



**Clipstream**

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*Playerless video and audio streaming*

# **Clipstream™ Video 2.2 Technical Guide – Section 6 Encoder**

**Disclaimer:** All content presented herein is subject to change without notice and is deemed as accurate as possible at time of publication. Please consult with Clipstream™ Video Support at <http://clipstream.com/help> for clarification if you encounter any erroneous or inconsistent material in this document.

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## Section 6 - Clipstream Video Encoder

<b>Installation</b> .....	<b>6-2</b>
What you'll find: .....	6-2
<b>Using the Stand Alone Encoder</b> .....	<b>6-2</b>
<b>Advanced Options</b> .....	<b>6-3</b>
Time Range Selection .....	6-3
Video Margins / Cropping (Pixels) .....	6-3
Disable Pitch Detection .....	6-3
SID .....	6-3
Code Key .....	6-3
Extra Encoder Parameters .....	6-3
<b>Command Line Encoding</b> .....	<b>6-4</b>
Syntax .....	6-4
Examples .....	6-5
<b>Choosing Settings in Command Line</b> .....	<b>6-5</b>
Width and Height- Dimensions of the encoded file .....	6-5
Cropping / Export Frame .....	6-5
Data Rates - Video and Audio .....	6-6
Frames per second .....	6-6
Video Image Quality .....	6-6
Idle/encoding while working .....	6-6
Secure Streaming .....	6-7
Export Frame .....	6-7
Motion Estimation .....	6-7
Gamma .....	6-7
Contrast .....	6-7
Brightness .....	6-7
Volume .....	6-7
De-Interlace .....	6-8
<b>Batch Encoding (Multiple Bit Rates)</b> .....	<b>6-8</b>
<b>Possible Issues, Error Messages</b> .....	<b>6-9</b>

## The Clipstream Video Encoder

The Clipstream Video Stand Alone Encoder is designed to allow those people without Adobe Premiere to encode Video of the same high quality. In fact, the VCSEncoder is significantly faster and more efficient at encoding than the Premiere plug-in. Essentially, the stand alone encoder is a simple front end to the command line functionality of the Clipstream Video Encoder.

**NOTE: The Stand Alone Encoder is for the Windows platform only.**

### Installation

Run the file 'VCSEncoderInstaller.exe'. The VCSEncoder Installation Program will ensure that you have DirectShow or QuickTime installed. After accepting the standard license agreement, you can install the VCSEncoder and accompanying files to the desired location on your hard drive. The default path is: C:\Program Files\Clipstream Video\Encoder.

### What you'll find:

- **buttons.gif** - Our default button panel
- **DestinyMedia.html** - a sample Clipstream Video movie
- **DestinyMedia.mov** - the source file for the movie
- **DestinyMedia###.vcs** x 5 - the sample Clipstream Video files that coincide with the movie. The # refers to the connection speed that the movie was encoded for.
- **readme.txt** – About these files
- **\*.reg** x 2 - some registry files
- **VCSEncoder.exe** - The Clipstream Video Stand-Alone Encoder.
- **VCSEncoder.ini** - file used by the VCSEncoderFE.exe
- **VCSEncoderFE.exe** - User Interface (front end) for Windows. Designed for ease of use for new users. Most but not all commands are available.
- **videoclipstream.zip** - the Clipstream Video player applet

### Using the Stand Alone Encoder

The VCSEncoder has been designed with ease of use in mind. To use the stand-alone Clipstream Video Encoder, simply double click the desktop icon "Clipstream Video Encoder" or start it through the Start menu.

Choose a selection from the pull-down menu. The commands here are identical in description and usage as they are in the Premiere Plug-in. Consult the on-line Help pages for more.

Once all of the settings and output path for a speed have been entered or after you



Encoder Interface

have selected a batch, simply click Encode to encode the file. The VCS file will be output to the same folder from which the source file originated or to the specified directory.

To enable the Clipstream Video Encoder to create a fully functioning html page with your video in it, simply check the box to create an Html Page. You'll find your web page in the folder with your videos!

### Advanced Options

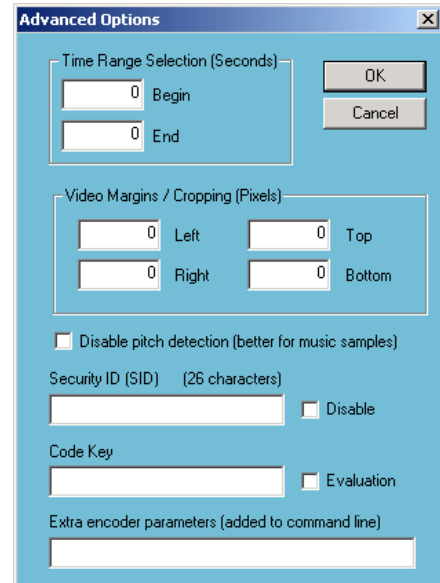
Clicking the Settings button in the Advanced options section will give you access to a number of different features:

#### Time Range Selection

Unique to the VCSEncoder is the Range Selection parameters. These settings allow the encoder to “crop” the video at a specific start and stop time, as expressed in seconds or milliseconds, to effectively encode only a sample of the video. These parameters are not included in the Premiere Plug-in as this function can be accomplished within the standard features of Premiere itself.

#### Video Margins / Cropping (Pixels)

In addition to allowing time cropping, the Clipstream Video encoder also allows frame cropping to get rid of unwanted frame content, from the edges of the frame. This is particularly useful for removing the black bands commonly found in “letter box” style video clips.



Advanced Options Window

#### Disable Pitch Detection

Pitch detection is used to improve voice quality recordings, however, it is recommended to disable this feature for music samples.

#### SID

To create a secure stream, enter your SID here. For more information on the SID, see the section Security.

#### Code Key

Enter your Code Key here. For more information on Code Keys, see the section Keys.

#### Extra Encoder Parameters

As the functionality of the Encoder improves, features are added which might not be accessible through the interface. For those parameters not

customizable elsewhere in the interface, simply enter them here as per the command line syntax outlined below.

### Command Line Encoding

The Clipstream Video VCSEncoder is designed to be compatible with command line processes such that it can be implemented as part of a dynamic content processing and delivery system, or to facilitate the batch processing of large volumes of content. Please note that the below functionality is only available for Clipstream Video on a PC platform.

**NOTE:** Clipstream Video Command Line Encoder is a Console program, start it in a Command Prompt.

### Syntax

**Syntax can be displayed in the command line window by typing VCSEncoder without any parameters.**

Clipstream Video Encoder 2.1 build 20131, Jan 31 2002  
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Usage: VCSEncoder {options} input {output}

inputfile: AVI, MPEG, MP3, WAV, MOV

outputfile: VCS file

<options>

-wNNN NNN = width in pixels

-hNNN NNN = height in pixels

-bNNN NNN = bits per second (56k:40000, CABLE:300000)

-fNNN NNN = frames per second (0.01-15)

-qN{,M} N = target picture quality (15-99)

M = lowest picture quality (15-99)

-m optimize audio for music/lowbitrate

-v optimize audio for voice

-a audio bitrate (12000-32000)

-eNNN NNN = audio signal emphasis (0.0 - 0.99)

-i set encoding priority to idle

-cB,E B=begin time (ms), E=end time (ms)

-sSID SID=Security ID

-t{left},{right},{top},{bottom}

trim the picture

-y"MSG" popup message when done

- If only width is specified, the height will be adjusted to preserve the aspect ratio.
- If only height is specified, the width will be adjusted to preserve the aspect ratio.
- If width/height is not set or set to zero, original width/height will be used
- If width or height is negative, it will be multiplied to the aspect ratio adjusted width or height and divided by 1000. e.g. -900 is 90%, useful for converting MPEG as some of them have non-square pixels.

## Examples

Sample Content File: test.mov 480x240 24fps

VCSEncoder -w360 -f12 -b500000 test.mov

- converts to 360x184, 12fps, 500kb stream

VCSEncoder -f10 -q80 test.mov

- converts to 480x240, 10fps, high quality stream

VCSEncoder -w320 -f10 -b300000

-sVDJSKFOEK3478DJEICL329304758 test.mov

- converts to 320x144, 10fps, 300kb stream, secure stream

## Choosing Settings in Command Line

The following commands will dictate how the video is compressed:

### Width and Height- Dimensions of the encoded file

**-w(###)** whereas (###) = width in pixels

**-h(###)** whereas (###) = height in pixels

*If only width is specified, the height will be automatically adjusted to preserve the aspect ratio of the source file. Adversely, if only the height is specified, the width will be adjusted to preserve the aspect ratio.*

*If width or height are not set or are set to zero, the original width and height of the source file will be used.*

*By setting width or height to a negative number, the width or height can be adjusted as a percentage of the source file dimension, effectively adjusting the aspect ratio. Example: -w-900 will reduce the width by 90% while -h-2000 will double the height*

### Cropping / Export Frame

**-c{#####},{#####}** whereas {##} = cropped value in milliseconds

Cropped value is in milliseconds, based on the source file time.  
eg.-c4000,1000 -> crop 4 seconds off of the beginning of the video, 1 second off of the end. \*Note possible implications if using -p.

**-t {##},{##},{##},{##}** whereas {##} = cropped value in pixels

{left},{right},{top},{bottom} Cropped value is in pixels, based on the source file dimensions.

eg.-t12,4,0,0 -> crop 12 pixels off of left, 4 off of right, prior to adjusting dimensions.

**-p{time},{filename},{time},filename}**

Export the picture extract frames from the source timeline  
[{ms},{\*.jpg}],[ms},{\*.jpg}]  
time = ms of the source file, first cropped frame if it's before the cropping skip if it's beyond the cropping filename = filename of

the jpeg file.  
e.g.-p5000,5thSec.jpg,21000,21stSec.jpg

### Data Rates - Video and Audio

**-b**(xxx) whereas (xxx) = bits per second (56k:40000, CABLE:300000)

*The Data Rate is the targeted minimum connection speed for the viewer. If the Data Rate is not set, the quality will be unlimited. The Audio Data Rate will be subtracted from this value to calculate the Video Data Rate.*

**-m** optimize audio for music. Intended for lower speed playback.

**-v** optimize audio for voice. Intended for high speed playback.

**-a** audio bitrate (0-32000) Zero is silence, 8000 is generally the lowest acceptable, 32000 is intended for high speed playback.

Music/low bit rate is the default; voice is defaulted off. If the audio bitrate is not specified, it will default to 24000.

**-e**(xxx) whereas (xxx) = audio signal emphasis (0.0 - 0.99) Generally left to the default setting.

If the frames per second is not specified, it will default to .89

### Frames per second

**-f**(xxx)

Whereas (xxx) = frames per second (0.01-15) If the frames per second is not specified, it will default to 10fps.

### Video Image Quality

**-q**(##,##)

Whereas (##) = minimum picture quality, maximum picture quality (15-99) If the quality is not specified, it will default to 40. If only one variable is entered, the Encoder will reduce quality as necessary but only to one third of that value. If more quality is asked for than the data rate can accommodate, the Encoder will be forced to skip frames.

### Idle/encoding while working

**-i** set encoding priority to idle

This allows the encoding to run in the background, not affecting other tasks.

**-y** Pop up a message upon completion of encoding.

This allows you to work on other tasks with the encoding running in the background until it finishes.

### Secure Streaming

**-s** (#####) whereas (#####) = Security ID.

Your Security ID (not Clipstream Video code key) Please contact your Sales Contact for more information.

### Export Frame

Description: Extract frames from the source timeline

[{ms},{\*.jpg}[, {ms},{\*.jpg}]

Usage: **-p**{time},{filename},{time},filename} Export a picture.

Time: ms of the source file. The first frame after cropping is taken if the selected time is before the cropping, it is skipped if it's beyond the cropping.

Filename: filename of the output jpeg file.

e.g. -p5000,5thSec.jpg,21000,21stSec.jpg

### Motion Estimation

Description: achieve higher frame rates without adjusting quality

Usage: **-gm**{#}

# =1,2,... (default to 1, max 15)

### Gamma

Description: Use one entry only to affect all three similarly

Usage: **-gg**R,G,B R/G/B= 0.0~10.0 (1.0 is default)

Example: **-gg**2

### Contrast

Description: Use one entry only to affect all three similarly

Usage: **-gc**R,G,B R/G/B= 0.0~10.0 (1.0 is default)

Example: **-gc**3

### Brightness

Description: Use one entry only to affect all three similarly

Usage: **-gb**R,G,B R/G/B = -10.0~10.0 (0.0 is default)

Example: **-gb**-2

### Volume

Description: Adjusts the volume of the encoded video.

Usage: **-l**{Level}

Level = 0~1600

100: no change  
50: half  
200: double  
If audio volume is 0 or audio bitrate is 0, the audio track is disabled.

Example: -l150 = 1.5 x volume

### De-Interlace

Description: introduces de-interlacing to the encoding process.

Usage: -gi{Mode} Mode=0,1,2,3

0/1: use odd/even lines to duplicate

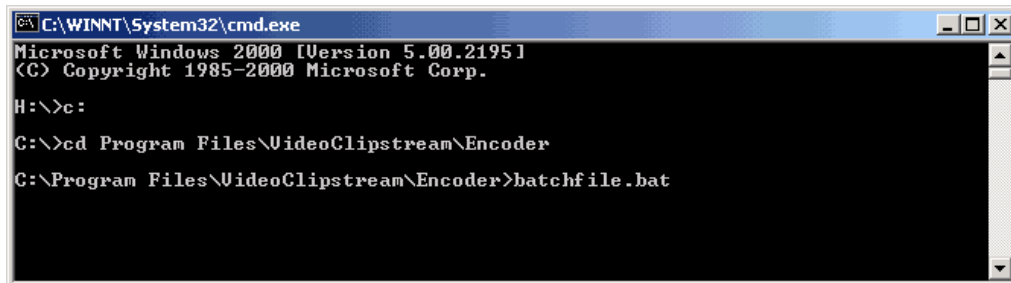
2/3: use odd/even lines to interpolate

### Batch Encoding (Multiple Bit Rates)

One of the convenient features of working in command line is the ability to make a batch file for a series of speeds and/or videos. Here is an example of a Clipstream Video batch file:

```
VCSEncoder -w160 -f1 -b24000 -q40,22 -a8000 -i
G:\videos\avi\destiny.avi
VCSEncoder -w192 -f2 -b30000 -q50,22 -a16000 -i
G:\videos\avi\destiny.avi
VCSEncoder -w192 -f3 -b40000 -q55,28 -a16000 -i
G:\videos\avi\destiny.avi
VCSEncoder -w240 -f6 -b150000 -q60,33 -a20000 -i
G:\videos\avi\destiny.avi
VCSEncoder -w288 -f8 -b300000 -q65,45 -a24000 -i
G:\videos\avi\destiny.avi
VCSEncoder -w304 -f10 -b500000 -q88,60 -v -a32000 -i
G:\videos\avi\destiny.avi
```

A list like that is created in notepad and then saved as something like 'batchfile.bat' to the folder that the VCSEncoder.exe is stored. Then by going into command line and running batchfile.bat, the videos will be encoded.



This image illustrates the path to a batch file saved in the VCSEncoder directory. The \*.vcs files in the above batch file will be found in the source file directory as the output path was not specified.

### Possible Issues, Error Messages

**Bad update messages:** --generally a corrupt frame found in the file. If the file finishes encoding, it should be okay. It will skip the suspect frame.

**ERROR: Invalid input File:** --that is a peculiar problem that pops up occasionally. A few things to try:

- Ensure that the file is not 'in use' by another program such as a media player. (close other apps or even restart your system) That is the most common problem.
- Check the path for spaces, non-standard characters, etc.
- Be sure that the file is not in a proprietary format. Even though the extension is .avi, it could be unreadable in many programs