Cap-inc.cin* in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. Here is a sample example of the file:

```

AIRP75CC0058012602532828AIRP75CC "Airport 1975" (DF) Closed-Captioned MCA
Fil2Cn10 V1.10 970928D
p00201000008

```

```
'
p04801025107
THOW WAS EUROPE ?VOH,vIT'S STILL THERE.,/
p05801025326
vEXCEPT FOR FRANCE.VSHE'S NOT SOREvAT US ANYMORE.,/
```

When this file is imported in the CaptionMaker software, it will look like:

Start	H	V	J	Display	Caption/Subtitle
01:00:00:08	C	B	C	Pop-On	
01:02:51:07	C	12	L	Pop-On	HOW WAS EUROPE ?
01:02:51:07	12	B	L	Pop-On	OH, IT'S STILL THERE.
01:02:53:26	13	B	L	Pop-On	EXCEPT FOR FRANCE. SHE'S NOT SORE AT US ANYMORE.

## Cheetah Caption Files (\*.asc)

You can import/export Cheetah ASCII files from the Import/Export menu. You can also import Cheetah .cap binary file.

There is a sample Cheetah file in ASCII format *Cheetah.asc* in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. Here is a sample example of the file:

```
** Caption Number 2
*T 01:00:06:06
*TopDown
*C116
The Office of the Ombudsperson
exists\E

** Caption Number 3
*T 01:00:07:28
\AI\solely\AW\ to provide service
to American Express people.\E

** Caption Number 4
*T 01:00:12:22
*BottomUp
*Cb16
We have no agenda of our own.\E
```

When this file is imported in the CaptionMaker software, it will look like:

Start	H	V	J	Display	Caption/Subtitle
01:00:06:06	C	T	C	Pop-On	The Office of the Ombudsperson
01:00:07:28	C	B	C	Pop-On	exists <i>solely</i> to provide service to American Express people.
01:00:12:22	C	11	C	Pop-On	We have no agenda of our own.

## Softni Files (\*.sub)

You can import/export Softni files from the Import/Export menu. There is a sample Softni file *Softni.sub* in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. Here is a sample of the file:

```
*PART 1*
01:00:00.00\00:00:00.00
{{MELBOURNE
01:01:04.27\01:01:07.25
[Y ahora: ¿"Qué se cocina
esta noche?",
01:01:07.25\01:01:10.01
[con sus anfitriones,
los cocineros Baffio y Jackie.
01:01:10.01\01:01:14.20
Gracias. Gracias.
```

When this file is imported in the CaptionMaker software, it will look like:

Start	H	V	J	Display	Caption/Subtitle
01:00:00:00	C	T	C	Pop-On	MELBOURNE
01:01:04.27	C	B	C	Pop-On	<i>Y ahora: ¿"Qué se cocina esta noche?",</i>
01:01:07:25	C	B	C	Pop-On	con sus anfitriones, los cocineros Baffio y Jackie.
01:01:10.01	C	B	C	Pop-On	Gracias. Gracias.

## CPC-600/CPC-700 DOS Files

A sample file in ASCII format *CPC 600-700 DOS.txt* resides in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. Here is an example of the file:

```
~CPCC6.70~;UpperLower;Paint-On;01;
|      |^ This text is to practice captioning with CaptionMaker
|      |^ Use the video segment approximately 4 minutes
|      |^ into the CPC training video.
01:03:24:04|0NEN|I'M AT THE LEFT\OF THE SCREEN.
01:03:26:10|0NEN|SO CAPTIONS\OF WHAT I SAY
01:03:27:26|0NEN|APPEAR AT THE LEFT\OF THE SCREEN, TOO.
```

When this file is imported in the CaptionMaker software, it will look like:

Start	H	V	J	Display	Caption/Subtitle
01:03:24:04	L	B	L	Pop-On	I'M AT THE LEFT OF THE SCREEN.
01:03:26:10	L	B	L	Pop-On	SO CAPTIONS

					OF WHAT I SAY
01:03:27:26	L	B	L	Pop-On	APPEAR AT THE LEFT OF THE SCREEN, TOO.

## CPC-715 DOS Online Files

Same as CPC/Leapfrog CCaption Files.

These files can be used with:

1. CCaption software to add captions directly to videos coming out of the Media-100, Avid and several other non-linear editing systems without losing a generation of video. You would not need closed caption encoder hardware. CCaption software encodes the captions on line 21 of the video.
2. DV2000 to add captions. There is no need to use CPC software to do the final encoding. DV2000 can read the CPC-715 online file format and add the captions to the video at the appropriate time.

There is a sample CPC-715 online file *CPC-715 online file.txt* in the *C:\Program Files\CPC\CaptionMaker\Sample* folder. The CPC-715 file looks like the following. This file was generated for Pop-On captions. It is a binary file. It is actually a long string of characters that is broken up here into different lines.

```
CPC-715 Online CaptionMaker Datafile →☺ ♠☺ ♥☺3 2 F1♪
9 01:03:24:22☺.☺ ☺PI'M AT THE LEFT☺pOF THE SCREEN.|☺, ☺/
4 01:03:26:21☺.☺ ☺PSO CAPTIONS☺pOF WHAT I SAY|☺, ☺/
A 01:03:28:01☺.☺ ☺PAPPEAR AT THE LEFT☺pOF THE SCREEN, TOO.|☺, ☺/
```

---



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**Note** When exporting to a CPC-715 online file, you must choose a caption encoder device. If you don't, the file won't work with CCaption software or DV2000.

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## DVD Caption Files

You can caption DVD videos using Sonic Solutions, Daikin, Spruce and most other DVD authoring systems.

The DVD Caption file format is universal for all DVD authoring systems. To create a DVD caption file, caption the video exactly the same way as if you were creating a caption file for conventional video. Then go to *File* → *Export* menu and choose the group *Caption Formatted File* and export to *DVD Caption file* format.

There is a sample file *DVD-caption.scc* in the *C:\Program Files\CPC\CaptionMaker\Samples* folder. The basic information for all DVD authoring systems is the same. A typical DVD caption file looks like this.

```
01:03:24:22 94AE 9420 945E 97A2 49A7 CD20 C154 2054 C845 204C
              4546 5494 FE97 A24F 4620 54C8 4520 D343 5245 45CE
              AE94 2C00 0000 0094 2F00
01:03:26:21 94AE 9420 945E 97A2 D34F 2043 C1D0 5449 4FCE D394 FE97 A24F 4620
              57C8 C154 2049 20D3 C1D9 942C 0000 0000 942F
01:03:28:01 94AE 9420 945E 97A2 C1D0 D045 C152 20C1 5420 54C8
              4520 4C45 4654 94FE 97A2 4F46 2054 C845 20D3 4352
              4545 CE2C 2054 4F4F AE94 2C00 0000 0094 2F00
```

## Power Pixel Format Files

A sample Power Pixel file, *pixel-power.txt*, is included in the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder. Here is an example of the file:

```
01:03:24:04 01:03:27:02
I'M AT THE LEFT
OF THE SCREEN.

01:03:27:02 01:03:29:18
SO CAPTIONS
OF WHAT I SAY

01:03:29:18 01:03:32:29
APPEAR AT THE LEFT
OF THE SCREEN, TOO.
```

When this file is imported in the CaptionMaker software, it will look like:

Start	H	V	J	Display	Caption/Subtitle
01:03:24:04	C	B	C	Pop-On	I'M AT THE LEFT OF THE SCREEN.
01:03:27:02	C	B	C	Pop-On	SO CAPTIONS OF WHAT I SAY
01:03:29:18	C	B	C	Pop-On	APPEAR AT THE LEFT OF THE SCREEN, TOO.

## Windows CaptionMaker File

Import/Export from and to Windows CaptionMaker File (\*.cap) are the same as the Open and Save options. For the sake of continuity they are added to this heading.

## **Import/Export to Merge Files for Subtitling/Captioning a Video in a 2nd Language**

After you have created a file to subtitle or caption in one language, you can use that file to simplify the process of subtitling or captioning the video in additional languages.

The basic premise is that there are certain key points (typically words, but sometimes pauses or visual information), which must appear at the same time code in both the original language and in any translated language.

In actual use you assign time codes to key words of a language that you understand, and your translator will be able to assign corresponding time codes to a language that you don't understand.

For instance, the beginning of a person's dialog will be a key point, a pause will be a key point, expressions that are visually tied up with the audio such as a person pointing and saying, "Look at this!" cannot afford to fall before or after it happens visually on the screen so it also must be a key point.

Another example is found when there is a dialog between two people. The word at which person #1 begins speaking is a key point. Similarly, the word at which person #2 begins to speak is a key point. Also, if there is a long segment of the video without dialog, the word at which the dialog begins again is a key point.

The words that fall between these key points are then automatically distributed evenly by the software. This way the translation will fall almost precisely where it should in relation to timing. Care must be taken to choose these key points frequently enough to keep the software's automatic pacing to a minimum.

Put another way, if the key points are perfectly synchronized, then the rest of the subtitles/captions, which fall between the key points, will be closely synchronized with the dialog. This is accomplished by the CaptionMaker software automatically counting the words in each subtitle/caption between the key points, and assigning time codes based on the number of words in each subtitle/caption. The greater the number of words a subtitle/caption has, the more time it will be given.

**ONLY THE FIRST WORD OF A SUBTITLE/CAPTION CAN BE A KEY POINT.**

**THE ONLY TIME CODES THAT YOU SHOULD ENTER IN THE FILE, ARE TIME CODES FOR SUBTITLES/CAPTIONS THAT BEGIN WITH KEY POINTS.**

Here is an example of timing three key points in an English file (two words and one pause), and using that file to time a translation in French.

#	Start	Caption/Subtitle
1	01:00:28:28	We've talked about passion for the business.
2		Passion is not something you can teach people necessarily,
3		but you can certainly recognize it
4		when you see it.
5	01:00:39:26	
6	01:00:50:03	You're excited to come to work, to see everyone.

There are four steps to merge a translated file with the original file. We will describe the process using an English file as the original file and a French file as the merge file.

### Step I

Create the English file with time code as explained in the previous section, and illustrated above with time codes at three key points. Inside the *C:/Program Files/CPC/CaptionMaker/Samples* folder there is a file named *Translation-English-with-tc.cap*. The above few lines are from this file.

### Step II

After creating the English subtitle/caption file, you need to export the file for Merge option. This is done so that you can give the file to the translator, so that the translator will have a copy of the file with the key points. The file will have the time codes of the key points replaced by sequential numbers as shown in the file below.

For example, the first key point above, 01:00:28:28 will become key point #1. The key point at 1:00:39:26 will become key point #2, and so on.

1. To export the file, use *File* → *Merge Export* option.
2. Choose the file type *Word Processor* [ASCII text file (\*.txt) or any Word Processor type] and
3. Press the Browse button. Choose the folder you want to save the document into and click on the *Save* button and click on *Next*.

The file you just created should look like the following. Since it is a text file, you may open the file in Notepad and check it out.

For your convenience, we have provided a copy of the file you just created inside the *C:/Program files/CPC/CaptionMaker/Samples* folder. The file name is *Translation-English-tagged-text.txt*. The following few lines are from this file.

```

1      We've talked about      passion for the business.
Passion is not something      you can teach people necessarily,
but you can certainly recognize it
when you see it.
2
3      You're excited to come to work,      to see everyone.
```

### Step III

This is the file you must provide to the translator. The translator should give you the translated file in French as shown below, following the guidelines in the next section, “Instructions to the Translator”.

An example of the translator’s completed file is also provided for your convenience. It is inside the *C:/Program files/CPC/CaptionMaker/Samples* folder. The file name is *Translation-French-tagged-text.txt*. The following few lines are from this file.

```

1      On parle souvent  de la passion pour son travail.
La passion ne s'apprend pas,
mais on la ressent      immédiatement chez les autres.
2
3      Il est stimulant  de se rendre au travail
et de revoir tout le monde.
```

---



---

**Note** This file could be in a Word, WordPerfect or text file. If it is a text file created from Word, save it using the *MS DOS Text with Line Break* option under *File* → *Save As*. If the language used is anything other than a Western European language, you must import and export the files for Merge option in Word. (Word is the best choice, but WordPerfect files also work in most languages.) The translator must use the same program and preferably the same Windows font to avoid conflict with character positions.

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### Step IV

Now you must merge the *Translation-French-tagged-text.txt* with the *Translation-English-with-tc.cap* to combine the time codes from the English file with the text from the French file according to the tagged numbers associated with the French file.

1. Go to *File* → *Open* and open the file *Translation-English-with-tc.cap*

2. Go to *File* → *Merge Import* option and choose Word Processor [ASCII text file (\*.txt) or any Word Processor type] and click on the Browse button.
3. Select the file *Translation-French-tagged-text.txt* and click on Open.
4. Click on Finish.

The end result would look something like the image below. Now the French file has all the time codes from the English file at the appropriate places.

#	Start	Caption/Subtitle
1	01:00:28:28	On parle souvent de la passion pour son travail.
2		La passion ne s'apprend pas,
3		Mais on la ressent immédiatement chez les autres.
4	01:00:39:26	
5	01:00:50:03	Il est stimulant de se rendre au travail

## Step V

Here is the final step. To fill in the blank time codes between the existing time codes at the key points, click on the header **Start** above the time code area to highlight the time code column. Right-click on anywhere on the highlighted area and choose *Fill-in time code*. Inside the *Fill-in time code* dialog box choose the second radio button to fill in time codes for the blank time codes **only**.

You will see the all the blank time codes are filled with appropriate time codes giving the same reading speed for all captions/subtitles between two key points.

You should AutoSync the whole file with the video and make sure the timing is all right. You may have to alter some time codes for caption/subtitles that consist of one or two words.

## Instructions to the Translator

### How to Translate CPC Subtitle/Caption Files into Another Language

Here is an example of a translation of an English subtitle file to French using the CaptionMaker software. You (the translator) should receive an English file with numbers

(corresponding to key points) interspersed at the left margin as shown below. Notice that each number is followed by a tab.

**ORIGINAL CPC FILE IN ENGLISH**

```
1      We've talked about passion for the business.
Passion is not something you can teach people necessarily,
but you can certainly recognize it
when you see it.
2
3      You're excited to come to work, to see everyone.
4      Not only do we have our regular customers
but I get excited when they walk in the door.
It's nice to see them all the time
and we have people that come in every day.
5
6      When I interviewed with Pier 1 I had that sense
that this was a company with destiny.
There were about 70 people
who applied for a manager in training position
and I banged on the door every morning for about two weeks
to sign up with the company.
7
8      My first paycheck said this is brought to you
by your customers.
It really said this is what this company is about.
9
10     You have to have a passion for this business.
I think that most managers do have a passion
for this business.
The desire to make the most of it
and take every opportunity.
11
12     I love this company and I tell everybody
if we could hire so many people to work for Pier 1
I would completely suggest that you put
in your application and try to get a job there.
13     It's so awesome they treat you like
you're their own kids and it's just an amazing feeling.
14
```

You (the translator) should:

1. *Freely translate* the English into French. Ignore the numbers in the left margin.
2. Find the locations in the French file that correspond to the location of the numbers at the left margin of the English file, and enter the numbers in the French file. After you enter each number, place a tab. Notice that the English file has some blank lines. You must add blank lines in your translated file too, and add the correct number next to it.

---

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**WARNING YOU MUST NOT MISS ANY NUMBER, AND YOU MUST PRESS TAB AFTER EACH NUMBER, OR THE SOFTWARE WILL NOT BE ABLE TO SUBTITLE THE VIDEO.**

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3. (Optional Step – Ask your contact if this is necessary): Break the text between numbers into individual subtitles. To indicate a new subtitle, place the first word of the subtitle at the left margin.
4. (Optional Step – Ask your contact if this is necessary): Break each individual subtitle into one, two or if absolutely necessary, three lines. To indicate a new line within a subtitle, place a tab within the line at the place where you want the new line to begin.

### General Guidelines

Subtitles are not to be translated verbatim. They should be edited to make the text as compact as possible without losing the essence of the dialog. Remember, the viewer reads subtitles while watching the video. Brief, concise subtitles are easier to read.

As you see in the English files, the text is broken into different lines. Each line is a subtitle. No lines should be more than 40 characters.

The number of text lines between two key numbers on the left of the page in the English file and the French file need not be the same. For example, you could have 3 lines in English and 5 lines in French. But if you edit the text to make it as compact as possible, in most cases you will have fewer lines than the English file. That's even better for the viewers. They can read the subtitles more easily, since there is less to read.

The amount of text between two numbers can vary, but the key numbering on the files must be the same. For example, please check the English file on the previous page. On that page, there are 14 key numbers, and 35 lines (including blank lines). If you turn to the next page you will see an example of the same file translated to French. In the French file, there are 14 key numbers, and 38 lines (including blank lines). The fact that there are more lines of text does not matter; what is important is that the key numbers are preserved.

Also notice that sometimes there is a tab inside a line in the English file. The tab indicates where the subtitle is eventually going to be broken up into a two-line subtitle. (e.g., My house is very beautiful.) Do not worry about the tab in the English file.

After you are done translating, compare your file with the English file and simply add numbers in the French file at the corresponding points where numbers appear in the English file.

---

---

**WARNING AGAIN, IT IS CRITICAL THAT THE NUMBERING IN THE TRANSLATION FILE IS THE SAME AS THE NUMBERING IN THE ORIGINAL FILE.**

**IN THIS EXAMPLE, THE ENGLISH FILE HAS 14 NUMBERS, EACH FOLLOWED BY A TAB. THEREFORE THERE SHOULD BE EXACTLY 14 NUMBERS IN THE FRENCH FILE IN CORRESPONDING LOCATIONS, EACH FOLLOWED BY A TAB.**

**PLEASE TAKE WHATEVER EXTRA TIME IS NEEDED TO DO THIS! IT IS THAT IMPORTANT!**

---

---

The translated French file you would provide, with numbers corresponding to the previous English file, is shown below.

**TRANSLATED FRENCH FILE**

1        On parle souvent        de la passion pour son travail.  
La passion ne s'apprend pas,  
mais on la ressent        immédiatement chez les autres.  
2  
3        Il est stimulant        de se rendre au travail  
et de revoir tout le monde.  
4        Nous avons des clients réguliers  
et nous éprouvons        toujours le même plaisir,  
lorsqu'ils reviennent        magasiner chez nous.  
5  
6        Lors de mon        entrevue chez Pier 1,  
j'ai compris que        mon avenir était ici.  
Près de 70 personnes        avaient postulé  
pour le poste de        directeur de la formation.  
J'ai frappé à la porte,  
presqu'à tous les matins        pendant deux semaines,  
pour obtenir ce poste.  
7  
8        Lorsque j'ai reçu        mon premier chèque,  
j'ai eu l'impression        qu'il me disait:  
"Ce sont tes clients qui te paient."  
Cela reflète exactement        la philosophie de la compagnie.  
9  
10       Il faut vraiment        que ce travail  
soit une passion et je crois que les directeurs  
éprouvent ce sentiment        pour leur travail.  
Ils désirent en        retirer le maximum et saisir  
toutes les opportunités        qui s'offrent à eux.  
11  
12       J'adore cette compagnie        et comme je le dis toujours:  
"Si Pier 1 pouvait engager tout le monde, il le ferait.  
Entre-temps, je vous recommande        fortement de soumettre  
une demande d'emploi        et peut-être aurez-vous  
la chance de faire partie de notre grande famille.  
13       C'est une merveilleuse        expérience croyez-moi,  
la compagnie traite ses employés  
comme s'ils        étaient ses enfants.  
14

---

# Chapter 4

## Caption/Subtitle Preparation

### Note to Subtitling Users

*In the interest of efficiency, we have combined the captioning and subtitling tutorials into a single chapter because they share many common procedures. When we refer to captioning, we mean captioning and subtitling unless otherwise noted.*

*If you are planning to subtitle (where positioning is normally only at the bottom of the screen), you need to go through the tutorial in this chapter only in order to understand the basics of formatting, positioning and time coding. For features associated with the specific subtitling devices (Chyron Codi, DVD, DV2000, or MagniCoder Pro), please consult the relevant sections of Chapter 5.*

### Screen Layout

There are five major regions of the CaptionMaker screen. (See screenshot on next page.)

1. At the top of the screen, there is a *menu bar* (File, Edit, View, and so on).
2. Below the menu bar is the optional *edit toolbar* (with buttons for file operations, text positioning, justification, attributes, and so forth).
3. At the top left side of the screen is a window that is initially (before a video signal is sent to the computer) a blue rectangle. This is called the *Video Preview Window*, or simply the *Preview Window*.
4. In the top right corner, the *Operations Center*, there are four rows of buttons, subdivided into regions for Preview Window Operations, Row Operations, VTR Control, Miscellaneous Controls and Time code.
5. At the bottom of the screen is a section called the *Work Area*. You can navigate through this as you would in a spreadsheet, using the mouse and arrow keys.

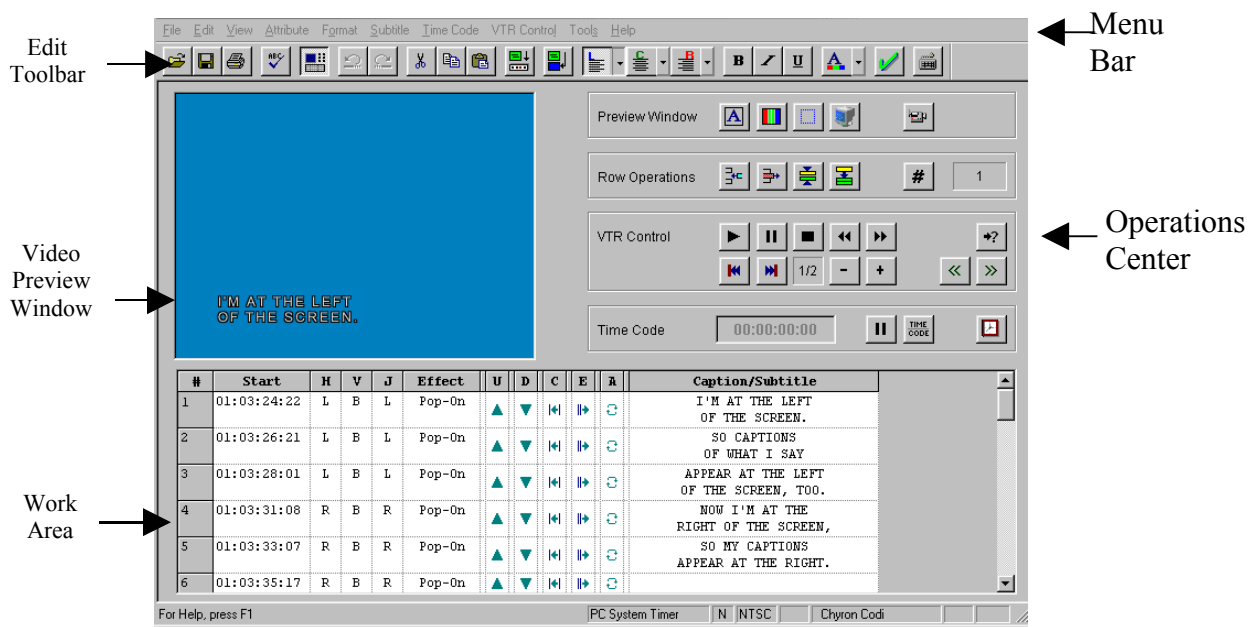
### Visible Columns

Make sure that all the columns shown on the following screen are visible on your computer screen. If they are not all visible, click on the View menu and check the appropriate boxes. You can add additional columns like

- Stop time
  - Time code Duration
  - Words per minute
- etc. to suit your needs.

## Computer Display Screen Resolution

The CaptionMaker works at screen resolutions of 800 x 600 or higher. If your computer monitor display is below that, go to *Start* → *Settings* → *Control Panel* → *Display* and change the screen resolution under the *Settings* tab to at least 800 x 600.




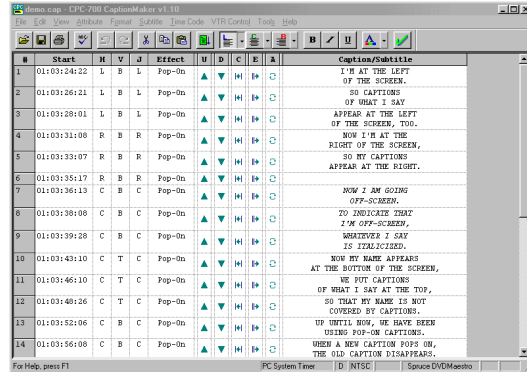
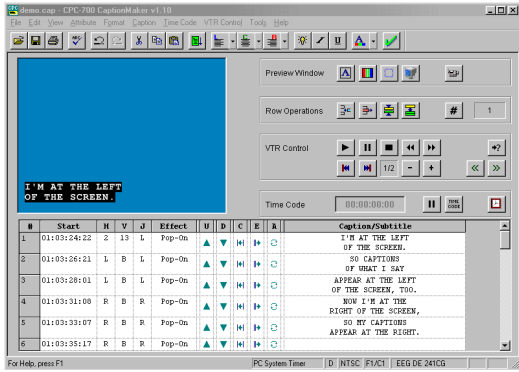
CaptionMaker Screen

## Full View or View with Preview Window

You may switch between two different views of the CaptionMaker screen:


Preview video screen with a few lines of caption/subtitle text, or  
Full view of Caption/Subtitle text with no video screen.

To access these two views, click on the *View* → *Full Screen Spreadsheet* from the *View* menu, or you may click on the Preview Window Switch icon: 



When you need to watch the video on the computer screen and place the caption/subtitle at the appropriate position on the video, use the option *Preview Window*. When you would like to do a large amount of editing and need to see as much text as possible, turn off the *Preview Window* option.

---

**Repositioning Preview Window** If you would like to see the full-screen text view and the video at the same time, you may click on the **Pop-Up Preview Window** icon  to open up the **Preview Window** on top of the full screen view and position the video screen anywhere you like by simply dragging the window with the mouse.

---

## The Captioning Process

This chapter concentrates on formatting, positioning and associating time codes with text in the context of captioning a video. We also discuss the four display modes for captioning: Pop-On, Paint-On, Roll-Up, and Block Roll-Up.

An exhaustive, detailed explanation of all captioning and subtitling capabilities plus an explanation of all the menu items and toolbar icons can be found in Chapters 8 and 9.

## Video Tutorials

Please check the video tutorial page at [http://www.cpeweb.com/tutorial/mac\\_index.htm](http://www.cpeweb.com/tutorial/mac_index.htm) for tutorials on many topics such as

[Importing Text](#) (1:16)

[Importing Video](#) (0:48)

[Formatting Text Basic Tools](#) (2:27)

[Formatting Text Advanced Tools](#) (1:31)

[Synchronizing Captions \(Timing\)](#) (3:17)

[Checking your Timing](#) (1:22)

## Caption Display Modes

There are four display modes for closed captions: Pop-On, Paint-On, Roll-Up, and Block Roll-Up. The first tutorial in this chapter will concentrate exclusively on Roll-Up captioning, which is the easiest to learn. Plus it takes less time to caption a video in the Roll-Up mode than in the Pop-On or Paint-On modes. You can choose one or multiple cell under the *Display* column, and right click to change the display mode to your choice.

Roll-Up captions are typically used for television news, live events and videos involving one person on the screen – typically a classroom lecture or training video. The Pop-On mode is normally used for movies and sit-coms. The Paint-On mode is rarely used. It is similar to the Roll-Up mode. Block Roll-Up is a style coined by CPC. All four styles can be used within the same captioning job. (See details in this chapter.)

The captioning process can be described in a few steps. Note that the CaptionMaker-Live does not use time code, and the CaptionMaker-Classic or higher versions do. When time code is discussed in this manual, we are referring to use of the CaptionMaker-Classic or higher versions.

## Entering the Script

If you do not have a script of the video, you can get the script in many ways, such as:

If you use a digital video, you can use foot pedal controller vPedal to transcribe the video. For details check the page: [http://www.cpcweb.com/caption\\_common/VPedal-AllAbout.pdf](http://www.cpcweb.com/caption_common/VPedal-AllAbout.pdf)

Train a speech recognition software such as Naturally Speaking or ViaVoice ([www.nuance.com](http://www.nuance.com)) for a few hours. Then listen to the videotape and repeat the dialogue into the microphone. At the beginning, you are going to get lot of errors. But you can teach the software to fix the errors and down the road you can expect to get about 95% accuracy. For details check this page:

[www.cpcweb.com/caption\\_common/cap\\_via\\_voice.htm](http://www.cpcweb.com/caption_common/cap_via_voice.htm)

Dubbing the audio onto a tape and use a Dictaphone® machine can speed up this process. Use a professional transcription service. This is the most expensive way to generate the script.

The CaptionMaker can import scripts from a text file and most word processors (such as WordPerfect and Microsoft Word) files.

## Transcribing Digital Video

We do not recommend transcribing your videos from within CaptionMaker. It is much better to transcribe the video using WMP with your Word Processor or with the free shareware software Express Scribe.

We designed CaptionMaker in a way to make it most efficient to import a free form text file and break them into individual captions using some simple conditions like:

1. Maximum caption length (like 28 characters)
2. Maximum number of lines in each caption (like 2 lines)
3. Break at punctuation points.

With these types of conditions, CaptionMaker can break a transcript for an hour-long video into nice looking captions in a few seconds.

We do not recommend breaking the text into individual captions while you transcribe. Let CaptionMaker handle this for you to save you a lot of time.

---

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**Transcription Mode** If you must transcribe the video within CaptionMaker, there is a transcription mode under File menu. Also added an indicator in the status bar to indicate when transcription mode is enabled. Transcription mode can be enabled/disabled by clicking on this indicator with the mouse.

When transcription mode is enabled, pressing “Enter” will cause the cursor to move down to the next caption cell. If you have the time code stamp active, time code is automatically read as the cursor moves to the next cell.

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## Transcribe using VPedal with Windows Media Player

Download and install the Windows Media Player plug-in (free) at:

<http://www.vPedal.com/wmp9.php>

### Configuring vPedal Media Player Plug-In

- After you’ve installed it, go to *Start >> Programs >> vPedal Media Player Plug-In >> Direct Launch Plug-In*
- It will open up a tiny Windows Media Player window
- To begin playing the video simply go to *Options >> Open File* and change the pull-down tab to “All Files” to play the video you wish to transcribe
- There are no settings or configurations you need to setup. The vPedal will operate the play, pause, forward, and rewind functions of the video
- When you hit pause, and then resume again, the video will skip back 1 second so you do not have to rewind
- To change this skip time to something longer than the 1 second default, go to *Options >> Settings* and change the value in the *Release Back Seconds* field
- To change how fast the video plays, go to *Options >> Settings* and adjust the percentage in the *Speed* field
-

## Transcribing in your Word Processor

- To begin transcribing, simply open your Word Processor and begin typing. The vPedal will still control the video even if it is not on top.
- If you want to see the video while transcribing, re-size your word processor to give the video enough space to stay on screen while you type.

## QuickTime, RealOne Videos

vPedal cannot control the Quicktime or RealOne videos in Windows. To use VPedal with Quicktime or RealOne videos, you need to download the codecs that allow you to play Quicktime and RealOne videos in Windows Media Player.

RealPlayer: [http://www.free-codecs.com/download/Real\\_Alternative.htm](http://www.free-codecs.com/download/Real_Alternative.htm)

Quicktime: [http://www.free-codecs.com/download/QuickTime\\_Alternative.htm](http://www.free-codecs.com/download/QuickTime_Alternative.htm)

VPedal has plug-ins to work with iTunes, RealOne, Winamp, and FTR player. To view a full list of the plug-ins available for use with VPedal visit

<http://www.vPedal.com/support.htm>

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**Working with Digital Videos** If you are using CaptionMaker-DV or CaptionMaker-NLE or CaptionMaker-HD Enterprise, please refer to the section *Working with Digital Videos* near the end of this chapter on how to handle a digital video. The following section describes the complete captioning process using a videotape as opposed to digital video. All processes are exactly the same except handling the digital video and video from a videotape is slightly different.

---

---


## Playing Video

You can play video coming from a digital video (like avi, qt, mpeg, wmv etc.) or a videotape. To play video coming from a videotape you would need a video display device like Pinnacle DVC-80. If you use DVC-80, connect the video from the VCR to the yellow jack of DVC-80. Connect audio to the sound card, not to the white and red connector on the DVC-80.

Click on the camcorder icon  on the right side of the preview window. Check the box Enable *External video from a tape*.

## Reading Timcode

If you are using a digital video, choose *Video Playback*.

If you are using a videotape, and like to read timecode (not available with CaptionMaker-Live) from the videotape, you need to select the proper timecode option. Click on the *Timecode >> Timecode Reader Properties* or, click on the  button and choose the appropriate option.

## Roll-Up Captioning Not Using Time Code

We will start with Roll-Up captioning without time code. Roll-Up captioning is a good starting point because it is the easiest method to learn and use. Because you do not need time code, you can even use a VHS tape without time code to caption. In other words, with minimal time, effort and equipment, you can get your feet wet and actually do some real captioning.

### Method I: Manual Captioning

1. Transcribe the text from the video.
2. Import a raw text file. The Import menu offers many formatting features to help you break raw text into individual captions.
3. Manually further refine the imported text into individual captions
4. Place the captions at a desired screen location and decide if the text is to be italicized, underlined or otherwise formatted (requires viewing the video).
5. Manually send captions to the caption device (**Step 4a** later in this chapter).

### Transcribing the video

If you do not have a script of the video, you can get the script in many ways, see the section *Entering the Script* above.

We do not recommend transcribing your videos within CaptionMaker. It is much better to transcribe the video first and then import the script into CaptionMaker.

We designed CaptionMaker in a way to make it most efficient to import a free form text file and break them into individual captions using some simple conditions like:

1. Maximum caption length
2. Maximum number of lines in each caption
3. Break at punctuation points.

With these types of conditions, CaptionMaker can break a transcript for an hour-long video into nice looking captions in a few seconds. We do not recommend breaking the text into individual captions while you transcribe. Let CaptionMaker handle this for you to save you a lot of time.

The CaptionMaker can import scripts from a text file and most word processors (such as WordPerfect and Microsoft Word) files.

In Roll-Up captioning, each row in the Work Area equals one caption line of up to 32 characters. The easiest and most efficient way to begin the process of Roll-Up captioning is to enter the dialogue that is on the video into Word (or almost any other word processor), and let the computer automatically format each line as you import your script.

See the beginning of the section, “Transcribing and Importing Script” under the “Pop-On, Paint-On and Block-Roll-Up Captioning” section later in this chapter to find out how to transcribe your text.

Assume that you initially entered the text to be captioned into any word processor like MS Word. To speed the text entry into Word, the only formatting you need to do in Word is to enter periods, commas, semicolons, etc. You do not need to break the text up into paragraphs, and certainly do not need to break the text up into individual captions. After entering all of the text, you would end up with one giant paragraph, with the text broken up into sentences within that paragraph.

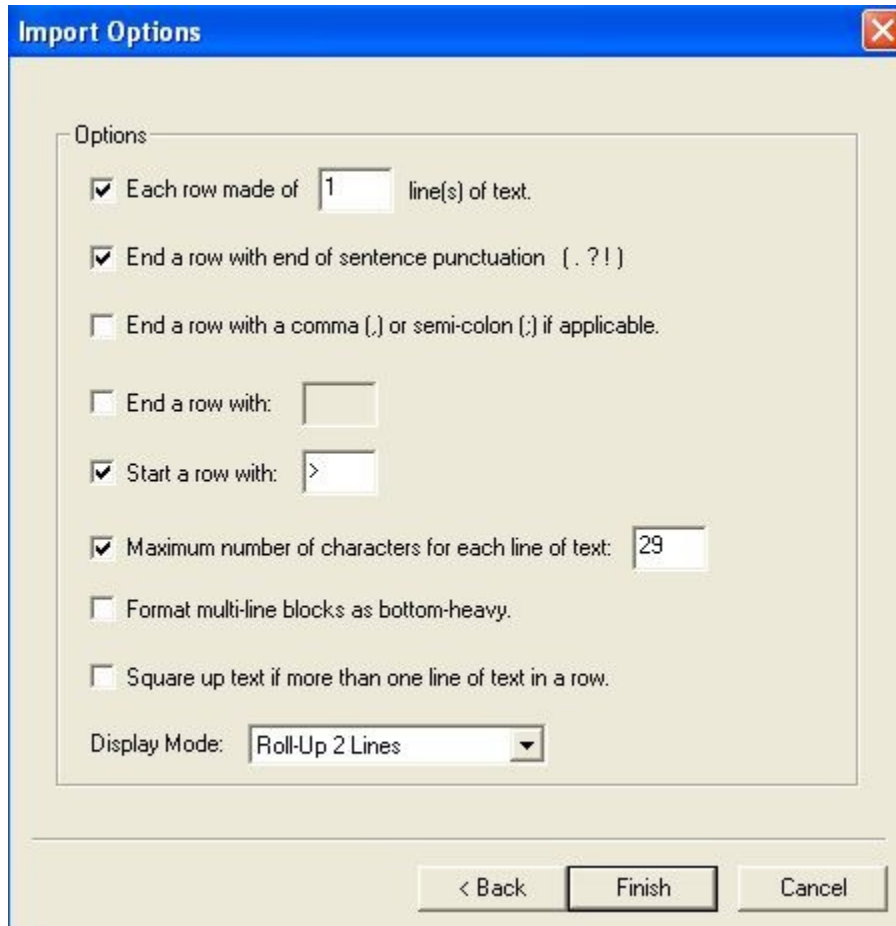
Next we will show how the CaptionMaker breaks the text into individual captions at sentence punctuations (.?! ) automatically.

To illustrate this, we will start with our demo.txt file, which is found on the *C:\Program Files\CPC\CaptionMaker\Samples* folder. After you select the option *File* → *Import* and choose the file type ASCII text file from the *Samples* folder and click on the *Browse* button, the computer will prompt you to choose the import file format. Choose the Free Form format as shown below and then click on Next.

Free Form

- Import file where caption/subtitle rows are composed by breaking the text into sections based on punctuation (“end-of-sentence”) markers or paragraph breaks.

The following dialog box will open.



Check the appropriate boxes as shown below and fill-in the necessary boxes.

*Start a row with* is a custom character function. This allows you to let CaptionMaker start a new row whenever it encounters a particular character while importing text. Note that CaptionMaker also properly handles multiple consecutive instances of the character. For example, if you select the “>” character, CaptionMaker will start a new row when it sees “>”, or “>>”, or “>>>”, etc.

Make sure you break the script into individual captions with the following conditions:

1. Each row made of: 1 line of text
2. Start of new record: End of sentence punctuation points
3. Max characters per line: 29

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**Note on “Each row made of”** The selection of *Each Row made of [1] line(s) of text* is extremely important. You must always select 1 line per row (cell) when captioning in the Roll-Up mode, or else the

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**captions will not roll up properly. (The other selections can be changed to meet your specific formatting needs.)**

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The above choices will result in:

1. Each row of text will contain only one line.
2. Put as many words as possible into each caption cell, until the number of characters in the words reaches a maximum of 28. Once that limit is reached, the next word becomes the first word of the following caption.
3. The only exception to the above occurs at the end of a sentence. The first word of a new sentence will always become the first word of a caption. The reason for this is that captions typically correspond to naturally occurring pauses in speech. And at the end of a sentence there is always a pause.

In the example that follows, the second caption consists of only one word, "SCREEN." The reason of course is that it is the last word of the first sentence.

Up to this point text has been entered into a word processor and then imported into the CaptionMaker, and we have a text file automatically broken up into individual captions.

The *Import Option* choices will format the text as follows.

Row	H	V	J	Display	Caption/Subtitle
1	5	B	C	Roll-Up 3	I'M AT THE LEFT OF THE
2	5	B	C	Roll-Up 3	SCREEN.
3	5	B	C	Roll-Up 3	SO CAPTIONS OF WHAT I SAY
4	5	B	C	Roll-Up 3	APPEAR AT THE LEFT OF THE
5	5	B	C	Roll-Up 3	SCREEN, TOO.
6	5	B	C	Roll-Up 3	NOW I'M AT THE RIGHT OF THE
7	5	B	C	Roll-Up 3	SCREEN, SO MY CAPTIONS
8	5	B	C	Roll-Up 3	APPEAR AT THE RIGHT.
9	5	B	C	Roll-Up 3	NOW I AM GOING OFF-SCREEN.
10	5	B	C	Roll-Up 3	TO INDICATE THAT I'M
11	5	B	C	Roll-Up 3	OFF-SCREEN, WHATEVER I SAY
12	5	B	C	Roll-Up 3	IS ITALICIZED.
13	5	B	C	Roll-Up 3	NOW MY NAME APPEARS AT THE
14	5	B	C	Roll-Up 3	BOTTOM OF THE SCREEN, WE
15	5	B	C	Roll-Up 3	PUT CAPTIONS OF WHAT I SAY
16	5	B	C	Roll-Up 3	AT THE TOP, SO THAT MY NAME
17	5	B	C	Roll-Up 3	IS NOT COVERED BY CAPTIONS.
18	5	B	C	Roll-Up 3	UP UNTIL NOW, WE HAVE BEEN
19	5	B	C	Roll-Up 3	USING POP-ON CAPTIONS.
20	5	B	C	Roll-Up 3	WHEN A NEW CAPTION POPS ON,
21	5	B	C	Roll-Up 3	THE OLD CAPTION DISAPPEARS.
22	5	B	C	Roll-Up 3	THIS IS A PAINT-ON CAPTION.
23	5	B	C	Roll-Up 3	ONE CAPTION BLOCK IS
24	5	B	C	Roll-Up 3	PAINTED ON THE SCREEN, FROM
25	5	B	C	Roll-Up 3	LEFT TO RIGHT, ONE
26	5	B	C	Roll-Up 3	CHARACTER AT A TIME.
27	5	B	C	Roll-Up 3	NOW THE ROLL-UP MODE.

28	5	B	C	Roll-Up 3	THIS MODE IS NORMALLY USED
29	5	B	C	Roll-Up 3	FOR TV NEWS PROGRAMS.
30	5	B	C	Roll-Up 3	CAPTION LINES ROLL UP FROM
31	5	B	C	Roll-Up 3	THE SCREEN BOTTOM ONE LINE
32	5	B	C	Roll-Up 3	AT A TIME.
33	5	B	C	Roll-Up 3	Captions can appear in
34	5	B	C	Roll-Up 3	lower case, and also in
35	5	B	C	Roll-Up 3	Spanish: ¿Dónde está el
36	5	B	C	Roll-Up 3	niño?
37	5	B	C	Roll-Up 3	Está en la casa.
38	5	B	C	Roll-Up 3	And in French: Parlez-vous
39	5	B	C	Roll-Up 3	français?
40	5	B	C	Roll-Up 3	Répétez, s'il vous plaît.
41	5	B	C	Roll-Up 3	THE FOLLOWING SPECIAL
42	5	B	C	Roll-Up 3	CHARACTERS ARE ALSO
43	5	B	C	Roll-Up 3	AVAILABLE.
44	5	B	C	Roll-Up 3	á é í ó ú à è ì ò ù ä ë ì ö
45	5	B	C	Roll-Up 3	ü â ê î ô û THEY INCLUDE
46	5	B	C	Roll-Up 3	THE MUSIC SYMBOL AND
47	5	B	C	Roll-Up 3	ACCENTED CHARACTERS.
48	5	B	C	Roll-Up 3	ç ã ñ õ ä ç ÿ £ ¥ © ® ™ °
49	5	B	C	Roll-Up 3	ß Š

For instructive purposes, we purposely inserted two sections in which the text should be further refined to improve the appearance of the captions. In the CaptionMaker directory, there is a file called *Demo-R.cap*. Open this file into the CaptionMaker using the *Open* option under the File menu as opposed to the *Import* option. This file is slightly different from the file shown above. We further refined the lines 35 through 49 using Push and Pull functions (See “Step 2: Refining Text into Captions” later in this chapter.)

35	5	B	C	Roll-Up 3	Spanish:
36	5	B	C	Roll-Up 3	¿Dónde está el niño?
37	5	B	C	Roll-Up 3	Está en la casa.
38	5	B	C	Roll-Up 3	And in French:
39	5	B	C	Roll-Up 3	Parlez-vous français?
40	5	B	C	Roll-Up 3	Répétez, s'il vous plaît.
41	5	B	C	Roll-Up 3	THE FOLLOWING SPECIAL
42	5	B	C	Roll-Up 3	CHARACTERS ARE ALSO
43	5	B	C	Roll-Up 3	AVAILABLE.
44	5	B	C	Roll-Up 3	á é í ó ú à è ì ò ù
45	5	B	C	Roll-Up 3	ä ë ì ö ü â ê î ô û
46	5	B	C	Roll-Up 3	THEY INCLUDE THE MUSIC SYMBOL
47	5	B	C	Roll-Up 3	AND ACCENTED CHARACTERS.
48	5	B	C	Roll-Up 3	ç ã ñ õ ä ç ÿ £ ¥ © ® ™ °
49	5	B	C	Roll-Up 3	ß Š

Also notice the Horizontal (**H**) and **Display** columns. We also changed all the cells under the Horizontal column to 5. This is done by left-clicking on the header **H** of the Horizontal column and right-clicking on any cell under **H** and choosing 5 from the option *Other*. This gives us a left indentation of 4 characters: the captions start at the fifth column. Remember we chose 28 characters as the maximum caption length. Added to the indentation of 4 characters, this makes a total length of 32, which is the maximum allowable length from the left side of the screen to the right.

We also need to change the Display Mode to *Roll-Up*. Left-click on the header **Display**. Now right-click on any cell under **Display** and choose *Roll-Up 3 Lines*. This will change all the cells to *Roll-Up 3*. This selection will display a maximum of 3 lines of captions on the video at any given time.

Finally, to see captions on the video screen for the text above, we have provided a videotape to be used with this tutorial. This tutorial text starts at about 3.5 minutes from the beginning of the video right after this screen:

**Now we will show you  
how the CaptionMaker  
software works.**

As you view the segment starting at burn-in time code 00:19:55:04 on the top left corner of the video, you will see our narrator Valerie on the left of the screen. Ignore the different positions of the narrator. Positioning captions on the screen above or below the person is used for Pop-On and Paint-On caption modes.

For the rest of the captioning job, follow Step 4a for non-time code captioning later in the manual. Steps 4b and 5 are used for time code-based captioning.

## Notes on Roll-Up Captioning

1. Pop-On and Paint-On captions can be placed in any of 15 rows on the video screen and can have a maximum of 32 characters. But Roll-Up captions can be placed in only the first 4 rows and last 4 rows on the video screen. To place Roll-Up captions anywhere within these allowable rows, you need to right-click on the cell under the **V** Column and choose from the choices *Top*, *Bottom*, *Other* (Not *Center*). If you choose *Other*, you may choose 1, 2, 3, 4 or 12, 13, 14 and 15. The first row is same as **T** (Top) and the 15th row is same as **B** (Bottom). You may highlight a number of cells under the **V** column and right-click on it to change the row position for a number of rows in one stroke.
2. Roll-Up captioning is available for 2, 3 or 4 lines of captioning. When you choose any one of these modes, you will see a maximum of 2, 3 or 4 lines of text on the video monitor. Make a note that *Preview Window* will still show only one line of text.
3. When you press the [+] key to send the captions one line at a time, the text starts to appear on the video screen immediately, one character at a time. This makes it feasible to caption a video on the fly. You can work without time code if you wish. On the other hand, if you choose *Pop-On* mode, you will notice that there is a delay of a second or so for the caption to appear after you press the [+] key. It is not possible to use Pop-On caption mode without time code. Use of time code fixes the delay problem internally as will be explained later.

4. You may use the Block-Roll-Up captioning mode to give the same feel as the Pop-On or Paint-On caption mode. Captions go out on the fly immediately as you press the [+] key. You can also position the captions to the left, center and right. To use Block-Roll-Up mode, you must have more than one line of text in one row under the **Caption/Subtitle** column. (See section under “Pop-On, Paint-On Block-Roll-Up Captioning” later in the manual.)
5. If there is more than one person on the video screen, to distinguish the speakers, you need to use the following technique. Use the symbol
  - > for the first person and
  - >> for the second person
  - > for the third person (if exists) or for the first person.

The use of > and >> alternatively distinguishes one speaker from the other.

> Speaker one talking
Speaker one still talking
Speaker one still talking
Speak one still talking
>> Speaker two talking
Speaker two still talking
> Back to speaker one
Speaker one still talking
>> Speaker three talking

6. Keep in mind that the maximum number of characters you can fit in one line is 32. So if you have an indentation of 4 characters (horizontal position H = 5), and like to put one or two > symbols for change of speakers, you should import the original text file with no more than 25 (= 32 – 4 – 3) characters per row.
7. To clear captioning from the screen when there is no one speaking for more than 3 seconds or so, you can clear the captions by inserting blank row.

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**Reformatting Captions** After you import a file and work on it for Pop-on or Roll-up display modes, if you change your mind, you may use 3 reformat functions from the Format menu to change the file for Pop-On or Roll-Up modes. See the section *Reformat Rows* in Chapter 8: Menus for details.

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## Pop-on, Paint-On and Block-Roll-Up Captioning

### Method II: Manual Captioning

1. Import a raw text file. The Import menu offers many formatting features to help you break raw text into individual captions.
2. Manually further refine the imported text into individual captions
3. Place the captions at a desired screen location and decide if the text is to be italicized, underlined or otherwise formatted (requires viewing the video).
4. Manually send captions to the caption device (**Step 4a**).

### Method III: AutoSync Captioning with Time Code

1. Import a raw text file. The Import menu offers many formatting features to help you break raw text into individual captions.
2. Manually further refine the imported text into individual captions.
3. Place the captions at the desired screen location and decide if the text is to be italicized, underlined or otherwise formatted.
4. Associate time code on the video with each caption (Step 4b).
5. AutoSync captions with the video using time code (Step 5a).

### Method IV: AutoSync Captioning with PC System Timer

1. Import a raw text file with special formatting. The Import menu offers many formatting features to help you break raw text into individual captions.
2. Manually further refine the imported text into individual captions
3. Place the captions at the desired screen location and decide if the text is to be italicized, underlined or otherwise modified.
4. Manually associate PC System Timer time stamps with captions (Step 4c).
5. AutoSync captions with the video using time stamps. (Step 5b).

Sample text files are included with CPC software for use in the tutorial. These files will help illustrate how you will go through each step to create the final formatted file with time code from a raw text file. These files are located in the home directory of the CaptionMaker (usually *C:\Program Files\CPC\CaptionMaker*). The caption script files supplied are:

Filename	Description
Demo.txt	Raw text (ASCII text).

Demo1.cap	After opening Demo.txt in the CaptionMaker, the file looks like this. (Step 1)
Demo2.cap	After breaking up text into individual captions (Step 2).
Demo3.cap	After positioning captions on the screen (Step 3).
Demo.cap	After associating time codes with each caption (Step 5).
Demo-R.cap	Demo text formatted for Roll-up captions.

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## Step 1: Transcribing and Importing Script

If you do not have a transcript of the video, read the section *Entering the Script* at the beginning of this chapter.

For this tutorial you have a file *Demo.txt* in the folder *C:\Program Files\CPC\CaptionMaker\Samples* folder, so you do not need to transcribe it. Import the file by using *File* → *Import* option. Choose *Files of Type* as *ASCII Text Files (\*.txt)* and the make sure that *Look In folder* is *C:\Program Files\CPC\CaptionMaker\Samples* in order to have the icon for *Demo.txt* appear. Double-click on the *Demo.txt* icon.

*See Chapter 3 for details on importing various kinds of word processor files.*

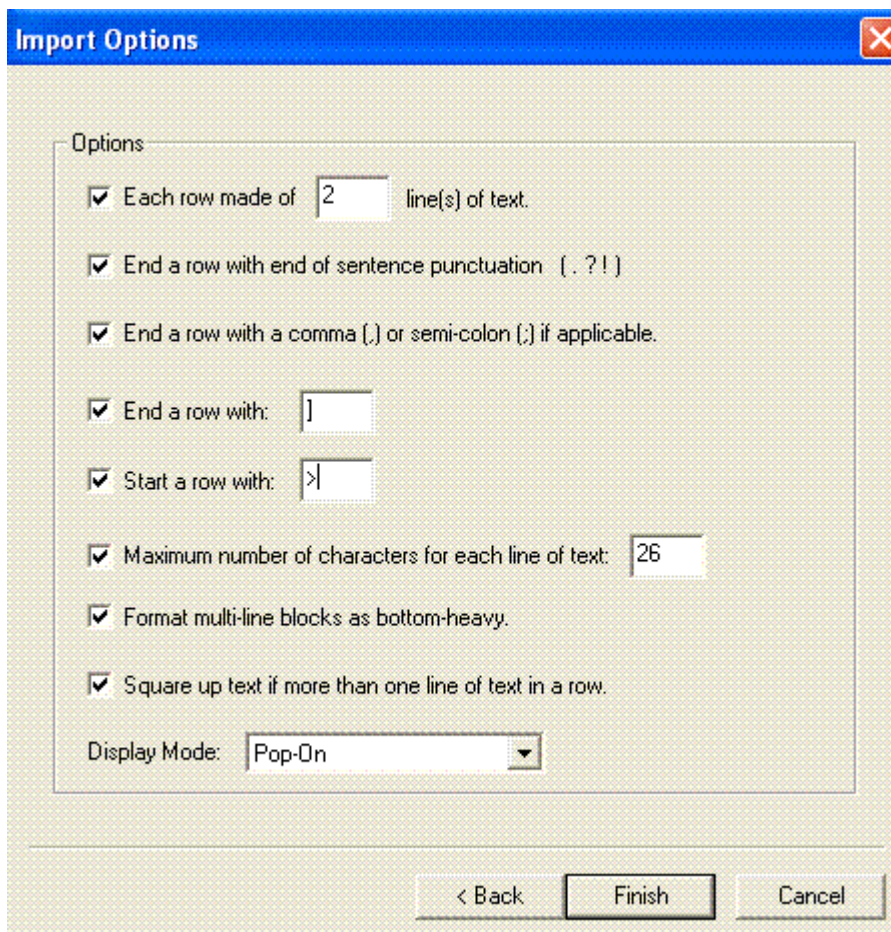
### Import Dialog Box

The *Import ASCII File* dialog box will appear, which gives you several options (see graphic on next page).

1. Select the first option, *Free Form*.
2. Under *Options*, choose the end-of-sentence punctuation option (radio button).
3. Under *Options*, choose the default settings for the maximum characters per line (default is 26) and the maximum number of lines per cell (default is 2). The CaptionMaker will use these last two factors to break the text into different cells.
4. Make sure the *Square-up text* box is checked. Press the OK button.

#### Free Form

- Import file where caption/subtitle rows are composed by breaking the text into sections based on punctuation (“end-of-sentence”) markers or paragraph breaks.



Check the appropriate boxes as shown below and fill-in the necessary boxes.

*Start a row with* is a custom character function. This allows you to let CaptionMaker start a new row whenever it encounters a particular character while importing text. Note that CaptionMaker also properly handles multiple consecutive instances of the character. For example, if you select the “>” character, CaptionMaker will start a new row when it sees “>”, or “>>”, or “>>>”, etc.

*End a row with* is a custom character function. This allows you to let CaptionMaker end the current row whenever it encounters a particular character while importing text. For example a new caption starts after the phrase [applause].

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**Tip** Even though one caption line can hold a maximum of 32 characters, it is customary to limit captions to around 26, which is the default used in this program. If you play with numbers between 24 and 32 you will see how the appearance can vary.

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## The Demo.txt File

If you were to examine the file (in Notepad, for example) before import, it would look like this

```
I'M AT THE LEFT OF THE SCREEN. SO CAPTIONS OF WHAT I SAY APPEAR AT
THE LEFT OF THE SCREEN, TOO. NOW I'M AT THE RIGHT OF THE SCREEN,
SO MY CAPTIONS APPEAR AT THE RIGHT. NOW I AM GOING OFF-SCREEN. TO
INDICATE THAT I'M OFF-SCREEN, WHATEVER I SAY IS ITALICIZED. NOW MY
NAME APPEARS AT THE BOTTOM OF THE SCREEN, WE PUT CAPTIONS OF WHAT
I SAY AT THE TOP, SO THAT MY NAME IS NOT COVERED BY CAPTIONS. UP
UNTIL NOW, WE HAVE BEEN USING POP-ON CAPTIONS. WHEN A NEW CAPTION
POPS ON, THE OLD CAPTION DISAPPEARS. THIS IS A PAINT-ON CAPTION.
ONE CAPTION BLOCK IS PAINTED ON THE SCREEN, FROM LEFT TO RIGHT,
ONE CHARACTER AT A TIME. NOW THE ROLL-UP MODE. THIS MODE IS
NORMALLY USED FOR TV NEWS PROGRAMS. CAPTION LINES ROLL UP FROM THE
SCREEN BOTTOM ONE LINE AT A TIME. Captions can appear in lower
case, and also in Spanish: ¿Dónde está el niño? Está en la casa.
And in French: Parlez-vous français? Répétez, s'il vous plaît. THE
FOLLOWING SPECIAL CHARACTERS ARE ALSO AVAILABLE. á é í ó ú à è ì ò
ù ä ë ì ö ü â ê î ô û THEY INCLUDE THE MUSIC SYMBOL AND ACCENTED
CHARACTERS. ç ã ñ õ å ¿ ; ¢ £ ¥ © ® ™ ° ß $
```

## The Demo1.cap File

After importing the file, the computer screen should look like this. If it doesn't, check to make sure you imported the correct file.

Row	H	V	Caption/Subtitle
1	B	C	I'M AT THE LEFT OF THE SCREEN.
2	B	C	SO CAPTIONS OF WHAT I SAY APPEAR AT THE LEFT OF THE SCREEN, TOO.
3	B	C	NOW I'M AT THE RIGHT OF THE SCREEN, SO MY CAPTIONS APPEAR AT THE RIGHT.
4	B	C	NOW I AM GOING OFF-SCREEN. TO INDICATE THAT I'M OFF-SCREEN, WHATEVER I SAY IS ITALICIZED.
5	B	C	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN, WE PUT CAPTIONS OF WHAT I SAY AT THE TOP, SO THAT MY NAME IS NOT COVERED BY CAPTIONS.
6	B	C	UP UNTIL NOW, WE HAVE BEEN USING POP-ON CAPTIONS.
7	B	C	WHEN A NEW CAPTION POPS ON, THE OLD CAPTION DISAPPEARS.
8	B	C	
9	B	C	
10	B	C	
11	B	C	
12	B	C	
13	B	C	
14	B	C	
15	B	C	

16	B	C	THIS IS A PAINT-ON CAPTION.
17	B	C	ONE CAPTION BLOCK IS PAINTED ON THE SCREEN,
18	B	C	FROM LEFT TO RIGHT, ONE CHARACTER AT A TIME.
19	B	C	NOW THE ROLL-UP MODE.
20	B	C	THIS MODE IS NORMALLY USED FOR TV NEWS PROGRAMS.
21	B	C	CAPTION LINES ROLL UP FROM THE SCREEN BOTTOM
22	B	C	ONE LINE AT A TIME.
23	B	C	Captions can appear in lower case, and also in
24	B	C	Spanish: ¿Dónde está el niño?
25	B	C	Está en la casa.
26	B	C	And in French: Parlez-vous français?
27	B	C	Répétez, s'il vous plaît.
28	B	C	THE FOLLOWING SPECIAL CHARACTERS ARE ALSO
29	B	C	AVAILABLE.
30	B	C	á é í ó ú à è ì ò ù ä ë ï ö ü â ê î ô û THEY
31	B	C	INCLUDE THE MUSIC SYMBOL AND ACCENTED CHARACTERS.
32	B	C	ç ã ñ õ å ¿ ¡ ¢ £ ¥ © ® ™ ° ß §

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### TIP FOR FORMER DOS CAPTIONMAKER USERS: BREAKING LINES

In previous DOS versions of the CaptionMaker, you had a “break lines” feature and used the Enter key to send captions out. The Windows version is different. The work of the “break lines” feature is done automatically when the text is imported into the CaptionMaker, and moving text between captions is performed by clicking on a variety of buttons when a row of the Work Area is selected, not by using the Enter key (though use of it will not harm existing formatting). There is no longer any special meaning to the backslash (\) key.

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To scroll through text, use the scroll bar on the right side of the screen. Don't worry if you can't see all of the text in a cell. If you click inside the cell and press the down arrow, it should appear.

## Step 2: Refining Text Into Captions

### General Guidelines

You should now have the *Demo.txt* file loaded into the CaptionMaker. The *Demo.cap* file has the same information as the *Demo.txt* file, except now it is broken up into different cells.

Next you will further format the script into individual captions. An individual caption contains the text that will be sent to the screen when that row is selected, either by manual synchronization or by AutoSync. One row of cells in the Work Area corresponds to a caption. Make sure that you have set the computer for captioning. To do this, go to *Caption* → *Device*.

---



---

**Note** A caption can accommodate up to 4 lines of text with up to 32 characters on each line. When the menu bar indicates that the program is configured to Caption, the computer will enforce this requirement. The restrictions for subtitling are less stringent.

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The process of conversion of the raw script into captions uses the four Row Operations buttons, and the five Processing icons (U, D, C, E, A) in the Work Area. To use a button, click on the row of text in the Work Area you would like to work on, and then click the formatting button that you would like to use.

### Operations Center: Row Operations

Helps you manipulate the number of captions in your captioning job. The *Demo.txt* file initially has 22 captions in it; when we are done with the Row Operations we will have 30.



#### Insert Row

This button will insert a row above the currently selected row. *Hint:* If you need to insert a row at the very bottom, click at the very end of the last cell and use the Split Cell button.



## Delete Row

This button will remove the currently selected row (the row where the cursor is).



## Merge Cells

This button will merge all selected cells into a single cell. (More than one cell needs to be selected for this feature to work.)



## Split Cell

The Split Cell button will split the currently selected cell into two cells at the point where the cursor blinks.

## Highlighting Multiple Rows and Cells

You may highlight a number of rows or cells to change attributes, such as Horizontal Position, Justification or Display Mode for the selected multiple rows or cell. The highlighting of multiple rows or cells can be accomplished in a number of ways. Here are a few examples.

To highlight all the cells under column H and change the Horizontal position of rows to L (left).	Click on the Heading <b>H</b> and then right-click and choose <b>L</b>
To highlight rows 2 through 5 and change the Display to Paint-On.	Click on 2 under the heading #. Hold the <b>Shift</b> key and click on 5. This will highlight all 4 rows 2 through 5. Now right-click on any cell under the heading <i>Display</i> and choose <i>Paint-On</i> with a left-click.
To selectively highlight rows 2, 4 and 7 and change the Vertical position to Top.	Click on 2 under the heading #. Hold the <b>Ctrl</b> key and click on 4, then 7. This will highlight all 3 rows 2, 4 and 7. Now right-click on any of the three highlighted cells under the heading <b>V</b> and choose T for Top position.
To highlight 3 text cells (rows 2 through 4) under the heading Caption/Subtitle and change text to italics.	Click the mouse somewhere other than cell 1. Now click the mouse on cell 1 and without releasing the button, drag the mouse downward to cell 4. This will highlight 3 text cells (rows 2 through 4). Now Click on the Italics tool button.
To highlight text within cell 4 under the heading Caption/Subtitle and change the text to underline.	Click the mouse on cell 4. Click again on the starting point of the text area you would like to highlight and without releasing the button, move the mouse to cover the text you would like to highlight. Then click on the Underline tool button.

## Work Area Icons

The icons in the Work Area to the left of the text include, in order, *Pull next Cell's First Word Up* ▲, *Push Last Word Down* ▼, *Compress Text* ⏪, *Expand Text* ⏩, and *Alternate Break* ↻. Each icon, when clicked, will change the text in the row that the cursor is on.

Pull First Word and Push Last Word work between two cells. Changes occur at the end of the text in the current cell and at the beginning of the following cell.

On the other hand, Compress Text, Expand Text, and Alternate Break operate *within a cell*.

U	D	C	E	A
▲	▼	⏪	⏩	↻
▲	▼	⏪	⏩	↻
▲	▼	⏪	⏩	↻
▲	▼	⏪	⏩	↻
▲	▼	⏪	⏩	↻

### ▲ Pull First Word (U)

The Pull First Word icons are under the column heading **U**. This will take the first word from the cell below and move it up to the end of the cell with the cursor. If the cursor is on the first cell:

I'M AT THE LEFT OF THE SCREEN.
--------------------------------

and you click on the ▲ icon, the first word of the next row will be pulled up:

I'M AT THE LEFT OF THE SCREEN. SO
-----------------------------------

### ▼ Push Last Word (D)

The Push Last Word icon is under the column heading **D**. This will take the last word from the cell the cursor is on, and move it down to the beginning of the next cell. If the cursor is on the first cell,

I'M AT THE LEFT OF THE SCREEN. SO
-----------------------------------

and you click on the ▼ icon, the last word will be moved down to the next line, changing the cell to this:

I'M AT THE LEFT OF THE SCREEN.
--------------------------------

---

**Note** If you push all the text out of a cell it will be blank, and should then be deleted using the Delete Row button, which can be found in the Row Operations section of the Operations Center.

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### ⏏ Compress Text (C)

The Compress Text icon reduces the left and right margins of the cell the cursor is on to squeeze the text into a smaller area. If you click on the Compress Text icon on the first cell, you will get:

I ' M AT THE LEFT OF THE  
SCREEN .

Clicking the Compress Text icon a second time, you will get:

I ' M AT THE LEFT OF  
THE SCREEN .

If you click the icon 4 more times, the cell will reach its maximum compression of 4 lines:

I ' M AT  
THE LEFT  
OF THE  
SCREEN .

If you click the icon ⏏ again, nothing further will happen. You cannot have more than 4 lines per caption.

### ⏏ Expand Text (E)

The Expand Text icon increases the margins within a cell and decreases the number of lines. It is the reverse of the Compress Text function. If you click on this icon on the first cell, which looks like the previous box above, you will get:

I ' M AT THE  
LEFT OF  
THE  
SCREEN .

If you click the icon 4 more times you will get:

I ' M AT THE LEFT OF THE  
SCREEN .

Nothing further will happen when you click the icon again.

## Alternate Break (A)

Clicking on the Alternate Break icon results in changing the way that text is stacked within a cell, by alternating whether the top or the bottom line should display more text. Suppose the first cell looks like this:

I'M AT THE LEFT OF THE SCREEN.
-----------------------------------

When you click on the Alternate Break icon, the cell will look like this:

I'M AT THE LEFT OF THE SCREEN.
-----------------------------------

If you click on the icon twice more, the text will square up:

I'M AT THE LEFT OF THE SCREEN.
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**TIP FOR FORMER DOS CAPTIONMAKER USERS:** Deleting a Line Using CaptionMaker for DOS, if you deleted all of the information on a line, and hit delete one more time, you could completely eliminate a line. You cannot do this in the Windows version. In order delete a line, you must use the Delete Row button in the Operations Center.

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## Working with the File Demo1.cap:

Let's work on the first three cells that look like this:

1	I'M AT THE LEFT OF THE SCREEN.
2	SO CAPTIONS OF WHAT I SAY APPEAR AT THE LEFT OF THE
3	SCREEN, TOO.

And suppose we would like the cells to look like this:

1	I'M AT THE LEFT OF THE SCREEN.
2	SO CAPTIONS OF WHAT I SAY
3	APPEAR AT THE LEFT OF THE SCREEN, TOO.

First click 6 times on the Row 2 Push Last Word icon so that 6 words from the end of Row 2 move to the beginning of Row 3. Then click on the Compress icon on each row several times until you see the cells look like the above table. If you make a mistake, click on the appropriate icon to fix the mistake. Manipulating text using the Work Area icons will quickly become second nature.

In the process of breaking the text into different cells, you may need to create new rows and delete blank rows. If you need to create a new row above a row, click the mouse on that row and click the Insert Row(s) button in the Operations Center. If you need to delete a blank row, click on the Delete Row(s) button next to it.

## The Demo2.cap File

After working with all the cells you will create a file, which should look like this:

Row	H	V	Caption/Subtitle
1	B	C	I'M AT THE LEFT OF THE SCREEN.
2	B	C	SO CAPTIONS OF WHAT I SAY
3	B	C	APPEAR AT THE LEFT OF THE SCREEN, TOO.
4	B	C	NOW I'M AT THE RIGHT OF THE SCREEN,
5	B	C	SO MY CAPTIONS APPEAR AT THE RIGHT.
6	B	C	NOW I AM GOING OFF-SCREEN.
7	B	C	TO INDICATE THAT I'M OFF-SCREEN,
8	B	C	WHATEVER I SAY IS ITALICIZED.
9	B	C	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,
10	B	C	WE PUT CAPTIONS OF WHAT I SAY AT THE TOP,
11	B	C	SO THAT MY NAME IS NOT COVERED BY CAPTIONS.
12	B	C	UP UNTIL NOW, WE HAVE BEEN USING POP-ON CAPTIONS.
13	B	C	WHEN A NEW CAPTION POPS ON, THE OLD CAPTION DISAPPEARS.
14	B	C	THIS IS A PAINT-ON CAPTION.
15	B	C	ONE CAPTION BLOCK IS PAINTED ON THE SCREEN,
16	B	C	FROM LEFT TO RIGHT, ONE CHARACTER AT A TIME.
17	B	C	NOW THE ROLL-UP MODE.
18	B	C	THIS MODE IS NORMALLY
19	B	C	USED FOR TV NEWS PROGRAMS.

20	B	C	CAPTION LINES ROLL UP
21	B	C	FROM THE SCREEN BOTTOM.
22	B	C	ONE LINE AT A TIME.
23	B	C	Captions can appear in lower case,
24	B	C	and also in Spanish:
25	B	C	¿Dónde está el niño?
26	B	C	Está en la casa.
27	B	C	And in French:
28	B	C	Parlez-vous français?
29	B	C	Répétez, s'il vous plaît.
30	B	C	THE FOLLOWING SPECIAL CHARACTERS ARE ALSO AVAILABLE.
31	B	C	á é í ó ú à è ì ò ù ä ë ï ö ü â ê î ô û
32	B	C	THEY INCLUDE THE MUSIC SYMBOL AND ACCENTED CHARACTERS.
33	B	C	ç ã ñ õ â ¿ ¡ ¢ £ ¥ © ® ™ ° ß §

## Step 3: Caption Position and Attributes

During this step, you will be watching the video to see where the speakers are on the screen. We must also decide two things.

1. We must decide *where* on the screen the caption should go. Should the caption be at the top of the screen or the bottom of the screen? The left of the screen, or the right of the screen? Simultaneously, we will select the *justification* of the text on the screen, from among the choices of left, center and right.
2. Finally, some text should be underlined and other text should be italicized. (Italicized typically indicates an off-screen narrator.) You can apply these *attributes* to the text at this point in the process.

## Positioning of Captions on the Screen

In order to accurately position captions on the screen, you need to be aware of what the computer screen is telling you about the caption positions.




The Preview Window accurately portrays the way captions will appear on your final video. This is in contrast to a cell in the Work Area, which cannot represent the vertical location of a caption on the TV screen – it is one-dimensional, and the TV screen is two-dimensional.

If you have enabled the *Horizontal Position* and *Vertical Position* in the *Visible Columns* dialog box (View menu), you can figure out the position on the screen by looking at the numbers. The top of the screen starts at 1 (vertical position), and the left of the screen

starts at 1 (horizontal position). The maximum number of lines is determined when you choose subtitling or captioning. Basic left/center/right and position can be set along with justification by clicking a single button, as explained below under “Justification”. You can also set position (not justification) of a single caption by clicking and dragging the caption inside of the Preview Window with the mouse.

### **Justification**

You will note that the buttons on the toolbar for left, center and right, have a blue L, a green C, and a red R at the top of the button. By default, these buttons do the following:

Icons	Preview Window Result
(Left Position, Left Justification) 	SO CAPTIONS OF WHAT I SAY
(Center Position, Center Justification) 	SO CAPTIONS OF WHAT I SAY
(Right Position, Right Justification) 	SO CAPTIONS OF WHAT I SAY

**The Preview Window (shown on the right) shows relative position of different captions.**

#	H	V	J	Caption/Subtitle
2	L	B	L	SO CAPTIONS OF WHAT I SAY
2	C	B	C	SO CAPTIONS OF WHAT I SAY
2	R	B	R	SO CAPTIONS OF WHAT I SAY

**The Work Area shows how rows within each caption appear in relation to each other. The other positioning data, Horizontal (H), Vertical (V) and Justification (J) data are displayed in their respective columns.**

You will note that each of the justification buttons do two different things to the text:

1. They set text at a horizontal position on the screen –left, center and right. (The colored letter on the button (L, C or R) indicates this information, and they always stay in the order L, C, R on the toolbar.)
2. Each of the three buttons also set the appropriate justification of the lines (in other words, whether lines are flushed left, centered or flushed right), regardless of the lines' horizontal location.

By default, the three buttons will produce the justifications that shown on the previous table: The Left button, for instance, will left justify the text, such that if you have two lines, both of them will start flush left. However, you can change these defaults. For more information, see “Chapter 8: Menus”.

### **Vertical Position:**

In captioning, there are only 15 possible vertical positions, which are numbered 1 through 15. To change a vertical position you can:

1. Use the mouse to move the caption in the Preview Window. The caption will snap to the nearest valid screen position.
2. Type in a number from 1 to 15 in the Vertical Position column in the appropriate row. The computer will not let you enter an invalid number.
3. Right-click on the Vertical Position cell on the appropriate row. Select the general position or other numeric value for the vertical position.

If you would like to change multiple vertical positions, you can select multiple cells by using **Shift** + click or **Ctrl** + click, and performing the right-click operation on a Vertical Position cell in the selected group.

### **Attributes: Choosing Italics, Underline and Color**

Select text within a cell by using the mouse, and then click the Italic or the Underline button on the toolbar. The text in that cell will change and can be displayed as *italicized* or underlined on the screen.

You may also apply the following color and other attributes to emphasize a single word or the whole caption (See details in Chapter 8: Menus.)

Normal: On-screen speakers

Italics: Off-screen narrators

Underline: Emphasis

## Working with Demo2.cap

We have provided a videotape to be used with this tutorial. This tutorial text starts at about 3.5 minutes from the beginning of the video right after this screen (as of August 2002):


**Now we will show you  
how the CaptionMaker  
software works.**

As you view the segment starting at burn-in time code 00:19:55:04, you will see our narrator, Valerie on the left of the screen speaking. Our narrator speaks slowly and distinctly on this tape. This is not the case for most captioning jobs. You should place this caption on the left margin under her so it is clear to the viewer that she is speaking.

### Lines 1-3: Left Position

Let's work on the first three cells that look like this:

#	H	V	J	Caption/Subtitle
1	L	B	L	I'M AT THE LEFT OF THE SCREEN.
2	L	B	L	SO CAPTIONS OF WHAT I SAY
3	L	B	L	APPEAR AT THE LEFT OF THE SCREEN, TOO.

Watching the video, we know that these 3 captions are to be placed on the left side of the screen. Click on the text area of Row 1 and then click on the Left position button  on the toolbar. The text will move to the left side on the Preview Window. Nothing will change on the Work Area screen. You can also click on the caption inside the Preview Window and drag the caption to any location you prefer.

You may also change the position of all three rows by first highlighting the three rows. Click on the row number 1 in the far left column; then hold the **Shift** key and click on the row number 3. This operation will highlight rows 1-3. Now click on the Left position button on the toolbar. This will position text of all three rows on the left side of the screen.

### Lines 4 and 5: Right Position

Now Valerie is on the right side of the screen, so you need to place the caption under her at the right.

Click on the row number 4, then hold the **Shift** key and click on the row number 5. This will highlight rows 4 and 5. Now click on the Right position button on the toolbar. This will position text of both rows 4 and 5 on the right side of the screen. Note the horizontal position under the column H has changed from C (center) to actual numbers.

#	H	V	J	Caption/Subtitle
4	R	B	R	NOW I'M AT THE RIGHT OF THE SCREEN,
5	R	B	R	SO MY CAPTIONS APPEAR AT THE RIGHT.

### Lines 6-8: Italics

Now Valerie is off-screen. Captions of an off-screen narrator are displayed in italics.

Click on the row number 6 in the far left column, then hold the **Shift** key and click on the button number 8. This operation will highlight three cells: 6, 7 and 8.

Now click the Italic button on the toolbar. The text in both the Work Area and the Video Preview Window should change to italic. In general, captioning style dictates that an off-screen narrator's captions appear in italic. But in cases where the narrator goes on and off the screen, you could get by without using italic attributes.

6	C	B	C	<i>NOW I AM GOING OFF-SCREEN.</i>
7	C	B	C	<i>TO INDICATE THAT I'M OFF-SCREEN</i>
8	C	B	C	<i>WHATEVER I SAY IS ITALICIZED.</i>

---



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**Clearing the Screen of Captions** A blank row clears (erases) existing captions on the video screen. This is the only way CaptionMaker can clear the screen. The start time of the blank row is the time at which the screen will be cleared.

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### Lines 9-11: Top Positioning

Captions 9 through 11 should be at the top of the screen because Valerie's name appears at the bottom of the screen. You should also use the normal font since she is visible.

Click on the row number 9 in the far left column, then hold the **Shift** key and click on the number 11. This operation will highlight three cells: 9, 10 and 11. Now right-click on any one of the three cells under the heading **V** (Vertical position) and choose *Top*.

### Lines 12-13: No Need to Do Anything

### Lines 14-16: Paint-On Mode

You may have programs where you can mix caption display modes. Lines 14 through 16 are to be displayed in the Paint-On mode.

Highlight these three cells and right-click on the **Display** column of any one of the three rows and left-click on *Paint-On*. The cells under **Display** column should now show “Paint-On” as shown below.

14	C	B	C	Paint-On	THIS IS A PAINT-ON CAPTION.
15	C	B	C	Paint-On	ONE CAPTION BLOCK IS PAINTED ON THE SCREEN, FROM LEFT TO RIGHT,
16	C	B	C	Paint-On	FROM LEFT TO RIGHT,

---

**TIP FOR FORMER DOS CAPTIONMAKER USERS: Changing Modes**  
In the DOS software, you would change from Pop-On to Paint-On mode by having a special control character sitting by itself on a line (such as ^T). In the Windows version on the row where you would like the change to take place, go to *Attribute* → *Display Mode* and select the display mode for that row only, or right-click on the **Display** column in the Work Area and pick from the pull-down menu.

---

### Lines 17-22: Roll-Up Mode

Captions 17 through 22 have already been formatted for the Roll-Up mode. Note that for the Roll-Up mode, each cell should contain only one line.

Highlight these six rows and right-click on the **Display** column of any one of the six rows and left-click on *Roll-Up*.

Again highlight these six rows and right-click on the **Horizontal** column of any of the six rows and left-click on *Other* to choose 4. The captions will be indented 4 characters from the left. Remember you can put a maximum of 32 characters on a caption line. For example, if you use 4 characters left indentation, you can have only 28 characters on that line.

While the six rows are highlighted, right-click on the *Justification* column in any one of them and left-click on *Left Justify*.

The cells under the **Horizontal**, **Justification** and **Display** columns should reflect all the changes you have made as shown below.

17	5	B	L	Roll-Up	NOW THE ROLL-UP MODE.
18	5	B	L	Roll-Up	THIS MODE IS NORMALLY
19	5	B	L	Roll-Up	USED FOR TV NEWS PROGRAMS.

20	5	B	L	Roll-Up	CAPTION LINES ROLL UP
21	5	B	L	Roll-Up	FROM THE SCREEN BOTTOM
22	5	B	L	Roll-Up	ONE LINE AT A TIME.

### Lines 23 and 24: No Need to Do Anything

### Lines 25 to the End: Multiple Captions on the Same Screen

We would like to place the captions of lines 25 and 26 on the same screen--one on the left and the other on the right, and at two vertical positions. We will do the same for the captions in cells 28/29 and also for 30/31 and 32/33.

We will show you how you can place two captions on the same screen. You need to place the desired two captions at different locations on the screen. At the time of sending the captions, we will show you how to send both captions at the same time.

Click on the row number 25 and while holding the **Ctrl** key click on the number 28 which will highlight both rows 25 and 28. Now click on the Left Position/Left Justify button on the tool bar.

*You may also accomplish the same result by doing the following: Right-click on any of the two cells under the heading H and choose Left position. Now right-click on any of the two cells under the Heading J and choose Left Justify.*

25	L	13	C	Pop-On	¿Dónde está el niño?
26	R	B	C	Pop-On	Está en la casa.

Finally, do the same operation on row numbers 30 and 32. This time simply change the vertical position by right-clicking on any one of the 2 cells under the Vertical Position "V" and choosing *Other position 1*.

When you are all done with the script, compare your work with *Demo3.cap*. It shows you the formatted text with placement and attribute information. When you are satisfied with your work, you are ready to actually caption your tape.


## The Demo3.cap File

After working with all the cells you will create a file, which should look like this:

Row	H	V	J	Display	Caption/Subtitle
1	L	B	L	Pop-On	I'M AT THE LEFT OFF THE SCREEN
2	L	B	L	Pop-On	SO CAPTIONS OF WHAT I SAY
3	L	B	L	Pop-On	APPEAR AT THE LEFT OF THE SCREEN, TOO.
4	R	B	R	Pop-On	NOW I'M AT THE RIGHT OF THE SCREEN,

5	R	B	R	Pop-On	SO MY CAPTIONS APPEAR AT THE RIGHT.
6	C	B	C	Pop-On	NOW I AM GOING OFF-SCREEN
7	C	B	C	Pop-On	TO INDICATE THAT I'M OFF-SCREEN,
8	C	B	C	Pop-On	WHATEVER I SAY IS ITALICIZED.
9	C	B	C	Pop-On	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,
10	C	B	C	Pop-On	WE PUT CAPTIONS OF WHAT I SAY AT THE TOP,
11	C	B	C	Pop-On	SO THAT MY NAME IS NOT COVERED BY CAPTIONS.
12	C	B	C	Pop-On	UP UNTIL NOW, WE HAVE BEEN USING POP-ON CAPTIONS.
13	C	B	C	Pop-On	WHEN A NEW CAPTION POPS ON, THE OLD CAPTION DISAPPEARS.
14	C	B	C	Paint-On	THIS IS A PAINT-ON CAPTION.
15	C	B	C	Paint-On	ONE CAPTION BLOCK IS PAINTED ON THE SCREEN,
16	C	B	C	Paint-On	FROM LEFT TO RIGHT, ONE CHARACTER AT A TIME.
17	5	B	L	Roll-Up	NOW THE ROLL-UP MODE.
18	5	B	L	Roll-Up	THIS MODE IS NORMALLY
19	5	B	L	Roll-Up	USED FOR TV NEWS PROGRAMS.
20	5	B	L	Roll-Up	CAPTION LINES ROLL UP
21	5	B	L	Roll-Up	FROM THE SCREEN BOTTOM
22	5	B	L	Roll-Up	ONE LINE AT A TIME.
23	C	B	L	Pop-On	Captions can appear in lower case,
24	C	B	C	Pop-On	and also in Spanish:
25	L	13	C	Pop-On	¿Dónde está el niño?
26	R	B	C	Pop-On	Está en la casa.
27	C	B	C	Pop-On	And in French:
28	L	13	C	Pop-On	Parlez-vous français?
29	R	B	C	Pop-On	Répétez, s'il vous plaît.
30	C	T	C	Pop-On	THE FOLLOWING SPECIAL CHARACTERS ARE ALSO AVAILABLE.
31	C	B	C	Pop-On	á é í ó ú à è ì ò ù ä ë ï ö ü â ê î ô û
32	C	T	C	Pop-On	THEY INCLUDE THE MUSIC SYMBOL AND ACCENTED CHARACTERS.
33	C	B	C	Pop-On	ç ã ñ õ å ¿ ¡ ¢ £ ¥ © ® ™ ° ß §

## Clearing Captions

If you check the video, you will see a little pause (about a second) in the dialog between row 8 and row 9. We will create a blank row to clear the caption on row 8 for a second or so. Click the cursor on row 9 and then click on the button  to create a blank row between row 8 and row 9.

8	C	B	C	Pop-On	<i>WHATEVER I SAY IS ITALICIZED.</i>
9	C	B	C	Pop-On	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,

This will create a blank row between rows 8 and 9 as below

8	C	B	C	Pop-On	<i>WHATEVER I SAY IS ITALICIZED.</i>
9					
10	C	B	C	Pop-On	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,

## Step 4: Manual Captioning With and Without Time Stamps

If you are using our sample digital video clip provided on the CaptionMaker CD, you will find the first spoken audio starts at 00:00:07:24.

We also sometimes provide a videotape to be used with this tutorial. This tutorial text starts at about 3.5 minutes from the beginning of the video right after this screen:


<p><b>Now we will show you how CaptionMaker software works.</b></p>
---

As you view the segment starting at burn-in time code 00:19:55:04, you will see Valerie on the left of the screen speaking. We will caption the segment using the following three different methods.

### Step 4a: Manual Captioning

Using this method, you can send captions to the recording VCR or broadcast out directly.



1. Make sure the  button on the Time code section (shown below) of the Work Area is *not* in the down position.
2. Put the cursor on the row where you would like to begin captioning.
3. Run the playback and the record VCRs.

4. When you hear the first word of each cell of text spoken, press the **[+]** key. The caption should appear on the video screen and in the Preview Window

No time stamps will appear in the **Start** column. Keep on pressing the **[+]** key for each and every row in the same fashion. Captions will go out and will be recorded in real time. You cannot stop in the middle of the video.

If you make a mistake, you do not have the advantage of adjusting time stamps to correct it. The tapes must both be rewound and the process must begin again unless you are using a video editing system, which can stop both tapes at the same time and restart the tapes and resume back to sending captions from that point on.

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**Drop Frame NTSC/PAL** If the time code formats on your work tape and master tape are different, you may convert them between NTSC and PAL and also between drop frame and non-drop frame. See **Convert Time Code** in “Chapter 8: Menus” for details. To convert time codes from one to another (PAL and NTSC or drop to non-drop) highlight the time codes you would like to convert and use this option to convert them from one to another.

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## Step 4b: Captioning with Time Code Reader

Using this method, you can assign a time code (using the time code from the video) to each caption, and then use Step 5a to do the final captioning.

This is the most professional way to caption. Press the **[+]** key when the first word of each cell of text is spoken in order to capture the time code associated with this word (from the Source VCR). It is impossible for a caption to appear at the wrong time, provided that you pressed the **[+]** key at the proper time. If you did not press the **[+]** key at the proper time, it is easy to use time code to correct mistakes. For example, if you are captioning and make a timing mistake at 00:02:30:45, you would rewind the tape to a point before that time (typically 5-6 seconds) and then play the tape. When the tape reaches the point where you made the timing mistake, you would press **[+]** on the row with the caption, which had the incorrect time. Assuming you pressed **[+]** at the right time, your timing mistake would be corrected and you could continue on with time stamping the rest of the tape.

Don't worry about trying to compensate for the amount of time it takes you to react (the time between hearing a word and pressing the **[+]** key). Relax and work at an unhurried, even pace. This time lag can be easily compensated for at a later time, as long as your reaction time lag is consistent (e.g., always .5 second late).


There is a file on the disk, *Demo.cap* that has time codes already associated with the text. You can compare your file with this one to check whether you are on the right track.

## Step-by-Step Procedure to Capture Time Codes

If you are using a digital video, choose *Video Playback*.

If you are using a videotape, from *Time code* → *Properties* → *Reader* menu select your time code reader. If you have never installed the software to communicate with the time code reader, the appropriate installation routine will walk you through the process at this point. For details see Chapter 2.



1. Make sure the  button on the Time Code section of the Work Area is in the down position so that you can to read time code.
2. Play the Source VCR.
3. When you hear the first word of each cell spoken, press the **[+]** key on the far right side of the keyboard in order to capture the time code to the Start column. The time code at which you press **[+]** appears in the Time Code Start column
4. As you press **[+]**, the cursor will move down to the next caption. Press **[+]** in order to send a caption and get the time code for the next caption. Keep on pressing the **[+]** key for the rest of the file in the same fashion.

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**Fine tuning of time codes** If you need to change a time code by small amount, click the cursor on the time code cell and press **Ctrl+** or **Ctrl-**. This operation will change the time code value by 1 frame.

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## Correcting Time Code Mistakes

If you make a mistake with time code, or if you spot a formatting error or typo, you can stop pressing the **[+]** key and fix the formatting, positioning or typographical error. If you need to fix the time code, follow the steps below.

1. Rewind the tape to a point just prior to the mistake.
2. Move the cursor to the place in the text where the error occurred.
3. Follow Steps 2 to 4 above and continue recording the time codes for the rest of the file.

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**Calculate send time for Pop-On** This feature is very important when you caption a short commercial. In a commercial, if you add a Pop-On caption at the very beginning of the video, you may lose the caption. Since Pop-On captions need build-up time to be displayed on a particular frame of the video, you have to make sure that the onset of the caption is within the first frame of the video. Right click on the first time code under the Start Time column and make sure the send time of the first caption is well inside the beginning of the video.

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## Step 4c: Captioning with PC System Timer

Using this method, you can assign a time stamp to each caption using the computer system timer and then use Step 5b to do the final captioning. The PC System Timer emulates time code – but since it is only an emulation, it is not as effective or efficient as using real time code.

The PC System Timer method uses the clock inside the computer as a timing mechanism. The work of synchronizing the computer's clock to the script, however, must be done manually, by choosing a reference point on the video before the first caption. The reference point could be the beginning of bars and tones or the beginning of theme music or something that you can easily identify as a specific point on the video.

Please read Step 4b for time code for a better understanding of PC System Timer even if you are not using time code. Working with time code is much *simpler* than working with the PC timer. Time code has a one-to-one correspondence with each frame of the video. When using time code method, you do not need a reference point because the time code moves forward and backward along with the tape. You can stop time coding any time and resume time coding from that point on at any time later. But with PC timer, you need to reset the PC timer any time you stop time stamping. When using the PC Timer, you are working in real time, which does not move backward with the tape. It moves forward only. It never stops. But you can reset the PC System Timer to match the time stamp in your caption script at any time using a PC timer reset technique. The reference point should appear a row before your first caption.

If you are using a digital video, choose *Video Playback*. The first caption appears at 00:00:07:20

We are going to use our demo videotape and use the screen with the following title as our reference point.

**Now we will show you  
how CaptionMaker  
software works.**

This title appears at 00:19:55:04 time code and about 10 seconds before Valerie appears on the left of the screen and starts saying:

I AM AT THE LEFT OF THE SCREEN


Create a blank row at the beginning of the file and use the time code associated with this line as the reference point.

So the first few lines of our demo3.cap file now look like this.

1	C	B	C	Pop-On	Caption/Subtitle
2	L	B	L	Pop-On	I'M AT THE LEFT OFF THE SCREEN
3	L	B	L	Pop-On	SO CAPTIONS OF WHAT I SAY
4	L	B	L	Pop-On	APPEAR AT THE LEFT OF THE SCREEN, TOO.
5	R	B	R	Pop-On	NOW I'M AT THE RIGHT OF THE SCREEN,
6	R	B	R	Pop-On	SO MY CAPTIONS APPEAR AT THE RIGHT.

## Step-by-Step Procedure to Capture PC System Time

From *Time code* → *Properties* → *Reader* menu select *PC System Timer*.

1. Make sure the  button on the Time Code section of the Work Area is in the down position.
2. Choose a reference point on the videotape that begins at least 5 to 10 seconds before your first caption. Referring to the example in the box above, there is more than a 5-second gap between the reference point and the first caption. That means during auto-captioning later, you will have enough time to set the reference point and then start the AutoSync. If you are a quick typist, five seconds is sufficient.
3. Run the Source VCR.
4. When you reach the predetermined reference point on the tape (with the cursor on the reference point row in your script), press the **[+]** key when you see or hear the reference point.
5. Continue to the first row of captions. When you hear the first word of each row of text spoken, press the **[+]** key. Timing information will appear under the Start column corresponding to the row you just sent out as a caption. As you press **[+]**, the cursor moves down to the next caption. Press **[+]** again to send the next caption and get the timing information for it.

## Correcting Time Code Mistakes

If you make a mistake, or if you would like to stop time-stamping and take a break, you *do not* have to go back to the initial reference point in order to continue captioning.

1. Rewind the playback tape to a location a few seconds before the point you would like to resume time-stamping.
2. Bring the cursor to the last row you time stamped correctly.
3. Right-click on the time code cell of that line. A small window will open up. Click on the *Reset PC Timer to the time code*. The PC Timer will be ready to reset the clock to the same time as the time stamp on that row.
4. Run the Playback VCR.
5. As soon as you hear the first word of that row spoken, press the [+] key to time stamp the caption on that row. This action will actually reset the clock to that time. Now keep on pressing the [+] key for rest of the file.

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**Fine-Tuning AutoSync** If the captions appear too early, press [Alt] + [-] to slow them by one-third of a second. Press it again to slow the display of captions by another third, and so on. If captions appear too late, speed them up with the [Alt] + [+] key; the same rates apply. The only sure way to synchronize the time code and program is to use time codes on the tape along with the CaptionMaker.

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## Step 5: AutoSync Captioning with Time Stamp

In this step the computer will read the time code or the PC System Timer and send the captions automatically, according to the time stamp associated with every caption row. To use this step you previously had to perform either Steps 4b or 4c.

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**Tip** Although Windows is a multitasking operating system, performing other tasks (such as checking email) during the AutoSync process is not recommended. This is because individual captions might be sent late to the recording VCR if too much computing power is being used on tasks other than captioning.

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## Step 5a: AutoSync Captioning with Time Code

1. Make sure the  button on the Time Code section of the Work Area is in the down position.
2. Rewind the playback tape to the beginning.
3. Run the playback tape and the recording tapes.
4. Click on the *Caption* → *AutoSync* menu option or on the AutoSync button in the toolbar to start automatic captioning.

The word AutoSync in the status bar will start flashing. Editing features of the program will not be accessible until the AutoSync task is finished. Click again on the AutoSync button to stop the job.

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**Adjusting Time Cue to Correct Human Reaction Time** When you press the [+] key to record the time stamp, there is always a possibility of an error of few frames. The source of the error is the reaction time from the time you hear the first word spoken until the time you press the [+] key. Assuming it is always a consistent error, you can change the time stamp of all the rows by a few frames using the *Ripple time code* option. Left-click on the Start column header to highlight all the time cues, and then right-click on the time code cell of the very first row and choose *Ripple time code*. Now you can enter the new time cue (a few frames more or less than the time cue of the first row) to replace the time cue of the first row and ripple the time cues for the whole file.

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## Step 5b: AutoSync Captioning with PC System Timer

1. Make sure the  button on the Time code section of the Work Area is in the down position.
2. Rewind the playback tape to the beginning.
3. Right-click on the time code cell of the row with the reference point. A small window will open up. Click on *Set System Timer to Current Start Time*. The PC Timer will reset to the same time as the time stamp on that row
4. Run both playback and record VCRs.
5. As soon as you see the Reference point on the video, click on the AutoSync button or *Caption*>*AutoSync* menu in the toolbar to start automatic captioning.

The word “AutoSync” will display in the middle of the status bar. You cannot access any of the editing features of the program until AutoSync is finished. Click again on the AutoSync button to stop. The system will then automatically insert captions into your tape.

Note that VCR motors do not always run at exactly the same speed. A consequence of this is that captions *may* become slightly out of sync with the dialog on a long video when using AutoSync.

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**Final AutoSync Note that the cursor does not need to be on a specific place in the text in order to start AutoSync. In fact, if you rewind or fast-forward the video while AutoSync is on, the CaptionMaker will read the time code and pick up AutoSync from any place in the file.**

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## Two Captions Appearing Simultaneously

You may wish to have two or more captions appear on the screen at once, but in different positions (the top and bottom of the screen, for example). The need for this may arise in a program where two people say different things at the same time. If you have two captions with the same Start Times, both will appear on the screen simultaneously. The easiest way to do this is to skip over one of the rows while assigning time code, and later cut and paste the Start Time from the row where you did assign time code to the row that you did not assign a time code to. Of course, you should assign different positions to these captions so they will both be visible.

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**Tip You may use the function *Same Start Time* to assign same time code to multiple rows. Highlight multiple rows with time code, right-click on any highlighted row and then click on *Same Start Time*.**

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## Captioning Two Languages on the Same Video

CaptionMaker can be used to caption two languages on the same video in a limited way.

### With ITV-Injector/DV-2000/DV-3000

CPC distribution CD contains a utility software CaptionMerge. First create two CaptionMaker .cap files for two languages. Then export two files to Ultech DV2000/DV30000/ITVInjector (\*.ult) file format.

Now run CaptionMerge software and do the following:

- Choose the first file for CC1 and
- Choose the second file for CC2 to CC3
- Choose CC2 or CC3 for the second language
- Choose the final Destination (merge) ULT file
- Finally, click on the Merge File button

Use this final .utl with the DV2000/ItvInjector.

*Make sure you have DV2000/ItvInjector software version 3.5 or higher.*

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**Note: Channel 1 and Channel 2 occupy the same space inside the Field 1. The same is true for Channel 3 and Channel 4. When you caption two channels in the same field, there is always fight with the space between CC1 and CC2. CC1 has the first priority. Whatever space is left, is used by CC2. It is good idea to para-phrase the text and make it short in both languages when you do CC1 and CC2 caption simultaneously.**

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## With Other Encoders

### Using one computer

You can caption in CC1 or CC2 (Field 1) in one pass and then run the captioned video through the encoder and caption CC3 or CC4 (Field 2) in the second pass. Make sure the option *Allow existing field 1 data pass through untouched* under the *Caption > Caption Properties > Control* menu is checked.

### Using two computers

You can caption a video in CC1 or CC2 (Field 1) and CC3 or CC4 (Field 2) at the same time.

The encoder must be connected to two computers via

1. a serial cable or a modem,
2. 2 serial cables, or
3. 2 modems

Invoke the *Caption → Device → Properties* option.

You have to make sure that you set the following items properly.

1. Channel (C1, C2, C3 or C4)
2. Allow existing field 1 (or 2) data to pass through untouched.

3. *Send caption data if available* box is checked.
4. *Caption 2 or more channels – send init code for each line* box is checked.

In the previous dialog box, CPC is set to caption in Channel 3 (field 2) under one of the following two situations:

1. caption data is sent to the encoder in channel 1 simultaneously via a modem or a serial cable or,
2. the video is already captioned in channel 1

A few important points to note:

You can have either of the following situations:

1. Both computers running CaptionMaker software or
2. One computer running CaptionMaker and the other computer running another captioning software.

You may mix and match any of the two methods of captioning:

1. Live or Realtime or,
2. Live Display or,
3. Post Caption.

In *Live Realtime* method, you can use either a steno machine or a Speech Recognition software to send the caption live.

In *Live Display* method, you have to have the text prepared already. Then you can send the captions by pressing the (+) key in real time by listening to the dialog.

If you have access to the time code of the video, you may use the *Post Caption* method. You must have a already prepared time stamped file. Then you can invoke the AutoSync function and captions will go automatically synchronized with the video.

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**Note: You cannot caption Channel 1 and Channel 2 simultaneously using this technique since both Channel 1 and Channel 2 occupy the same space inside the Field 1. The same is true for Channel 3 and Channel 4.**

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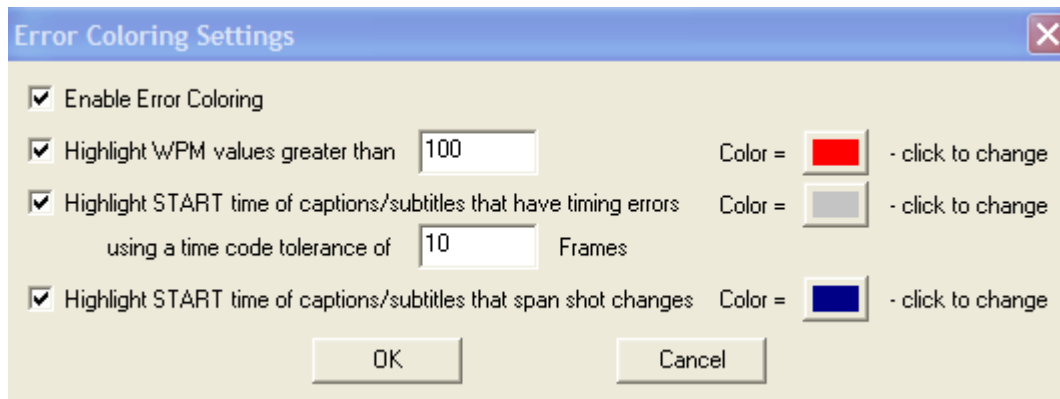
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## AutoSync Error Checking


If this option *Caption > AutoSync Error Checking* is checked, CaptionMaker will go through the whole file and make sure there is no missing time codes or the time codes not in ascending order before starting AutoSync. It is a good idea to have this option checked. That way for a long video you do not have to wait for long time until the error is caught and AutoSync stops at that point.

## Error Checking

If this option *Caption > AutoSync Error Checking* is checked, CaptionMaker will go through the whole file and make sure there is no missing time codes or the time codes not in ascending order before starting AutoSync. It is a good idea to have this option checked. That way for a long video you do not have to wait for long time until the error is caught and AutoSync stops at that point.



## Final Checking

This is a very important function to check all timing and formatting errors before you do the final encoding. The option is available under *Caption > Final Checking* menu and also can be accessed by clicking on the  icon at the top left corner of the screen. You can set your favorite parameters on the following window and check for errors after preparing a caption file and before using that file for encoding or any other purposes.

When you invoke this option you will see a dialog box below where you may choose options related to time code tolerance, reading speed of captions, maximum characters per line, unacceptable characters for captioning, etc.

## Timing Errors Settings

When you caption a video, it is very important that you conform to maximum WPM for caption, 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 give enough time for a Pop-on caption to build-up, the caption would not appear at the desired time you assigned. For Pop-on captions, it takes about a second for every 50 characters of text. If the difference of time codes of the previous caption and this caption is less than 1 second for a caption of 50 characters, the caption will appear little later than the assigned time code. To check all these errors on the fly, you can invoke the option under *Caption > Timing Error*

*Settings menu.* You can check any one of the following items and assign different colors for each error in the following dialog box.



## Find Shot Changes

You can find the shot changes in any video (wmv, avi, mov, mpeg, m2v etc.). It is a good idea not to have a shot change inside the duration of any caption in Pop-on mode. Try to place the caption after a shot change or finish displaying a caption before a shot change occur. It is more for esthetic purpose.

After you open caption file with the appropriate video file, to find the shot changes, click on *Tool > Find Shot Changes*.

It will take a while depending on the length of the video to find the locations of all the shot changes. When you save the caption file, the shot change information will be saved in the .cap file. So when you open the .cap file again later, you do not need to find shot changes again.

After finding the shot changes, when you play the video, the next shot change indicator appears right below the Time code display in HH:MM:SS:FF format. Next shot change display color becomes RED when it is less than 10 seconds from the next shot change.

You can also click the two buttons ( ) next to the time code display area to move to the previous and next shot change locations.

## Digital Video: CaptionMaker-DV, NLE & HD

The CaptionMaker-DV/NLE/HD come with all the features of the CaptionMaker-Classic, plus additional exciting features that make it easy to caption a video from your hard drive. This section will guide you through the process of captioning a video from your hard drive.

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**VTR Control with VPedal inside CaptionMaker** You can control (play, pause, fast forward, rewind etc.) a digital video file using vPedal foot pedal controller ([www.vPedal.com](http://www.vPedal.com)). One interesting feature of the vPedal foot controller is the "release back" function which is available under VTR Control >> vPedal menu option. Release back time is user selectable.

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Once the Play button on the VTR Control) is first clicked, you will be able to use the Pause function on the pedal to toggle between Play and Pause but the first time you play the video, you must start it manually by clicking the mouse on the Play button.

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## Open Video File in CaptionMaker-DV, NLE & HD

Click on the  Video Camcorder icon located in the Preview Window area. A dialog box like the one below will open.

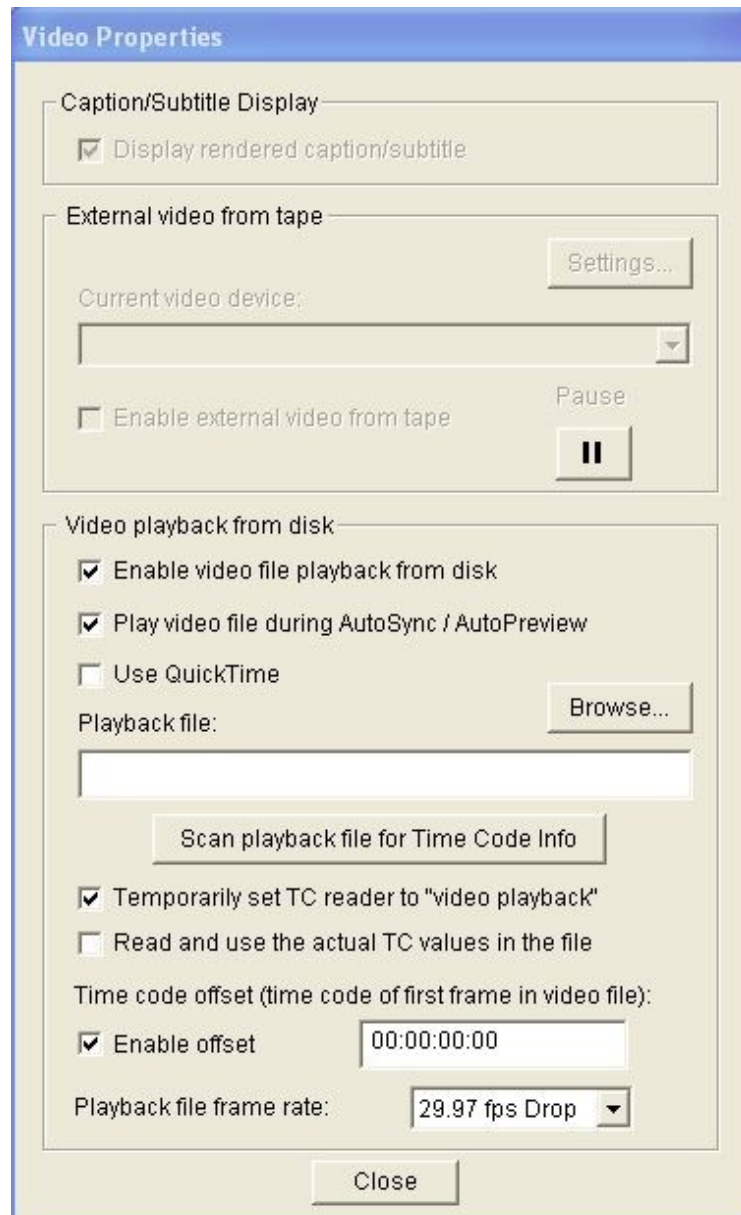
---

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RealOne video CaptionMaker relies on Windows engine to play all video files. At the time writing this manual, WMP does not play rm files. As a result, CaptionMaker can't play RM, or *Real Media* files. To open a .RM file, you may install a third party software which allows WMP play a .RM videos and then you can open a RM file in CPC. You may download the software from [www.free-codecs.com/download/Real\\_Alternative.htm](http://www.free-codecs.com/download/Real_Alternative.htm).

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Make sure that you unselect the *Enable external video from tape* button, but leave *Display rendered caption/subtitle* selected. Select *Enable video file playback from disk* and make sure *Play video file during AutoSync/AutoPreview* is selected (unless you are planning to use a video feed from a USB device for AutoSync only). Click the Browse button. Find the video file on your hard drive, and then click Close.

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**QuickTime Movie: CaptionMaker made a special effort to play QuickTime mov even though WMP can't play MOV files. You have to check the box for QuickTime files when you open the video.**

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**Read and use actual TC values in the file**

Checking this box will read the actual TC from a digital video (Mpeg and DV), if and only if the digital video was recorded with TC in special TC area of the video file. Normally digital videos do not have internal timecode.

Unless CaptionMaker reads internal time code of a digital (Mpeg & DV) video, it assigns 00:00:00:00 to the first frame of the video and then counts the frames and assigns timecodes to any frame according to drop frame (29.97 fps) or Non-drop frames (30 fps).

**Temporarily set TC reader to “Video Playback”**

If you normally use a timecode reader to read timecode from a video tape, you can check this box to read timecode for a video file. This way, later on when you choose to play video tape, you will fall back to your choice of timecode reader.


**Video file frame rate**

Most digital videos are created at 29.97 frames/second (drop-frame). Unless you know that the video was created at a different frame rate, use 29.97 fps for the Video file frame rate.

**Enable Offset**

Checking this box and assigning a desired timecode value, you can match the burn in timecodes of a digital video when you playback the video. Adding an offset will add the offset value to the timecode when it is displayed.

## Digital Video Time Code

Go to *Time Code* → *Time Code Reader Properties* menu or simply click on the  icon in the Time Code bar to open up the Time Code Reader Properties. Once there, select *Video Playback* from the drop-down menu. Now you can assign time code to the captions. See *Step 4b: Captioning with Time Code Reader* earlier in this chapter to learn how to break the script into individual captions and time stamp the script to synchronize the captions with the audio.

CaptionMaker counts the frames of digital video and convert them to SMTE time codes. If you use a Mpeg2 video, CaptionMaker can read embedded time codes in Mpeg2 video too. To read time codes directly from the video you need to click on *Scan Playback File for Time Code Info*.

## Video File Automatic Shuttling

You can automatically shuttle the video file to the time code of the selected row. When enabled and you click on a row, the video file quickly moves to the start time code of the row you clicked on.

This feature is only enabled under the following conditions:

When the “mark time codes on send lines” feature is enabled (via the “time code” menu or the icon in the “time code” display section of the program).

When a video file is loaded and enabled during editing, and it is stopped (not playing and not paused).

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**Note: If you do not like this feature and like to turn it off, you may uncheck the item Enable Video Auto Shutting from the Time Code menu.**

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## Drop Frame vs. Non-Drop Frame Time Code

There is no time code track on the A/V file. CPC keeps track of the video frames starting with 00:00:00:00 time code for the first frame of the video and keeps a frames counter that counts 29.97 frames per second (on average). The exact counting mechanism is bit more complex. This is exactly the same way drop frame time code is used for videotape format. That’s why the time code from the Video Playback acts in the same way as the drop-frame time code does for a videotape format. If you have a video file on the hard drive that is exactly one hour long according to the clock on your wall, the very first time code of the first frame of the video is 00:00:00:00 and the time code of the very last frame of the video is exactly 01:00:00:00. On the other hand, the time code of the very last frame will be 00:59:56:12 for Non-Drop frames. There is difference of 00:0:03:18 frames.

## Video File Time Code Offset

This option allows you to specify the time code value for the first frame of a video file selected for play back. If you have a digital video with burn-in time code, you can adjust the time code offset matched with the time code of the first caption. This way, the time code displayed in the time code display window and time codes for the captions will match with the burn-in time code.

## Going Back to Videotape Format for Reference

There are number of reasons you may *need* to go back to the videotape format from which the video on the hard drive has been created. They include the following:

Captioning a videotape using a closed caption encoder or subtitling using a character generator

Captioning/Subtitling a DVD

There are two issues when you need to go back to videotape format after the time-stamped file has been created using video from the hard drive.

1. Matching the time code from the video on hard drive to time code on the videotape
2. Drop frame vs. non-drop frame

If you are going to do the following, you **do not need** to go back to the videotape format

Captioning/Subtitling a video for webcast

Captioning video residing on a NLE system

### Matching A/V Time Code to Videotape Time Code

When you work with the video on the Hard Drive, the start time code is always 00:00:00:00. On a videotape, it is very unlikely that the starting time code will be 00:00:00:00. So it is necessary to “match” the time code from the videotape with the time code from the video on the hard drive.

There are two preferred methods for doing this.

1. The easiest way is to originally put visible burnt-on time code (at the top left corner) onto the videotape before converting the A/V to an A/V file. Then matching the time code of the A/V file and the actual time code from the videotape format is very simple. You can simply move through the video on the hard drive slowly, frame-by-frame until you find the burnt-on time-code for the very first caption.
2. The other method is slightly more complicated. It involves finding the actual time code of the first caption directly from the videotape. Some tape decks have digital time code readouts. You may get the time code for the first audio, which is captioned from the readout display by playing the tape and pausing the tape at the onset of the first audio. Or you may use the CaptionMaker software to get the time code from the videotape as long as you have a time code reader in the computer running CaptionMaker software.

After noting the time code of the first caption from the videotape, you are ready to match the time codes on the file you created from the video on the hard drive.

1. Highlight the time code column by clicking on the **Start** header of the time code column
2. Right-click on the first caption and select *Ripple Time Code*.
3. Enter the burnt on time-code shown in the preview window.

This will ripple all the time codes starting with the true time code of the videotape.

## Drop Frame vs. Non-Drop Frame

If you have to go back to the videotape format with non-drop frame time code, you need to convert all the time codes to non-drop frame time codes. Go to *Time Code* → *Convert Time Code* menu. Choose the option to convert from drop frame to non-drop frame.

## The Final Step

Once you have prepared the script with time code for the video on the hard drive, you have a number of different options, depending on the type of media you would like for your final product. Here are a few examples, which are described in details for different media.

### Captioning a Videotape with Drop-Frame Time Code

You would like to caption a videotape that uses drop-frame time code. In this case the only thing you need to do is to “match” the time code from the videotape with the time code from the video on the hard drive by following the procedure above. Now you are ready to use the file you have prepared to encode the captions onto the videotape. Follow the steps in the section below, “Encoding Videotape Using a Time Code Reader and an Encoder”.


### Captioning a Videotape with Non Drop-Frame Time Code


If you would like to caption a videotape that uses non-drop frame time code, you need to first “match” the time code from the videotape with the time code from the video on the hard drive by following the procedure above.

Then you have to convert the drop frame time code to non-drop frame time code. Go to *Time Code* → *Convert Time Code* menu. After converting from drop frame to non-drop frame, you are ready to use the file you have prepared to encode the captions onto the videotape following the steps in the next section.

### Encoding Videotape Using a Time Code Reader and an Encoder

To switch back to see the video from the tape format and to choose the appropriate time code card and encoder, follow these steps:

1. Click on the  Video Camcorder icon located in the Preview Window.
2. Unselect *Enable Video file playback from disk* and *Play video file during AutoSync*.
3. Select *Enable external video from tape*.
4. Click on *Caption* → *Device* and choose the appropriate closed caption encoder.

5. Finally, click on the  icon in the Time Code bar to open up the *Time Code Reader Properties* dialog box and select your original time code reader card from the drop-down menu.

You are ready to AutoSync and caption the videotape using a time code card and a closed caption encoder as done by the CaptionMaker software.

## Caption/Subtitle a DVD

For a DVD, the process is the same as the process described above. You must “match” the time code (from the videotape you will use to make a DVD) to the time code you prepared using the video from the hard drive. You should also make sure the time code on the video is drop frame, otherwise you must convert the time code to non-drop frame following the steps described earlier. Once you have done this, you are ready to export DVD caption or subtitle files for your DVD authoring system.

For captioning, click on *Caption* → *Device*, choose *Generic Encoder*. Then click on *File* → *Export*, choose the group *Caption Formatted* and then select your DVD authoring system.

For subtitling, click on *Subtitle* → *Device* and select your DVD Authoring System. Using the font icon in the Preview Window toolbar, choose the desired font attributes and then click OK. Then go to *File* → *Export* and select the group *DVD/DVD2000/Webcast Subtitle* radio button. Choose your DVD Authoring System and continue. Once you are done, import the exported CPC files into your authoring system for subtitles.

Please consult the *Subtitling Chapter* for a detailed step-by-step tutorial to caption and subtitle DVDs.

## Caption a Video Using an NLE System With CCaption

If you are not using CaptionMaker, you would need another software CCaption-NLE to caption a video residing on an NLE system without using an encoder. Go to *File* → *Export* and choose the *Caption Formatted* radio button, then select *CPC/Leapfrog CCaption (\*.onl)* or *CPC-715 Online Caption (\*.onl)* from the drop-down menu. Enter a file name and click on Finish. Now you must import this file into CCaption-NLE. The instructions differ depending on which NLE you have, so it is best to consult the CCaption manual at this point.

## Caption a Video Using an NLE System With CaptionMaker-NLE/HD

To caption/subtitle digital video using CaptionMaker-NLE, check the chapter on CaptionMaker-DV/NLE/HD for details.

## Caption a Video for Webcast

For this process you must first choose the type of online media player you would like to use (RealPlayer, Windows Media Player, or QuickTime).

- Once you have chosen a media player and you have a compatible file for it, go to *File* → *Export* and select the *DVD/DV2000/Webcast* radio button.
- Then choose the desired file type from the drop-down menu.
- Name the file and click on Next. The dialog box will offer different options depending on the selected media player.

Please consult the *Webcasting section of this Manual* for detailed step-by-step instructions.

## Caption Tips

### Suggestions for Breaking Lines

Watching captioned programs on television will show you how professional captioning is done, including breaking text into individual captions, positioning the captions and use of time sequencing. You will notice that many times professional captioners adjust the timing of the captions to give uniform readability.

Various signs indicate that text needs to be broken into separate captions.

1. End a caption at the end of a sentence. The import file option can make these breaks automatically (“.”, “?”, and “!”)
2. End captions at commas and semicolons if they come at a natural pause in the dialog and conclude a phase. The import file option can make these breaks automatically as well, but there are many commas in English that are NOT good places to break text.

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

**Unformatted, Raw Text:**

<p>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.</p>
--

**A poor way to caption it:**

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

**A good way to caption it:**

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

We will go over some basic captioning guidelines. The first 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 (roman) font.

The next convention concerns centering and non-centering. Captions indicate the location of the speaker, and should appear under the speaker. However, if centering the caption interferes with a graphic and/or important on-screen visual information, then the caption should be moved to another location.

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:

1. Your captioning style should be consistent throughout the video.
2. Whenever possible, you should break captions into logical phrases. Captions randomly broken up may convey a different meaning than intended.
3. Captions can indicate the location of the speaker. For instance, a caption on the left side of the screen will indicate the speaker is on the left, while a centered caption shows that only one person is speaking throughout a scene.
4. Words can be emphasized with underlining.

5. Use *Attribute* → *Insert Music Symbol* to place a musical note at the beginning and end of musical lyrics. Never paraphrase lyrics. Use the title of the song when possible.
6. Indicate sound effects in parentheses in lower case: (boom), (applause).

## Suggested Styles and Conventions

Caption Media Program (National Association of Deaf) has created a style guide, which is available from [www.cpcweb.com/download/CaptionKey.pdf](http://www.cpcweb.com/download/CaptionKey.pdf).

This is a very helpful guide to understand the styles and conventions used to caption a video. We strongly encourage you to read this document before producing captioned video.

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# Chapter 5

## Subtitling

### Overview

The CaptionMaker can be used to subtitle multiple types of media:

Analog Video

DVD

Webcast

Digital Video (DV, Mpeg2 and video residing on NLE systems) with CaptionMaker-DV/  
NLE/ HD

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**Subtitling Digital Video If you like to subtitle digital videos like AVI, mov with CaptionMaker-DV/NLE/HD, go to chapter 6.**

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Subtitling is similar to captioning and consists of the same basic steps discussed in Chapter 4 (Transcribe, Import, Format, Position, Time Code). Subtitling does not involve the font and attribute limitations common to captioning. If you can see a font on the Windows screen, you can reproduce it on the subtitling device. For devices such as the MagniCoder Pro, DVD or DV2000, ITVInjector there are no extra steps to create these special character sets. However, for the Chyron Codi Character Generator, a small set of default Codi fonts are provided by the CaptionMaker. If you would like to use the Windows font of your choice with the Codi, you will need to convert the Windows font (or graphics image) into the appropriate formats using the optional Chyron Font Create software, which is available from CPC.

All fonts used for subtitling should have a border around each character to increase the contrast between the characters and the background. Therefore, it is advisable to choose fonts for subtitling that are thicker and taller and do not have serifs (curly tails on the letters).

Subtitling is typically intended for an audience that can hear, but cannot understand the original language of the movie or video. Therefore you do not need to indicate by subtitle placement which person is speaking or the presence of music or sound effects. However, you may occasionally wish to use subtitles instead of closed captions for a hearing

impaired audience. In this case you should use the captioning style (such as indicating sound effects) as discussed at the end of Chapter 4. Subtitles created with a character generator are easier to read than the output of a closed caption decoder.

## Subtitling Devices


Using CaptionMaker software you can subtitle videos on various media. In some cases you will use subtitle character generators or other subtitle hardware devices to create the final subtitled video. In other cases, you will simply create a file to be used by some other organization to place the subtitles on a specific medium. Hardware requirement details are listed in the table below.

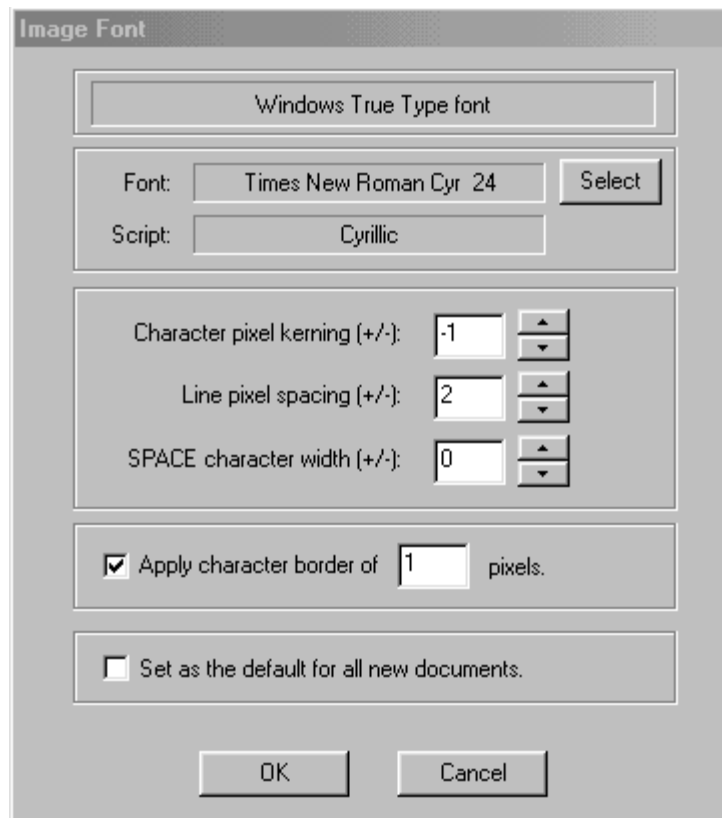
Media	Hardware	Transfer via	Software needed to transfer subtitles
DVD	DVD Authoring	Picture files	DVD Authoring
Webcast	Web Server	Media files	HTML editor like FrontPage and File Transfer software like WsFTP

## International Languages and Fonts

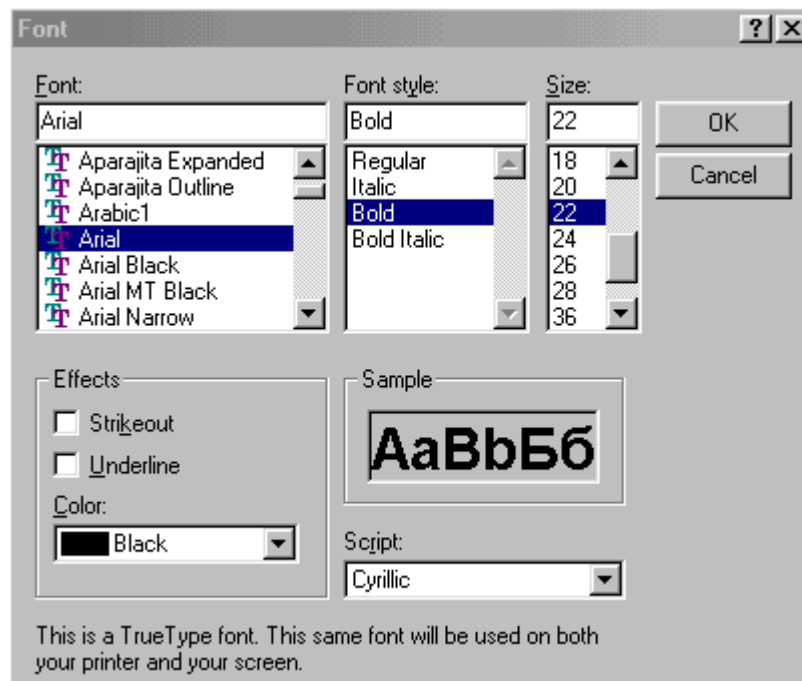
If you have a file in Microsoft Word or WordPerfect in a language other than Western European languages such as English, Spanish, French, German, Portuguese or Italian, you may need to manipulate the text to see it in the Work Area. After importing a file, if you do not see the text in the appropriate language, you must change the font. CaptionMaker uses Windows Arial font, which covers almost all languages.

But for non-Western European languages, you must assign the font to the Work Area.

- Click on the Image Font  icon on the Operations Center. The *Image Font* dialog box will appear. Current font and script types are shown.
- Click on the Select button next to the current font type. (This is illustrated in the screenshots that follow.)

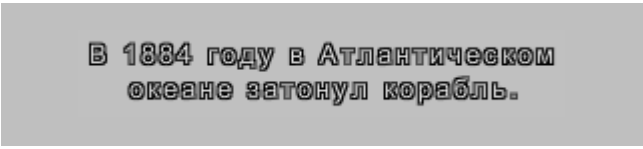


A *Font* dialog box will open. From the *Font* dialog box, the font type, style, size, color and script can be changed.



- Choose the appropriate font and size. But most important, click on the *Script* list box. It will probably show *Western*.
- Slide down the list box until you find the appropriate language group. Then click on OK.
- Again click on OK in the *Font* dialog box.
- CaptionMaker will ask whether you would like to update the font used in the grid area. Click on Yes. Now the Work Area will show the appropriate font for the language you are using.

There is a sample Russian file in the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder. Try to import the file and the Preview Window will show the font properly as below.



В 1884 году в Атлантическом  
океане затонул корабль.

But in the Work Area the text will look like this:

Â 1884 ãîäó â Àòèàíòè÷àñêîì  
îéààíà çàòîíîé èíðàáëü.

After you change the *Font Script* as described above, the text will also change to

В 1884 году в Атлантическом  
океане затонул корабль.

## Keyboards for International Languages

See the information on selecting a keyboard in Chapter 2. The CPC CaptionMaker allows use of any Windows keyboard layout.

## Chyron Codi and PC Codi Card

Users of older versions of the CaptionMaker should notice that there is no longer a need to run the PC Codi card driver software. The PC Codi driver automatically loads the fonts chosen by the user as soon as you try to send the first subtitle. It takes a while to load all the fonts (depending on how many are chosen in the Codi font list box).

After the fonts are loaded, the Default Horizontal Shift is set to 115. For most video sources, centered subtitles will now appear centered on the video screen. Minor adjustments may be necessary with certain video setups. To fine-tune the system, run any

professional video with centered graphics, and then send a subtitle to the video and compare it with the graphics' position. Change the value of the Horizontal Shift until the subtitle is centered with respect to the graphics.

The Codi device provides the character width and height from newly uploaded fonts and stores these widths in the Registry. This only occurs the very first time a font is loaded.

An Advanced button is now available for Codi font properties to allow special customized padding or spacing to account for non-exact widths. This is necessary for some fonts (e.g., italics) because the mechanism used to get the width apparently is not exactly what the Codi uses.

There are Codi fonts for five language sets (both normal and italics) in the *C:\Program Files\CPC\CaptionMaker\Fonts* folder. The files that end with an "i" are the italics fonts. The italics fonts are of same size and style as the normal fonts of the same group.

<u>Groups</u>	<u>Languages</u>	<u>Codi Fonts</u>
US ANSI	English, French, German Italian, Portuguese, Spanish	UsEuro41.cdi UsEuro41i.cdi
Eastern European	Czech, Polish, Romanian, Slavic	EEuro42.cdi EEuro42i.cdi
Greek	Greek	Greek42.cdi Greek42i.cdi
Russian	Russian	Russ57.cdi Russ57i.cdi
Turkish	Turkish	Turk45.cdi Turk45i.cdi

There are two radio buttons for Codi font types:

Codi default font format

Windows Font Convert Format

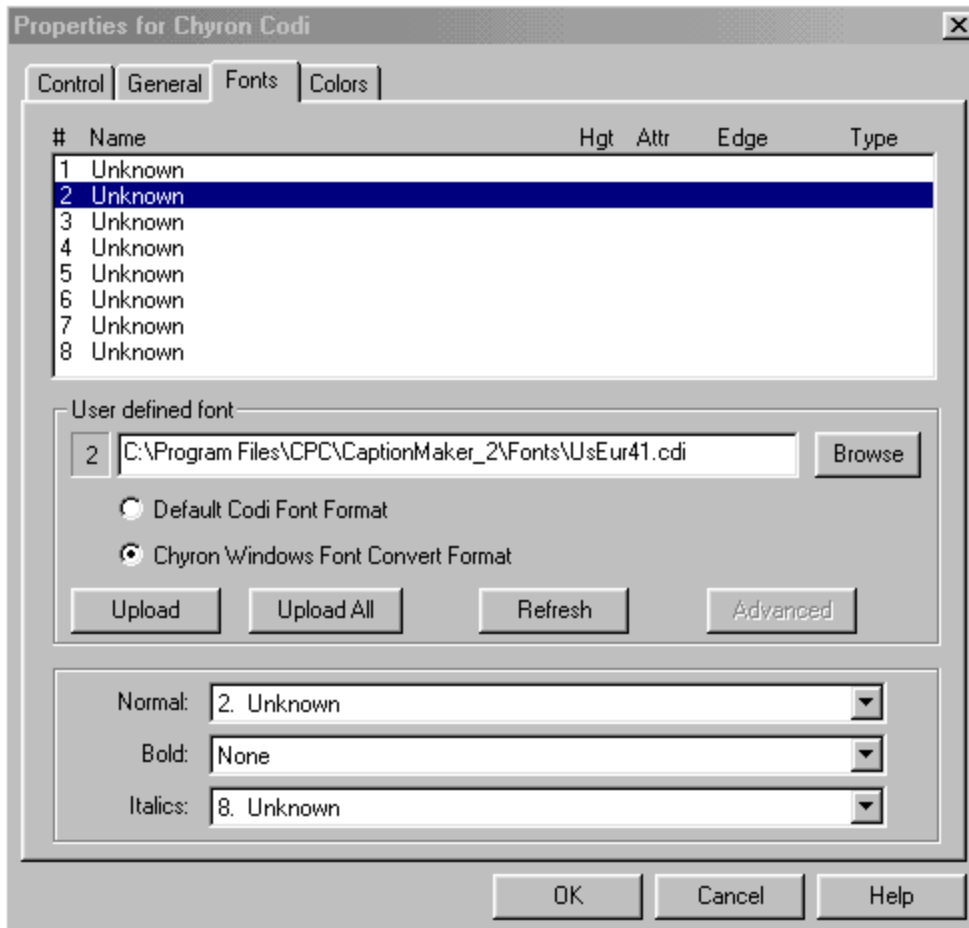
Because the accented characters stored in the font files are different in the above two font formats, CaptionMaker must be told what kind of font you will upload to the Codi. Otherwise the accented characters will not appear correctly. If the accented characters appear wrong, go to the Codi *Font* dialog box and change the radio button for the font. The characters should then work properly.

## Codi and PC-Codi

### Upload and Assign Subtitle Font Type

Click on the *Subtitle* → *Device* menu. Make sure to choose the *Chyron Codi* or *Chyron PC-Codi*. Click on OK to go back. Now click on the Subtitle Properties button to modify them.

Click on the *Fonts* tab to upload fonts and assign font types. The following dialog box will appear.



In the following example we are going to upload 2 fonts:

UsEur41.cdi in font slot #2 (Normal font) and  
UsEur41i.cdi in font slot #8 (Italics font)

Follow the following five steps to do this:

1. Click on *2 Unknown* on the top area of the dialog box.
2. Click on the Browse button to choose the font *UsEur41.cdi* from *C:\ProgramFiles\CPC\CaptionMaker/Fonts* folder.
3. Click on the radio button: *Chyron Windows Font Convert Format* in the middle of the dialog box to indicate that this font was originally created by Chyron Windows Font Convert Software.
4. Click on the ▼ button for Normal font type; choose *2 Unknown*.
5. Finally, Click on *Upload* to upload this font, which is going to be used as a normal (roman) font.

For font #8 (UsEur41i.cdi) follow the same procedure. Make sure you click on the ▼ button for *Italics* font type.

Now all the text in normal font will use UsEur41.cdi (normal) Codi font and text typed in italics will use UsEur41i.cdi (italics) Codi font. You may do this for up to 8 fonts, the maximum number that can be loaded.

If you assign a third font as Bold, you must type the text in bold (in the CaptionMaker) in order to access the font you assigned to bold with the Codi.

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**Tip** You can access all 8 fonts for the same project as long as you upload all 8 fonts to the Codi. To access those fonts, you need to open the visible column *Font* by invoking *View* → *Visible Columns* → *Codi Font* menu as below. Now right-click on any row under *Font* and choose the desired font. Or you may highlight a number of rows and assign a particular font for all rows.

---

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H	V	J	Display	Font	Caption/Subtitle
L	B	L	Pop-On	Font 2	I'M AT THE LEFT OF THE SCREEN.
L	B	L	Pop-On	Normal	SO CAPTIONS OF WHAT I SAY
L	B	L	Pop-On	Normal	APPEAR AT THE LEFT OF THE SCREEN, TOO.
R	B	R	Pop-On	Font 4	NOW I'M AT THE RIGHT OF THE SCREEN,
R	B	R	Pop-On	Normal	SO MY CAPTIONS APPEAR AT THE RIGHT.
R	B	R	Pop-On	Normal	
C	B	C	Pop-On	Font 8	NOW I AM GOING OFF-SCREEN.
C	B	C	Pop-On	Normal	TO INDICATE THAT I'M OFF-SCREEN,
C	B	C	Pop-On	Normal	WHATEVER I SAY IS ITALICIZED.
C	T	C	Pop-On	Font 7	NOW MY NAME APPEARS AT THE BOTTOM OF THE SCREEN,
C	T	C	Pop-On	Normal	WE PUT CAPTIONS OF WHAT I SAY AT THE TOP,

## Codi Default Fonts

Up to 8 fonts can be simultaneously loaded into the Codi. When the Codi external box is turned on, the first 7 slots are loaded with Swiss fonts and the last slot is loaded with TV Ratings Images (in newer Codi machines only).

The PC Codi card does not have any fonts loaded. But the CaptionMaker software automatically loads these fonts when you choose the Codi card as your subtitling device. Any of these fonts may be overwritten by a user-chosen font, which may be created by the user (see the next section).

Each font is described by two characteristics: the height of the characters in the font, in scan lines (there are 525 scan lines per screen), and the number of pixels of border or drop shadow between the character and the background. For subtitling, font number 2 (33 scan lines high with a 2-pixel shadow) is the best choice.

## Choosing the Default Fonts

In order to choose the normal text font, use the list box called *Normal Font*. You can also choose a font with bold, underline or italic attributes. If you have not selected a font with these attributes, the normal font will be used.

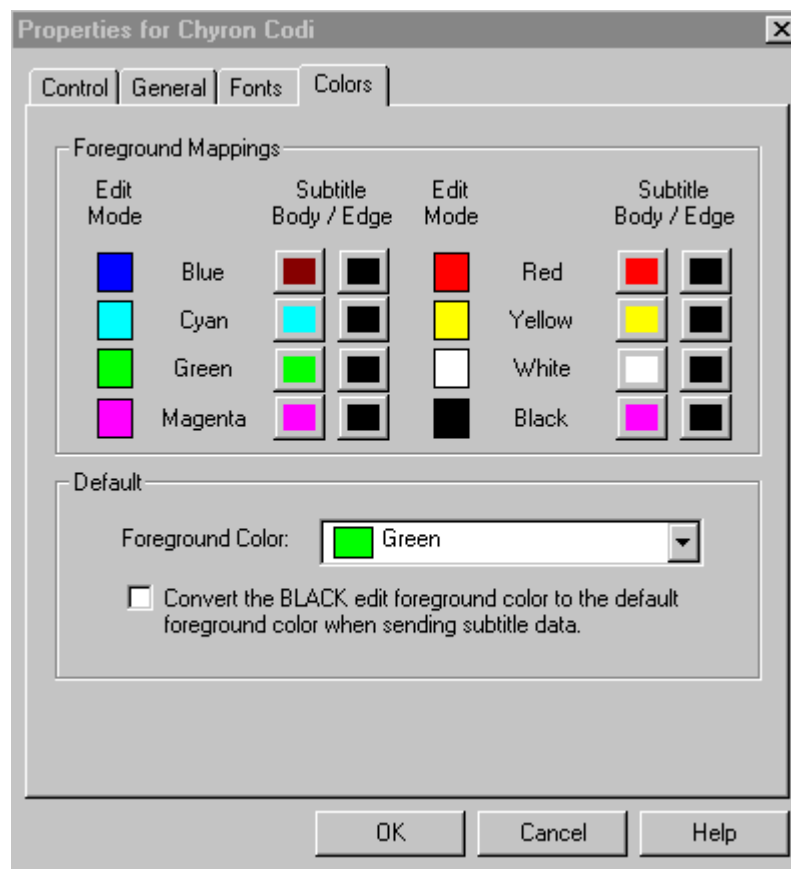
The Refresh button will verify that communications with the Codi are working properly and will display a list of fonts that are currently loaded into the Codi. The Codi will remember downloaded fonts until it is switched off.

## Changing the Fonts

To change a font, click on one of the 8 font slots listed in the dialog box, and then click on the Browse button. The *Choose Chyron Codi Font* dialog box will appear. It will default to looking for fonts with an extension of .CPC. When you have selected the font that you would like to replace, click on it. The screen will not update until you have clicked the Update button to actually download the font to the Codi. If you have more than one font that you would like to change, pick all of them that you would like to change before clicking the Update button. *Note:* This download is a lengthy process, but you should not need to do it more than once a day.

## Selecting Colors

The *Colors* tab in the *Properties* dialog box will allow you to change the colors used by the Codi.



There are eight text colors and a default color. The eight colors are accessible from the *Attribute* → *Text Color* menu item. Simply highlight text and then change the color.

## Specifying User-Defined Colors

Each of the eight colors can be assigned a precise color from the 16,777,216 possible combinations of red, green and blue available when you click on a color button. In order to specify a color, you need to enter values from 0-255 for red, green, and blue. It is best to note exactly which values you use, because it is difficult to match colors later.

When you pick a color for the text itself, you are also picking a color for the border or drop shadow behind the character. This edge color icon is located to the right of the color icon for the body of the text.

## Changing the Default Output

Note that in order to make the default color change on the video screen, you must check the box that will send a different default foreground color. This foreground color is chosen from the eight colors you have specified above in the dialog box.

## Chyron Codi Windows Font Create Software

If you have a licensed version of the Chyron Codi Windows Font Conversion software (available from CPC), you may create Codi fonts from Windows TrueType fonts and use them with the CaptionMaker.

A font for use in subtitling requires a border around each character. Each desired Windows font must first be converted with the Chyron software and then placed in the appropriate directory (selected under the *Fonts* tab in the *Properties* dialog box) so that the CaptionMaker can see it. You should associate the Windows font used to create the Codi font with the Codi font from that screen, so that what you will see on the screen will match what you see on the finished video.

Each Codi font has 191 positions in which you may fit information (e.g., letters). For a user-defined font, they correspond to whatever the first 191 letters are in the Windows Character Map. See the Chyron Codi Windows Font Conversion software manual for further information.

## DVD Captioning and Subtitling Overview

With CPC CaptionMaker software, you can both caption and subtitle DVD. Captioning and subtitling are very different, and there are different options to choose and different procedures to follow in each case.

You need a DVD authoring system to caption or subtitle a DVD. The function of the CaptionMaker is to generate the appropriate caption or subtitle files needed by the DVD

authoring system. Please note that the CaptionMaker does not have the capability to add captions or subtitles directly to the DVD medium.

## DVD Multiple Language Capability

A DVD disk has different tracks to hold the caption and subtitle data. There are 6 tracks for captioning and 32 tracks for subtitling. So you can caption the same DVD disk in up to 6 languages and also subtitle in up to 32 languages. This makes the DVD a medium much more accessible than conventional videotape. A DVD user can press a button to display captions or subtitles on any one of the tracks as long as caption or subtitle data has been added to those tracks. In practical use, a DVD is typically captioned and/or subtitled in just a few languages.

## Create a CPC Time-Stamped File First

Create a time-stamped script using the CaptionMaker software exactly the same as you would create a file for conventional videotape (See “Chapter 4: Tutorial”). Then you need to export the file to the appropriate DVD authoring system. You may create multiple files for multiple languages using the CaptionMaker and then you can add all those languages to the DVD using the DVD authoring system. See the “Import/Export” section in Chapter 3 for details on creating the time-stamped file in one language from scratch and then producing the time-stamped file in another language in almost no time.

## DVD Captioning

Creating a DVD caption file is relatively simple compared to creating a DVD subtitle file. A DVD caption file is universal for all DVD authoring systems. To create a DVD caption file, use the same procedure as you would to create a caption file for conventional video. Although you are not using an encoder or a captioning device for this task, you still need to choose a device in order to set the software in caption mode.

Use the step-by-step procedure below, in which the Spruce DVD system is used as an example.

1. Choose EEG DE241 CG as a default caption device (*Caption* → *Device* → *EEG DE241 CG*).
2. Create the time-stamped file. (Follow instructions in “Chapter 4: Tutorial”.)
3. Export the captions to the proper authoring system (*File* → *Export* → *Caption Formatted File* → *Spruce DVD Caption*).
4. Import the above exported file from CPC into the DVD authoring system.
5. Follow the DVD authoring system instructions to create the DVD with captions.

Here is a sample DVD caption file exported from CPC CaptionMaker for the Spruce DVD authoring system.

#### **Scenarist\_SCC V1.0**

```
00:19:54:11    94ae 9420 94d0 49a7 cd20 c154 2054 c845 204c 4546 5480 9470 4f46 2054 c845
                20d3 4352 4545 ceae 942c 8080 8080 942f

00:19:56:01    94ae 9420 94d0 d34f 2043 c1d0 5449 4fce d380 9470 4f46 2057 c8c1 5420 4920
                d3c1 d980 942c 8080 8080 942f

00:19:57:09    94ae 9420 94d0 c1d0 d045 c152 20c1 5420 54c8 4520 4c45 4654 9470 4f46 2054
                c845 20d3 4352 4545 ce2c 2054 4f4f ae80 942c 8080 8080 942f

00:20:00:03    942c

00:20:00:23    94ae 9420 9454 9723 ce4f 5720 49a7 cd20 c154 2054 c845 2052 49c7 c854 94f8
                97a1 4f46 2054 c845 20d3 4352 4545 ce2c 942c 8080 8080 942f

00:20:02:17    94ae 9420 9454 97a2 d34f 20cd d920 43c1 d054 494f ced3 20c1 d0d0 45c1 5280
                94f8 97a2 c154 2054 c845 2052 49c7 c854 ae80 942c 8080 8080 942f
```

A number of DVD authoring systems are listed in the *Export* menu, including the following:

Daikin DVD Caption

Sonic Solutions DVD Caption

Spruce DVD Caption

Internally all DVD caption files are the same. The only differences are the header lines inside the file and the file extensions. If you have a DVD authoring system other than the above three, please consult the manual and inform CPC of the differences. We will try to incorporate the changes and add your DVD authoring system to the *Export DVD Caption* list. In the meantime, call us and we will try to make the minor changes needed to use the file with your authoring system.

## **DVD Subtitling**

Creating a DVD subtitling file is much more involved and complex than DVD captioning. It is recommended that you read this entire section. For some DVD authoring systems, you can export two kinds of files for DVD subtitling:

Text file format

Picture file format



If you create a text file format, you must choose the font from the DVD authoring system and the DVD authoring system will control the subtitles' appearance. On the other hand,

if you choose the picture file format, you will choose the font from the CaptionMaker and you will have total control of the appearance. It's your choice.

If you have a video with 1,000 subtitles in the text file format, the CaptionMaker will create only one text file and the exported file size will be very small (perhaps 50KB).

If you have a video with 1,000 subtitles created in the picture file format, the CaptionMaker will create 1,001 files – 1,000 Windows picture files (.bmp, .tif etc.) and 1 text (navigation) file (.txt, .scr etc.). The size of all the files together could be anywhere between 50MB and 500 MB. Because of the enormous size of these files, they are automatically exported to a zipped file. This is discussed in more detail later.

If you feel you already understand the concept and would like a quick rundown of the steps taken to create DVD subtitling picture files, here is a brief overview using the *Spruce DVD Maestro TIF Graphics (\*.zip)* as an example:

1. First, choose the subtitling device (*Subtitle → Device → DVD/DV2000/Webcast Subtitle → Spruce DVD Maestro TIF Graphics (\*.zip)*).
2. Create the time-stamped file (see “Chapter 4: Tutorial”).
3. Adjust the font settings, background color, margins, letter spacing, etc. (Use the icons  and  labeled Preview Window on the right side)
4. Export the file (*File → Export → Spruce DVD Maestro*).

## Export DVD Subtitle Files

Here is a detailed discussion on how to export DVD subtitle files – both text and picture formats.

### Choose DVD Subtitle Device

Choose the appropriate DVD subtitle device. You must **not** leave the device as a default caption device. To choose a subtitle device, click on the *Subtitle* menu at the top of the screen and choose *Device...*

Choose the appropriate subtitle device and you are ready to begin.

CPC can export DVD subtitling files for the following DVD authoring systems:

Apple DVD StudioPro

Adobe Encore

Daikin Scenarist (Now under Sonic Solution)

DVD CVC

Pinnacle Impression

Sonic Solutions  
Spruce DVD Maestro  
Generic DVD System

Some of the above systems support multiple formats, which CPC also supports. Details will be discussed in this chapter.

After you have chosen the right device, you must export the file to your DVD authoring system format. For example, if you are using a Daikin system, choose the first option (*Daikin Scenarist TIF Graphics*).

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**Note on “Generic DVD System” Option** If your DVD system is not one of the brand names listed and if you know the specifications of the picture files, you may choose this option. You should select the proper colors and picture file size from the choices described below. If you have trouble making the right choices, you may contact us and we will try to implement your brand of DVD system in the CaptionMaker software.

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## Create a Time-Stamped File

At this point we are assuming that you have already created a subtitle file for the video in which you both positioned and time-stamped the subtitles. Follow the steps in “Chapter 4: Tutorial” to create the time-stamped file using the video and synchronize the subtitles with the time code. (In other words, the process of repeatedly pressing the plus key [+] to capture time codes is already over.)

## Adobe Encore

The exported file for Adobe Encore is essentially a text file with a special formatting. Note that Adobe Encore requires these files to be in UTF-8 format, but CaptionMaker exports them in standard text format. To convert them to UTF-8, open them in Windows Notepad and then “Save As” and select UTF-8 encoding.

### Sample File

00:00:33:13 00:00:36:25 Up until now, we have been  
using pop-on captions.  
00:00:36:27 00:00:41:08 When a new caption pops on,  
the old caption disappears.

## Export DVD Subtitle Text Files

At this point you are ready to export DVD subtitle files in text format. To export DVD subtitle text, go to File → Export; select the radio button DVD/DV2000/Webcast Subtitle and choose the format from the drop down list

- DVD Studio Pro (ver. 3)
- Sonic Solutions Text (\*.txt)
- Spruce STL Script File (\*.stl)

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**STL Subtitle Text file exports for Spruce & DVD StudioPro (Simple and Extended Positioning)** There are two STL text exports for both DVD StudioPro and Spruce DVD Maestro with “standard” or “extended” positioning information.

The standard positioning, which is to be used if all your subtitles are set to the Center and Bottom. On the other hand the extended positioning is to be used if you have subtitles on different parts of the screen. Note that if you are doing extended positioning, you will have to make sure that the fonts and sizes you use to format the subtitles are the same fonts and sizes you use in DVD StudioPro and Spruce to build the DVD.

Extended positioning actually generates internally all the subtitle images (tiffs) according to your choice of font then finds the exact positions of the subtitles. The file does not contain the subtitle images (tiff), it contains the actual text.

Before exporting the file, make sure the margins - top, bottom, left and right are set correctly. In most cases you need to set all margins to 0. In other cases, you need to set the margins as 72 for left and right and 48 for top and button depending on what settings you will use in DVD StudioPro and Spruce DVD authoring software.

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After you choose the appropriate option, type the file name to save the file and you are done. Below are two sample file formats for the simple positioning and extended positioning.

### Spruce STL file (Simple Positioning)

```
$FontName           = Arial
$FontSize           = 20

$HorzAlign          = Center
```

```

$VertAlign      = Bottom
$XOffset        = 0
$YOffset        = -48

00:00:00:01 , 00:00:01:28
00:00:02:00 , 00:00:07:28 , [music]
$HorzAlign = Left
$XOffset    = 72
00:00:08:00 , 00:00:09:16 ,I'm at the left|of the screen.
00:00:09:18 , 00:00:11:00 ,So captions|of what I say
00:00:11:02 , 00:00:12:28 ,appear at the left|of the screen, too.
00:00:13:00 , 00:00:14:14
$HorzAlign = Right
$XOffset    = -72
00:00:14:16 , 00:00:16:09 ,Now I'm at the right|of the screen,
00:00:16:11 , 00:00:18:07 ,so my captions appear|at the right.
00:00:18:09 , 00:00:19:17
$HorzAlign = Center
$XOffset    = 0
00:00:19:19 , 00:00:21:02 ,^INow I am off screen.
00:00:21:04 , 00:00:22:23 ,^ITo indicate that|^II'm off screen,
00:00:22:25 , 00:00:24:25 ,^Iwhatever I say is italicized.

```

### **Spruce STL file (Extended Positioning)**

```

$HorzAlign = Center
$XOffset    = 0
$VertAlign = Bottom
$YOffset    = -48

00:00:02:00 , 00:00:07:28 , $ music $
$HorzAlign = Center
$XOffset    = -196
00:00:08:00 , 00:00:09:16 ,I'm at the left|of the screen.
$HorzAlign = Left
$XOffset    = 72
00:00:09:18 , 00:00:11:00 ,So captions|of what I say
$HorzAlign = Center
$XOffset    = -168
00:00:11:02 , 00:00:12:28 ,appear at the left|of the screen, too.
$HorzAlign = Right
$XOffset    = -72
00:00:14:16 , 00:00:16:09 ,Now I'm at the right|of the screen,
00:00:16:11 , 00:00:18:07 ,so my captions appear|at the right.
$HorzAlign = Center
$XOffset    = 0
00:00:19:19 , 00:00:21:02 ,^INow I am off screen.
00:00:21:04 , 00:00:22:23 ,^ITo indicate that|^II'm off screen,
00:00:22:25 , 00:00:24:25 ,^Iwhatever I say is italicized.

```

*Note: The \$Xoffsets are different for different subtitles in the extended positioning compared to the simple positioning.*

### **Sonic Producer text file**

1	00:00:02:00	00:00:07:28	[music]
2	00:00:08:00	00:00:09:16	I'm at the left of the screen.
3	00:00:09:18	00:00:11:00	So captions of what I say
4	00:00:11:02	00:00:12:28	appear at the left of the screen, too.

### **Sonic Solutions Text File**

1	00:00:02:00	00:00:07:28	[music]
2	00:00:08:00	00:00:09:16	I'm at the left of the screen.
3	00:00:09:18	00:00:11:00	So captions of what I say
4	00:00:11:02	00:00:12:28	appear at the left of the screen, too.

For DVD subtitle picture file format, go through a few more steps described below.

## **Export DVD Subtitle Picture Files**

To create DVD subtitle picture files, do the following two steps you used to create subtitle text files earlier:

1. Choose the proper DVD device
2. Create a time-stamped file

Then go through a few more steps to complete the job (detailed instructions follow):

3. Choose font size and style
4. Assign color
5. Adjust margins
6. Export DVD graphics file

### **Font Style and Size**

Click on the Image Font icon  on the Preview Window and a dialog box will open.

Make sure to choose an appropriate font. For most Windows fonts, sizes 16 to 20 will work well. If each subtitle contains a lot of text, use a smaller font size. If you use a font that is too large, lines will wrap unexpectedly within subtitles. If this happens, reduce the size.

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**Note on Kerning**      **Kerning is the amount of space between characters. If you use a negative value, the characters will move closer. If you use a positive value, the characters will separate.**

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For the best result, CPC recommends using the following font attributes. Of course, you can experiment with these numbers to see how they change the final picture file.

Arial 18 or 20 **Bold** font

Character Pixel Kerning = -2 (space between two characters)

Line Pixel Spacing = 5 (extra space between two lines of a two line subtitle)

Space Character Width = 0 (space between two words)

Character Border = 2

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**“Double Bold” Tip**      **To achieve the best output, use Arial Bold 18 and also select the text and apply bold in the CPC program. See below.**

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## **Bold Text**

To make the text bold, click on the header **Caption/Subtitle** above the Work Area. This will highlight the entire text.



Now click on the Bold **B** icon on the toolbar. This will make the whole text bold as shown above. Using “double bold” (applying the bold option in addition to using a bold font) should produce the best result.

Keep in mind that if you choose a font too large, the subtitles will break into multiple lines and you will lose your formatting. When you are generating the subtitle files, you will receive an alert if that happens. So we suggest that you choose a smaller font and keep the subtitles as compact as possible.

## Color Adjustment

Click on Image *Color* icon  on the *Preview Window* panel next to the  icon.

Choice of Preview background color has no effect on the final picture file. This is only used for viewing images on the CaptionMaker screen.

*Background Type* is not accessible to the user. The various DVD authoring systems use different background color information to superimpose the picture files on the video properly. The background color does not show on the video. It is needed only to create the picture files.

*Anti-Alias* smoothes out the contours of characters and gives a sharp look that makes the subtitles look good. Otherwise the characters' edges would appear jagged.

If you would like to see the subtitles in white with a black border, **do not** change the foreground, background, border and anti-alias colors. They have been preset for the appropriate DVD authoring systems.

Some authoring systems, such as CVC, Pinnacle and Sonic, do not allow for any choice of colors. For Daikin and Spruce, you may change the foreground, background, border and anti-alias colors to those you desire. Default user-defined colors (which are same as the final color mappings) are listed in the table that follows.

DVD System	Foreground *	Background*	Border*	Anti-Aliasing*
<b>CVC</b>	Fixed - White	Fixed - Gray	fixed	Fixed - Light Gray
<b>Daikin</b>	(255,255,255) White	(0,0,128) Gray	(0,0,0) Black	(128,128,128) Light Gray
<b>Pinnacle</b>	Fixed - White	Fixed - Gray	fixed	fixed - Light Gray
<b>Sonic</b>	Fixed - White	fixed - Gray	fixed	fixed - Light Gray
<b>Spruce</b>	(255,255,255) White	(0,0,128) Gray	(0,0,0) Black	(128,128,128) Light Gray
<b>Generic</b>	(255,255,255) White	(64,64,64) Gray	(0,0,0) Black	(128,128,128) Light Gray

Daikin, Sonic Solutions and Spruce choose to use colors different from the user-selected colors to create the picture files. If you open a picture file using Adobe Photoshop or any other image-viewing software, you will see the following colors associated with the picture.

DVD System	Foreground*	Background*	Border*	Anti-Aliasing*
CVC	(255,255,255) White	(64,64,64) Gray	(0,0,0) Black	(128,128,128) Light Gray
Daikin	(0,0,255) Blue	(255,255,255) White	(0,0,0) Black	(255,0,0)
Pinnacle	(255,255,255) White	(0,0,255)	(0,0,0) Black	(128,128,128) Light Gray
Sonic	(0,0,255) Blue	(255,255,255) White	(0,0,0) Black	(255,0,0) Red
Spruce	(0,0,255) Blue	(255,255,255) White	(0,0,0) Black	(255,0,0) Red
Generic	User defined	User defined	User defined	User defined

\* Numbers in parentheses in the table above are Red, Green and Blue, respectively.

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
**Warning on Colors** In general, subtitle characters are white (foreground) with black borders. After creating the picture files, you might notice the colors used in the picture file are not same as the colors used on the *Image Colors* dialog box, but they must be same as those described in the above table.

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## Margin Adjustment

To adjust the margins, click on the Margin icon . The CaptionMaker software automatically sets the margins at 10% of the size of the screen. You do not need to change them unless you have a special requirement.

## Full Screen View

Click on the *Pop Up Preview Window*  icon to see the subtitle picture full-screen. This is how the subtitle will look on the DVD.

## Export DVD Subtitle Picture File

To export DVD subtitle picture files, follow these instructions:

1. Point to the *File* menu.
2. Click on *Export* and a new menu dialog box opens up.

3. Select the radio button *DVD/DV2000/Webcast Subtitle*, and choose the desired format from the drop-down list.
4. Now click on the Browse button to indicate where to save the file.
5. Then click on Next.

You will need to furnish the following information:

Image Prefix

Description (optional)

Graphics file size

### **Script Name**

The name of the script (navigation) file. The default name is automatically going to be assigned as the name of the CaptionMaker file. If you like, you may change it to any name (preferably up to 8 characters).

### **Image Prefix**

The Image Prefix can be anything up to four characters. The reason for limiting the length to four is to accommodate 9,999 caption images, which at this point in time is more than you will ever need. Now, you may ask, why would a 5-character-long image prefix not be able to accommodate 9,999 caption images?

Some DVD authoring systems do not allow an image file name to be more than 8 characters. The first four characters of the file name constitute the Image Prefix, and the last four denote chronological order (from 0000 to 9999).

### **Description**

You may add a video description in this field. This information will be added to the script (navigation) file. For DVD subtitles to work properly, it is doesn't matter whether you add a name or not.

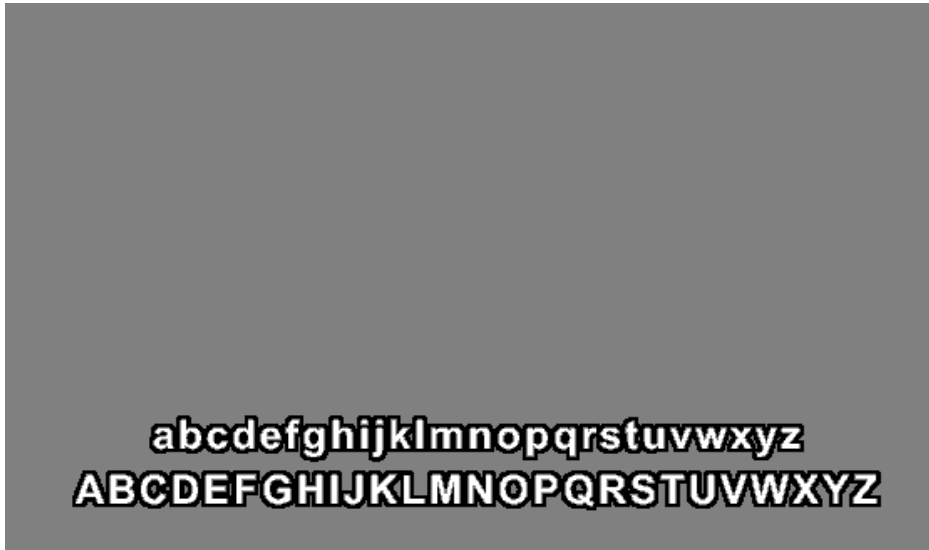
### **Graphic File Size**

This field is normally grayed out for most DVD authoring system. It shows the size of the graphic (picture) files. Some DVD authoring systems ask for the picture to be the size of the actual subtitle and others require a full-size picture file (720x480 for NTSC).

The picture file screen sizes for all DVD systems are listed below.

<b>DVD System</b>	<b>Picture Size</b>
<b>CVC</b>	Each bitmap size will be the actual size of each subtitle
<b>Daikin</b>	Each bitmap size will be full-screen size
<b>Pinnacle</b>	Each bitmap size will be full-screen size
<b>Sonic</b>	Each bitmap size will be the actual size of each subtitle
<b>Spruce</b>	Each bitmap size will be the actual size of each subtitle
<b>Generic</b>	Each bitmap size will be full-screen size

After you are done with these, click on the Finish button. The CaptionMaker will create a zipped file or text file with the specified name. Examples of these two sizes of DVD picture files follow.



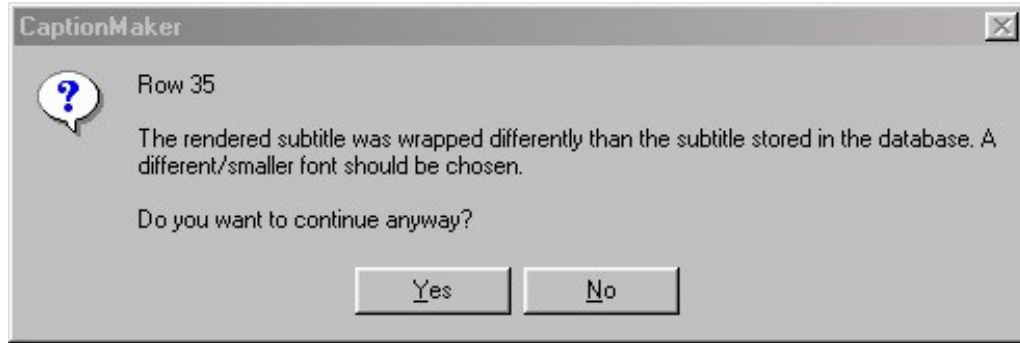
DVD bitmap's size is equal to the full-screen size of the video.



DVD bitmap's size is equal to the actual size of each subtitle.

### **Verify Subtitle Rendering**

If this box is selected, at the time of exporting the picture files the CaptionMaker will check any unwanted breaking of each and every subtitle. This unwanted breaking could happen if you choose a large font. For example, a two-line subtitle may break into a three-line subtitle. In that event, the following dialog box will open.



The CaptionMaker will not bring the cursor to the exact row, but the Preview Window will show which row has the problem. If you would like to fix the problem, click on the No button and check the text in that row. You have two solutions:

1. Break the row up into two rows, or
2. Change the font to a smaller size.

The recommended remedy is to break up the text into two lines. You probably will not want to change the default font for the whole production just to accommodate one oversized row. After doing any one of these, once again follow the same procedure of exporting the DVD formatted subtitles.

### **Final Step: Export the File**

Finally, click on the Finish button to export the subtitle files. After you export the files, locate the folder where you exported the zipped file(s). Unzip the files to sample-check a few of these files. The text (script) file should look like one of the following sample files. The picture file should look like one of the two bitmap subtitle pictures shown previously under “Graphics File Size”.

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**Note on Number of Picture Files** If for some reason you see fewer files than you expected, don't panic. The blank lines in the caption file are ignored, decreasing the number of subtitles.

**Also duplicate/triplicate captions marked with the same time code are formed into a single picture file, decreasing the total number of files.**

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## **Examples of Navigation (Text) Files**

### **CVC Navigation File**

```
# DVD Subtitle file 10/31/01 1:55:53 PM
# Filename:   Video.scr
# Language:   09 - English
# Subtitles:  42
#
# Start:      00:19:55:04
# End:        00:21:19:18
# Font:       Arial
#
Vide0001.bmp 00:19:55:04 00:19:56:20 576 384 72 48
Vide0002.bmp 00:19:56:22 00:19:58:04 576 384 72 48
Vide0003.bmp 00:19:58:06 00:20:00:02 576 384 72 48
Vide0004.bmp 00:20:01:20 00:20:03:13 576 384 72 48
```

### Daikin Navigation File

```
st_format 2
#####
# Daikin Scenarist Script
#-----
# Filename:   Daik.nav
# Created:    7/17/00 8:10:03 PM
# Time Code:  DropFrame
# Video Mode: NTSC
# Author:     CPC CaptionMaker Version 1.10
#####

TV_Type      NTSC
Tape_Type    NON_DROP
Base_Time    01:03:24:22
Pixel_Area   (48 430)
Display_Area (72 48 646 430)
Color        (2 4 3 3)
Contrast     (14 15 15 0)
BG           ( 255 255 255  = = = )
PA           ( 0 0 0  = = = )
E1           ( 0 0 255  = = = )
E2           ( 255 0 0  = = = )
Directory
#####
SP_NUMBER    START          END          FILE_NAME
0001         01:03:24:22 01:03:26:19 Daik0001.tif
0002         01:03:26:21 01:03:27:29 Daik0002.tif
0003         01:03:28:01 01:03:31:06 Daik0003.tif
```

### Pinnacle Impression Navigation File

```
00:19:55:04    00:19:56:20 VDO0001.bmp
00:19:56:22    00:19:58:04 VDO0002.bmp
00:19:58:06    00:20:00:02 VDO0003.bmp
00:20:01:20    00:20:03:13 VDO0004.bmp
00:20:03:15    00:20:05:11 VDO0005.bmp
```

00:20:06:23      00:20:08:06 VDO0006.bmp

### Sonic Solutions Navigation File

```
Soni0001.tif 01:03:24:22 01:03:26:19 206 086 072 345
Soni0002.tif 01:03:26:21 01:03:27:29 194 086 072 345
Soni0003.tif 01:03:28:01 01:03:31:06 270 086 072 345
Soni0004.tif 01:03:31:08 01:03:33:05 278 086 369 345
```

### Spruce Navigation File

```
st_format 2
#####
# Spruce Technologies SON Script for DVDMaestro
#-----
# Filename:      Spru.nav
# Created:       7/17/00 8:14:08 PM
# Time Code:     DropFrame
# Video Mode:    NTSC
# Author:        CPC CaptionMaker Version 1.10
#####

TV_Type            NTSC
Tape_Type          NON_DROP
Base_Time          01:03:24:22
Pixel_Area         (48 430)
Display_Area       (72 48 646 430)
Color              (5 0 2 9)
Contrast           (14 15 15 0)
Directory
#####
SP_NUMBER          START            END            FILE_NAME
Display_Area       (72 345 277 430)
0001               01:03:24:22 01:03:26:19    Spru0001.tif
Display_Area       (72 345 265 430)
0002               01:03:26:21 01:03:27:29    Spru0002.tif
Display_Area       (72 345 341 430)
0003               01:03:28:01 01:03:31:06    Spru0003.tif
```

## Importing DVD files

You can import the following two types of DVD files into the CaptionMaker:

DVD caption files

DVD Text/Script subtitle files (Sonic Solutions and Spruce)

You cannot import DVD subtitle picture files into the CaptionMaker. DVD subtitle files include details of time code, size and position of each subtitle with a picture file for the

subtitle (.tif). Because the picture file cannot be easily converted to the actual text into the software, DVD subtitle files cannot be imported into the CaptionMaker.

## Foreign Language Subtitles

If you would like to subtitle DVDs in foreign languages using the CaptionMaker software, you can do that too. As of November 2001, CaptionMaker supports all languages supported by ANSI Windows TrueType (TTF) fonts except the Pacific Rim languages such as Chinese, Japanese and Korean. For some languages you have to take special care. CaptionMaker does not support Unicode. CPC has grouped all languages in four groups:

Groups	Languages	Supported by CaptionMaker	Special Action Needed
1	Western European	Yes	No
2	Hebrew, Arabic	Yes (Partially)	Yes
3	All other ANSI Languages	Yes	Yes
4	Pacific Rim Languages (Unicode)	No	N/A

### Group 1 Languages

Characters associated with most Western European languages such as these:

Dutch

French

German

Italian

Portuguese

Spanish

These are covered in the standard Windows (US) character set within the first 256 characters. If you import a Microsoft Word document in any of the above languages, you will not need to make any special effort to see all the additional accented characters of that language in the CaptionMaker.

### Group 2 Languages

CaptionMaker supports Hebrew and Arabic languages in a limited capacity. Since these two languages use the convention of writing from right to left, the CaptionMaker does not handle proper wrap around at the end of a line. If you prepare the file properly formatted and broken up into individual subtitles and each subtitle is further broken up into individual lines separated by a tab, you can import the file using the option of *Tab Delimited* file (*File* → *Import* menu). After importing the file, you won't be able to do major editing because of the restrictions of improper wraparound.

### Group 3 Languages

For all other languages using Windows ANSI TrueType (TTF) font (such as Eastern European languages, Hindi, Bengali, Vietnamese, Thai, etc.) you need to choose the proper font, which may or may not be available in Windows Arial or Times New Roman.

### Group 4 Languages

CaptionMaker does not support Unicode. As a result, CaptionMaker does not handle Pacific Rim languages such as Chinese, Japanese and Korean.

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**Note on TrueType Fonts** If you like to use a special font to create subtitles, you must have that font inside the *Windows* → *Font* folder. Simply copy the font in the folder and then it will be available inside the CaptionMaker. Arial and Times New Roman fonts contains characters associated with many languages. They are accessible only by using the *Script* feature, described below.

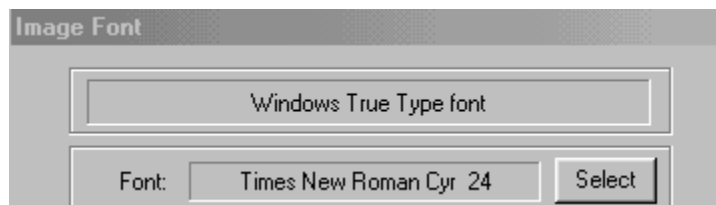
---

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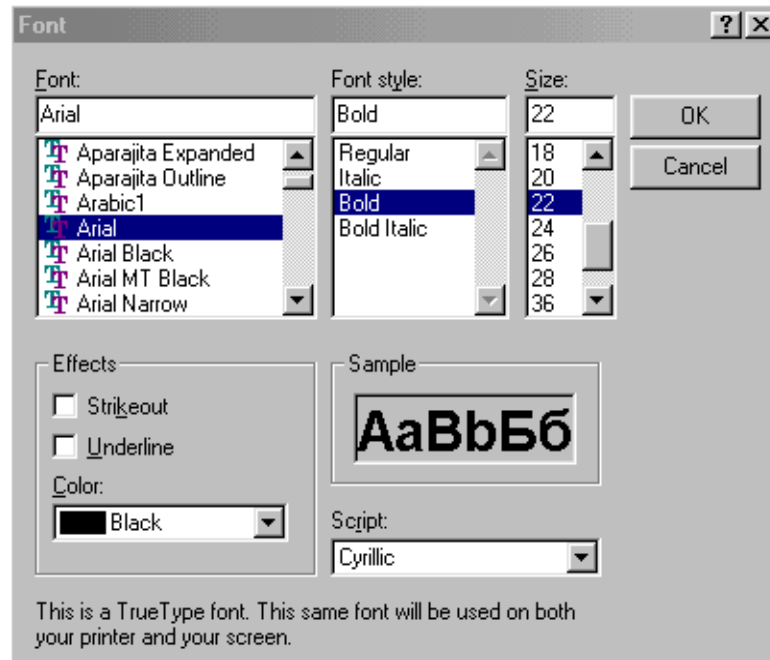
### Choosing the Right Script Font

If you have a Microsoft Word or WordPerfect file in a language other than Western European languages such as English, French, German, Italian, Portuguese or Spanish, you may need to manipulate text to see it in the Work Area. If the imported text does not appear in the appropriate language, you need change the font. Windows Arial font covers almost all languages, but if there is a specific font you like to use, you may do so.

1. Click on the Image Font icon on the Operations Center. The *Image Font* dialog box will appear, where current font and script types are shown.
2. Click on the Select button next to the current font type as shown below:



The *Font* dialog box will appear, where the *Script* type can be changed.

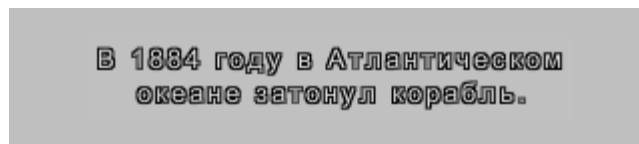


3. Click on the *Script* list box at bottom right. It will probably show the option *Western*.
4. Scroll until you find your desired language group (the vertical scroll bar slide may show no choices available, but still click on the up and down icons, if they are available). Then click on OK.
5. Again click on OK on the *Font* dialog box. CaptionMaker will ask you:

*Do you want to update the font used in the edit grid?*

6. Click on Yes. Now the Work Area will show the appropriate font for the language in use.

A sample Russian Microsoft Word file (*Russian.doc*) can be found in the *C:\ProgramFiles\CPC\CaptionMaker\Samples* folder. Try to import the file and the Preview Window will show the font properly as below.



But the Caption/Subtitle area will show the text as below:

Â 1884 ãîáó â Àòèàíòè-âñèî  
îéâàíá çàòîííóè èîðáâéü.

After you change the *Font Script* as described above, you will see the text will also change to this:

**В 1884 году в Атлантическом  
океане затонул корабль.**

## DV2000/ITV-Injector Tutorial

The DV2000 unit from Ultech is a computer in itself. This tutorial assumes that you know how to create a subtitle file. The file you will need to use is *Demo.cap*, which should be located in the directory where your CaptionMaker program was installed.

Go to *File* → *Open* and load the *Demo.cap* file. It subtitles the first few minutes of the CPC training video. You will need both a digital video Source VCR and a digital video Record VCR for this tutorial. The DV2000 cannot process analog video input.

You should go to *Subtitle* → *Device* on the menu bar and select the DV2000 from the box. You are now ready to generate the files on your machine that the DV2000 will use to create the digital subtitles.

Click on the AutoSync button on the toolbar. The *Save/Generate Files* dialog box will appear on the screen. You need to put the files that the program will generate in a place so that they can be moved to the DV2000. There are three ways to move files from the computer running the CaptionMaker to the DV2000.

**Network Method:** The CaptionMaker computer and the DV2000 can be connected to a network. The DV2000 has the capability of being connected to either a 10 base 2 (black, thin coaxial cable) or 10 base T (looks like phone cable) network. Note: Your DV2000 might not have a network card, but any DV2000 can be upgraded with a network card.

**Superdisk Method:** The DV2000 has a 120-megabyte Superdisk (the floppy drive on the front of the DV2000 unit can read either a standard 1.44 megabyte floppy or a 120-megabyte Superdisk). In a 60-minute video, if a subtitle appears every 2 seconds, with each subtitle being 50K, you can fit all of the files from the entire video onto one Superdisk. However, you cannot fit all of the files from a 120-minute show onto a single Superdisk.

**Serial Port Method:** The DV2000 has a serial port that can be used to transfer files. This is the slowest and most cumbersome method. You will need a “Null Modem” cable.

## Placing Subtitles on the Video

Press the Enter button on the DV2000. You should get an indication that the job is running. Turn on the Source VCR, press Play, and make sure that it is rewound to the beginning of your video. Turn on the Digital Record VCR, and make sure that it is

rewound to the beginning. When the first subtitle comes up, you can watch the subtitles as they are placed in the video stream by watching the monitor.

## Simultaneous Captioning and Subtitling

You can easily run a caption job and a subtitle job concurrently on the DV2000/ITVinjector using a script file. The syntax for the script file is as follows:

```
;run the caption job "Spiderman.onl"
encodecc Spiderman.onl

;run the subtitle job "Spiderman.usf"
runsubtitle Spiderman.usf

;Keep script job from stopping before the jobs are done
;by waiting until some huge timecode, i.e., 10 hours.
;Without this line the script job will end and the
;caption job and subtitle job will be stopped.
waituntil 10:00:00:00
```

In the above example, the lines started with a semicolon (;) are comment lines. They are not needed to execute the script file. The three lines not starting with the semicolons are important.

`Spiderman.onl` is the caption file and `Spiderman.usf` is the subtitle navigation file.

`Spiderman.onl` is the caption file exported from CaptionMaker software as a CPC-715 CaptionMaker online (\*.onl) file. You may also export the CaptionMaker file as Ultech Ult Caption (\*.ult) file format. DV2000/ITVinjector accepts both files as valid caption files.

`Spiderman.usf` is the subtitle navigation file. This file along with all the picture files (\*.uyc) are created by exporting a CaptionMaker file to DV2000 UFS/UYC file format.

Make sure to put the .scr, .onl, and .usf files all in the root of the script job folder. You can put the .uyc files in a directory just below the script job (in fact, for Superdrive media you must keep the .uyc in a subdirectory as Superdisks have a 256 file count limit in their root directories).

## MagniCoder Pro

### Installing MagniCoder Pro Software

After physically connecting the MagniCoder Pro cables, you must install the MagniApp software using the two disks that came with the MagniCoder Pro. To do that, insert Disk 1 first, then click on the *Start* button at the bottom left corner of your computer screen and go to *Run*. Now type: *A:\Setup.exe*. Follow the instructions and insert Disk 2 when prompted. Once a message saying: “Setup has successfully installed *MagniApp*” appears, click on *Finish* to complete the setup.



### Setting Up MagniCoder Pro Software

Now that you have the MagniApp software installed, the first step will be setting the Character Resolution so that you will get the best resolution for your subtitle fonts.

1. Run any video.
2. Turn on the MagniCoder Pro and then run the MagniApp software.
3. You must choose an available serial port in your computer. To do that click on the *Config* tab and choose *Comm Port Select*.
4. Click on the *Size* tab and set up the VGA resolution for 640x480 by either moving the bar for the H Size and the V Size or by using your mouse and increasing and decreasing the inner box.
5. Since you have your video running through the MagniCoder Pro, you will also have to set up the MagniApp software to be able to see the video on your monitor. To do that, click on the *Mix* tab and drag the little arrow all the way from graphics to video. Also make sure that *Video* is checked; to do that click on *CUT*. After the setup is completed you should be able to see the video on your monitor.
6. The *Character Resolution* of the *VGA Pan* dialog box might differ from computer to computer. In this case it might be out of focus. To fix that, click on the *Config* tab and then click on *Setup*. This will bring out the *Setup* dialog box. To adjust it automatically, click on *AutoCal*. The video should look fine after the setup is completed. Make sure that the *Sync Select* and *Flicker Select* boxes in the *Setup* dialog box are checked.
7. Now save the settings to your hard drive on the *Save Settings* button on the *Config* tab, and also to the MagniCoder Pro device by clicking on the *Save to NVRAM* button in the *Setup* dialog box.
8. If you are not quite satisfied with it, you may do it manually. While you're still on the *Setup* dialog, you must adjust the Graphics Origin (Horizontal and Vertical) and then the PLL (Frequency, phaseA and phaseB). Make sure you save the settings to your hard drive by clicking on the *Save Settings* button on the *Config* tab and also to the MagniCoder Pro device by clicking on the *Save to NVRAM* button on the *Setup* dialog box as well.

## Running the CPC CaptionMaker Software

Now that you have adjusted the Character Resolution for the MagniCoder Pro, you must set up the CaptionMaker to configure it to work with the MagniCoder Pro.

1. Run the CaptionMaker.
2. Go to *File* and choose *Open*.
3. Now open the file that you wish to work on.
4. Go to *Subtitle/Caption* → *Device* and check *Subtitle*.
5. Choose MagniCoder Pro as your device.
6. Click on the Configure button and make sure to choose the same serial port as you did for the MagniCoder Pro. Now you will need to choose colors for background, foreground, attribute, and border. Click on the Image Colors icon on the Operations Center toolbar (top right corner). You must select the true colors and have these settings:
  - Background color: Black (Red → 0, Green → 0 and Blue → 0)
  - Foreground color: White (Red → 255, Green → 255 and Blue → 255)
  - Attribute color: N/A
  - Border color: Dark Blue (Red → 0, Green → 0 and Blue → 64)
7. Now you will need to choose your fonts. Click on the Image Font icon on the Operations Center toolbar. Click on the Select button next to the font. This will bring up the *Font* dialog box. Here you may change the font type, style, size, color and script.
8. Make sure that the *Apply Character Border of* is checked and also that the *Pixels* number, right at the bottom choice, reads “2” or “3.” You may choose different settings for the *Kerning*, *Scaling*, *Spacing* and *Character Width* in case the font characters are too far apart or too close to each other.
9. Now you are ready to go. Click on the AutoSync icon  and play the video. You should see the subtitles appearing on the monitor. If you find a problem with the margins, go to the Operations Center toolbar and click on the *Margins/Padding* icon  and adjust the settings.

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**Caution: Make sure that the MagniApp is not running when you are about to invoke AutoSync.**

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## Webcast Captioning and Subtitling

Webcasting, in simple terms, means streaming video on the web. You can stream a video that is already produced, or you can stream a live video in real time.

When you caption or subtitle videos on the web (webcasting) you can reach out not only to the hearing impaired community, but also to people all over the world. You can put subtitles in virtually any language! You can take care of the language barrier and sound barrier at the same time! People from all over the world, no matter what language they speak, will be able to turn on the video and understand what is being said by choosing the subtitles in their own language.

There are two scenarios for webcasting:

- Video on Demand
- Realtime Video

When you have a video in hand, you may upload the video on the web and people can see the video whenever they wish to. This is called *Video on Demand Webcasting*. On the other hand, if you want to webcast a live event, you may stream the live video on the web and people can watch the video as the event is in progress. This is called *Realtime Video Webcasting*. Typically broadcasters use this process to broadcast programs on the web.

### Captioning Realtime Webcasts

CaptionMaker is capable of captioning webcasts only for *Video on Demand*. This document will only explain webcasting for video on demand. The *Realtime Video Webcasting* is done by CPC-800 software.

### Captioning Video on Demand

If you are considering webcasting, you will need to decide which format you will use, *Windows Media Player*, *RealPlayer*, *QuickTime Player* or *Flash Player*. Each offers different benefits and only you can decide which is best for your webcast.

CaptionMaker can create files for all of these formats.

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**Subtitle Examples: On our web site, [www.cpcweb.com](http://www.cpcweb.com), we have a few sample demos under the link Webcasting. Check it out to get a better idea of subtitling a webcast.**

**Inside the C:\Program Files\CPC\capmaker\Samples folder on your computer there are examples of webcast captions for all 4 players.**

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**You may take a look at these files to get some familiarity with these files.**

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## Captioning or Subtitling?

Closed captioning on conventional video differs from subtitling on conventional video in several ways. The most important difference is that you can turn the captions on or off by choosing the closed caption option on the TV remote control. Closed captioning is used mostly by people who cannot hear well. Subtitling on conventional videos cannot be turned on or off. Subtitles are always on since they are part of the video. Subtitling is normally used by people who do not understand the language spoken in the video, so typically it appears in a language other than the language being spoken on the video. On conventional video media captions or subtitles appear on the bottom of the video.

Webcasting video on the web, a completely different medium, combines the concept of captioning and subtitling. The video appears in a small window on the computer screen and the text is displayed outside the area of the video. The viewer has a choice:

- Turning the text on or off (on most players)
- Switching between multiple languages (if multiple languages are present)

Throughout this document we will use both terms “captioning” and “subtitling” interchangeably in relation to webcasting.

## Creating a Time-Stamped File

To caption a webcast, your first task is to create a time-stamped file for the video. See Chapter 4 for details.

RealPlayer can handle both Pop-on and Roll-Up display modes. Windows Media Player, QuickTime and Flash can handle Pop-On mode only. To play safe, follow these rules for all webcast exports.

- use Pop-On display mode.
- use upper and lower case, which is easy to read.
- limit caption length to 32 characters.
- position captions at the bottom of the screen. Since the captions are below the video, there is no need to place the captions at different vertical positions as is done in captioning a videotape to avoid graphics and other relevant information on the video.
- position captions centered.
- do not use music symbol. Use [music] instead of the music symbol. The music symbol does not appear as a music symbol in most players.

## Windows Media Player

We recommend Windows Media Player for webcasting. It offers more options. Also everyone who uses a Windows computer will automatically have Windows Media Player, meaning that your viewers will not have to download new software to watch your video. There are four ways you can caption formats for Windows Media Player

- Embedded Text (browser independent)
- ASX format (browser independent)
- HTML Normal format (works with Internet Explorer only)
- HTML Book Format (works with Internet Explorer only)

## Windows Media Player – Embedded Text

In this method, the caption text is inserted inside the video file, there are no additional files for captioning. When you play the video in WMP, captions are extracted by WMP and are shown below the video.

## Windows Media Player - ASX Format

You can also export a .smi file and a .asx file. The .smi file contains the text and timecode information. The .asx file is a short file, which pulls in the video and .smi file together to play within Windows Media Player. It does not matter which internet browser you use. It is browser independent.

Two files .asx and .smi are created. Make a link to the .asx file to see the Webcast with captions. To test the files, place all files (.asx, .smi and .wmv) in one folder and double-click on the .asx file. The video will play and display the captions.

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**No Need for ASX File !!! If the file names for the WM video file and the .smi file without the extensions are exactly the same, you really would not need the .asx file. When you click on the .wmv file, WMP will see the .smi file with the same name and will pull the captions from the smi file.**

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## Windows Media Player – Html Format

You can export captions for Media Player in HTML file format, which works with Internet Explorer only. Internet Explorer launches Windows Media Player and plays the video with captions.

Two files .html and .smi are created. Make a link to the .html file to see the Webcast with captions. To test the files, place all files (.html, .smi and .wmv) in one folder and double-click on the .html file. The video will play and display the captions.

## Windows Media Player – Html Book Format

In the Book format, a box is added next to the video with the full text. As the words are said, they are highlighted in the text box. This format works with Internet Explorer only. There is one advantage to this style. You may highlight the text with a mouse and copy and save the text on your hard drive.

Three files .html, .dat and .smi are created. Make a link to the .html file to see the Webcast with captions. To test the files, place all files (.html, .dat, .smi and .wmv) in one folder and double-click on the .html file. The video will play and display the captions.

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**WMP Caption On/Off Switch To see captions on Windows Media Player, make sure to turn the captions on. For different versions of WMP, the steps to turn caption on are different. For details, check the link:**

[www.cpcweb.com/wlive/WMPSwitches.html](http://www.cpcweb.com/wlive/WMPSwitches.html)

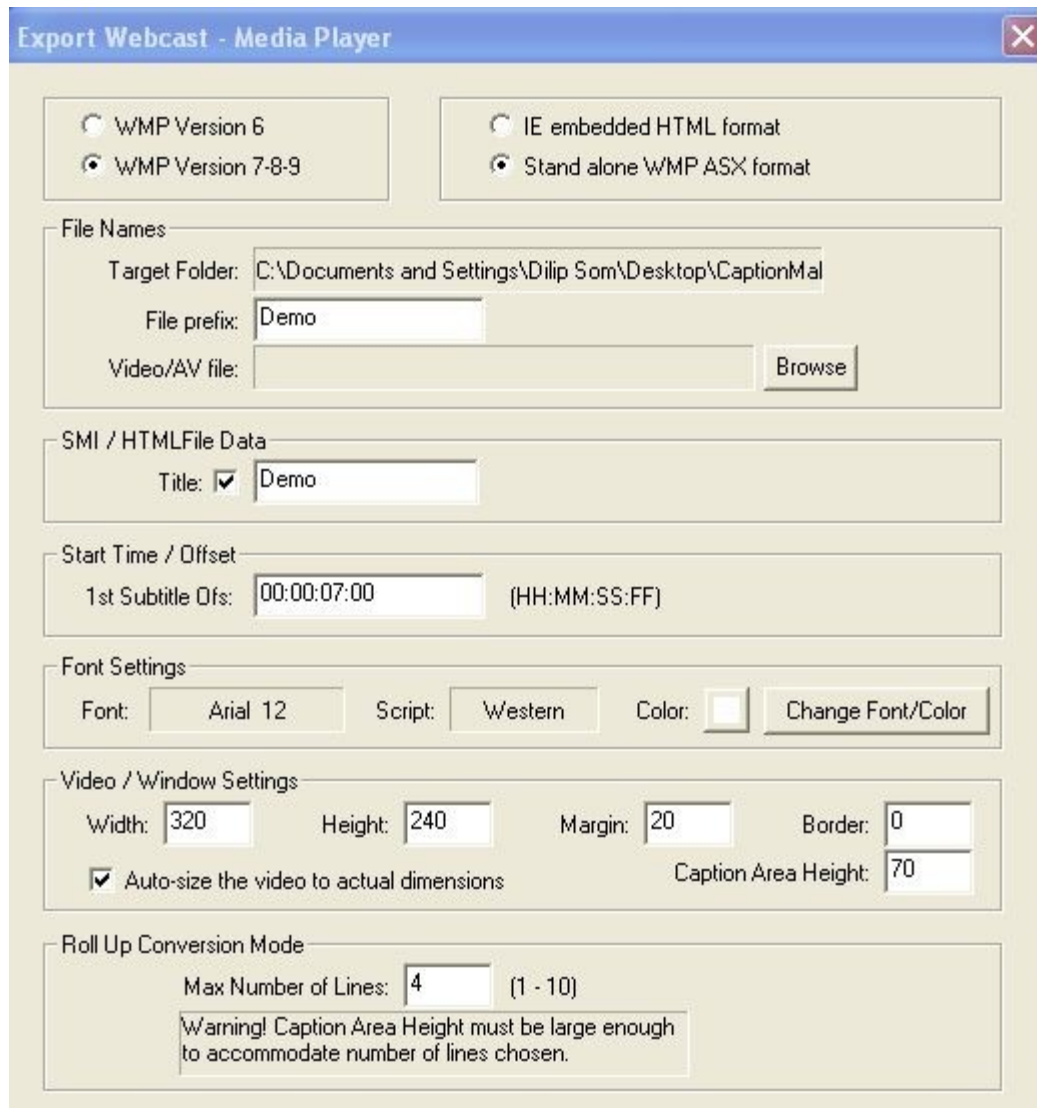
---

---

To export files for Windows Media Player, go to *File* → *Export* → *Webcast- Media Player* option.. You will see all the choices in the export window.

The export window is self-explanatory. Here are a few notes:

- Do not use version 6 unless you know the viewer is going to use this old version WMP.
- Version 7,8,9 also works for version 10 of WMP.
- Make sure to jot down the time code of the first caption.
- Choose size 12 Arial Bold font for clarity.
- Check the box “Auto Size” unless you know the exact size of the video, like 320x240



**Export Webcast - Media Player**

WMP Version 6  
 WMP Version 7-8-9  
 IE embedded HTML format  
 Stand alone WMP ASX format

**File Names**  
 Target Folder: C:\Documents and Settings\Dilip Som\Desktop\CaptionMal  
 File prefix: Demo  
 Video/AV file:

**SMI / HTMLFile Data**  
 Title:  Demo

**Start Time / Offset**  
 1st Subtitle Ofs: 00:00:07:00 (HH:MM:SS:FF)

**Font Settings**  
 Font: Arial 12    Script: Western    Color:

**Video / Window Settings**  
 Width: 320    Height: 240    Margin: 20    Border: 0  
 Auto-size the video to actual dimensions    Caption Area Height: 70

**Roll Up Conversion Mode**  
 Max Number of Lines: 4 (1 - 10)  
 Warning! Caption Area Height must be large enough to accommodate number of lines chosen.

After exporting the file(s), upload the file(s) created by CaptionMaker and the video in the same folder on the web, and make a link to the appropriate file.

### Additional Notes on Windows Media Player

- Captions do not move left and right
- When working with the HTML exports, you have to open it in Internet Explorer. Firefox will not open it correctly. Also, most Internet Explorer pop-up blockers will block Active Content. When the bar pops up that says Internet Explorer has blocked content, you have to click on the bar and Allow Blocked Content
- It's also important to remember to set your Caption Area Height large enough to accommodate multiple line captions. When working with the HTML file, users have the option of viewing small or large text, so that has to be taken into account.

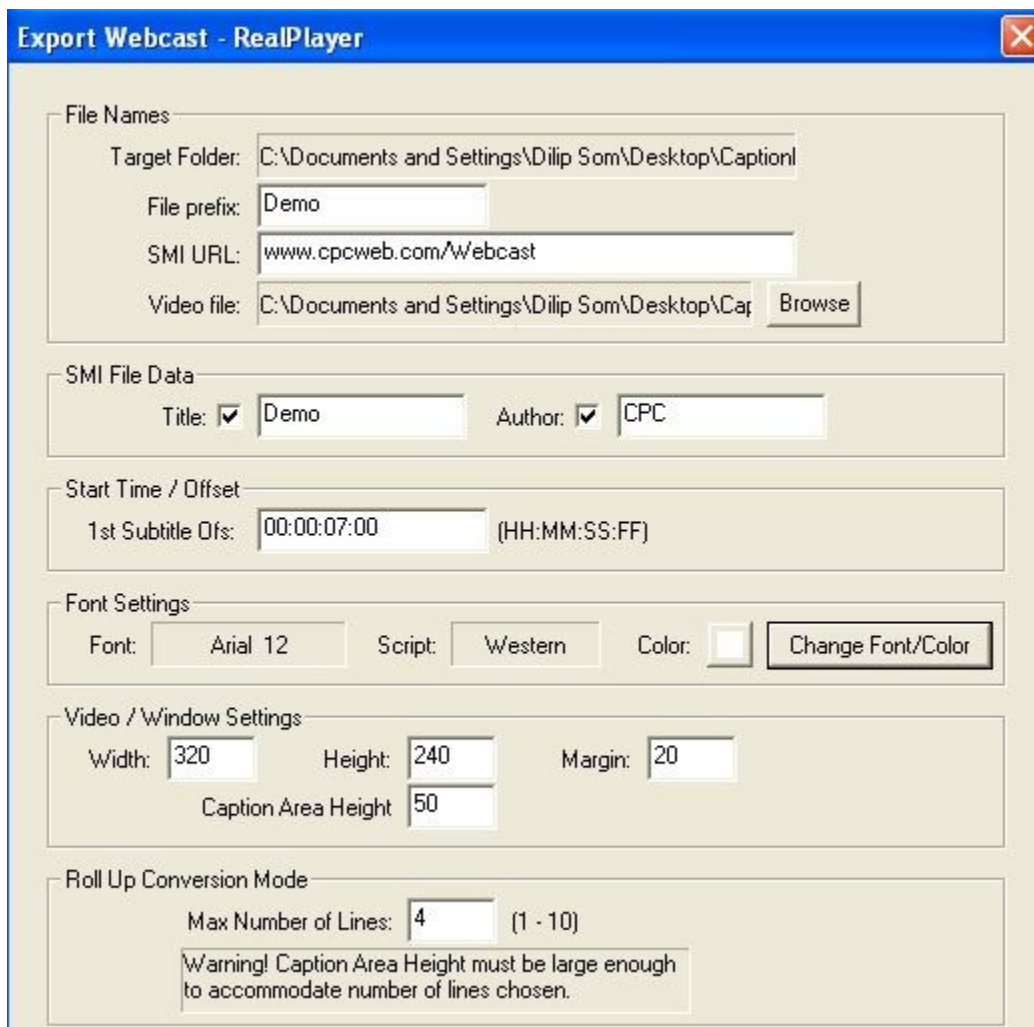
## RealPlayer

RealPlayer is probably the easiest way to webcast, but some people may not have RealPlayer on their computer. The subtitles cannot be turned off from the RealPlayer options. The only way you can turn the subtitles off is to create a button on the web that plays the video without the subtitle files. Perhaps one day RealPlayer will have an option to turn the subtitles off or on as Windows Media Player does.

To export files for RealPlayer, go to *File* → *Export* → *Webcast SMI/RT (\*.zip)* option to export the file. The *Export Webcast* dialog box opens up.

The export window is self-explanatory. Here are a few notes:

- Make sure to jot down the time code of the first caption.
- Choose size 12 Arial Bold font for clarity.
- You can do rollup captioning with maximum of 10 lines of text in the text window. Make sure to adjust caption text height appropriately.



**Export Webcast - RealPlayer**

**File Names**

Target Folder: C:\Documents and Settings\Dilip Som\Desktop\Caption

File prefix: Demo

SMI URL: www.cpcweb.com/Webcast

Video file: C:\Documents and Settings\Dilip Som\Desktop\Cap

**SMI File Data**

Title:  Demo Author:  CPC

**Start Time / Offset**

1st Subtitle Of: 00:00:07:00 (HH:MM:SS:FF)

**Font Settings**

Font: Arial 12 Script: Western Color:

**Video / Window Settings**

Width: 320 Height: 240 Margin: 20

Caption Area Height: 50

**Roll Up Conversion Mode**

Max Number of Lines: 4 (1 - 10)

Warning! Caption Area Height must be large enough to accommodate number of lines chosen.

After you export the file for RealPlayer, unzip the file and you will find three files. (If you use both Pop-On and Roll-Up modes, you will have more than three files.)

- video.rt
- video.smi
- videoweb.rm

The *.smi* file contains the name of the video file you assigned in the export process. Let's say the name of the file is *video.rm*

The *videoweb.rm* file contains one line of text as below:

<http://www.cpcweb.com/RealPlayer/Video.smi>

This link (in this example) represents the following:

- *http://www.cpcweb.com* is the web site where you would like to host this Webcast.
- *RealPlayer* is the folder where you put all four files.
- *video.smi* is the name of the *.smi* file described above.

Now take these three files along with the RealPlayer video file *video.rm* and upload all four to your website folder *RealPlayer* and make a link to the file *VideoWeb.rm* and you are finished. When a web surfer clicks on this link, he will see the video with the subtitles. If you also would like to make a link just to see the video without the subtitles, simply make another link to the file *video.rm*

### **Additional Notes on RealPlayer**

- Words move left and right, size and font can be changed in export options, size of the text track itself is customizable in export options. Do not use music symbol, use the word [music].
- Set the margins accordingly when doing right positioned captions. If you don't leave enough space in the margin for a right positioned caption, the words that don't fit will be moved to the very left of the screen on the next line. Setting margins to 0 works best, but you can get away with higher numbers depending on how your text is formatted.
- Ignore the format for Roll-Up you used when creating the initial *.cap* file. Upon export you will be asked to set the maximum number of lines for Roll-up mode. If you enter 1, roll-up captions will appear one at a time, if you choose 5, then 5 roll-up captions will appear at once. The only thing to remember is that you follow the warning and set your Caption Area Height accordingly to the font you've selected and the max number of lines you've set.

## QuickTime

QuickTime is definitely the most difficult of the three programs for subtitling webcasts. Like RealPlayer, subtitles shown with QuickTime cannot be turned off or on. There are two ways you subtitle a QuickTime movie.

- smi and text file format
- Embedded text

To export files for QuickTime, go to *File* → *Export* → *QuickTime Webcast Script (\*.txt)* option. You will get two files, one with extension .txt and the other with extension .smi

### SMI and text file format

If you have the .smi, .txt and the video file .mov all in the same folder, open the .smi file in QuickTime and you will see the video with the captions. It is that simple. On the other hand if you want to embed the text inside the video, follow the steps below.

### Embedded Text

1. Open QuickTime Player.
2. Choose *Open movie in new player* and select the movie that you would like to subtitle.
3. Go to *File* → *Import* and choose the text file that has just been exported from CaptionMaker. (You may have to change the Type field from *Movies* to *All*).
4. A new dialog box will open: *Save converted file as*. Click on Options in the bottom left corner. Here you can choose your font, font size, text style, screen width and height. You can also choose to do *Keyed Text*, which means that the text shows up right over the movie, not on a black background. Since this is just the text portion of the movie, you don't want to make the height any bigger than 2-3 lines of text will require. Match the width with the width of the movie, and make the height just big enough for 2 lines of text (100-200 depending on your font size). You may have to try this a few times to get the right size.
5. When you click on OK, a new movie will be created that contains only text. To go into this movie, go to *Edit* → *Select All*, then *Edit* → *Copy*. Now go into the movie that you would like to subtitle, and go to *Edit* → *Add*. You will see a black box at the top of the screen where the text should be. If you are using keyed text you will not see a black box; you may need to move forward a few seconds into the movie to see the text. But you probably don't want a big box on the top of your movie, so you need to move it.
6. Go to *Movie* → *Get Movie Properties*. A new dialog box will open. First, select the top left drop-down menu and change it from *Movie* to *Text Track*. Now

change the top right drop-down menu from *Annotations* to *Size*. When you click on *Size*, a new interface will open under the drop-down menus. Click on *Adjust*.



7. A screen like the one above will open up. Click anywhere in the black area and drag it down so it is just out of the picture, so it looks like this:



8. Now click on *Done* in the *Movie Properties* dialog box, save the file, and you are ready to upload the new .mov file to the web.

### **Additional Notes on QuickTime**

- If you make a stand-alone QuickTime movie with captions in Windows, you can enlarge the size of the video and the size and font of the text will actually change and get bigger to.

### **Flash Player**

This is the fourth player CaptionMaker supports. There is only one way you subtitle a Flash video.

- Embedded text inside the video

Here are the steps on how to insert captions to a Flash video using the CaptionMaker software and a third party software Captionate (around \$60)

**You will need these 4 things to do this:**

- CaptionMaker
- Captionate (This is the program that will allow you to embed captions inside your .flv files. You can find it here: <http://www.buraks.com/captionate/6.html> )
- Macromedia Flash Professional 8 or higher (This is the program that will allow you to build the .swf and/or .html files using your .flv video. You can find it here: <http://www.adobe.com/products/flash/> )
- Skins for FLVPlayback that support Captionate  
You can download them from the following link:  
<http://blogs.adobe.com/accessibility/assets/CaptionedFLVskins.mxp>  
Just double click the .mxp to install after you download

**Creating an .flv using Macromedia Flash 8 Video Encoder**

- If you purchased Flash Professional 8, it should come with Macromedia Flash 8 Video Encoder
- You can use that to encode almost any type of video into an .flv file
- Open Flash 8 Video Encoder, click Add, and choose your video
- You can add as many videos as you want and the Video Encoder will convert all of them into .flv videos
- If you don't have any specific video settings you want to set, just use the default Medium Quality (400kbps)
- After you have all your videos added in, just click Start Queue

**Creating an .xml using CaptionMaker**

- CaptionMaker cannot play .flv videos so use your original video to time, position, and format all your captions inside CaptionMaker
- When you are finished, go to *File >> Export DVD/DV2000/Webcast Subtitle* and choose Webcast - Flash XML for Captionate from the pull down menu

**Combining the .xml with the .flv**

- Run Captionate and go to *File >> Open* and choose to open the .flv video you converted earlier
- Go to *File >> Import >> Captionate XML* and choose the .xml file you just exported from CaptionMaker
- After it imports all your captions in go to *File >> Save*
- Now all of your captions are saved inside your .flv video

**Creating a .swf and an .html file using Macromedia Flash**

- Run Macromedia Flash and choose to start a new *Flash Document*

- Make sure to save this project in the same folder as your .flv video
- From the *Components, & Actions, & Properties & Parameters* panel, go to the *Components* tab
- Expand FLV Playback – Player 8 and drag the FLVPlayback component from the tab into your work area
- Now that you have a component to work with, go over to the *Parameters* tab and under *Content Path* put the full filename of your .flv (ex: MyVideo.flv). You should not include the entire path to where your .flv is located. Just put the name of the actual .flv
- Then under *Skin* choose any skin that begins with the word Captioned
- If you want your captions to appear over your video, choose a skin that contains the word External. If you want your captions to appear below the video, choose a skin that contains the word Over. In either case you can choose to auto-hide the video control panel by setting the Parameter *skinAutoHide* to true.
- After that you can go to *Control >> Test Movie* to see a sample of what your video will look like.
- Press the CC button to turn your captions on or off
- Once you are ready to create the final files go to *File >> Publish Settings* to confirm the names and types of files you want to export
- Then go to *File >> Publish* to actually create them

### Playing your finished captioned flash videos

- Make sure all 4 of the following files are in the same folder:
  1. The .flv video
  2. The .swf file for your video
  3. The .html file (for those who exported .html)
  4. The .swf file you chose as your skin
- Then just double click the .swf file to bring up a player in flash, or double click the .html to bring up the flash player inside your web browser (IE Explorer, Firefox, Safari, etc)

### Note

- It is extremely important to remember that when you are building your project in Macromedia Flash that you do not include the entire path to your .flv in the *Content Path* section of the *Parameters* tab. Doing so will make the video work perfectly fine on your computer, but it will not work for anyone else.

### Sample XML file

```

= <caption time="00:00:07:20">
  <speaker>-1</speaker>
= <tracks>
  <track0><P ALIGN="LEFT">I'm at the left<br>of
    the screen.</P></track0>
</tracks>

```

```
</caption>
= <caption time="00:00:14:05">
  <speaker>-1</speaker>
  = <tracks>
    <track0><P ALIGN="RIGHT">Now I'm at the
      right<br>of the screen,</P></track0>
    </tracks>
  </caption>
= <caption time="00:00:19:07">
  <speaker>-1</speaker>
  = <tracks>
    <track0><P ALIGN="CENTER"><I>Now I am off
      screen.</I></P></track0>
    </tracks>
  </caption>
```

---

# Chapter 6

## Caption/Subtitle with CaptionMaker-DV/NLE/HD

### Full blown and Encoder flavors of CaptionMaker

CaptionMaker-DV, CaptionMaker-NLE, CaptionMaker-HD Enterprise come in two flavors – Complete and Encoder.

#### Two Flavors

**CaptionMaker** series is a caption/subtitle editor and closed caption/subtitle encoder. It allows you to do a complete captioning/subtitling job from start to finish. It accepts text from a variety of sources. CaptionMaker series lets you edit, position, and synchronize the captions/subtitles with video using time code. It then combines the captions/subtitles with the video as open captions, closed captions or subtitles, and allows you to save them in a number of different formats. CaptionMaker series supports drop frame as well as non-drop frame NTSC/PAL video.

**CaptionMaker Encoder** series does not have caption/subtitle editing capabilities. It is a closed caption/subtitle encoding software only. You need to have a prepared caption/subtitle file from a different source like CPC CaptionMaker or multiple of other caption files from other caption software vendors. After you import a prepared file, you can add captions/subtitles to a video as open captions, closed captions or subtitles, and it allows you to save the file in a number of different formats. CaptionMaker Encoder supports drop frame as well as non-drop frame NTSC/PAL video.

#### Four versions:

- **CaptionMaker-Classic** version allows you to add captions & subtitles to any videotape using external closed caption encoder.
- **CaptionMaker-DV** version allows you to add captions & subtitles to DV videos - both DV25 and DV50.
- **CaptionMaker-NLE** version does everything that the DV version does, plus it can add captions & subtitles to video residing inside an NLE system. It can also add captions to all SD (Standard Definition) MPEG2 including DVD video.
- **CaptionMaker-HD Enterprise** does everything that the NLE version does, plus it can add captions and subtitles to HD (High Definition) Mpeg2 video.

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**Note: Encoder versions allow 50 changes (key strokes & a limited number of other things) to an imported file.**

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## **Caption/Subtitle digital video on your hard drive**

With the CaptionMaker® DV/NLE/HD (includes patented [#6,895,166] software engine) you can caption and subtitle your digital videos without losing a generation. No need for any hardware caption encoder or subtitle character generator.

CaptionMaker-DV/NLE/HD have all the features of CPC-Classic plus you can caption and subtitle your digital videos without losing a generation. Here is what you can do.

### **Retrieve Captions**

You can retrieve captions from any one of the following videos as long as the video contains closed captions.

DV (720x480) MOV

DC (720x480) AVI

Mpeg2 (720x480) video (for DVD)

### **Encode Captions/Subtitles**

You can encode closed captions to a DV (.mov and .avi) , Mpeg2. You can also export a blank video (720x486) file with encoded closed captions to be merged to the original video using an NLE system.

You can subtitle any digital video with your choice of fonts. The resulting video is always an AVI video. You can also export a blank video (720x486) with subtitles, which can be merged to the original video using an NLE system.

### **Print DV Video to Tape**

You can transfer a captioned DV video via Firewire to a MiniDV, DVCAM or DVCPRO tape. You can also dump a captioned DV video to an analog tape such as VHS or BetaSP using a digital to analog converter such as Sony DVMC-DA1 and DA2 or a captioned compatible DV deck, which retains caption.

### **Capture DV Video**

You can capture a DV video (720x480) via firewire. This function allows you to receive a DV video via fire wire (IEEE 1394) and create a DV AVI file. Video may be captured from Firewire devices such as the Sony DVMC-DA1/DA2 or a camcorder or a DV deck.

## Caption encoding (No generation loss)

If you are dealing with digital videos, once the caption file has been created, you have three distinct options for creating your captioned master directly on the hard drive without using a closed caption encoder hardware.

If you are dealing with 720x480 DV25 or DV50 (compressed) video, or Mpeg2 (compressed) video, you choose the DV and Mpeg2 route. There is no need for any Non-Linear system.

On the other hand if you are using a Non-linear system and like to work with 720x486 (uncompressed) video, then you choose the NLE route.

## DV Caption Encoding

If your original digital is a DV video, and you transfer the video to a tape via firewire, then the DV function will work well. CaptionMaker-NLE can create a copy of your 720 x 480 DV video file with the caption data in the VAUX data area. In case you want a BetaSp or Digibeta video, you would need a Caption compatible DV deck or a Sony digital to analog converters like DVMC-DA1 or DVMC-DA2 to dump the DV video via Firewire.

---

**Proper QT Movies - to work with CaptionMaker:** QT DV video must be 29.97 fps and audio must be either 32KHz for 4 12-bit audio channels or 48KHz for 2 16 bit audio channels. There are no exceptions to these rates.

The video must be compressed with DV codec. If the video and audio rates are incorrect, you can fix it using QuickTime Pro by re-exporting the file with proper video/audio rates.

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## Inserting Captions to a 720x480 DV25/DV50 Video

From the NLE > Encode Captions/Subtitles menu, choose one the following choices:

- DV AVI 720x480 video (\*.avi)
- DV QuickTime 720x480 movie (\*.mov)

Follow the steps to create a copy of the DV video with closed captions.

Next, go to *NLE >> Print DV Video to Tape* option to transfer the DV video via firewire to a MiniDV, DVCAM or DVCPRO tape.

You can also dump the DV video on an analog tape such as VHS or BetaSP using a digital to analog converter, which retains caption. We found Sony DVMC-DA1 and DA2 are good converters. Unfortunately it is discontinued now. But you can get a used one

from CPC. Most digital to analog converts like the one Canopus or TVOne do not retain captions.

Now play the tape in a VCR and display the output on a TV with caption channel 1 turned on. You will see captions superimposed on your video. If you do not see any captions, check your TV's menu and make sure the CC1 mode is selected.

## Compatible DV Decks

CaptionMaker works with both DV25 and DV50 video. You can create your DV video in any NLE system or simply import from a videotape via Firewire.

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**Up-to-date List:** For most recent list of caption compatible DV decks, please check <http://www.cpcweb.com/dv/dv-hardware.htm>

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Caption data sits in the VAUX Data area of a 720x480 DV video. On the other hand, caption data sits in Line 21 of NTSC (525 lines) video. When you transfer the DV video to NTSC, you must use a deck which can transfer the caption data from the DV VAUX data area to the NTSC Line 21.

After you caption a 720x480 DV video sitting on your hard drive, using CaptionMaker software, you need to dump the video to a tape format via Firewire.

We have tested the following decks and media converters, which do the job successfully. If your deck is not listed below, you can use the compatibility check below to test it.

### DV Decks - Caption Compatible

- Panasonic AJ-D650, AJ-D455
- SONY DHR-1000
- SONY DSR-11, DSR-20, DSR-30, DSR-40, DSR-80
- SONY GV-D300 portable
- SONY DCR-TRV110, TRV720, TRV820 Digital8 camcorder

### Media Converters - Caption Compatible

- SONY DVMC-DA1 and DVMC-DA2

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**Note from a Sony Rep. on DSR 45, 50 and 85:** The DSR-45 does output Closed Captions only in NTSC and only on the monitor out connector. Not the component, composite, main video or S-Video outputs. There is no magic mod to my knowledge to turn this on and it has been asked for previously to my recollection.

By the way, among the DVCAM products, CC only exists in NTSC machines or NTSC mode. The DSR-85 never supported Closed Captioning, the DSR-45 as you now know

only outputs CC on the monitor output and the DSR-50 only outputs CC on the video output. All the other DVCAM machines basically output Closed Captioning. The POSC Group at 800-883-6817 has this information in their FAQ database. Please refer the customer to the Sales brochure and maybe give a heads-up to the other Sales people who may need to know this gotcha. Sorry again for the bad news.

The Sony Business Solutions & Systems Product Operations Support Center:  
<http://bssc.sel.sony.com/BroadcastandBusiness/minisites/HDV/support.shtml>

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The following video decks and video cameras do not do the proper transfer of caption data onto NTSC video. But you can still record closed captioned DV video using any DV video deck, including the ones below, even though you can not play back the video with captions from these decks. This is a subtle, but important distinction.

### **DV Decks - Not Caption Compatible**

- CANON XL-1 camcorder
- SONY DSR-PD100
- SONY DSR-85
- Panasonic AG-DV1000

Remember, if you record captions onto a DV tape using a non-caption compatible deck and then want to output the video with captions to an NTSC deck (BetaSP, VHS etc.), you must use a caption compatible deck or media converter to play that DV videotape in order for the captions to appear.

## **Compatibility Check 1**

There are many other DV hardware devices which work with CaptionMaker. To check whether CaptionMaker works with your specific hardware, you can do the following test.

Take a commercial video with closed captions and save it via Firewire on your hard drive. Now print the video out of your computer via Firewire to your DV hardware and then finally to a TV with its closed caption decoder turned on. If you see captions, your hardware is most likely compatible.

## **Compatibility Check 2**

Download one of the following videos (295 MB)

[www.cpc-usa.com/1ccaption/DemoDV720\\_480\\_MOV/Demo\\_DV\\_720x480\\_CC.mov](http://www.cpc-usa.com/1ccaption/DemoDV720_480_MOV/Demo_DV_720x480_CC.mov)  
[www.cpc-usa.com/1ccaption/DemoDV720\\_480\\_AVI/CPCDemo\\_DV\\_720x480\\_CC.avi](http://www.cpc-usa.com/1ccaption/DemoDV720_480_AVI/CPCDemo_DV_720x480_CC.avi)

and open the video in your NLE system or any software which allows you to dump the video via Firewire to your deck. Now connect the deck to a TV with its closed caption decoder turned on and output the video. If you see captions, your hardware is compatible.

## Inserting Captions to Mpeg2 for DVD

You can add captions to the data area of Mpeg2 video (for DVD) directly without using a NLE system. For a sample Mpeg video with captions, go to the link:

[www.cpc-usa.com/1ccaption/CPC Demo DVD.zip](http://www.cpc-usa.com/1ccaption/CPC%20Demo%20DVD.zip)

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**Note: To caption a DVD video, you have another choice. You can export a .scc file from CaptionMaker and bring it to Adobe Encore, DVD Studio Pro (DSP), Sonic or Scenarist DVD authoring system. The authoring system will add the captions to the caption track of the DVD.**

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## Inserting Captions to Mpeg2 (DTV/ATSC)

CaptionMaker software implemented a way to embed closed captions in DTV/ATSC MPEG2 video for both 4:3 and 16:9 formats. HD is basically MPEG2 video so the concepts here will work for HD as well as SD MPEG2 video.

In MPEG2 video closed captions are carried in User Data packets in the MPEG data stream. There are three distinct closed caption data formats used in MPEG video:

1. One format is used for encoding CCs into MPEG data that will be used as video assets in DVD authoring;
2. A second format is used for Digital Television (DTV) and carries EIA 608 formatted closed captioning data;
3. A third format is used for encoding DTV EIA 708 closed captioning data. This is the same as HD.

The CaptionMaker software supports adding closed captions to DTV MPEG video; and CPC is researching adding EIA 708 closed captions into DTV. At present the current CaptionMaker software can decode EIA 708 closed captions.

CaptionMaker will decode and encode standard MPEG2 closed caption User Data packets in video encoded with the Vela Research MPEG hardware,  
<http://www.vela.com/>.

The DVD and DTV 608 closed caption formats both conform to the EIA 608 standard specification for closed caption data encoding, but they differ in their physical positioning and bit coding layout in the MPEG data stream. The DTV 608 and the DTV 708 formats differ in their standard specifications for closed caption data encoding, but they are transmitted together and in the same User Data packet in the MPEG data stream.

DTV 608 closed caption data that is inserted into MPEG video is typically copied directly from its analog standard definition video EIA 608 closed caption counterpart.

CaptionMaker can currently encode closed captions for the following MPEG formats:

1. DVD Closed Captions (\*.m2v)
2. DVD Style Closed Captions (\*.mpg)
3. ATSC DTV 608 Closed Captions (\*.mpg)
4. CCube/LSI DVx 608 Linear Closed Captions (\*.mpg)
5. CCube/LSI DVx 608 Temporal Closed Captions (\*.mpg)

CPC is continuing to test its MPEG2 closed caption encoding and welcomes specific user feedback on its software. If you want to share your Mpeg2 video with us for more testing, please let us know.

## Mpeg2 Video Codecs

The software that comes with the Pinnacle DVC 80 (MovieStar 5 and DVD Complete) has the a good Mpeg2 codec. Install the MovieStar software and Mpeg2 codec will be installed in your computer. This codec (Main Concept MPEG codec) works well for CaptionMaker. You may also install this codec from

<http://www.mainconcept.com/products.shtml>

## Non-Linear caption encoding

The advantage of a non-linear solution is that the master that you can work with your uncompressed 720x486 video can add captions without losing any quality. See below for NLE compatibility.

## Compatible NLE Systems

CaptionMaker can add captions directly to video using NLE systems. After adding captions to a 720x486 video with an NLE system you typically write the final video to a videotape using the NLE hardware (not Firewire).

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**Up-to-date List:** For most recent list of caption compatible NLE Systems, please check [www.cpcweb.com/Captioning/NLE-DV-HardwareCompatibility.shtml](http://www.cpcweb.com/Captioning/NLE-DV-HardwareCompatibility.shtml)

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Caption data sits in 720x486 video in Row 0 or Row 1 depending on the NLE system. In NTSC (525 line) video caption data sits in Line 21. When you transfer the video to NTSC, you must use an NLE system, which can transfer the caption data from Row 0 or Row 1 of 720x486 video to NTSC video Line 21. The following NLE systems can do this, which makes them caption compatible. Caption data for use with NLE systems is stored in the following locations:

NLE Systems	Primary Row	Starting Column
AJA Io LA *	1	24
AJA KONA *	2	24

AJA KONA (alternate) *	1	24
AJA KONA LH/Lhe, LS/LSe *	2	24
AJA KONA LH/Lhe, LS/LSe (alternate)*	1	24
Avid ABVB	0	35
Avid ABVB (alternate)	480	35
Avid Adrenaline	0	22
Avid Adrenaline (alternate)	1	35
Avid DS Equinox	1	26
Avid Express Pro	1	26
Avid Meridien	1	26
Blackmagic DeckLink #	1	26
Blackmagic DeckLink (alternate) *	2	26
Leitch DPS Velocity	1	26
Matrox DigiSuite#	1	30
Media 100	1	26
NewTek Video Toaster 3 & 4 #	1	19
Sony XPRI	1	26
TARGA 1000-3000	1	26

\* Works with Mac Final Cut Pro

# Works with Windows Adobe Premier

The Primary Row is the row number, 0 – 484, where caption data is placed in a 720x486 video for use within an NLE system. The Starting Column is usually at 14 through 40.

#### Notes on NLE hardware:

1. Blackmagic DeckLink can be used with Final Cut Pro and Adobe Premiere. If you have difficulty with exporting captions, please check for a new software update at: [www.blackmagic-design.com/support/software](http://www.blackmagic-design.com/support/software)

2. Matrox DigiSuite hardware works with the following NLE systems

- Adobe Premiere Pro
- Discreet edit
- in-sync Speed Razor RT
- IMC Incite
- United Media On-Line Express

3. The following Pinnacle hardware used by many Windows NLE systems are caption compatible.

- TARGA 1000 PRO
- TARGA 2000 RTX
- TARGA 2000 DTX

- TARGA 2000 PRO
- TARGA 2000 SDX
- TARGA 3000

## Compatibility Check 1

There are many other NLE hardware devices which work with CaptionMaker. To check whether the CPC software works with your specific hardware, you can do the following test.

Take a commercial video with closed captions and save it uncompressed via your video input/output device (not Firewire) on your hard drive. Now send the uncompressed video out of your computer to a TV with its closed caption decoder turned on. If you see captions, your hardware is most likely compatible.

## Compatibility Check 2

You can also download one of the two sample NLE 720x486 black videos containing closed captions created with CPC software.

1. [www.cpc-usa.com/1ccaption/NLE\\_MOV\\_Exports.zip](http://www.cpc-usa.com/1ccaption/NLE_MOV_Exports.zip)
2. [http://www.cpc-usa.com/1ccaption/NLE\\_AVI\\_Exports.zip](http://www.cpc-usa.com/1ccaption/NLE_AVI_Exports.zip)

Open the video in your NLE software and output the video via your video input/output device (not Firewire) to your video deck. Now connect the deck to a TV with its closed caption decoder turned on. If you see captions, your hardware is compatible.

## NLE System Not Listed Above

If your NLE system is not listed above, you can check whether your NLE system is caption compatible or not. We created a tool to determine the preset values for your NLE system if it is not listed in the table above.

Here are two 720x486 4-minute video files which can be used to find the primary row and column number where caption data are encoded on your NLE system. We created this video in both .mov and .avi formats and they are available from:

NLE calibration movie in mov:

[http://www.cpc-usa.com/1ccaption/NLE\\_Calibrate\\_MOV.zip](http://www.cpc-usa.com/1ccaption/NLE_Calibrate_MOV.zip)

NLE calibration movie in avi:

[www.cpc-usa.com/1ccaption/NLE\\_Calibrate\\_AVI.zip](http://www.cpc-usa.com/1ccaption/NLE_Calibrate_AVI.zip)

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 1 Column 40. The entire movie is approximately 4 minutes long.

When 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

R 0, C 21

R 0, C 22

R 0, C 23

...

R 0, C 29

If do not see any captions at all, your NLE system is not caption compatible. And if you do see captions, you need to pick a row and column value pair from the numbers you see. To avoid errors, you 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, you can use these values in the CPC software and caption your videos using your NLE system.

## Adding Closed Captions to Video using an NLE

Non Linear Editing system (NLE) is an editing system used to edit a video digitally on a computer. Typically the video resolution is 720x486. CaptionMaker works very well with Avid and Media 100, Final Cut Pro, Adobe Premier etc. with the associated hardware.

CaptionMaker-NLE can add captions directly to video using most NLE systems. After adding captions to a 720x486 video with an NLE system you typically write the final video to a videotape using the hardware (not firewire) associated with your NLE system.

Caption data sits in 720x486 video in Row 0 or Row 1 depending on the NLE system. In NTSC (525 line) video caption data sits in Line 21. When you transfer the 720x486 video to NTSC, you must use an NLE system which can transfer the caption data from Row 0 or Row 1 of 720x486 video to NTSC video Line 21. For example, for most Avid systems, the caption data sits on Row 1 and column 26.

CaptionMaker-NLE a 720x486 black video with closed caption data on row 0 or 1. The 720x486 video file is then imported into the NLE system and put on the time line exactly like other video material. A picture-in-picture effect or a crop effect is then applied to the imported video to mask off all but the closed caption image lines, and the NLE system is used to merge the imported video with video program material. The resulting video output from the NLE system is closed captioned. Using this method, no additional encoder is needed to produce closed captioned video.

After you prepare a time stamped caption file, go to the NLE menu and make your choice. You can add closed captions to digital videos in one the three methods:

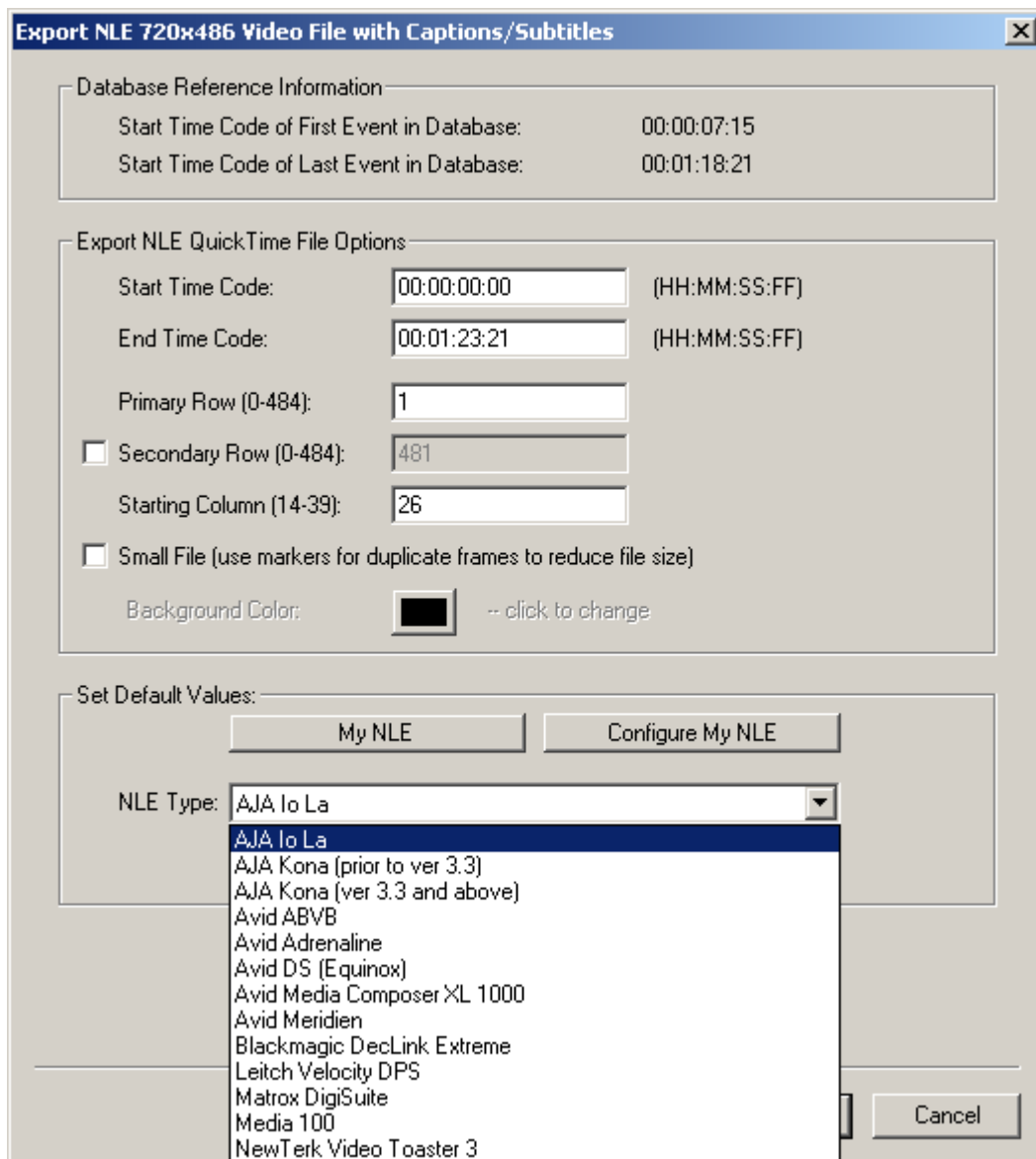
- Encode captions to DV20 or DV 50 (720x480) video (\*.mov and \*.avi)
- Encode captions to Mpeg2 (720x480) video
- Export captions to a black 720x486 video to be used by an NLE system

## Inserting captions to 720x486 video with an NLE System

From the NLE > Encode Captions/Subtitles menu, choose one the following choices:

- Encode NLE 720x486 avi video
- Encode NLE QuickTime 720x486 mov movie

When prompted, assign a file name and click *Next*. You will see the screen below:



Choose one of the NLE systems listed there. Make sure the Start Time Code is 00:00:00:00 and End Time code is at least a few seconds more than the last the time code of the caption.

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**My NLE** If your NLE system is not listed and you know the Primary Row and Starting Column information from the Calibration test described earlier, enter the information in *Configure My NLE*. Secondary Row information is not important. You may just put a number like 481 or 482. Then Choose *My NLE*. Please let us know your preset values, so we can add a button for your NLE system in the next version.

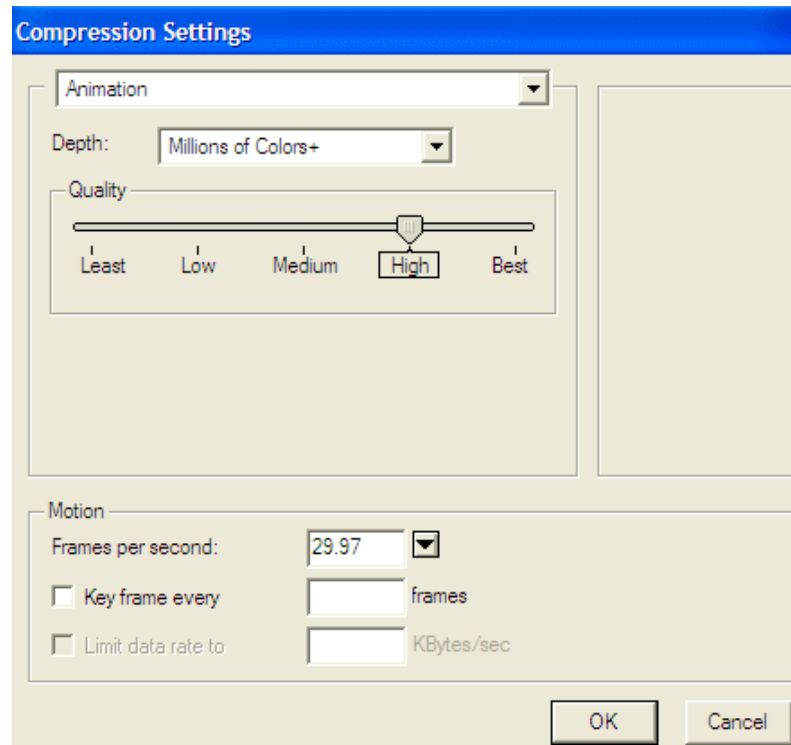
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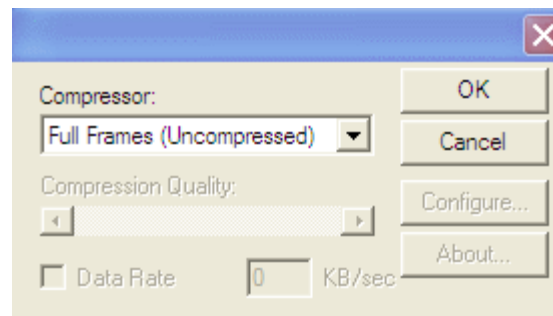
After you click *Next*, you will get the following screen. Choose the Codec used by your NLE system, otherwise choose Animation Codec for a mov export and Full frame uncompressed for an avi export.. If you are using Avid system, make sure you have Avid Codec on the computer you are running CaptionMaker-NLE. IF you do not have that Codec, you can get the proper Codecs from:

[www.avid.com/onlineSupport/browse.asp?productID=92&topicID=404&browse=go](http://www.avid.com/onlineSupport/browse.asp?productID=92&topicID=404&browse=go)

You will need to unzip the download. You will find the two files. For Avid Meridien the codecs are **AvidQTAVJICodec.qtx** and **AvidQTAVUICodec.qtx**. Place both of these files in **C:\WinNT\System32\** or **C:\Windows\System32\**. You will not need to reboot in order to use the newly added Codecs, but you may have to restart any applications that were using QuickTime.



*Export to a 720x486 mov movie*



*Export to a 720x486 avi video*

**Animation codec** is lossless. When you compress an image with the animation codec it preserves all of the data. You should not use this codec on normal video because it generates very big files but since the NLE file is about 98% black the animation codec is very good for this purpose.

The millions of colors+ generates a movie that contains an alpha track. The resulting video will contain 32 bits per pixel (8 bits for each of R, G, B and alpha). A millions of colors video only contains R, G and B data. Millions of colors+ makes the file 33% bigger (24 bits to 32 bits per pixel) but it also means that you can use an alpha track effect on the imported clip when you import the movie into your NLE. It is not necessary to use millions of colors + if you do not use alpha channel to merge the black video to your NLE video.

If you use Animation codec, the **Quality** option should not do anything since it is lossless but it should be at 100% anyway.

**FPS** must be 29.97 for drop frame video as most video on NLE systems use drop frame.

**Key frames** are not meaningful for the Animation codec. A key frame is a frame that is self contained and doesn't reference any other video frame in order to construct its own video frame data. As each frame of video in an animation codec should be spatially independent, probably key frame in the animation codec has any meaning.

**Data rate** limit should not be specified since by putting a value here it will cause the video to be limited in its resolution and we want 100% quality. This value should be meaningless for the animation codec. You would want to limit the data rate if you were streaming your video and needed to limit the size of each frame to a specific value. When you limit the data rate the quality of the compressed image will decrease. This is not what we want for our NLE closed caption image.

## Video Compressors

Just before starting the process to export a digital video file, CaptionMaker displays a "Video Compressor Settings" dialog to allow you to select a video compressor codec. There are many codecs to choose from, and you may have to experiment a little to get a feel for the codecs that work best for your requirements.

There are several video compressors that are included with Windows, and many third party video compressors are available. The "Video Compressor Settings" dialog presents you with a list of all of the video compressors that are installed on your system. Note that some of these compressors are installed by third party software such as video capture and DVD burner applications, and many of these compressors are only licensed for use with the application that installed them, so you may get an error if you try to use some of these compressors with CaptionMaker. In addition, some video compressors may not be compatible with the format of the video file to be subtitled or the format of the output AVI video file to be written, so you may also get an error when CaptionMaker tries to assemble the DirectX components using these compressors.

For detailed information about codecs, there are many web sites devoted to this topic. For example, the following are links to sites containing general information for many common codecs.

<http://www.siggraph.org/education/materials/HyperGraph/video/codecs/Default.htm>

<http://www.jmcgowan.com/avicodecs.html#CodecPerformance>

A good place to start is with the most common codecs that come with all versions of Windows. These are very reliable and will produce AVI files that are easily played back on most PC's and Mac's.

**Cinepak Codec by Radius** – This is one of the most widely used codecs for AVI files. It's most significant strength is its ability to be played back on the widest variety of machines.

**Intel Indeo Video R3.2** –Indeo is very similar to the Cinepak codec. It also plays back on a wide variety of machines.

**Microsoft Video 1** – This is an older codec developed for Microsoft Video for Windows. Note that this codec only supports 8 and 16 bit color.

**Microsoft RLE** – This is another older codec developed for Microsoft Video for Windows. Note that this codec only supports 8 bit color.

**MJPEG Compressor** – This is the Microsoft motion JPEG compressor – it performs JPEG image compression on each individual frame of video. It is mostly used by video editing systems.

The following is a list of other codecs commonly found on Windows PC's that typically don't work well (or at all) for subtitling with CaptionMaker.

Intel 4:2:0 Video V2.50

Microsoft H.261

Microsoft H.263

## Compression Options

The “Video Compressor Settings” dialog allows you to set several fundamental parameters for the selected codec. The dialog only allows you to change the settings that the currently selected codec supports, and the dialog also displays the default values of these settings for the currently selected codec.

**Quality** – controls the video quality produced by the codec. It is specified as a floating point number between 0.0 and 1.0. Higher values will produce higher quality video playback and subsequently larger AVI files. Lower values will produce smaller AVI files at the expense of lower video quality.

**Key Frame Rate** – controls how often a “full frame” is recorded into the AVI file. The rest of the time, the compressor only records what has changed since the previous “full frame”. A higher value generally increases the compression ratio and reduces the AVI file size.

**P Frames Per Key Frame**– P frames are used in MPEG compression; in general, this property does not apply to other compression formats. For example, suppose a key frame occurs once every 10 frames, and there are three P frames per key frame. The P frames will be spaced evenly between the key frames. The remaining six frames are bidirectional (B) frames.

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**Black Video File Size** If you use Animation codec or any uncompressed codec to generate the black video, the size of the file would be enormous. If you need to transfer the file to a different location, it is advisable to zip the file before transfer, Typically the file will be reduced to less than 5% of the original file.

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After you make your choices for the Compression Settings, and click OK, CaptionMaker-NLE will generate an output movie with a frame size of 720 x 486. Minimal compression should be used when generating the output movie. Two video field output should be specified.

Avid Media Composer ABVB hardware users should select the Media Composer codec at AVR75 or AVR77.

Avid Meridien users can use either an AVI codec or a QuickTime codec. Select NTSC, Meridien Interlaced, Odd Field Dominant under the AVI codec options.

Media 100 users should select the Media 100 720 codec.

Matrox DigiSuite users should select the DigiSuite codec and set the compression to be minimal.

TARGA users should select the Animation codec and specify 30 fps and Millions of Colors+. Note: TARGA users can also select JPEG-B or the TARGA Video codec, however, due to hardware conflicts the TARGA Video codec can only be used by CaptionMaker-NLE if the NLE software that uses the hardware is not concurrently running and vice versa.

In your NLE system create a project, import the resulting QuickTime or AVI file and place this clip on the timeline. There should be some black before and after the clip on the timeline. TARGA users should highlight the clip produced with the Animation codec, select **Clip: Video: Transparency**, and select Key Type - Alpha Channel.

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**Alpha Channel** You can select either AVI file output or QuickTime file output if QuickTime is installed. The selection of "Millions of Colors+" in the QuickTime codec dialog box will generate a 32-bit output file containing an alpha channel. Other output selections generate 24 bit movies. Note: If you generate an alpha channel you should set the Secondary Row equal to the Primary Row in the Preferences dialog, to prevent a second occurrence of closed caption data from being inserted into your video program.

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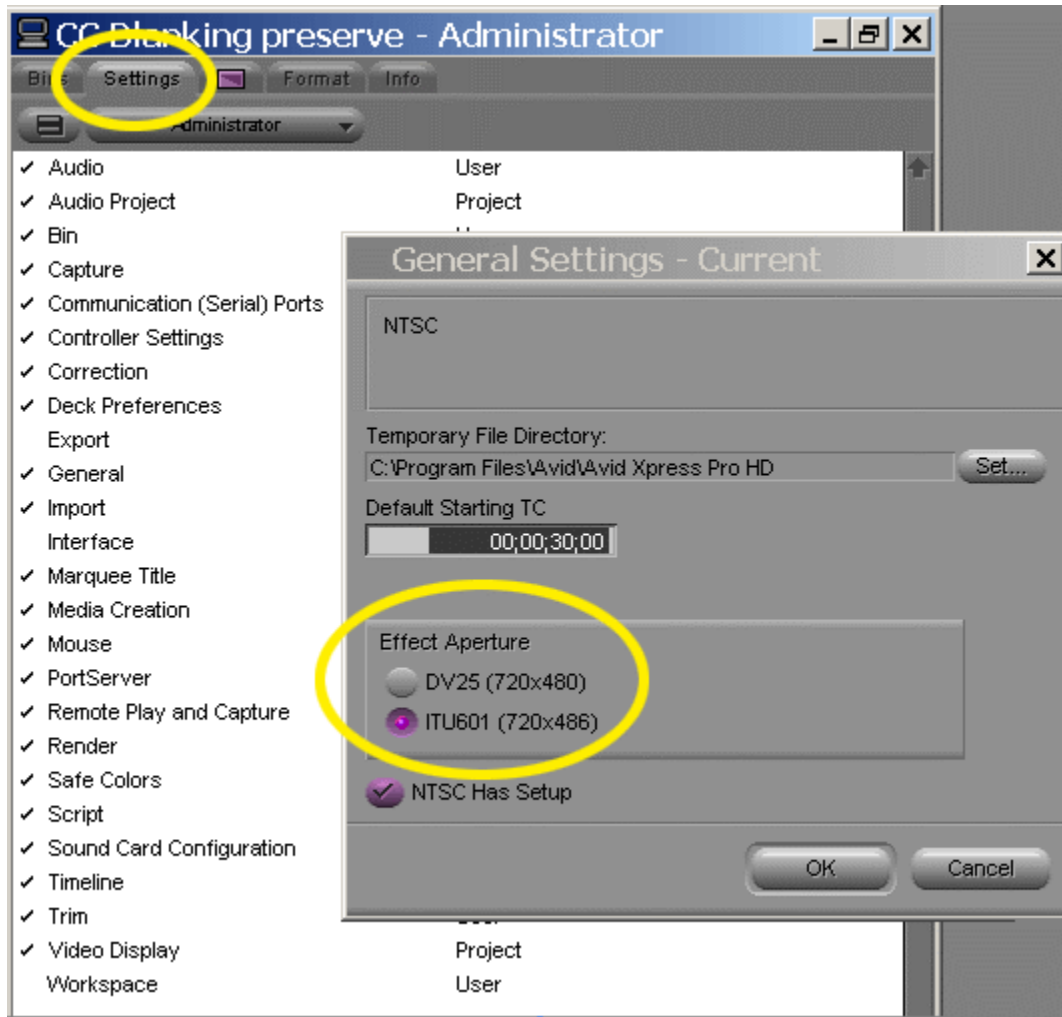
## Adding closed captions using Avid ABVB hardware

To superimpose closed caption data onto an actual video image, place the QuickTime movie onto its own video track above your background image. Place a **Blend: Picture-In-Picture** effect onto the imported clip and set the PIP Size to 100 and V Position to -941 for a Media Composer Version 6 or to -991 for a Media Composer Version 7. This PIP effect positions the closed caption control codes that are located towards the bottom of the QuickTime image file to line 1 of the NLE image. Line 1 of the NLE image corresponds to Line 21 of the VBI output signal. This has been found to be the most reliable way to superimpose clean image data onto line 21 of the VBI. Using the **Edit: Preferences** menu you can change the image file data generation lines.

## Adding Closed Captions using Avid Express Pro

Make sure to set Avid Express Pro HD to allow it to pass line 21 caption data. Two settings are required to allow Avid Express Pro HD to work with CaptionMaker. These are

- Preserve VBI which is located in the video output tool and
- Set Effects Aperture to ITU601 in the General Settings



To superimpose closed caption data onto an actual video image, follow the instructions described below for other Avid systems.

## Adding closed captions using Avid Meridien hardware

Avid Meridien users should use the Meridien QuickTime codec. Select NTSC, Meridien Interlaced, Odd Field Dominant. To superimpose closed caption data onto an actual video image, place the AVI movie onto its own video track above your background image. Place a Blend:Picture-In-Picture effect onto the imported clip and set the Crop Bottom value to -989. Set the Width and Height scaling to 100%.

On Macintosh Avid systems without real time effects the PIP effect must be rendered and is time consuming. This can be avoided by the use of the Alpha Mask file as follows. Place your background clip on V1 and place the Alpha Mask file on V2. Step Into the Alpha Mask clip and put the imported QuickTime movie onto the Graphic Fill portion, V2, of the Alpha Mask image. Step Out of the track and play the timeline. You should see a closed caption message superimposed on the output video image. Using this method

you are using closed caption information located on the first line of the generated image file.

## Adding closed captions using the Media 100

To superimpose closed caption data onto an actual video image, place the QuickTime movie onto a video track. Place a Picture-In-Picture effect onto the imported clip, set the PIP Size to 100 and V Position to 479. This PIP effect positions the closed caption control codes that are located towards the bottom of the QuickTime image file to line 1 of the NLE image. Line 1 of the NLE image corresponds to Line 21 of the VBI output signal. This has been found to be the most reliable way to superimpose clean image data onto line 21 of the VBI. Using the **Preferences NLE Tab** you can change the image file data generation lines.

## Adding closed captions using Pinnacle Systems

(TARGA 2000 RTX, DTX, PRO and SDX and TARGA 1000 PRO)

To superimpose close-caption data onto an actual video image the QuickTime movie should be created with the Animation codec at 30 fps and Millions of Colors+. Place the QuickTime movie onto its own video track above your background image. Highlight the clip, select **Clip:Video:Transparency** and select Key Type - Alpha Channel.

**For everyone:** Remember to start the NLE playback before the start of the closed caption

**Primary Row** is the row number where field 1 data will be placed. Field 2 data will be put on Primary Row + 1. The Primary Row data value must be between 0 and 484 inclusive.

**Secondary Row** is the alternate row number where field 1 data will be placed. Field 2 alternate data will be put on Secondary Row + 1. The Secondary Row data value must be between 0 and 484 inclusive. Secondary row data is needed for any NLE system other than Avid with ABVB hardware.

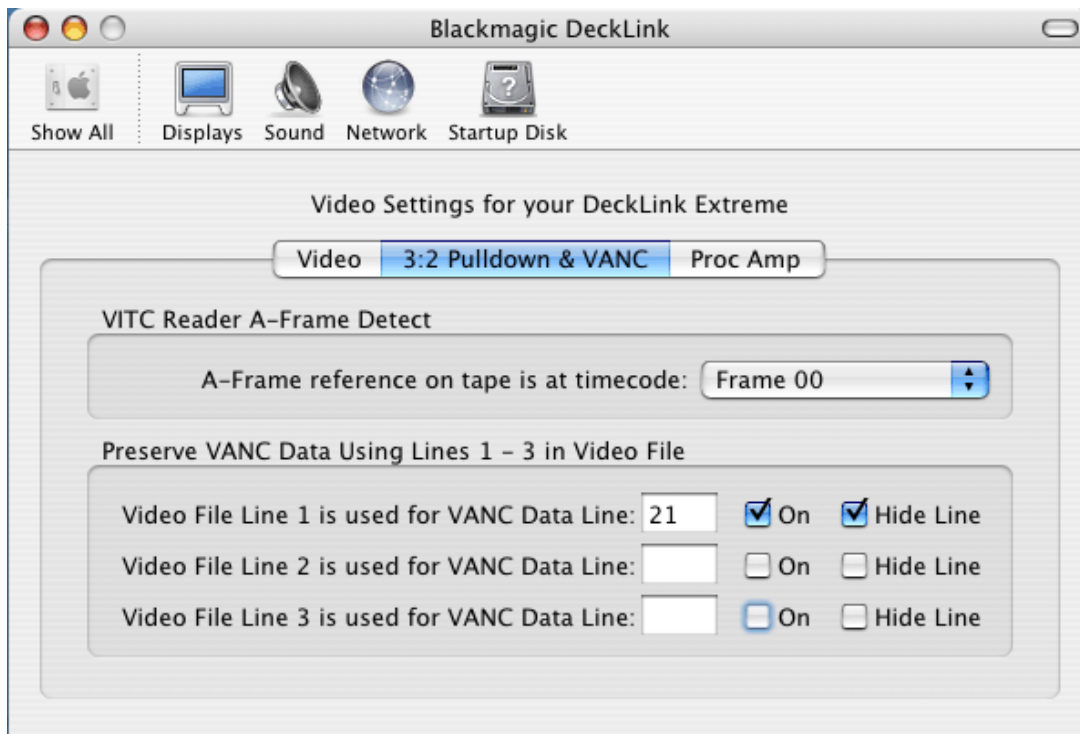
**Starting Column** is the column offset for the center point of the first closed caption clock run-in bit. The Starting Column data value must be between 14 and 39 inclusive.

**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

compressed with these type of previously referenced frames. Deselecting Small QuickTime can turn off this feature.

## Adding closed captions using Blackmagic DeckLink Extreme

The Blackmagic Design DeckLink Extreme hardware requires a specific video setting to work with close captions. To configure DeckLink Extreme hardware to work with close captions open the Macintosh System Preferences, find the DeckLink Extreme control panel and set up the 3:2 Pull down & VANC settings as follows:



Under NLE/Export menu use "Black 720x486 NLE Movie with Closed Captions" and generate a QuickTime movie containing just closed captions. To superimpose closed caption data onto an actual video image, place the QuickTime movie onto a video track and crop the video keeping just the close caption lines that are located near the very top of the video frame.

## Adding closed captions using AJA Io Hardware

To use AJA Io hardware with Final Cut Pro time line must be configured for a video size of 720x486. Export an NLE video from CaptionMaker using the Animation codec at the uncompressed resolution and import it into FCP. When you play the imported video clip the closed captioned video will appear on the SDI, component and composite video

outputs. To merge the imported closed caption video with the underlying video material put the imported clip on a higher video track than the rest of the video and crop the imported clip up from the bottom leaving the closed caption data at the top. When cropping the imported clip you should leave one extra line of black below the closed caption data to act as a clean separator line between the closed caption data and your video program. The AJA Io hardware can not be used to export video containing closed captions in DV video.

## Retrieve captions

CaptionMaker-NLE can display and decode closed captions from a video as long as the video is closed captioned, plus it captures the closed captions as a text file, from the video coming via FireWire.

Go to the NLE > Retrieve Captions menu and choose one from the following:

- DV AVI 720x480 video
- DV QuickTime 720x480 movie
- Mpeg2 720x480 video (mpg, mpeg, m2v, vob)

Many Digital Video cameras and VCRs will convert an analog signal to a digital FireWire signal. To watch a real time TV broadcast with your computer, connect the analog video and audio output from a VCR to the analog video and audio input of your DV camera or DV VCR and connect the Digital/FireWire output of your camera to your computer. You may use the retrieved caption data and create a DVD video with captions or export caption files for video-on-demand Webcasts for QT, WMP or RealPlayer.

## Adding subtitles to digital video

- (Burn Subtitles) to any Video File (\*.\*) and saves as (\*.avi)
- (Export Subtitles) Blank AVI 720x486 for NLE (\*.avi)
- (Export Subtitles) Blank QuickTime 720x486 for NLE (\*.mov)

CaptionMaker-NLE can read a video file (AVI, MPEG, WMV, etc.), overlays subtitles, and outputs a standard Windows AVI file with your subtitles “burned” into the video.

In addition, CaptionMaker-NLE can export a 720x486 blank video (with your choice of color) with subtitles in both QuickTime and AVI formats. These videos can be added to the original video (720x486) inside an NLE system using a special effect to get rid of the background and extracting the subtitles.

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**Tips: You will probably get the best result, if you choose the option of blank video and merge the subtitles with your original video using your NLE system. This way CaptionMaker does not have to decompress your video and write the subtitles on the video and compress it back.**

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To play back and capture video files, video and audio decompressors (decoders) and compressors (encoders) are required. Encoder/decoder software modules, called “codecs”, are installed into the Windows operating system for this purpose. There are several codecs that come with Windows, and there are many third party codecs available.

Note that Windows Media Player uses this DirectX functionality to play back video files. If you have trouble playing or subtitling a particular video file with CaptionMaker, playing back the problematic file with Media Player will usually correct the problem (because Media Player can automatically update your system by to properly play your file by downloading and installing updated codecs).

## **Burning subtitles to a video file**

Select Ultech DV2000 (ITV Injector) subtitle device as the default device.

Author the subtitles. Typically, the video file to be subtitled is also used during the authoring process. If so then steps 2 and 3 below can be skipped because they were already performed at the start of the authoring process.

In the “Video Properties” dialog, enter the full path and file name of the video file to be played during authoring. CaptionMaker also uses this entry as the input video file to be subtitled.

Also in the “Video Properties” dialog, enter the time code value for the first frame of the video file (if required). CaptionMaker uses this entry to control the timing of the overlaying of the subtitles into the video file.

It is highly recommended that you run AutoSync at this point to verify the appearance, positioning, and timing of your subtitles in the preview window.

Choose “Export” in the “File” menu.

Select “File Type” = “DVD/DV2000/Webcast Subtitle” or “All File Types”.

In the drop down list, select “Video File (Overlay Subtitles)”.

Enter the full path and file name for the subtitled output AVI video file to be generated.

Click “Finish”. CaptionMaker will display the “Video Compressor Settings” dialog.

Select the desired Video compressor and compression options.

Click “OK” to start the subtitling process. The progress of the operation is indicated at the bottom of the main CaptionMaker window. The operation can be aborted by pressing the “Esc” key.

## **Subtitle quality vs. video dimensions**

The subtitle generator inside CaptionMaker generates the subtitles images at a resolution of 720x480 (NTSC). When the dimensions of the video file (width x height) are smaller than this, for example 320x240, then the subtitles must be scaled down to match the resolution of the video file. This results in some loss in the quality of the subtitles. The smaller the dimensions of the video file, the more quality is lost scaling down the subtitle images. To obtain the highest quality subtitles, the video dimensions should be 720x480 (or at least 640x480).

## **Time code restrictions**

The subtitle generator inside CaptionMaker uses time code (SMPTE12M) to control the timing of the subtitles. Therefore, the video file being subtitled needs to be 24, 25, 29.97, or 30 frames per second. Subtitling a video file with a frame rate other than these can be done, but this can make it very difficult to achieve accurate subtitle timing.

# Chapter 7

## Live Captioning

### Overview

The CaptionMaker is designed for live realtime captioning using a steno machine.

Additionally, it can also be used for:

1. Budget realtime captioning using optional speed typing software.
2. Budget realtime captioning using optional speech recognition software.

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**DSP-1000 LED Display Device** Beside captioning video with a standard closed caption encoder, you can also display captions on Museum Technology's LED display DSP-1000/CC-1000 device. This is a 4 line 32 column LED display device. CaptionMaker can send caption data in Roll-up mode to this device via a serial connection. This is usually used for live caption for a large audience sitting in an auditorium.

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### Realtime Captioning Using a Steno Machine

For realtime captioning with a steno machine, you need:

1. A steno machine (writer) to enter data at high speed.
2. A high-speed computer with a sizable amount of memory to store a large dictionary, which is used to translate steno keystrokes into words.
3. Realtime captioning software, which translates steno keystrokes into English and then sends that data to an encoder.
4. A caption encoder to insert the caption data onto the video.
5. A highly skilled court reporter (realtime captioner).

### Preparation and Fixes

Before the show starts, the realtime captioner goes through the materials that will be covered in the show and enters all the proper names and new words that might not be in their dictionary. For a half-hour show the captioner sometimes needs to spend an additional half-hour or more to do this.

Some TV stations rebroadcast their evening news later at night. You may have observed that the rebroadcast part of the late night news has virtually no captioning errors. This happens because the captioner has time to fix errors before the news is rebroadcast. At the time of rebroadcast, the captioner simply presses only one key to send one line of captions at a time from the script prepared earlier for the evening news. Since one whole line goes out at a time, captions are painted on the screen very smoothly from left to right. You can easily identify these captions. You may sometimes even see the captions appear before they are spoken!

### **Captioning at the Top of the Screen**

Decoders adopting the new 1993 FCC/EIA specifications can support Roll-Up captioning at the top of the screen. All decoders manufactured before July, 1993, can only display Roll-Up captions at the bottom of the screen. If you have a new decoder or a new TV with a built-in decoder, you might sometimes see captions appear at the top of the screen to avoid conflicts with the graphics (names of people, etc.) at the bottom of the screen. Of course, the captioner has to make an extremely fast decision to move the captions to the top when necessary. If the captioner does not do that, even with the new decoders you will see captions covering graphics at the bottom.

### **Do Not Blame the Captioners for All Errors**

Not all the captioning errors on the TV news are the result of mistakes made by captioners. The captioners work under intense pressure, and it is quite possible that they make some errors. A good captioner normally does not make more than 2% errors.

Errors can also arise because the caption information is a very sensitive signal encoded in a small area inside the video. If the picture reception on your TV is not very good, you will invariably see some mistakes in captions due to the distortions of the caption signal.

### **The Ultimate Solution**

Ideally, if there were a machine (speech recognition) to translate the speech of all speakers into captions, you would not need highly skilled and expensive captioners. The expense factor prevents many TV stations from captioning the news. But the present speech recognition systems are still in their infancy. They cannot even interpret more than one speaker at a time. A large amount of research and money is being spent every year to make this technology feasible, but there is still a long way to go.

### **Realtime Captioning and Steno Writing**

There are more than 20,000 court reporters in the United States. When they work in the courtroom environment they can afford to make some mistakes. They can fix the mistakes later and present the final corrected copy the next day (unless they are doing realtime reporting). In regard to realtime captioning, they do not have that luxury. Because the captions go out live instantly, there is no time for corrections. This is why

not all court reporters are realtime captioners. In fact, only a small percentage (less than 2%) are certified as realtime captioners. Their average writing speed is around 250 words per minute. The steno machine has only 24 keys with thousands of possible keystroke combinations. There are 4 keys for vowels (A, O, E and U). To write a letter I, you need to press E and U together. The rest of the keys are divided into two parts. The left keys are for the beginning of a word, and the right keys are for the end part of a word. Left keys are S, T, K, P, W, H and R; and right keys are F, R, P, B, L, G, T, S, D and Z. Not all consonants are available as a single keystroke. For example, to write B, you need to press P and W together. You may press only one key, or as many as 10 keys all at the same time. Each keystroke, whether it is a single key or multiple keys, can produce a syllable, a word or even a phrase. It completely depends how you design your dictionary to respond to your keystrokes. It is astounding to think how it is possible to remember thousands of keystrokes. Of course, there are some standards which people follow. But every captioner adds their own keystrokes to their system. Here are you a few examples.

Keystrokes	English word(s)
TH	This
g_	Is
PW A_LS _D	Balanced
PWLTD SKWR_ET	Budget
SPH A_FT	as a matter of fact

Captioners keep a number of phrases and abbreviations like this in their repertoire to attain writing speeds in excess of 250 wpm.

## Realtime Captioning Not Using a Steno Machine

Since it is impossible type as fast as words are spoken, realtime captioning can only be done properly by using a steno machine. A professional realtime captioner can type more than 250 words per minute with over 99% accuracy using a steno machine. Due to their amazing skills, these professionals are quite expensive.

For low-budget situations, there are two possible alternatives solutions that are not as good as realtime captioning with steno machines, but in some cases are acceptable. Instead of using the steno machine, text can be entered using speed typing software or speech recognition software. The details can be found at the end of this chapter.

## Realtime Captioning Setup

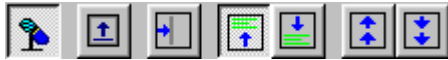
To set up for Live Caption, make sure to go through the following checklist.

1. Open Ancillary Toolbar
2. Invoke Full Screen Spreadsheet view


3. Invoke Live Caption mode
4. Set the desired choices to display captions
5. Configure Encoder/Decoder
6. Modem setup (if you are captioning from a remote location)
7. Install software for text entry (steno machine, etc.)

## Open Ancillary Toolbar

Go to the View menu and click the Ancillary Toolbar. At the right end of this toolbar you see icons pertinent to Live Captioning. Bring the mouse on top of each icon to view the tool tip and familiarize yourself with the function of each icon. The details can be found in the “Chapter 9: Icons and Buttons”.




## Invoke Full Screen Spreadsheet View

It is much easier to caption live in the full-screen view as opposed to the screen with the video window. Click on the option under *View* → *Full screen Spreadsheet* menu to set the full screen view. You may also click on the icon  to toggle between the two screens.

Note: Do not use the view with video preview window. This window takes lot of processing power and slows down captioning.

## Invoke Live Caption Mode

Click on the option under *Caption* → *Live Caption* menu to set the Live Caption mode. You may also click on the icon  on the ancillary toolbar to do the same. In Live Caption mode, CaptionMaker captions in the Roll-Up mode only. Roll-Up captions scroll up from the bottom (usually) of the screen one line at a time. Two to four lines of captions (maximum of 32 characters per line) normally appear on the screen at any given time. Television news and talk shows normally use Roll-Up captioning.

## Set the Desired Choices to Display Captions

You can choose parameters like *Caption Length*, *Number of lines in Roll-Up mode*, *Left Indentation* etc. from the *Caption* → *Live Caption Options* menu. You may assign shortcut keys to invoke any of these options too. See “Chapter 8: Menus” for more details. Some of these options can be invoked either by clicking on the appropriate icons or by pressing multiple keystrokes. See the *Tools* → *Customize Keystrokes* menu.

## Number of Lines in Roll-Up Mode

You can set up the maximum number of lines of captions you would like to see on the video screen at any given time (typically 3). Go to the menu option *Caption → Live Caption Options* and choose for Roll-Up 3 Lines.

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**Tip** Make sure the Display column shows Roll-Up mode (not Pop-On or Paint-On). To change the mode, click on the Display header to highlight the column. Right-click anywhere on the column except the header and choose a mode.


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## Caption Length

Each line of text in the Work Area equals one caption line of up to 32 characters. You can choose to display less than 32 characters on a line if you so desire. If you choose an indentation other than 0, the length is reduced by that amount from 32. In other words, if you choose an indentation of 4, the maximum length allowable is 28.


## Indentation

You may also choose the desired amount of indentation (i.e., the left margin). You may choose the icon  to do the same.

## Fast Indentation

If you want to change the indentation on the fly, you may also do so by invoking any one of the 6 preset positions.

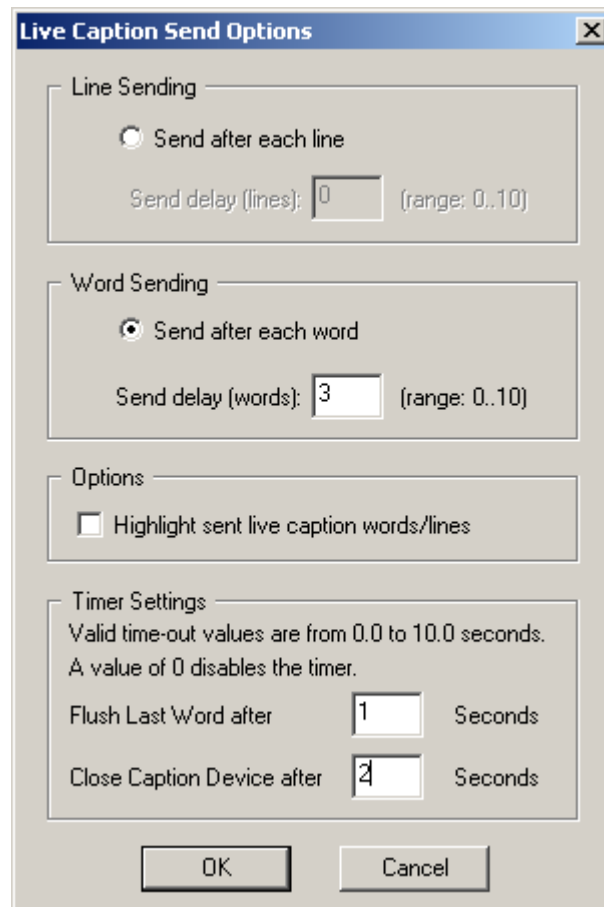
## Roll-Up One Blank Line

This menu item sends one blank caption line to the video resulting in rolling up the existing caption on the video by one line. This option can also be used to clear captions on the video by invoking it several times to roll up existing captions of more than one line. You may choose the icon  to do the same.

## Font Height...

The font height of the text seen on the CaptionMaker screen by the captioner in the Live Caption Mode can be changed. The choices are 9-point through 24-point type. A larger font is easier to read. This font size is only for the captioner, the font height of captioned text seen on the television by home viewers is fixed. The font comes from the television set and it is a standard font for all television sets.

## Send Option...



### Line/Word Sending

You may send the text to the closed caption encoder using either of the two options:

- Send after each word
- Send after each line

For each option you may also choose a time delay. If the *Time delay* box is not checked, *Send after each word* option sends a word as soon as you press the space character. *Send after each line* option sends a line as soon as a line is completed and the cursor goes to the next line. You do not have any control to fix any word or line after the word or the line is sent to the encoder.

On the other hand, if you check the *Time Delay* box and set the delay time to any time between 0 and 10 seconds, you have time to fix any word or words that are not yet sent to the encoder.

### Highlight Sent Live Caption Words/Lines

If you check this box, the words and lines, which were already sent out to the encoder, will show in different color.

## Timer Settings

There are two time-out settings – one for flush last word and the other for closing the caption device.

### Flush Last Word After...

When you type words on the live caption screen, after you put a space, CaptionMaker knows that you completed a word and it sends the word out to the encoder. But after typing a word if the cursor is still touching the last letter of the word, CaptionMaker does not send the word to the encoder, because it thinks that word is not complete yet. So the last word is never sent out.

Putting a value of 1 or 2 seconds to “Flush Last Word After...”, you can tell CaptionMaker to flush the last word even if the cursor is still touch the last letter of the word. This is particularly useful if you are using a speech recognition software to input the text. After you are done inputting the text with a speech recognition software, the cursor always stays attached to the last word.

### Close Caption Device After...


If you are switching between two computers sending caption data to the same encoder via an A-B switch, to accomplish two speakers or for any other reasons, it is important that after one computer done sending caption data to the encoder, the encoder device must be closed, so the other computer can send caption data to he encoder. You may put a value of 2 to 3 seconds for “Close Caption Device After...” option, so the encoder is closed after 2 to 3 seconds to accept data from the other computer.


When you resume sending caption data from the first computer again, CaptionMaker will automatically open the device.



You will need to know about a few more options related to live captioning, which are described below. They are related to the vertical position and clear captions from the video screen and converting upper and lower case text into all upper case. You also need to know the status window, which shows some basic chosen parameters.

## Vertical Position


You may caption at the top or the bottom of the screen. Choose the desired vertical position from the *Attribute* → *Vertical Position* menu or from the icons on the Ancillary Toolbar. You may choose Top (Vertical position =1), Bottom (Vertical position =15) or any position 1 through 4 or 12 through 15. Roll-Up captions cannot be displayed with base line starting from lines 5 through 11.

Click on the icon  to place the captions at the top of the screen.

Click on the icon  to place the captions at the bottom of the screen.

Click on the icons   to move the base row of Roll-Up captions up or down by one line.

## Clear Caption

You may clear the caption on the video monitor by choosing *Caption* → *Clear Caption* menu option or, clicking on the icon  on the Ancillary Toolbar.

## Convert to uppercase

You may convert upper and lower case text to all uppercase captions by checking the box *Convert to uppercase* option from the *Caption* → *Properties* → *General Tab* menu.

## Status Window

At the bottom right side of the screen, a small window displays the default settings of the vertical (V) position, left indentation (L) and the choice of Lines for Roll-Up (R) mode. The default status is as follows:

V15L00R3

V15 indicates the vertical position is 15 which the bottom of the screen

L00 indicates the left indentation is 0.

R3 indicates Roll-Up 3 Line display mode.

## Configure Encoder/Decoder

See “Chapter 2: Hardware Installation” to make sure you are properly connected to the Encoder/Decoder.

## Modem Setup

If you are captioning from a remote location, you have to make sure that your modem is properly connected. See “Chapter 2: Hardware Installation” for details.

## Install Software for Text Entry

See the next section, “Realtime Captioning Using a Steno Machine” for details.

## Realtime Captioning Using a Steno Machine

The CaptionMaker has been designed to accept text input from any one of the following devices, and then send the input text, line by line, to the caption device to produce captions:

Steno Machine running realtime court reporting software.

Speech recognition software.

Standard computer keyboard with or without speed typing software.

This section will describe exactly how the CaptionMaker interfaces to a steno machine running any Windows realtime court reporting software.

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**Note: CaptionMaker works with any Windows realtime steno software as long as the text from the steno software is inserted to the keyboard buffer.**

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A Windows steno software must be run in conjunction with CaptionMaker. Check the Steno software manual for details on:

- Installing a steno software in the computer.
- Which steno machine models you can use.
- Built-in and user dictionaries.
- Importing dictionaries from other court reporting systems.

## Live Captioning in Action

Make sure that the *Live Caption* mode (inside the *Caption* menu) is checked. Type a short line of text on the computer keyboard and send the line by pressing the [+ ] key on the computer keyboard near the keypad area. If all the connections are correct, you will see the line of text appear as captions on the television screen, which indicates that the CaptionMaker software is working.

To verify that both the CaptionMaker and the steno software are running fine together, type a few words on the steno machine and the text will appear on the computer screen. As the text being typed exceeds the caption length chosen, the text will wrap around on the computer screen and go out to the caption device to produce one line of captions on the television screen.

## Assigning Shortcut Keys from the Steno Machine

You can assign keystrokes to your desired keys for any one of the Live Caption options using *Customize Keystrokes* under the Tools menu. Here is a list of recommended keystrokes for some realtime captioning options.

Keystroke	Option
Ctrl+T	Top
Ctrl+B	Bottom
Ctrl+K	Clear captions
Ctrl+R	Roll up 1 blank line
Ctrl+ ↑	Move up 1 line
Ctrl+ ↓	Move down 1 line
Ctrl+0	Left Indent 0
Ctrl+1	Left Indent 4
Ctrl+2	Left Indent 8
Ctrl+3	Left Indent 12
Ctrl+4	Left Indent 16
Ctrl+5	Left Indent 20

After you assign the proper keystrokes inside the CaptionMaker, you may assign shortcut keys to your steno keyboard to invoke any of those options. Consult the steno software manual for instructions.

## Live Mode Encoder Transparency

To invoke this option, click on the item to “Close Device” inside the Caption Menu.

When the caption device is closed, the caption encoder will be commanded to go into “transparent mode” to allow all existing caption data to pass through the caption encoder in tact. During Live caption encoding, closing the caption device allows upstream captions to pass through the caption encoder during commercials. Note that the caption encoder is automatically re-opened and re-initialized by CaptionMaker when you send any caption data to the caption encoder (continue typing in live mode, select “send caption” or “clear caption”, etc.).

## Instantly Switching Between Realtime and Live Display Captioning

If you are captioning programs such as TV news, where you must caption some portions live and have text for other portions in advance, the CaptionMaker will enhance your captioning capability.

To provide an example of how this works, this section will walk you through the process of captioning a TV news program, illustrating how easy it is to switch between live captioning and captioning with prepared text. Note that pre-recorded portions should be ready for use prior to live broadcast.

The following chart and text provide an example of switching between Live Caption (Realtime) and *Live Display* (Post Caption). Live Display is used for segments that have been entered prior to airtime.

Type of Segment	Type of Captioning To Use
Live report from field	Realtime caption
Pre-recorded segment	Live Display
Weather	Realtime caption
Pre-recorded segment	Live Display
Late breaking news story	Realtime caption
Pre-recorded segment	Live Display

The procedure is simple. Import or enter any text available prior to the news program. Whenever there is a live segment, enter text into the steno machine for realtime captioning. When you reach a segment of pre-recorded text, click on the desired caption and press a pre-assigned key on your steno machine (to mimic the [+] key on the computer keyboard) to output the line of text as captions. When the segment with prepared text is finished, resume realtime captioning on your steno machine.

You will know the segment is finished when the text segment ends and the Talent begins another segment of live speaking. Note that the position of the cursor when ending one segment is exactly at the position to begin captioning the next prepared segment.

A typical file will look like the following.

#	H	V	Display	Caption/Subtitle
1	L	B	Roll-Up 3	Start entering text from here.
2	L	B	Roll-Up 3	
3	L	B	Roll-Up 3	This is the first segment
4	L	B	Roll-Up 3	of Live display.
5	L	B	Roll-Up 3	Simply press the [+] key to
6	L	B	Roll-Up 3	send these four lines of text.
7	L	B	Roll-Up 3	
8	L	B	Roll-Up 3	Start entering text from here.
9	L	B	Roll-Up 3	
10	L	B	Roll-Up 3	This is the second segment
11	L	B	Roll-Up 3	of Live display.
12	L	B	Roll-Up 3	Five lines of Live Display text.
13	L	B	Roll-Up 3	Simply press the [+] key to
14	L	B	Roll-Up 3	send these five lines of text.

Notice the file has been created with the prepared text. The text in Red (gray) indicates the place where you enter text from the steno machine or from a speech recognition system. The blank rows send a blank line of caption in between the Live Display and Live Caption modes.

To send a row of text (or blank line), simply press the [+] key from the keyboard or from the Steno Writer.

## **Realtime Captioning Not Using a Steno Machine**

Since it is impossible to type as fast as words are spoken, realtime captioning can only be done properly by using a steno machine, which can be quite costly. For low-budget situations, there are two possible alternatives solutions that are acceptable in some cases.

### **Budget Realtime Captioning with Speed Typing Software**

There are a few software packages on the market designed to enhance your typing speed. If your typing speed is around 70 wpm, you can increase your typing speed to 150 wpm or so after a few months' practice. It works like macrotyping in some word processors. For example, you program this software so that every time you type "ys" and then press the space bar, it will replace "ys" with "Yours Sincerely". Many secretaries at lawyers' offices use this software to enhance their typing speed.

If you take this route, you can type most of the words of a live event even if the speaker talks fast. CaptionMaker will simply send the words at the same speed you type.

Contact CPC for information on speed typing software.

### **Budget Realtime Captioning with Speech Recognition Software**

The CaptionMaker is designed for live realtime captioning using speech recognition software.

There are several software packages available, such as Naturally Speaking (English and Spanish) and ViaVoice (English), which can convert speech to text fairly well after you train the software to your voice. The more you train it, the better it gets. The main problem with these software packages is that they do not recognize a new voice, only the one they have been trained for.

With the aid of this software, if you can act somewhat like an interpreter who typically translates from one language to other for a live event, you can do live captioning fairly

well. You do not have to translate, you just have to listen to the words from different speakers and repeat the words out loud, because the speech recognition software only recognizes your voice.

If you are regularly a speaker for live events, you could train speech recognition software to your voice and then caption live using CaptionMaker software.

First, run the speech recognition software and train the system to your voice. The more you train, better it understands you.

Next, minimize the speech recognition software and open the CaptionMaker software and speak. The text of your speech will appear inside the CaptionMaker screen. As soon as a line of text exceeds the *Total number of characters per line* you have chosen, the text will wrap around on the screen, and the line will go out to the encoder and appear on the video as captions.

You may also press the [+] key to send an unfinished line at any moment if you want to.

This function is available in only the Roll-Up display mode. Set the proper left and right margins and the maximum number of rows for Roll-Up captions. As you type the text, as soon as the text wraps around to the next row, the text is automatically sent out for captions. You may also press the [+] key any time to send the text in the current row.

## **Languages supported**

Naturally Speaking is available in multiple languages such as, English, Spanish, French, German. ViaVoice is available only in English

## **Realtime Captioning with Naturally Speaking**

To use Dragon Naturally Speaking versions 7 and up with CaptionMaker, it is necessary to execute an utility software called DnsIniFix. This utility will find the Naturally Speaking ini files on your computer and add an entry to them for CaptionMaker. The utility software DnsIniFix.exe is available from

[www.cpcweb.com/download/cmpete\\_software\\_downloads.htm#Utilities](http://www.cpcweb.com/download/cmpete_software_downloads.htm#Utilities)

## **Accuracy & delay**

Naturally Speaking software analyzes a complete sentence or a phrase until you pause talking and gives better accuracy compared to ViaVoice. Since Naturally Speaking analyzes the text before showing it on the screen, if you use it for live captioning, the captions might be delayed by a few seconds. For transcription purposes, the delay does not matter. So Naturally speaking is better than ViaVoice from the accuracy point of view.

## Captioning Video from Remote Location

If you are captioning a video generated at a remote location, you need to connect your computer to the encoder located at the remote location via a telephone line using a modem attached to your computer. The encoder must have a built-in modem or a modem attached to it. If you have a Norpak encoder, you may also connect the encoder via a LAN or via internet. See *Hardware Installation* chapter for the details.

### Modem

If you are using an external modem, you should see the name of the external modem appearing in the Modem Settings windows. You must have the external modem

- Powered on.

- Connected to the computer via a serial cable.

- Must have been recognized by Windows when you power the computer on.

Whether you have an internal modem built into your computer or an external modem attached to the computer, the process of choosing the modem is the same. You need to select both the caption device (encoder) and the modem.

- First choose the caption device (encoder)

- Then click on the Configure button inside the *Caption Device* dialog box.

- Check the box *Connect via modem using* inside the *Caption Device Settings* dialog box below and select your modem.

### LAN and Internet

If you are using a Norpak encoder, you can connect the encoder via a LAN connection or via an internet connection as long as the encoder is associated to an IP address.

Click on Connect via Local Area Network (LAN) radio button. Type the IP address and Connection IP Port.

# Chapter 8

## Menus

### File Menu

#### New

Creates an entirely new file. If you have a file open, it will give you the opportunity to save the currently open file, before it will create a new file. The CaptionMaker cannot support two files open at once.

#### Open/Save/Save As

The Open/Save/Save As options handle only Windows CaptionMaker files. To open and save any other kind of file, you must use Import/Export/Merge options.

Saving files in a non-CaptionMaker file format (e.g., text or Word file) will still set the name of the file as "Untitled". Also when you open a non-CaptionMaker file and if you have the *Auto Save* option on, CaptionMaker will prompt you to save the file under the name *untitled.cap* in CaptionMaker format every few minutes (according to the AutoSave time interval).

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**Note** After you open a non-CaptionMaker file, you must save the file in CaptionMaker file format (.cap) once to stop the AutoSave dialog box from popping up every few minutes.

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#### Insert File

You may insert a file (Text, Word, CaptionMaker or any of the allowed files) to the existing document that is already open in the Work Area.

#### Import/Export Files

The CaptionMaker can Import/Export the following file groups, each of which contains numerous file types:

- Word Processor (including text file)
- Caption Formatted
- DVD/DV2000/Webcast Subtitle
- DV
- NLE
- HD

For details, check the chapter 3: Importing and Exporting Files.

## Auto Save

Offers the option of saving the file automatically, including the time interval (in minutes) desired. You can choose one option or both.

Automatically save the document every [xx] minutes

Automatically save to a backup file every [xx] minutes

The first option automatically saves the file every [xx] minutes. If you choose this option it would not be possible to revert to a much earlier version if needed.

The second check box offers the option of only saving automatically to a separate backup file with an extension BAK. This option can be advantageous because it both ensures that the file is saved periodically, but also makes it possible to revert to a much earlier version if needed.

If you open a .bak file, you must resave the file under a different name with cap extension before start working with the file.

## Merge Import

The option import for merge files helps translate the first language a video is subtitled in to additional languages and replace the "number markers" at the start of designated lines with time code values from the base file. The base file is the original file with time code assigned to key points in the text. See the "Import/Export for Merge Files" section of Chapter 3 for a more complete explanation.

## Merge Export

The option export for merge file helps to translate the first language a video is subtitled into additional languages and replace the "number markers" at the start of designated lines with time code values from the base file. The base file is the original file with time code assigned to key points in the text. See the section *Import/Export for Merge Files* of Chapter 3 for a more complete explanation.

## Default File Folder

This option allows you to set up a default folder/directory where the CaptionMaker will look for files when you run the software. It is a good idea to create a folder to keep all the caption data files and assign that folder as a default folder to open files from and save files to.

## Print

Sends the Work Area (any selected Visible Columns) to the printer.

## Print Preview

Lets you see how the Work Area will print to the screen. It is a useful option for quickly looking through pages of text before printing.

## Print Setup

Brings up a standard Windows Print Setup dialog box in which you may select a printer, paper, and orientation options.

## Page Setup

The Page Setup dialog box offers a chance to decide on printing margins and options. Also choose which columns you want to print by clicking, on the *Print Column* button.

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**Note: If you print the vertical and horizontal lines, it takes a long time to print a document. Try not to print the vertical and horizontal lines if you can live without them.**

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## Exit

Closes the CaptionMaker program.

## **Edit Menu**

### **Undo**

This command will undo your last action. The computer maintains a deep stack of past actions. If there is nothing that can be undone, nothing will happen. The keyboard shortcut for Undo is [Ctrl] + Z.

### **Redo**

If you have undone too many actions, this will redo those actions. The keyboard shortcut for Redo is [Ctrl] + Y.

### **Cut**

Takes the selected text and puts it onto the clipboard. Unlike Copy, it does not preserve the text selected. The keyboard shortcut for Cut is [Ctrl] + X.

### **Copy**

Takes the currently selected text or graphic and temporarily copies it onto the Clipboard. The keyboard shortcut for Copy is [Ctrl] + C.

### **Paste**

Takes whatever is on the clipboard and puts it into the Work Area. Preserves some formatting (color, font), but not all of it. The keyboard shortcut for Paste is [Ctrl] + V.

## **View Menu**

### **Visible Columns**

This option allows you to select which columns you would like to be visible in the Work Area, such as Start Time, Duration, Justification, etc.

## Full Screen Spreadsheet

You may switch between two different views of the CaptionMaker screen: Preview video screen with a few lines of caption/subtitle text or full view of caption/subtitle text with no video screen. To access these two views, click on *View* → *Full Screen Spreadsheet*.

## Pop-Up Preview Window

When you are in the *Full Screen Spreadsheet* view, you may pop up the video *Preview Window* to see the video on the computer screen. You may move the Pop-Up Window by clicking on the top bar of the window and dragging to the desired location.

## Anchor Current Row

You may anchor the current row to the 3<sup>rd</sup> row so you can always see a few rows of text below the current cursor location. This is very important in non-Full Screen View where you can see only 6 rows of text. If you do not anchor, you won't be able to see any text below the row you're working on.

You may set the anchoring for four different situations.

### Anchor in Edit mode

When this option is checked, anchoring would be in effect in the *Edit* mode.

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**Note** If you are annoyed by rows jumping up and down while you are pushing/pulling words between rows, turn this option off.

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### Anchor on Send Caption/Subtitle

When this option is checked, anchoring would be in effect while you send captions or subtitles using the [+] key.

### Anchor in AutoSync/AutoPreviewSync

When this option is checked, anchoring would be in effect in the Auto Sync and Auto Preview Sync modes. This option is always checked as a default.

### Anchor in Live Mode

When this option is checked, anchoring would be in effect in the Live Caption mode.

## Main Toolbar

The main toolbar has a variety of buttons. They are Open, Save, Print, Spell Check, Undo, Redo, AutoSync, AutoPreviewSync, Left Justify, Center Justify, Right Justify, Bold, Italic, Underline, Text Color, Final Check, Customize Key Strokes.

## Ancillary Toolbar

The ancillary toolbar contains all the items on the right side of the Operations Center except the ones related to time code.

## VTR Toolbar

The VTR toolbar has a variety of buttons, including Play, Pause, Stop, Rewind, Fast Forward, Seek TC, Shuttle Rewind, Shuttle Forward, Decrement/Increment Shuttle Speed, Advance 1 frame reverse/forward.

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**Note** Both the Ancillary and VTR may be invoked when you are using the full screen view. Removing the check next to the toolbar menu item will hide the toolbar. When you rest the mouse cursor on top of a toolbar icon, a tool tip will show the name of the icon. Descriptions of the icons can be found in this chapter and in “Chapter 9: Icons”.

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## Status Bar

The status bar sits at the very bottom of the screen. Hiding it by removing the checkmark on its menu item may give you a bit more room in the Work Area to view lines of text. It contains some relevant information about default settings of caption/subtitle hardware, video and time code type (NTSC/PAL), and status of **CapsLock** and **NumLock** keys. It also shows whether the time code is Non-Drop (N) or Drop (D) frame just before *NTSC/PAL*.

## Attribute Menu

### Display Mode

The *Display Mode* menu item opens a submenu that offers the following options for caption appearance: Pop-On, Paint-On, Roll-Up, Block Roll-Up.

## Pop-On

Pop-On mode pops 1 to 4 lines of captions or subtitles onto the screen simultaneously. It is the most often used mode for subtitling, and is considered to be the “classiest” mode for closed captioning. It is virtually impossible to use the Pop-On mode without using time code or the PC System Timer. 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 will the caption line be put 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. The CaptionMaker software precisely compensates for this delay when used with time code or the PC System Timer.

## Paint-On

In this mode, the characters are painted 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

The Roll-up mode provides for captions to scroll up 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, such as the CPC-2000).

## Block Roll-Up

The Block Roll-up mode is a combination of the Paint-On and Roll-Up modes. Two to four lines of captions are scrolled onto the screen from the bottom. When the next caption appears, one line of caption disappears from the top.

## Pass Through Captioning

You can choose the Pass Through mode for a segment of the video which has been previously captioned. This mode lets the captions previously existing on the video pass through.

Right-click on the cell under *Display Mode* and choose *Pass Through* mode for the time codes for which you want to let the existing captions pass through the encoder. Then resume captioning at the time code you want to stop Pass Through. In the following example, existing captions from the video will pass through the encoder at time code 01:03:35:13 and the CaptionMaker will start captioning again at time code 01:04:15:18

01:03:31:08	Pop-On	NOW I'M AT THE RIGHT OF THE SCREEN,
01:03:33:07	Pop-On	SO MY CAPTIONS APPEAR AT THE RIGHT.
01:03:35:13	Pass Through	
01:04:15:18	Pop-On	NOW I AM GOING OFF-SCREEN.

## Text Color

Choose the color of the text from one of eight colors: default (black), blue, cyan, green, magenta, red, yellow, white, and black.

## Background Color

Pick the color of the background for the text from one of eight colors: black, blue, cyan, magenta, red, yellow, white, and green. The default is white. Be careful not to make your text color and your background color the same.

## Background Translucency

In connection with the Chyron PC Codi Card, Codi, MagniCoder Pro, and DV2000, you may change the transparency level of the background by sliding the slide bar from 0 to 255, with 0 being completely transparent, and 255 being solid.

## Background Type

Choose the background for the generated captions or subtitles. The options for this setting are: normal background, black box, fill row, transparent, and translucent. The default is black box for captioning, and transparent for subtitling.

## Bold/Flash

Makes the selected text bold. Bold text can only be used for subtitling. Flashing text can only be used for captioning.

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**Flashing Captions** If you are see captions are flashing and you really do not want to have them flashing, make sure the caption text is not bold. Bolding makes captions to flash.

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## Italic

Makes the selected text italic. Italics are used to indicate off-screen speakers in captioning or untranslatable words in subtitling.

## Underline

Underlines the selected text.

## Position and Justification

The three Justification and Position menu items offer nine options altogether. You can select whether you would like text at the left side, center, or right side of the screen; and then further select whether, in that position, you would like the caption to Left Justify, Center Justify, or Right Justify.

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**Note: You will not see any change of position or justification of the text on the Work Area. Here the formatting will only be shown via the listed options in the various position and justification columns. The actual position and justification can be viewed on the Preview Window.**

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## Horizontal Justification

There are three possible horizontal justifications:

Left

Center

Right

## Horizontal Position

In captioning, there are 32 possible horizontal positions. They are numbered 1 through 32. "1" also means L (left). The menu offers four choices.

Left

Center

Right

Other

To change horizontal position, you have three choices:

Use the mouse to move the caption in the Preview Window. The caption will snap to the nearest valid screen position.

Type a number from 1 to 32 in the Horizontal Position column for the appropriate row. The computer will not let you enter an invalid number.

Right-click the mouse on the Horizontal Position cell for the appropriate row. Select the general position or Other numeric value 1 to 32 for the horizontal position.

## Vertical Position

In captioning, there are 15 possible vertical positions. They are numbered 1-15. The menu offers four choices.

Top  
Center  
Bottom  
Other

To change a vertical position, you have three choices:

Use the mouse to move the caption in the Preview Window. The caption will snap to the nearest valid screen position.

Type a number from 1 to 15 in the Vertical Position column for the appropriate row. The computer will not let you enter an invalid number.

Right-click the mouse on the Vertical Position cell for the appropriate row. Select the general position or Other numeric value for the vertical position.

All nine combinations of Horizontal positions and justifications can also be accessed via the following three icons on the toolbar.



### Justification

The toolbar buttons for left, center and right contain a blue L, a green C, and a red R at the top of the button, respectively. See chapter 4 for details.

## Insert Music Symbol

Inserts a music symbol (the quarter note) into the caption text. The CaptionMaker shows the music symbol in the Preview Window but not in the Work Area. We use the section mark (§) to represent the music symbol in the work area. When this character is sent to the caption device it produces the music symbol. You have two choices. Just put one music symbol, or add a pair of music symbols at the beginning and at the end of a line. If you choose multiple cells and choose this option, it will add a pair of music symbols for all the captions being highlighted.

## Format Menu

### Select Row

Move to a specific row by simply typing the row number in the Select Caption/Subtitle Record dialog box. You may also simply click the mouse on a row in the Work Area to select it.

## Insert Row(s)

Adds a new row to the Work Area in the row above the one currently selected. This can also be done using the Insert Row(s) button in the Operations Center. *Hint:* If you need to insert a row at the very bottom, click at the end of the last cell and use the Split Row command or button to do so.

## Delete Row(s)

Removes the currently selected row in the Work Area. This can also be done using the Delete Row(s) button in the Operations Center.

## Split Row(s)

This will split the selected cell into two cells at cursor's current position. Another way to do this is to click on the Split Row(s) button in the Operations Center.

## Merge Rows

This will merge all selected cells into a single cell. The same task can be done using the Merge Row(s) button in the Operations Center.

## Erase Blank Rows

This function will remove all blank rows in the Work Area that do not contain time code or text.

## Reformat Rows

Selecting this menu item will open a Reformat Rows dialog box offering reformatting options for line-break standards, settings for the number of characters per line and lines per cell. For example, one might decide that a file in multi-line format needs to be changed to Roll-Up mode; Reformat Rows offers a way to change the file format to one line per row. Suppose you have 4 captions as the following.

1	B	C	NOW THE ROLL-UP MODE.
2	B	C	THIS MODE IS NORMALLY USED FOR TV NEWS PROGRAMS.
3	B	C	CAPTION LINES ROLL UP FROM THE SCREEN BOTTOM
4	B	C	ONE LINE AT A TIME.

If you choose this option and the following settings:

Number of characters per line = 26 and  
Lines per cell = 1, then you will get the following:

1	B	C	NOW THE ROLL-UP MODE.
2	B	C	THIS MODE IS NORMALLY
3			USED FOR TV NEWS PROGRAMS.
4	B	C	CAPTION LINES ROLL UP
5			FROM THE SCREEN BOTTOM.
6	B	C	ONE LINE AT A TIME.

## Reformat Caption(s) to Roll-up

If you have a block of captions or the entire file created for Pop-on or Paint-on captions with more than one line of text in each cell, you can convert the block or the entire file to Roll-up captions containing only one line of text in each cell. This option will maintain the existing time codes assigned to the file distributing the allocated time for a pop-on/paint-on caption to multiple lines broken up for Roll-up captions. Just highlight the block of caption or the entire file and invoke the option.

## Reformat Caption(s) to Pop-on

If you have a block of captions or the entire file created for Roll-up captions, you can convert the block or the entire file to Pop-on or Paint-on captions. This option will maintain the existing time codes assigned to the file distributing the allocated time to multiple lines combined for Pop-on or Paint-on captions. Just highlight the block of caption or the entire file and invoke the option.

## Square Up Text Block

Squares up the text in the currently selected Work Area row, making the lines within a row closer to the same length.

## Compress Text (C)

Selecting the Compress Text menu item, or clicking on the Compress Text icon in any Work Area row, reduces the margins for the current cell. This is one of the commands, which can be used to manipulate text into a more readable and stylistically acceptable format. For instance, imagine you are starting out with a cell, which appears like this:

I'M AT THE LEFT OF THE SCREEN.
-----------------------------------

You can then use the Compress Text command to make text appear this way:

I ' M AT THE LEFT OF THE SCREEN.
-------------------------------------

Or keep compressing until the text appears in its most narrow shape:

I ' M AT THE LEFT OF THE SCREEN.
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One constraint is that you cannot have more than 4 lines per caption block.

## Expand Text (E)

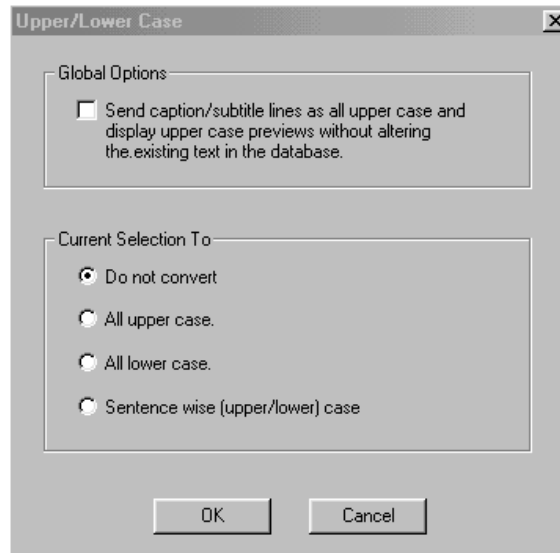
Selecting the *Expand Text* menu item, or clicking on the Expand Text icon in any desired row of the Work Area, increases the margins within a cell and decreases the number of lines. It is the reverse of the Compress Text function. If you begin with a narrow or compressed caption, selecting or clicking an Expand Text command will manipulate the text into fewer rows that are wider.

## Alternate Break (A)

Clicking on the *Alternate Break* menu item, or clicking on the Alternate Break icon in any Work Area row, will toggle between possible line breaks. Sometimes you may have to use this command several times to get a caption to square up.

## Upper/Lower Case

If you click on this option, the following dialog box opens up



If you check the *Global Options* box for in the *Upper/Lower Case* dialog box, captions/subtitles will automatically be sent in upper case without actually changing the case of text in the Work Area.

On the other hand, you can change the case of the text in the Work Area to one of the three options described at the bottom of the dialog box. You may highlight some or all of the text in the Work Area and select these options to change the case of the selected text. This way captions/subtitles can appear exactly the way they do in the Work Area.

## Pull First Word

Selecting the Pull First Word menu item, or clicking on its icon in any row of the Work Area, will take the first word from the cell below the selected row and move it to the end of the current cell.


## Push Last Word

If you select this menu item or a Push Last Word icon in a specific Work Area row, the CaptionMaker will take the last word from the current cell and move it to the beginning of the next cell. This is the opposite of the Pull First Word command. **Note:** If you push all the text out of a cell, you will get a blank cell, which must then be deleted using the Delete Row(s) command.

## Caption

Depending on the default hardware selected, you will find this menu item either Caption or Subtitle, but not both. Depending on the heading you will see some of the menu options are not available.


## Send Lines

This menu item performs the same function as the keypad plus [+] key, to send the line with the cursor to the caption/subtitle device. If the  button is pressed it will also read the time cue (from the time code reader or the PC System Timer) and put the time stamp under the **Start** column.

## Clear Caption

This menu item sends one blank caption to the video resulting in clearing any existing caption on the video.

## AutoSync

After you have associated a time stamp with each row, AutoSync  will automatically output the text on each row, according to the time stamp, to the caption device. This is an automatic process driven by the time code or the PC System Timer.

If you have selected a caption device, captions will be sent to the caption device and you can record the captioned video onto a blank tape.

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**Virtual Encoder** If you do not have a device attached to the computer, choose “Virtual Encoder” as your device. So CaptionMaker will not send any data to the encoder via serial port and you would not get any communication errors.

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**Drop Frame NTSC/PAL** If the time code formats on your work tape and master tape are different, you may convert them between NTSC and PAL and also between drop frame and non-drop frame. See “Convert Time Code” later in this chapter for details. To convert time codes from one to another (PAL and NTSC or drop to non-drop) highlight the time codes and use this option to convert them.

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**Final AutoSync** Note that the cursor is not needed to be on a specific place in the text in order to start AutoSync. In fact, if you rewind or fast-forward the VCR while AutoSync is on, the CaptionMaker will read the time code and pick up AutoSync from any place in the file.

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## AutoPreviewSync

After you have associated a time stamp with each row, AutoPreviewSync  will automatically output the text on each and every row according to the time stamp associated with each row. This is a totally automatic process driven by the time code or the PC System Timer. If you do have the video on the computer screen using the video capture card, this step will allow you to check the positioning and the timing of each caption without using a captioning device.

After you invoke this option, you may click on the *Full Screen View* icon  in the Operations Control Area to enlarge the screen.

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**Note** If you are preparing a caption/subtitle file and do not have a caption or subtitle device attached to your system, you may check the positioning and timing of your file by invoking this option instead of using AutoSync.

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## AutoSync Error Checking

If this option *Caption > AutoSync Error Checking* is checked, CaptionMaker will go through the whole file and make sure there is no missing time codes or the time codes not in ascending order before starting AutoSync. It is a good idea to have this option checked. That way for a long video you do not have to wait for long time until the error is caught and AutoSync stops at that point.

## Final Checking


This will check for many common errors with the file. It is typically invoked before AutoSync. When you invoke this option you will see a dialog box (see chapter 4) where you may choose options related to time code tolerance, reading speed of captions, maximum characters per line, unacceptable characters for captioning, etc. You can choose any single item or combination of desired items.

## Timing Errors Settings

When you caption a video, it is very important that you conform to maximum WMP for caption, 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 give enough time for a Pop-on caption to build-up, the caption would not appear at the desired time you assigned. For Pop-on captions, it takes about a second for every 50 characters of text. If the time code of previous caption is less than 1 second for a caption of 50 characters, the caption will appear little later than the assigned time code. To check all these errors on the fly, you can invoke the option under *Caption > Timing Error Settings menu*. You can check any one of the following items and assign different colors for each error in the dialog box (See Chapter 4).

## Preview Options

### Display Preview Image

Puts the caption/subtitle in the Preview Window. For DVD, you should click on the Pop-On Preview Window  button in the Operations Center to see exactly how an image will appear.

### Highlight Rows During AutoSync

When checked, the current row in the Work Area being sent to the captioning/subtitling device (during both manual and AutoSync operations) is highlighted.

### Blinking AutoSync Status

When checked, the CaptionMaker will place a flashing green indicator near the upper center of the screen when AutoSync is in operation.

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**Caution** These three functions need quite a bit of computer processing time. If you are using a slow computer and notice some

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**delay in the appearance of captions during AutoSync, you may turn one or all of these functions off.**

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### **Preview Image Matches Line Sent**

If this option is checked, the Preview Window and video monitor will show the same text when you press the [+] key. Otherwise the text on the video monitor will always lag one row behind the selected row on the computer screen. This happens for a logical reason.

Suppose you are on row 2. The text on the Preview Window and also in the Work Area shows row 2. Now suppose you press the [+] key to send the caption/subtitle out to the external video monitor. After you press the [+] key, you will see the following:

Row 2 on the Video monitor, but  
Row 3 in the Work Area and also  
Row 3 in the Preview Window.

Since the cursor is in Row 3, that's why the Preview Window also shows Row 3. And you can drag and drop the text anywhere on the Preview Window.

But to some users it appears confusing. Even though at first it may appear so, *do not check this box. See the reason below.*

*If you work only with the Preview Window (with video), you would not have any confusion. There is no need for having an external monitor other than to check the final caption/subtitles in AutoSync mode. In that mode, both screens will match.*

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**Caution** If this option is checked, you won't be able to drag and drop the text on the Preview Window. After you press the [+] key, the text has already been sent to the video monitor via a caption/subtitle device. It cannot be repositioned.

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### **Live Caption**

This feature will allow you caption a non-scripted, live presentation, by entering dialog as it is spoken in the Roll-Up mode. If you check this option and set the caption to Roll-Up mode, you are ready to caption a live show in real time. You can caption a live show in one of the following ways.

1. Realtime Captioning software using a steno machine (for best results).
2. Budget realtime captioning using speed-typing software to enhance typing speed.
3. Budget realtime captioning using speech recognition software.

If you try to enter text into a computer keyboard as fast as possible, you have to summarize what is being said to keep up with the speaker. The result is the poorest of all these methods. See Chapter 7 for suggestions on how to caption live events.

## Live Caption Properties

### Roll-Up Mode

You may choose 2 to 4 lines of Roll-Up mode from this option.

### Vertical Position: Top Caption

If this option is checked, the captions will appear at the top of the screen.

### Vertical Position: Bottom Caption

If this option is checked, the captions will appear at the bottom of the screen.

### Caption Length

Maximum number of characters allowed per line is 32. You may choose any caption length from 12 to 32 from this option.

### Left Indentation

This option allows you to set the left margin. Sometimes you may need to access this option quickly on the fly. There is an icon on the *Realtime toolbar* to activate this option. You may also assign a keystroke from the Tools menu to access this option either from the keyboard or from the steno machine.

### Fast Indent

This option allows you to set the left margin to preset values. The default keystrokes for preset left margins are as follows. Of course, you can change the keystrokes to your desired keys using *Customize Keystrokes* under the Tools menu.

<u>Keystroke</u>	<u>Left Indent</u>
Ctrl+0	0
Ctrl+1	4
Ctrl+2	8
Ctrl+3	12
Ctrl+4	16
Ctrl+5	20

## Roll Up 1 Line

This menu item sends one blank caption line to the video, resulting in rolling up the existing caption on the video by one line. If you are using Roll-Up captions, this option can also be used to clear captions on the video by invoking it several times to roll up existing captions of more than one line.

## Send Options...

You can choose whether to send the words to the encoder as soon as it is entered or have a delay of few words.

You can also choose a couple of time-out options to flush the last word and close the encoder device. For details, check the chapter 7: Live Captioning.

## WebTV Crossover Link

A TV Crossover Link allows a viewer watching television programs using a WebTV box to click on an **i** icon on their television screen and immediately be linked to a Web site associated with the content of the program they are watching. See details in Chapter 6.


## V-Chip Ratings

The broadcaster or program producer can use the CaptionMaker software to insert V-Chip ratings onto line 21 of the video using a closed caption encoder.

When a home viewer watches a program with V-Chip information, their TV's V-Chip reads the broadcasted V-Chip rating information and either displays the program (with the rating visible) or blocks out the program if the rating exceeds the home television's customized settings. This way parents can block programs that are not suitable for their children. See details in Chapter 6.

## Wink Trigger

Wink is a free, easy-to-use service that allows you to interact with the television shows and advertisements.

When an  icon appears on your screen, you know that the program you're watching has been enhanced with Wink. Simply press a button on your remote control and you can reply to free offers, buy products, get sports scores and updated weather, participate in games, and more while continuing to watch the program. See details in Chapter 6.

## Profiles

For live captioning, it option is very helpful. You might set up your choices for captioning parameters for one job different from other. You can easily change the setup by choosing a particular profile. If there are a number of users who use this software with a number of different parameters or you use the software for different vendors, you can save different profiles under different names. When you chose a particular profile, the software will bring up the choices under that profile.

## Device

The CaptionMaker supports a variety of captioning and subtitling devices. When you click on this item, a dialog box will appear. First choose your device (e.g., Smart Encoder, Link Encoders, etc.).



Then you choose the Configuration and the Caption Properties. For basic functions, the default settings are fine. You may need to consult the hardware device manual. Also check Chapter 2 for more information.

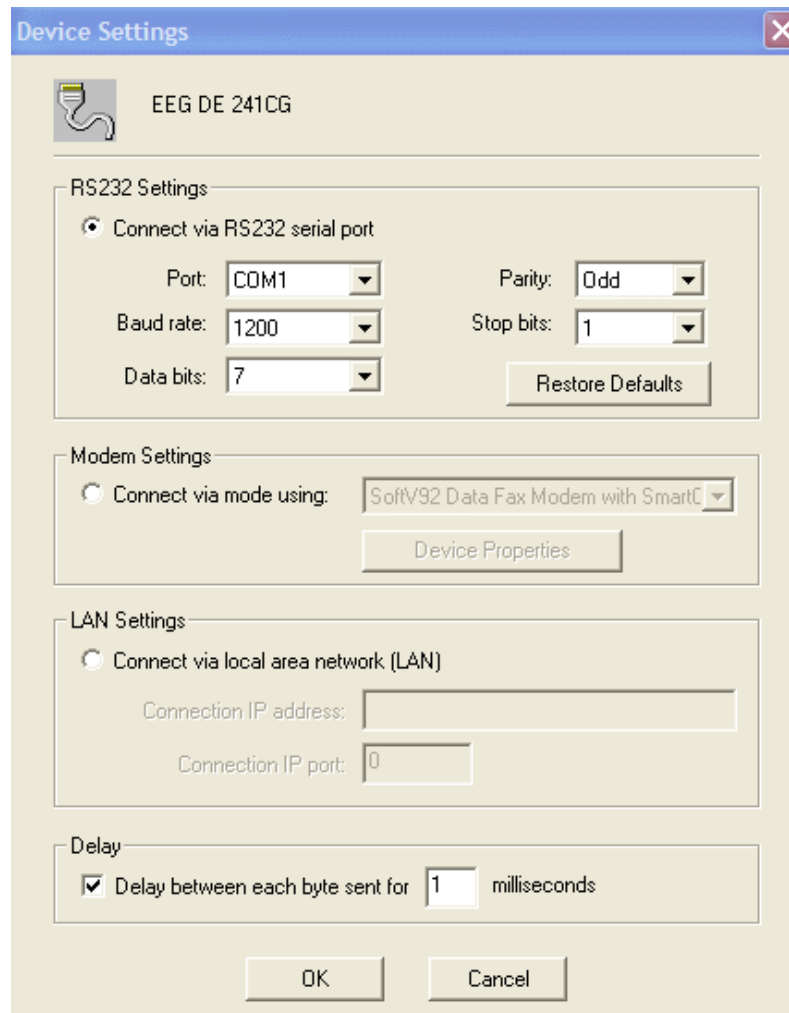
## Captioning Video On-Site

If you are captioning a video on-site, You choose Connect Via RS232 serial port from the configuration menu below.

## Captioning Video from Remote Location

If you are captioning a video generated at a remote location, you need to connect your computer to the encoder located at the remote location via a telephone line using a

modem attached to your computer. The encoder must have a built-in modem or a modem attached to it. Choose Connect via Modem using... Then select the modem from the list box.



Device Settings (Configuration)

### Captioning Via LAN

If you use Norpak's TES3 or TES5 encoder with LAN connections, you may choose Connect Via Local Area network (LAN)

If you are using an external modem, you should see the name of the external modem appearing in the Modem Settings windows. You must have the external modem

Powered on.

Connected to the computer via a serial cable.

Must have been recognized by Windows when you power the computer on.

Whether you have an internal modem built into your computer or an external modem attached to the computer, the process of choosing the modem is the same. You need to select both the caption device (encoder) and the modem.

First choose the caption device (encoder) as described above.

Then click on the Connect button inside the *Caption Device* dialog box.

Check the box *Connect via modem using* inside the *Caption Device Settings* dialog box below and select your modem.

## Caption Properties

### Control Tab

Over the years, decoders have evolved through three different sets of standards:

**1. TeleCap I** TeleCap I decoders were produced by the National Captioning Institute (NCI) during the period 1980 to 1983. These decoders cannot recognize:

- (a) Paint-on mode,
- (b) Centering, and
- (c) Captions without blinking between them.

**2. TeleCap II** TeleCap II decoders were manufactured by NCI during the period 1984 to 1994. These decoders cannot handle:

- (a) Captioning near the center of the screen,
- (b) Color captioning, and
- (c) Field 2 and EDS captioning.

**3. EIA 608** This is the current standard (as of 1999), which was formulated by the Electronics Industries Association (EIA) in 1994 and does not have any of the above limitations. New television sets with built-in decoders follow this standard.

When you select a particular value for compatibility, the program will not send any characters or attributes that are not allowed by that compatibility, as incompatible characters can cause a TeleCap I or TeleCap II to display garbage characters. But this does not remove the characters in your Work Area.

### Channel/Field

With older, external TeleCap I and II decoders, there are only 2 caption and 2 text channels available, but technical reasons precluded the use of the second channel in

practice. With the new EIA 608 standard, it is possible to put two sets of captions on one video.

Currently, if you want to caption a video in Spanish and in English, you must be using encoder equipment that is capable of changing Lines and Channels. You need only create one file, but you must run the AutoSync process twice, once for each language, due to speed limitations of the encoder.

Duplicate control codes: Normally leave this choice unchecked. There is no need to send the control codes twice.

## General Tab

Display Type: Chooses which mode (Pop-On, Paint-On, Roll-Up or Block Roll-Up) will be used for all subsequently created rows in the Work Area. This does not go back and reformat choices you have already made. If you want to reformat a block of captions, select the rows and then right-click on the **Display** column. For detail see section *Attribute > Display Mode* option.

Blanking Frames: Set the blanking frame between two subtitles. The default is 2 frames.

Uppercase Option: Allows you to send all characters to the caption device as uppercase.

## Color Tab

With this option you choose the default foreground and background colors for captioning. You can choose if the background is to be opaque (black background), translucent (lets you see some video through) or transparent (lets you see the video through). You have the flexibility to change these defaults on row by row, using the options under the Attribute menu. Note: Not all caption decoders have color capability.

## Initialize Device

Initializes the device. In case you power off or change the caption/subtitle device in the middle of a session, you can click on the device to ensure proper initialization of the device.

## Close Device

This operation closes the caption/subtitle device. If your device is a CC encoder, it will free up the encoder. If a video with pre-recorder captions pass through the encoder, when the device is closed, the captions will pass through. This might be very helpful when you are captioning a live broadcast and the TV station airs some commercials with existing captions. If the device is not closed, the existing captions from the video will be stripped off.

## Set Caption Margins

Default caption margins are all zero. With this setting, you have a maximum of 32 characters in a row and 15 possible rows. Unless you are quite advanced in captioning, it is better to leave all the margins as zero. If you make margins other than zero, you will limit the number of rows and maximum allowable characters per row.

## Retrieve Captions

Retrieve Captions allows you to retrieve captions, along with time code and positioning information, from a previously captioned video, and store them in a file.

The Retrieve Captions command has been implemented for the HubCap and Link Encoder. This option is available under *Caption* → *Retrieve Captions* menu. After retrieving the captions, you may use the file for the following purposes:

To generate a DVD caption file.

To generate a DVD subtitle file.

To reinsert captions onto time-compressed video.

To reinsert captions to a new, edited version of a previously captioned video. Of course, you need to edit the caption file to match the newly edited video.

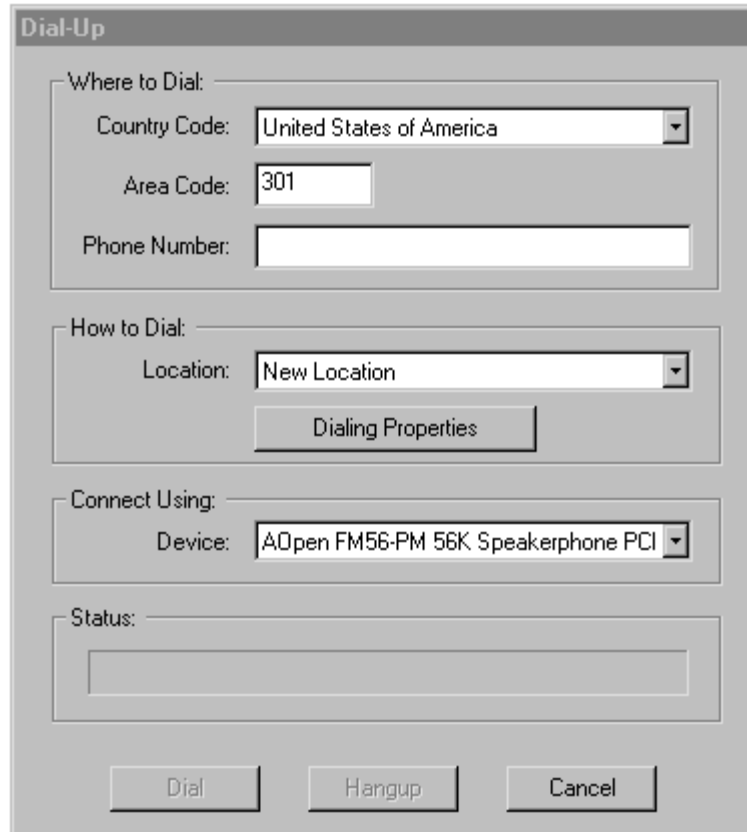
Before retrieving captions, make sure to turn the AutoSave option off. Or first save the blank screen to a file name before retrieving captions. Otherwise you will be asked to save the file every few minutes during the retrieval process.

If you chose to retrieve time codes also, connect the time code to the time code device.

After retrieving caption data, run a final check to check the integrity of the data before you use the file for any other purpose.

## Dial Modem

If you are captioning from a remote location, you need to connect your modem to the encoder via a telephone line. Connect a telephone line to the modem and click on this option. You will see the following screen:



Type the telephone number including area code. Click on *Dial* to connect your modem to the remote Encoder.

## Hang up Modem

When you like to hang up the phone line, click on this option.

## Subtitle

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**Check Caption Menu for more details Since captioning and subtitling devices are used in a similar fashion, most Subtitle menu items are the same as those under the Caption menu. Check the previous section for details of duplicate items. Menu items with instructions specific to subtitling are listed in this section.**

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## Send Lines

This menu item performs the same function as the keypad plus [+] key, to send the line with the cursor to the subtitle device. If the  button is pressed it will also read the time cue (from the time code reader or the PC System Timer) and put the time stamp under the **Start** column.

## Clear Subtitle


This menu item sends one blank subtitle to the video resulting in clearing any existing subtitle on the video.


## AutoSync

After you have associated a time stamp with each row, AutoSync  will automatically output the text on each and every row according to the time stamp to the subtitle device. This is an automatic process driven by the time code or the PC System Timer.

If you have selected a subtitle device, subtitles will be sent to the subtitle device and you can record the subtitled video on to a blank tape. See “AutoSync” in the Caption Menu section above for more information.

## AutoPreviewSync


After you have associated a time stamp with each row, AutoPreviewSync  will automatically output the text in each and every row according to the time stamp. This is an automatic process driven by the time code or the PC System Timer. If you do have the video on the computer screen using video capture card, this step will allow you to check the positioning and the timing of each subtitle without using a subtitling device.

After you invoke this option, you may click on the *Full Screen View* icon  in the *Operations Control Area* to enlarge the screen.

See “AutoPreviewSync” in the Caption Menu section above for more information.

## AutoSync Properties

### Display Preview Image

Puts the subtitle in the Preview Window. For DVD, you should click on the Pop-On Preview Window  button in the Operations Center to see exactly how an image will appear.

### Highlight Rows During AutoSync

When checked, the current row in the Work Area being sent to the subtitling device (during both manual and AutoSync operations) is highlighted.

### Blinking AutoSync Status

When checked, the CaptionMaker will place a flashing green indicator near the upper center of the screen when AutoSync is in operation.

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**Caution** The above three functions use quite a bit of computer processing power. If you are using a slow computer and notice delay in the appearance of subtitles during the AutoSync process, you may turn off one or all of these functions.

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## Final Checking

This will check for many common errors with the file. It is typically invoked before AutoSync. When you invoke this option you will see a dialog box where you may choose options related to time code tolerance, speed of subtitles, length of subtitles, etc. For more details see the information on final checking in the captioning section earlier in this chapter.

## Device

CaptionMaker supports a variety of captioning and subtitling devices. When you click on this item, a dialog box will appear. First you choose your device (e.g., Chyron Codi, MagniCoder Pro, or Sonic Solutions).

Then choose the configuration and the subtitle properties. For basic functions, the default settings are fine. You may need to consult the hardware device manual. Also check Chapter 2 for more information.

## Initialize Device

Initializes the device. In case you power off or change the subtitle in the middle of a session, you can click on the device to ensure proper initialization of the device.

## Subtitle Properties

### General Tab

Display Type: Set the default display type (for subtitles this is typically Pop-On).

Blanking Frames: Set the blanking frame between two subtitles. The default is 2 frames.

Uppercase Option: Allows you to send all characters to the subtitle device as uppercase

If you choose Chyron Codi or PC-Codi as a device, you will also see the following tabs under the Properties dialog box.

### Control Tab

Mode: Selects between NTSC and PAL video standards. NTSC is the U.S. standard.

Alignment: Shifts the subtitles horizontally. If the subtitles which is supposed to appear centered on the screen

### Fonts Tab

These are fonts for the Subtitle Devices. If you are subtitling with a DVD Authoring System, such as the DVD-2000 or a ChromaKey System, such as the MagniCoder Pro, you will not need to use this tab.

This tab associates up to 8 Codi fonts to be downloaded into your Codi character generator. When you click the Upload Fonts button, the computer will only upload the fonts to the Codi that have changed since you last downloaded fonts. (it can look at the Codi and see the names of fonts currently in the Codi's memory.) The computer will remember your Codi font associations and preferred directories whenever you run the CaptionMaker program.

### Colors Tab

There are 7 subtitle default colors, and a color picker that allows you to mix red, green and blue to choose from over 16 million colors. The computer will remember the default colors from session to session.

## **Set Codi Font**

If you are using a Chyron Codi as your subtitling device, you can set the default fonts using this option. See details in Chapter 5 on subtitling.

## **Time Code**

### **Start Time Code Reader**

Will start displaying timing information from the time code reader, video playback or the PC System Timer.

### **Pause Time Code Reader**

Pauses displayed timing information from the time code reader, video playback or the PC System Timer.

## **Time Code/Video Mode**

You should set the Time code/Video mode to one of the two options:

NTSC (30 frames/sec) – US Standard

PAL/SECAM (25 frames/sec)

It is extremely important to make the right choice for the video and the caption/subtitle hardware you use.

## **Mark In Time Code**

When time code or PC System Timer is running, you can read the timing information by pressing the [F4] key or by invoking this option. Unlike the Send Line function (or the [+] key) this function does not send the text to the caption/subtitle device. This function should be used only when you are interested in reading the timing information.

## **Auto Advance on Mark In**

This function should be checked normally. The only reason to uncheck this function would be if you wanted to assign a time code to an individual row without the software automatically moving the cursor to the next row, so that you may get the time code a number of times in order to make sure it is precise.

## System Timer Start Time

If you are using the PC System Timer, it will let you choose the start time (the default is 00:00:00:00). This option is very useful to test-AutoSync a video when time code is not available and you can simulate time code using the PC System Timer.

## Set System Timer to Start Time

This option resets the PC System Timer to the same time as the time stamp on the current row. This option is extremely important to time-stamp a video with the PC System Timer. After resetting the PC System Timer, the action of pressing the [+] key to read time code or invoking AutoSync, makes the PC System Timer start running at that instant. See the section on timecoding with PC system timer in chapter 4 .

## Blank Frames

When a new caption/subtitle replaces the previous one in Pop-On subtitling, a blink-like action takes places. There is a short interval where no caption or subtitle is on the screen. The standard interval that is commonly used is 2 to 6 frames. The default value is 2.

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**Tips:** To access most of the functions under the time code menu, you may right click on any cell under the Header Start column. A pop up menu will come up. Some of the options like rippling time code require you highlight a number of cells before you invoke these options.

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## Ripple Time Code

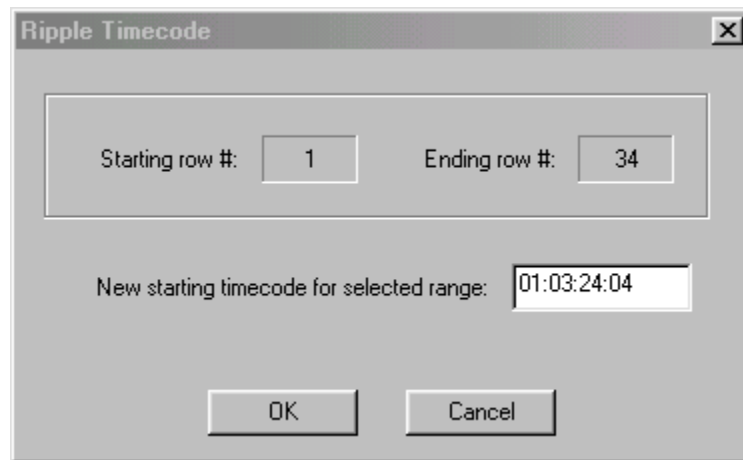
This feature will change the time code within the currently selected block, or from a selected row to the end of a file. There are two uses of this function:

Adjusting time cue to rectify human reaction time during manual time stamping (see Step 4b in Chapter 4)

Fixing the difference between the time codes on your work tape and the actual master tape that you will be using to AutoSync the video to produce the final captioned or subtitled copy.

If you have a VHS work tape without time code, you should lay down time code on the tape by using a time code generator. You should consult the manual that came with your time code generator to see how this is done. It is very improbable that the time code on the work tape will match the time code on the master.

Suppose the time code of the first caption/subtitle on the work tape is 00:01:08:21 and the time code on the master tape is 01:03:24:04. Click on the **Start** header to highlight all the time codes. Right-click on any highlighted cell. A dialog box will pop up.



Enter the master time code 01:00:02:17 and click OK. You will notice that the time code of each and every row will change by adding the difference of the two time codes. These new time codes will look like as if you had used the master tape to get all the time codes

## Convert Time Code

This is an advanced feature. You will need to use this option only when the time code formats on your work tape and master tape are different. This feature allows you to change time codes between NTSC, PAL/SECAM and FILM and also between drop frame and non-drop frame. You have the following choices.

NTSC Drop frame (29.97 fps)

NTSC Non-drop frame (30 fps)

PAL/SECAM (25 fps)

FILM (24 fps)

For your information:

The CaptionMaker software treats PC System timer as drop frame

NTSC time code can be either drop frame or non drop frame

PAL time code for all practical purposes is non-drop frame

Drop frame time codes usually have a semicolon marker in between seconds and frames (e.g., 01:30:25;22). On the other hand drop frame time code is displayed as 01:30:25:22

If you have a one hour video tape starting at 00:00:00:00 time code, the last time code on the video after you run the tape for one hour according to the time on the wall clock will be as follows:

01:00:00:00 for drop frame time code

00:59:56:12 for non-drop frame time code

To convert time codes from one to another (PAL and NTSC or drop to non-drop) highlight the time codes you would like to convert and use this option to convert them.

## Stretch/Shrink Time Code

This option might be very useful when you work with a digital video or a tape (work copy) and do all the timecoding and then need to match the time coded file with another copy of the video (master copy), which may have a slightly different code at the end of the video. One reason it could happen is due to drop frame/no 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 mater copy. This option will stretch or shrink all the time codes in the caption file to match the master copy.

In most situations, you should have the box for “Master time code is drop frame” checked.

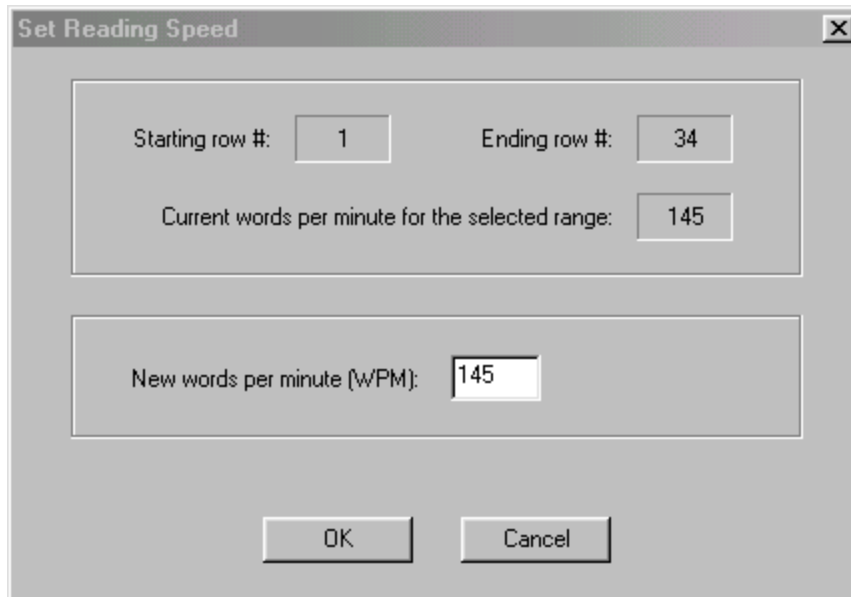
## Reading Speed

If you are subtiting videos for young children, you must keep in mind that they do not read as fast as older children or adults. Also, persons reading captions or subtitles in a non-native language may not be capable of reading rapidly. This option has two functions:

To check the average reading speed for a block of highlighted rows. You need to assign time codes for all the highlighted rows. This option **does not** change the actual time codes.

To assign the desired reading speed to a block of highlighted rows. You need to assign time code for only the first row of the block. In this case the reading speed of each and every row is going to be exactly the reading speed you assigned. This option **does** change the actual time codes.

Depending on your choice, highlight a number of rows and right-click on any highlighted time code cell to choose this option. A dialog box will open.



You may just check the average reading speed or you may enter a specific reading speed and click OK.

## Fill-In Time Code

This feature will assign 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 when a person is speaking for a long period of time (a lecture or speech) at a fairly steady rate. This feature can save time when subtitling a video, since it does not require you to enter a time code for each row. Select a segment of the video needing time codes. Then do the following:

1. Assign a time code to the first row of text needing time code to be filled in.
2. Find the last line of the segment and assign the time code to it.
3. Highlight the block of text.
4. Then choose the *Fill-In Time code* option from the menu bar or by right-clicking on any of the highlighted cells. A dialog box will open.

The CaptionMaker will fill in the time codes and give you an average WPM reading speed for the block of text.

Note two important issues.

1. If you have time codes assigned to some key points on the video where the time codes must be your assigned values and like to fill-in all time codes in between the assigned time codes, you should choose the second radio button.
2. You would also like to check the box: *Force a Minimum Cell Duration of to 20 to 30 frames or so*, so captions with a single or a few words, would not end up

with a duration of less than 20 frames or so to accommodate the same WPM for all captions.

**Fill-In Time Code**

Starting row #: 1 00:00:07:00

Ending row #: 37 00:01:18:06

Words per minute (WPM): 190

Fill-in time code values for the entire selected range using the first row's Start Time, the last row's Start Time, and a calculated words per minute (WPM).

Only fill-in time code values for cells in the selected range that have cleared Start Times. Each block of cleared Start Times must start and end with valid time code values.

Force a minimum cell duration of 20 frames  
 For pop-on captions 30 frames are recommended.  
 For roll-up captions 20 frames are recommended.

OK Cancel

## Time Code Reader Properties

### Reader Tab

This dialog box is used to choose one of the several time code readers or the PC System Timer. You can also change the display rate of the time code. Using a reasonably fast computer, the display rate should probably be left at the default value of *Fast Update*.

### Color Tab

Changes the color of the time code display on the screen, but has no effect on any aspect of the appearance of the final captioned or subtitled video.

## VTR Control

With this option you can control a VTR using Sony BVU-800 protocol machines and Panasonic AG5700 series devices. For Sony BVU compatible machines, you would need a special RS-232 to RS422 converter cable. It is available from CPC at a reasonable price.

If you are using a digital video, obviously you do not need any interface.

All options available in the menu under the VTR Control at the top of the screen are also available via the VTR Control icons on the top right side of the screen. Each option is self-explanatory.

Make sure you choose the proper baud rate and other parameters under the *VTR Control* → *Properties* → *Configure* menu. If you do not get the desired result, you may change the delay values under the *VTR Control* → *Properties* menu.

### Play

Plays the VTR.

### Stop

Stops the VTR.

### Pause

Pauses the VTR.

### Rewind

Moves the VTR backward, rapidly.

### Fast Forward

Moves the VTR forward, rapidly.

### Variable Fast Forward/Rewind

There are a number of options to rewind and fast-forward the video at variable steps. You can assign the keyboard to access these functions too. To assign keyboard, go to Tools >

Customize Keystrokes. If you like to assign the keys from the keypad, you must have NumLock On.

## Properties

Sets the interface information for the VTR control. Also sets the speeds at which the controls will function.

## DV Menu

### Encode Captions/Subtitles

You can encode closed captions and burn subtitles to a DV (.mov and .avi) video.

- DV (720x480) MOV
- DV (720x480) AVI

### Retrieve Captions

You can retrieve captions from any one of the following videos as long as the video contains closed captions

- DV (720x480) MOV
- DV (720x480) AVI

### Print DV Video to Tape

You can transfer a captioned DV video via Firewire to a MiniDV, DVCAM or DVCPRO tape. You can also dump a captioned DV video to an analog tape such as VHS or BetaSP using a digital to analog converter such as Sony DVMC-DA1 and DA2 or a captioned compatible DV deck, which retains caption.

### Capture DV Video

You can capture a DV video (720x480) via firewire. This function allows you to receive a DV video via fire wire (IEEE 1394) and create a DV AVI file. Video may be captured from Firewire devices such as the Sony DVMC-DA1/DA2 or a camcorder or a DV deck.

## NLE Menu

### Encode Captions/Subtitles

- 720x486 MOV
- 720x486 AVI
- Mpeg2 (720x480) video

You can export a blank video (720x486) file with encoded closed captions to be merged to the original video using an NLE system.

You can also export a blank video (720x486) with subtitles, which can be merged to the original video using an NLE system.

### Retrieve Captions

You can retrieve captions from any one of the following videos as long as the video contains closed captions.

- Mpeg2 (720x480) video (for DVD)

## HD Menu

### Encode Captions/Subtitles

CaptionMaker-HD Enterprise can currently encode closed captions for the following MPEG formats:

- DVD Closed Captions (\*.m2v)
- DVD Style Closed Captions (\*.mpg)
- ATSC DTV 608 Closed Captions (\*.mpg)
- CCube/LSI DVx 608 Linear Closed Captions (\*.mpg)
- CCube/LSI DVx 608 Temporal Closed Captions (\*.mpg)

## Tools

### Spelling

Activates CaptionMaker's built-in spell check starting from the cursor point. Also it can check highlighted rows of text. It can check spelling in English, Spanish, French, German, and Portuguese. When the spell check finds words it does not recognize, it will display a dialog box with the following fields. (*To escape from the Spell check function just press the **Esc** key.*)

### Not in Dictionary

This is a word that the spellchecker cannot find in its dictionary, or in any supplemental dictionary supplied by the user. If you wish, you can change the contents of this field by moving the mouse to the field and clicking on it. This offers an opportunity to correct a misspelled word or typo. Or you can type in variations of a word you don't know how to spell, which will change the list of words that the computer suggests.

### Change

This option will change the spelling of the word in your text when you click the Change button on the right side of the screen. You can also click on this field and enter the text of a word you would like to use instead of the misspelled word.

### Language

The CaptionMaker can check the spelling in 5 different languages; this list box allows you to choose among them. They are English, Spanish, French, German and Portuguese.

### Suggestions

The computer lists words that are guesses for what you intended to write. If you click on a word twice, it will be inserted into the text and the spellchecker will continue.

You can also add words to the spelling dictionary by clicking the Add button if the word is spelled properly, but is not in the dictionary. When you add a word to the dictionary the spelling checker creates a simple text file. The format for the name of the dictionary is USRDICXX.TLX, where XX is the language (FR for French, AM for English (American), GE for German, PB for Portuguese (Brazilian), and SP for Spanish). The user spelling dictionaries are stored in *C:\WINDOWS\SYSTEM* folder. They are not created until you add something to the user dictionary.

If you accidentally add a misspelled word to the dictionary, you can open the user dictionary file in the notepad (though they have an extension of \*.tlx, and they can be edited with Notepad or Wordpad if you click on the file and tell the computer to associate Notepad with the \*.tlx extension). Now you can delete the entire line containing the word and the computer will recognize the word as incorrectly spelled in the future.

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**Tip** If you uninstall CaptionMaker software you will lose any new dictionary entries. Before uninstalling the software, you may copy the files *ssceam.tlx* and *ssceam2.clx* (for English dictionary) from *C:\ProgramFiles\CPC\CaptionMaker* to a different folder. If you reinstall the CaptionMaker software again, you may copy these two files back to the same folder. For other languages there are corresponding files ending with the two character abbreviation of the language (e.g., sp: Spanish, etc.)

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## Automatic Match Text with Audio

CaptionMaker software can now automatically break and accurately time closed captions at the click of button. There is a service fee for this function. This automates the labor-intensive job of having a captioner listen to the audio, manually break the text into captions, and then synchronize the captions with the dialogue.

With CaptionSync automated captioning software from Automatic Sync Technologies, the captioner connects to the internet and uploads the script and the corresponding audio file to a file server. Within minutes, a time stamped script file can be downloaded on the computer.

This service starts at \$65 per one hour file. You can buy this service by contacting Automatic Sync Technologies directly at 510-582-3437 or [kevin@automaticsync.com](mailto:kevin@automaticsync.com). For more info please check [www.automaticsync.com](http://www.automaticsync.com)

To automatically synchronize caption dialog with the audio portion of a video choose *Auto Match Text with Audio* from the CaptionMaker *Special* Pull Down menu. You will be presented with a window that controls the uploading of your caption dialog and an audio file of that dialog to a remote host for processing. This window also controls the downloading the synchronized text file.

To upload files for automatic synchronization you must prepare a dialog file and an audio MP3 file. The text file should be a plain text file that ends with the “.txt” suffix. The text file should consist of the entire spoken dialog in the video that is being synchronized. The audio file needs to be an MP3 audio file that is 16 bit 44.1 KHz and 32 Kbps.



## Find Shot Changes

You can find the shot changes in any video (wmv, avi, mov, mpeg, m2v etc.). It is a good idea not to have a shot change inside the duration of any caption in Pop-on mode.

After you open caption file with the appropriate video file, to find the shot changes, click on *Tool > Find Shot Changes*.

It will take a while depending on the length of the video to find the locations of all the shot changes. When you save the caption file, the shot change information will be saved in the .cap file. So when you open the .cap file again later, you do not need to find shot changes again.

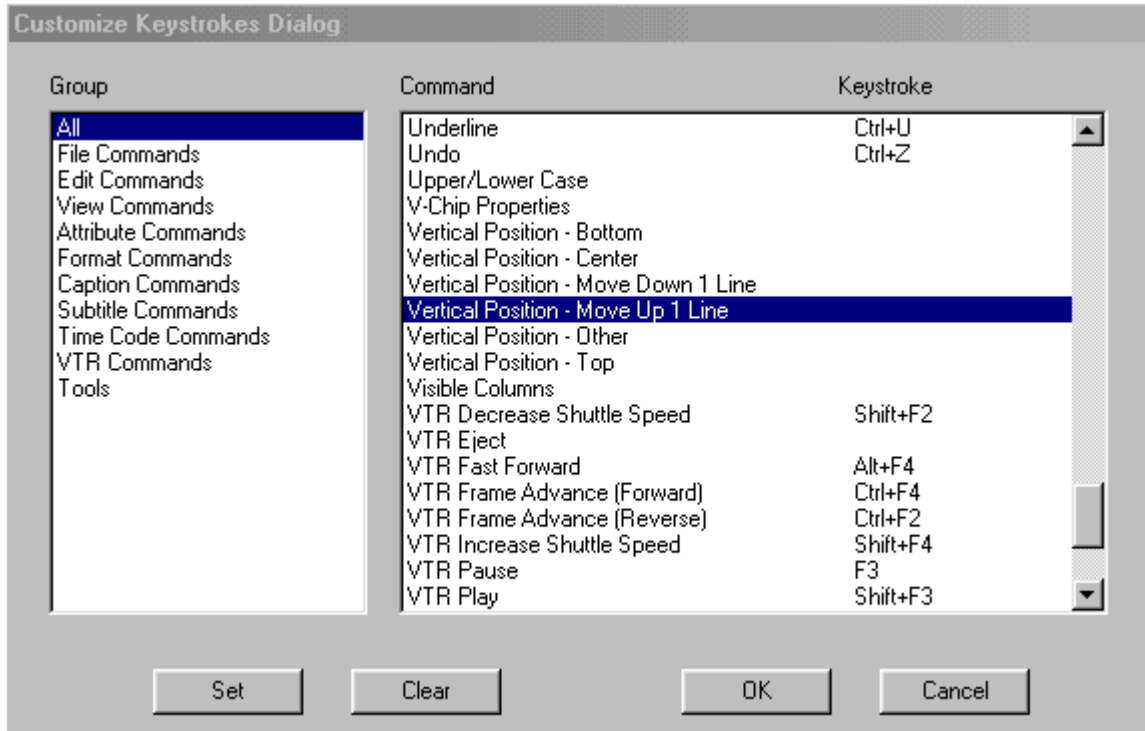
After finding the shot changes, when you play the video, the next shot change indicator appears right below the Time code display in HH:MM:SS:FF format. Next shot change display color becomes RED when it is less than 10 seconds from the next shot change.

You can also click the two buttons ( ) next to the time code display area to move to the previous and next shot change locations.

## Customize Key Strokes

Most of the menu items and commands can also be accessed via keyboard. We encourage you to customize the keyboard to your choice. CPC has some default keyboard settings, but those may not be your choice. You can use the software much more effectively with a proper combination of mouse use and keyboard shortcuts.

When you invoke this function, the following dialog box will appear.



Suppose you would like to assign the keystroke to move up a caption by one line. Slide the scroll bar down and double-click on the *Vertical Position – Move Up 1 Line*. The next dialog box will open up.

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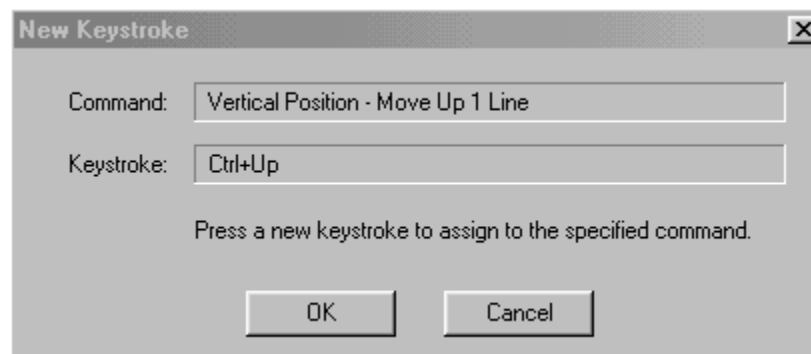
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**Keypad Keys** To assign any key on the keypad, you must have **NumLock On**.

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Suppose you would like to use **Ctrl** and [ArrowUp] key combination to invoke this option. Simply press the **Ctrl** and [ArrowUp] keys together and it will show on the screen as Ctrl+Up. From now on you may use Ctrl+Up to invoke this option until you change it.

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**Tip** If you are running CaptionMaker on more than one computer and you like to copy the **Customize Keystrokes** from one computer to another, you need to copy the file *CapKeyMap.dat* from the folder *C:\ProgramFiles\CPC\CaptionMaker* from your computer to the same folder in the other computer.

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## Help

### Help Topics

Calls up this help system, which is “context sensitive”. If you are in a dialog box and press [F1], the appropriate topic will appear in the help window.

### About CaptionMaker

Displays the Copyright notice and contact information for CPC.

### Version Information

You can check the version information which list all the release information with new functions and bug fixes.

### Upgrade License

You can upgrade your CPC software from any level to a higher level (i.e., CaptionMaker-Classic to CaptionMaker-NLE) over the internet. You do not need to send the USB or the parallel hardware key via mail to be replaced. We will upgrade the key via internet.

Check Chapter 2: Software Installation for more details.

# Chapter 9

## Icons and Buttons

### Main Toolbar Buttons

These include standard and format buttons, including Open, Save, Print, Spell Check, Undo, Redo, Cut, Copy, Paste, Left, Center, Right, Bold, Italic, Underline, and Font Color. Additional icon pertinent to captioning and subtitling are the following:



#### Full Screen Spreadsheet

This button is used to switch between two screens, one with video, one without video. In one view you will see the video (or blue) screen on the top left corner, in the other view you will see the spreadsheet full-screen, giving more area to work on.



#### AutoSync

This button is used to AutoSync captions or subtitles with the video passing through an external encoder or character generator device.



#### AutoPreviewSync

This button is used to AutoSync captions or subtitles with the video on the computer screen. This is a great option to use when you are working with time code but do not have an external closed caption encoder or subtitling device with which to view the caption or subtitles as they AutoSync. If you are creating DVD, DV-2000 or Webcasting files, you must use this option as a final step.



## Final Checking

This button is used to check the integrity of the file – ascending order of time code, illegal caption characters, etc. It catches most errors. Use it as the final step prior to recording captions or subtitles on tape.



## Customize Key Strokes

This options allows you to assign different strokes for most of the options available via menu and mouse clicks. See Chapter 8: Menus for details.

## Ancillary Toolbar Buttons

This toolbar contains all other icons that are not in the Main Toolbar and VTR Toolbar. When you use the Full Screen Spreadsheet view and do not see the icons in the Operations Center, you must display this toolbar. It also contains additional icons pertinent to caption positioning and live captioning. The commands for the following icons also reside in the *Live Caption Options* under the *Caption Menu*.



## Live Caption

Click on this icon to go to Live Caption mode. If the button is depressed, Live Caption mode is in effect.



## Roll-Up 1 Blank Line

To insert a blank line to the caption, you may invoke this function. This function can be used repeatedly 2 or 3 times to clear the existing 2 or 3 line captions on the screen.



## Indentation

You may also choose the desired amount of indentation (i.e., the left margin).

If you would like to change the indentation on the fly, you may also do so by invoking any one of the 6 preset Fast Indentation positions. There is no icon for this option. This option is available under *Live Caption Options* under the *Caption Menu*.



## Vertical Position - Top

You may caption at the top or the bottom of the screen. If this icon is depressed, the caption/subtitle default position is set to the top of the screen.



## Vertical Position - Bottom

You may caption at the top or the bottom of the screen. If this icon is depressed, the caption/subtitle default position is set to the bottom of the screen.



## Move Up 1 Line

Just as you can move a caption/subtitle by dragging it with a mouse, you may also do the same by clicking on this icon one line at a time from the bottom of the screen to the top.



## Move Down 1 Line

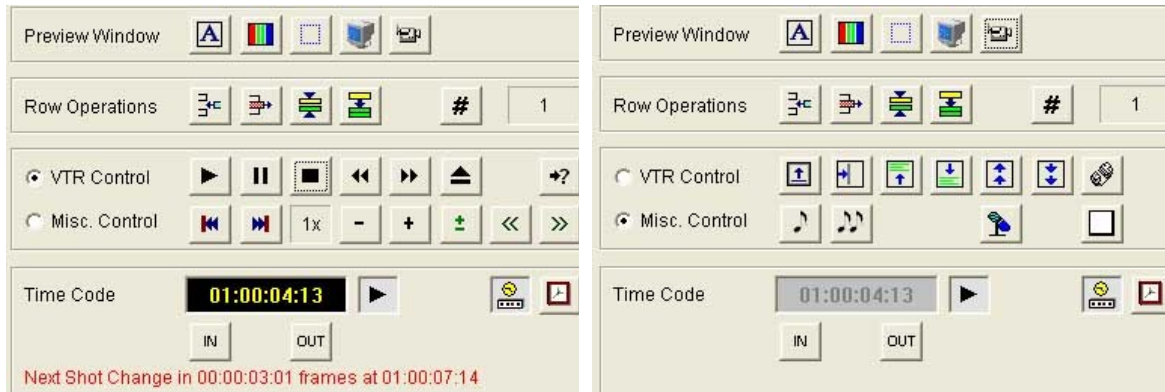
Just as you can move a caption/subtitle by dragging it with a mouse, you may also do the same by clicking on this icon one line at a time from the top of the screen to the bottom.

## VTR Toolbar Buttons

These buttons are used to control VTRs. These buttons are used to play, pause, rewind, and fast forward at different speeds. If you use the buttons a couple of times, the meanings of the buttons will be clear. See “Chapter 8: Menus” for details.

## Operations Center Buttons

There are two views of the Operations Center buttons located at the top right corner of the screen.



VTR Controls view

Miscellaneous Controls view

If you are not using *VTR controls*, you may choose the *Miscellaneous Control* view, which shows some of the additional position control buttons among others not available in the Main Toolbar.

## Image Font Button

This button is used to select the Windows TrueType font used for subtitling. The font you choose with proper kerning, scaling and spacing is exactly what will be used for subtitling with MagniCoder Pro, DVD and DV2000. Regarding subtitling with the Codi, this font is used just for visual purposes on the computer screen. The size of the font used here **must be** similar to the size of the font used inside the Codi.

### Image Font Button General

This allows you to select any Windows TrueType® font and modify it for use in subtitling. You can add a border around the edge of any font's characters. The default is one pixel of border.

### Character Kerning

Character kerning is used to alter the amount of space between characters on the same line. Decrease the amount of kerning to bring characters closer together; increase the amount of kerning to pull them apart. You will often want negative kerning to bring the Windows characters together to create compact subtitles.

### Character Scaling

This option allows you to increase or decrease the size of characters. Because TrueType fonts are mathematical representations, it is seldom a good idea to use this kind of scaling; instead, change the point size of the font.

### Line Pixel Spacing

This option controls the space between two lines of subtitles.

## Space (Blank) Character Width

This allows you to increase or decrease the size of the space between two words created by the spacebar.

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**Note: You can enter a positive or negative numbers to the last four items. There are default values associated for each of these items. Positive and negative values simply increase or decrease those values.**

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## Image Colors

### Video Preview Background

This option is accessible under the Video Control button. Using the color picker, you can choose the Video Preview Background.

### Background Type

Found under the Image Colors button, this allows you to pick a background for captions and subtitles and to select the level of translucency, if applicable.

### Default Caption/Subtitle Color

Found under the Image Colors button, this allows you to pick colors for the attribute, border, foreground (text), and background.

## Margins/Padding

Permits the adjustment of left, right, top and bottom subtitle margins, and pads for them.

## Pop-Up Preview Window

For captioning, this screen is same size as the Preview Window screen. For subtitling, this Pop-Up screen is almost full size.

In the Full Screen Spreadsheet view, if you need to see the video, you may invoke this option.

If you are subtitling with Windows fonts (either using a ChromaKey device such as MagniCoder Pro or creating files for DVD or DV2000), it is important to see how your fonts will look at the appropriate resolution and size. This button will display a full-size image on your screen.



## Video Control

You must have a video capture device (such as an ATI card or Pinnacle DVC-80) installed in the computer to invoke this option. This button brings up a dialog box to configure the video on the Preview Window. You must check the box to enable the video, and also check the box to render text.

Click on the Source button and make sure the video source (Composite or Component) you feed into the device is right.

## Edit/AutoSync/AutoPreviewSync/Live Mode

This is a display area that shows when AutoSync, AutoPreviewSync or Live Mode is active. If none of these modes is active, it shows Edit.

## Row Operations Buttons



### Insert Row(s)

Inserts a row above the current row. If you have selected multiple rows, it will create multiple blank rows above the uppermost highlighted row.



### Delete Row(s)

Deletes the current row or highlighted multiple rows.



### Split Row

Splits the highlighted row into two rows. The precise location of the split is based on the location of the cursor.



### Merge Rows

Merges two or more adjacent, highlighted rows into one row.

## # Select Row

Allows you to type in a row number and change the focus to that row.

## VTR Control



These buttons are used to control VTRs -- play, pause, rewind and fast-forward at different speeds. If you use the buttons a couple of times, the meanings of the buttons will be clear. See "Chapter 8: Menus" for details.

## Foot Pedal Controller

You can control (play, pause, fast forward, rewind etc.) a digital video file using vPedal foot pedal controller ([www.vPedal.com](http://www.vPedal.com)). One interesting feature of the vPedal foot controller is the "release back" function which is available under VTR Control >> vPedal menu option. Release back time is user selectable.

Once the Play button on the VTR Control) is first clicked, you will be able to use the Pause function on the pedal to toggle between Play and Pause but the first time you play the video, you must start it manually by clicking the mouse on the Play button.

## Misc Control


If you choose the *Misc. Control*, you will see a few additional position controls. Most of these buttons are available in the Ancillary Toolbar.



## Time Code Buttons



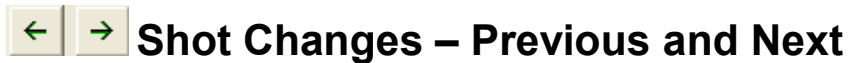
### Time Code Display

Displays time code when you click on *Time Code* → *Start Time Code* option or click on the play  button.



### In and Out Buttons

Two buttons next to the time code display: “In” and “Out”. The “In” tool button is a shortcut to the “Send Caption/Subtitle Line(s)” menu, and the “Out” tool button is a shortcut to the “Send Caption/Subtitle Erase” menu.



### Shot Changes – Previous and Next

Click on the arrow left and right button to move the previous and next shot changes after you get the shot change information from the digital video from the NLE > Find shot changes menu.



### Mark Time Code on Send Caption

When this button is depressed (lighter colored) it means that whenever you hit the keyboard [+] key, you will mark a time code (from the time code reader or the PC System Timer) as well as send a caption or subtitle. If you are sending captions or subtitles manually (not using time code) you should not have this button in the depressed position.



### Time Code Properties

Invokes the time code properties dialog box, which is also accessible from the menu.

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