Converter
popVideo 2
popVideo Converter
www.reallusion.com
For Windows 7, Vista and XP.
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REALLUSION®

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Welcome

Reallusion popVideo Converter turns any green/blue screen video or image sequence into an encoded video with a transparent background. The intelligent Auto-Chromakey button simplifies the background removal process allowing more users to enjoy the power of green/blue screen production and bring any virtual host for video production or business presentation.

Key Features:

- Intuitive User Interface design with essential built-in functions: video zoom, video rotate, dynamic sequence check, multiple video review and frame by frame verification.
- Intelligent video Chromakey features a One-Click conversion with additional detail refinement tools.
- Import your own masks or image sequences to create your own custom video shapes.
- Flexible output formats allow you to export your projects for use with other professional software.

System Requirements

Hardware

- Pentium IV minimum

- 1 GB RAM minimum

- 1 GB disk space minimum

- Duplex Sound Card/VGA Card/Keyboard/Mouse

Software

- Windows XP SP2/Vista/Windows 7

- Browsers: Internet Explorer 6 or above, Firefox 2 or above, Google Chrome 4.0 or above

Recommended Hardware

- Dual core CPU or higher

- 2 GB RAM or higher

- 2 GB disk space or higher

- VGA Card Memory: 128 MB or higher

User Interface Introduction

popVideo Converter is divided into three main panels: **Import/Information Panel**, **Preview Window**, and **Edit/Output Panel**.

- Import and Information Panel
- Preview Window
- Edit and Output Panel

Import and Information Panel

1.	Loading Source Video	• Click the **Browse** button to load a source video file.
2.	Video Information	• The information box only displays the file information of the **Source Video**, **Single Image** or the first image of the **Sequence Image File**.

Preview Window

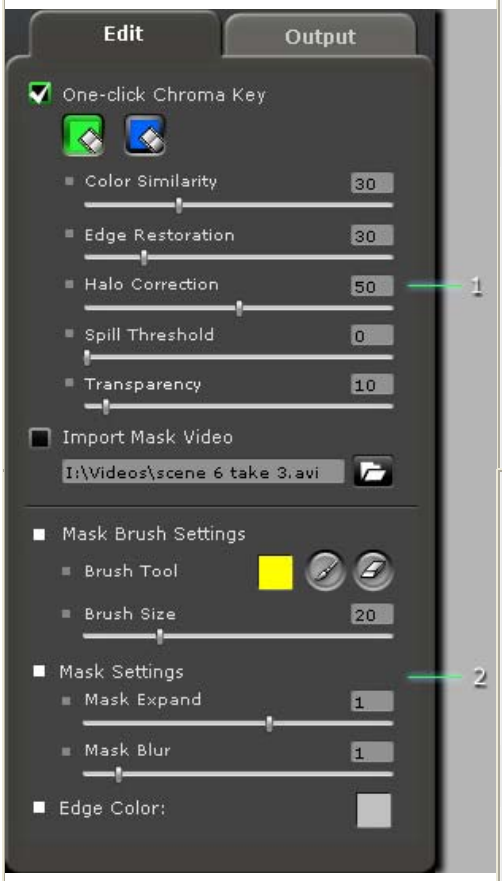
1.	Mode Switch	• Click the **Source Video** , **Mask Video** or **Transparent Video** buttons to toggle the preview window and in order to display them accordingly.
2.	Basic Operation Tool Bar	• **Rotate Buttons**: Click buttons to rotate the loaded file 90 degrees counterclockwise or clockwise. • : **Select** - Toggle the cursor to common mode. • : **Hand** - Pan the image across.

		• : **Zoom Out** - Reduce magnification to increase the visibility area. • : **Zoom In** - Enlarge image to verify details. • : **Original Size** - Display image in original size and magnification. • : **Fit to Window** - Resize image to fit in viewing window. • : **Drag Zoom** - Drag a marquee across the image and enlarge the selected area.
3.	Play Bar	• : **Sync** - Enabling this button to synchronize the video with the audio. This sometimes causes lag if media (original video) resolution is high. Disable it to playback each frame in mute mode in order to prevent lag. • : **Time Slider** - Drag and jump to a specific frame in the preview window. • : **Mark in / Mark out** - Drag these two triangles to mark the range for video playing and exporting. • : **Play/Pause** - Click to playback/pause the current content in the preview window. • : **Stop** - Click to stop playback. • : **Start** - Move the time slider to the **Mark in** position. • : **Previous** - Move the time slider to the previous adjacent frame. • : **Next** - Move the time slider to the next adjacent frame. • : **End** - Move the time slider to the **Mark out** position. • : **Loop on/off** - Click to toggle the loop mode on/off

		during video play. • : **Volume** - Drag the slider to increase/decrease the audio volume. • : **Thumbnail Capture** - Click to capture a snapshot to be used as a thumbnail in the exported video.

Edit and Output Panel

Edit Panel



1.	Auto Mask Section	• Enable the **On-click Chroma Key** box to filter out green or blue screen background in the loaded media (original videos). Several sliders are available for defining a precise area of the mask. • If you have prepared a previous mask video, you may also loaded it to mask out the source media. Please refer to the Applying Mask Media section for more information.
2.	Brush-based Mask Section	• **Mask Brush Setting**: You may paint a custom mask area by using the tools and parameters in this section. • **Mask Setting**: Adjust the settings to decide the size and the blur level of the entire mask. • **Edge Color**: Choose the edge color so that the exported video can blend in better with its future background.

Output Panel

1.	Output Settings	• Utilize the **Output Format** drop-down list to define the format of the output file. Drag the **Video / Audio Quality** sliders to define the video/audio quality. • Enter values in the **From and To** fields to playback or export a partial range of the source media. • Use the **Crop Video Area** feature to export a specific area of the video. • Enter values in the **Output Size** fields to resize the video. • Click the **Thumbnail Capture** button to capture a snapshot of the preview window for use in the exported video. • Set the **FPS** to specify the frame-per-second for the output video.
2.	Output Methods	• Click the **Convert** button to generate a **popVideo**, **iWidget** or **Mask AVI** file. • Click the **Launch** button to export a video file and load it into an external iClone or WidgetCast program.

Using popVideo Converter - Using Preview Window

Changing Preview Mode

PopVideo Converter's essential design provides you with 3 different video perspectives for review. Users will be able to review the **Source video**, **Mask video** and **Transparent Video** (popVideo).

1. Click the **Browse...**

button to load media.
2. Mask out the source media by using the One-click Chroma Key or Import Mask Video features in order to enable the three preview mode buttons.
3. Press the three **Preview Mode** buttons to show the **Original Video**, the **Mask Video** and the **Transparent Video**.

Source Video Mode

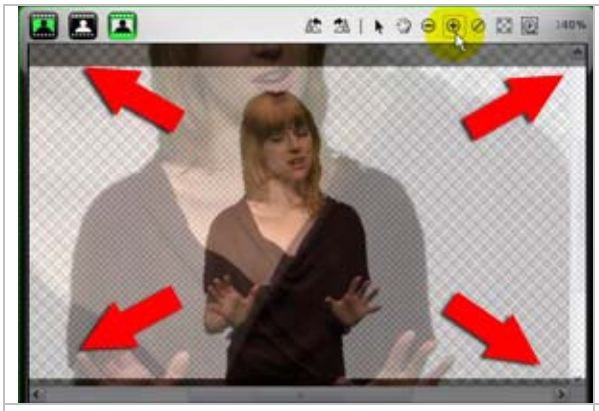
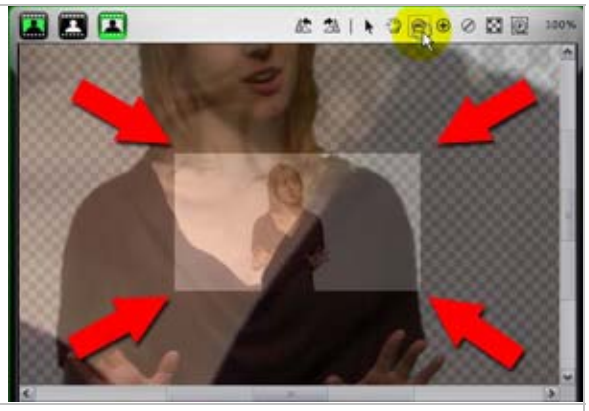
Mask Video Mode

Transparent Video Mode

Zooming Preview Window

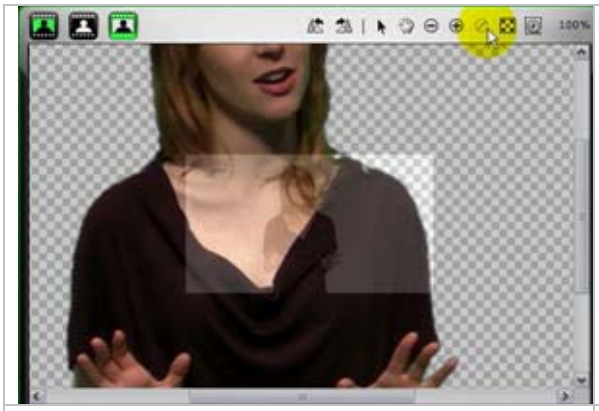
Using the zooming tools to zoom in and out of the preview window in order to do detail adjustments in the mask area.

Zoom In and Zoom Out

	
Utilize the **Zoom In** tool	Utilize the **Zoom Out** tool

Original Size and Fit to Window

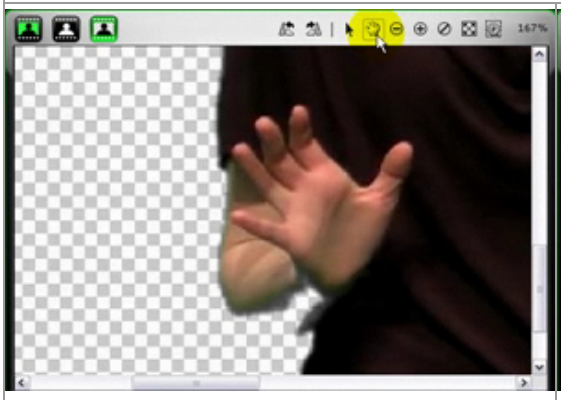
Click the **Original Size** button to show the media in its original size. Click the **Fit to Window** button to expand or shrink the media to fit into the preview window.

	
Utilize the **Original Size** tool	Utilize the **Fit to Window** tool

Drag, Zoom and Hand Tool

After you zoom into the preview window, use the **Hand tool** to move and pan across the media. Click the **Select** tool to toggle back to the common mode.

Utilize the **Drag and Zoom** Tool	
Drag a Region	Zoom into the Region

Utilize the **Hand** Tool	
	
First Position	Second Position

Setting Playback / Export Range

If you want to mark a partial time range of the loaded video, you may set a time range for both playback and export.

1. Make sure you change to the **Source Video** mode.
2. Drag the **Mark In** triangle to mark the frame where the media starts playback. You may also go to the **Output** panel and see the exact time stamp in the **From** field.
3. Drag the **Mark Out** triangle to mark the frame where the media stops playback. You may also go to the **Output** panel and see the exact time stamp in the **To** field.
4. Click the **Play** button to play the partial range of the media.

5. Use the buttons to jump to the **Mark in**, **Mark out** time frames and the buttons to move to the **Previous/Next** adjacent frames.

6. Click the **Loop** button to enable the loop mode during media playback.

Synchronized Playing and Checking Mask Artifacts

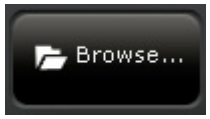
When you playback imported media, by default, the video and the audio will play in **Sync On** mode to ensure the synchronization of the video and the audio. However, when the resolution, as well as the size, of the media is too high and you change to the Transparent Video preview, lag issue can occur. You may have difficulty checking each frame in your video.

Toggle the **Sync Off** mode in order to playback frame by frame in mute mode. You may then use the play controls (, , , , ,) to check the mask artifacts in each frame to later fix them with the fine-tuning parameters under the One-click Chroma Key box.

Using popVideo Converter - Loading Media

Loading Source Media

A Video or Single Image

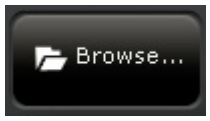
1. Click the **Browse** 

button.
2. Locate the target file and click the **Open** button.

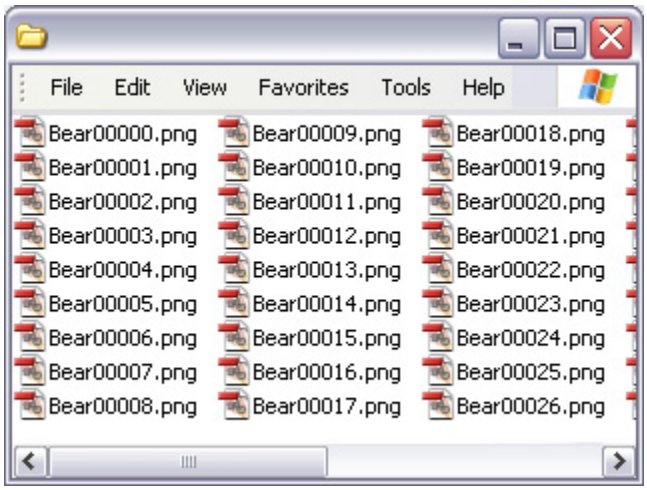
After the file is loaded, you will see the relevant information in the information field.

Sequenced Images

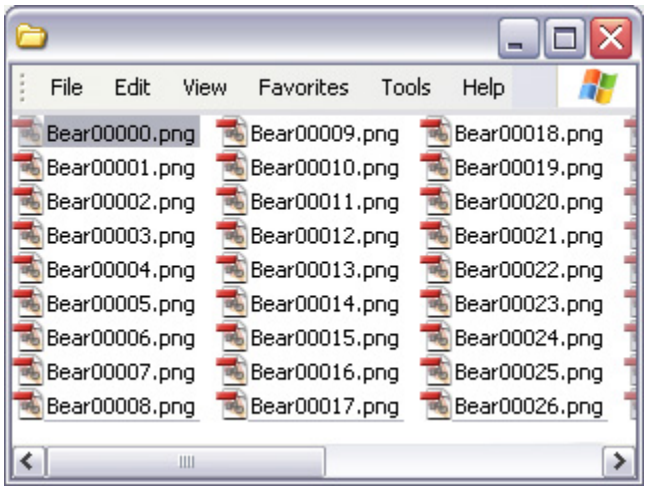
If you prepare sequenced images using external software, you may import them into **popVideo Converter** to generate iWidget files.

1. Click the **Browse** 

button.



2. Select the sequenced image with a least set of numerical suffix of the name and click the **Open** button. **popVideo Converter** loads all the numbered file with the same prefix of the names.



3. Set the **FPS** to the same value when these sequence files are generated.

Note:

- Since the audio cannot be removed using **popVideo Converter**, you may need to use an external video editor to remove the audio of the source video file if you want to create a mute output file.
- Each time you load a new source file, **popVideo Converter** initializes and clears all the controls, including the **Mask Video**, the **Info Box**, the **Output Settings**, and the **Preview Window**.
- The supported file formats are:

  Image: BMP, JPG, TGA, PNG, Sequence BMP, Sequence JPG, Sequence TGA, and Sequence PNG.

  Video: AVI, WMV, Mpeg, MOV.

- Also see:

  One-click Chroma Key

  Applying Mask Media

  The Concept of Mask

One-click Chroma Key

popVideo Converter introduces a **One-click Chroma Key** feature that automatically masks-out the green or blue screen background in the loaded media. You can fine tune the masked area using several parameters.

One-click Chroma Key

1. Enable the **One-click Chroma key** box.
2. Press the **Green Screen** or **Blue Screen** button in accordance to the background screen color of the loaded media.
3. Drag the **Color Similarity** slider and change the mask color value in order to increase or decrease the masked area.

Color Similarity = 0

Color Similarity = 15

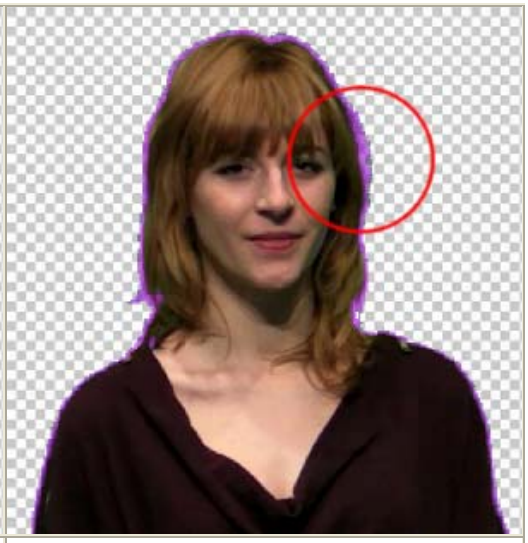
Color Similarity = 30

Fine-tuning the Mask

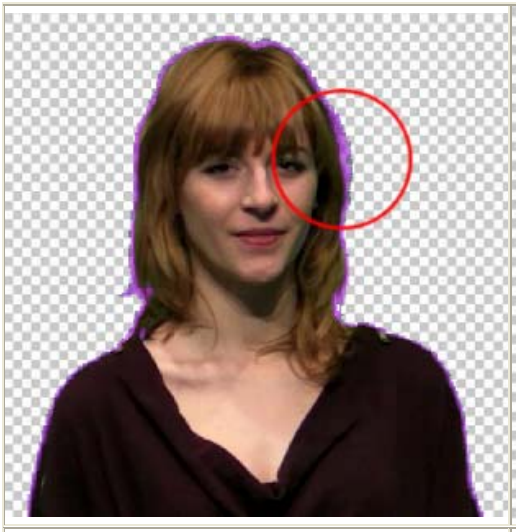
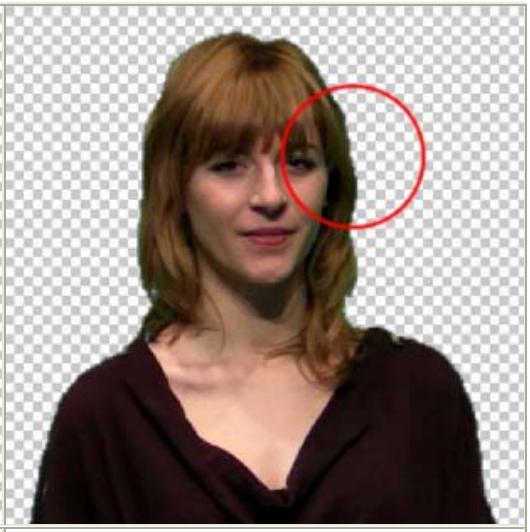
- **Edge Restoration:** Increase this value to correct issues with mask tearing in shadows and edges.

Reflection area masked out	Threshold increased

- **Halo Correction:** Edit and desaturate the edge to remove minor green or blue halos.

	
Edge with similar color	Compensated original green color

- **Spill Threshold:** This is a refinement tool for increasing and decreasing the mask edge.

	
Edge with compensated color	Edge removed

- **Transparency:** Transparency corrects see-through video and distorted artifacts. It is used for hair or semi-transparency objects such as glass.

High transparent value	Decrease the transparency value

Creating Brush-Based Mask Area

After you utilize the One-click Chroma Key or the Applying Mask Media features to cut off the green or blue screen in a loaded media, you may also manually define the non-filtered areas such as the static parts of the mask.

Appending Mask Area

1. Load a media and mask it out in advance.

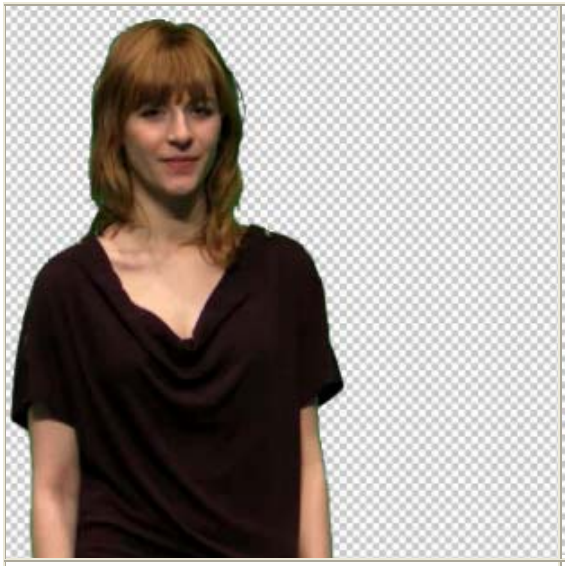
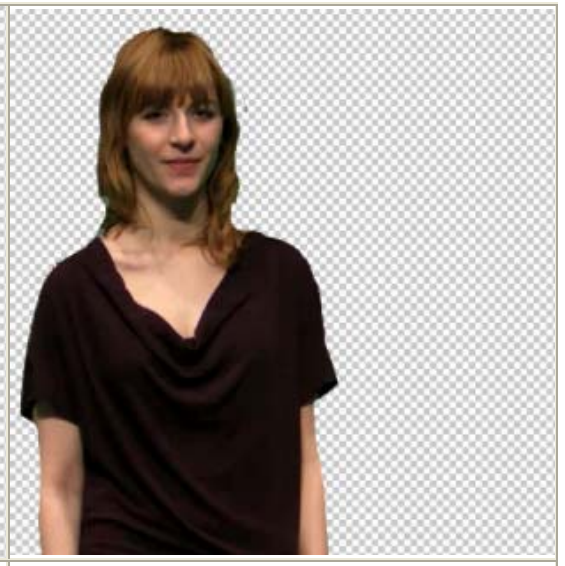
The loaded media	Green screen removed

2. Press the **Increase** button.
3. Brush in the preview window to command the mask to filter out the unwanted area.

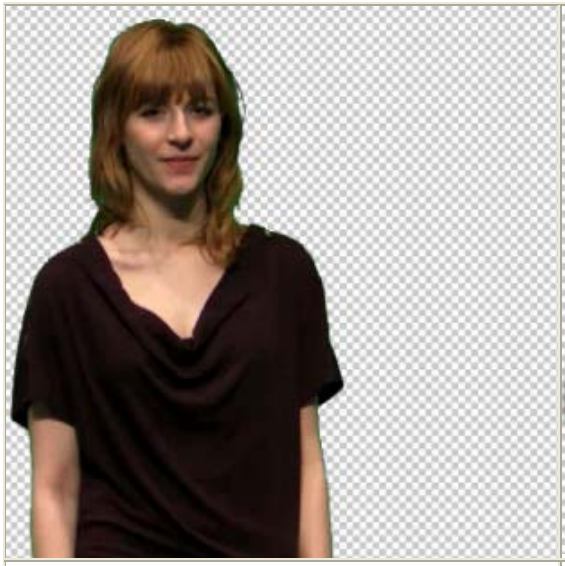
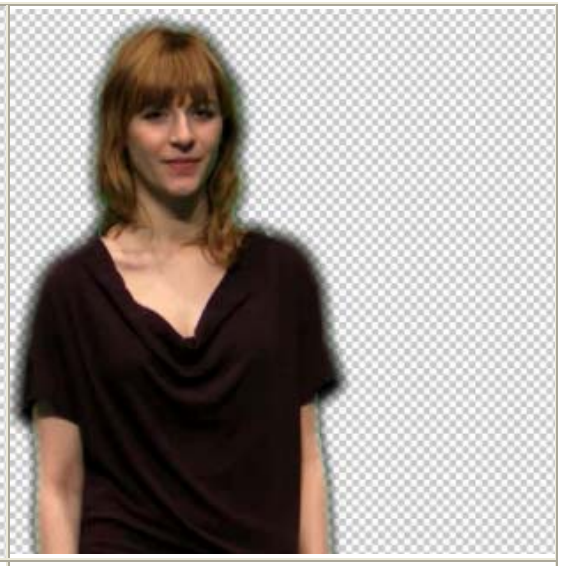
Manually brush the mask area	Result

Adjusting Mask Expand Area

Drag the Expand slider to expand or shrink the edge around the mask area.

	
The original processed result	The decreased **Mask Expand** value

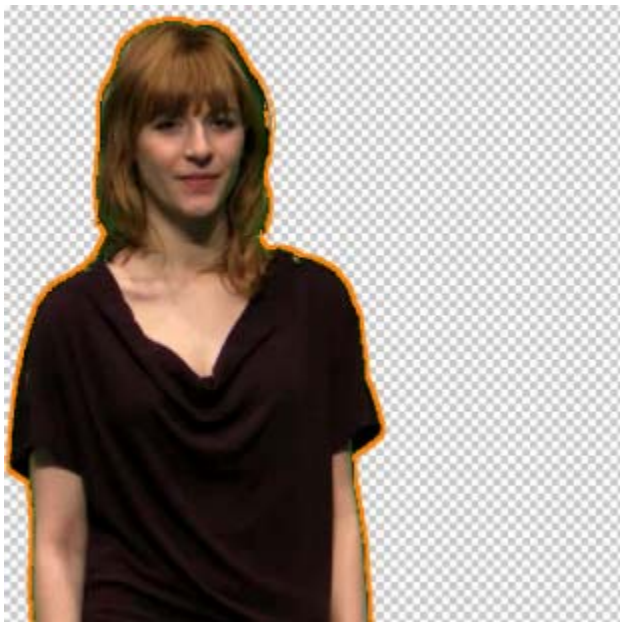
Drag the **Mask Blur** slider to reduce the edge sharpness around the resulting video.

	
The original mask	Mask edge blurred

Edge Color Setting

When you need the exported media from **popVideo Converter** to perfectly blend into the background of its future setting, then it is recommended to set the edge color to match the color of the future background.

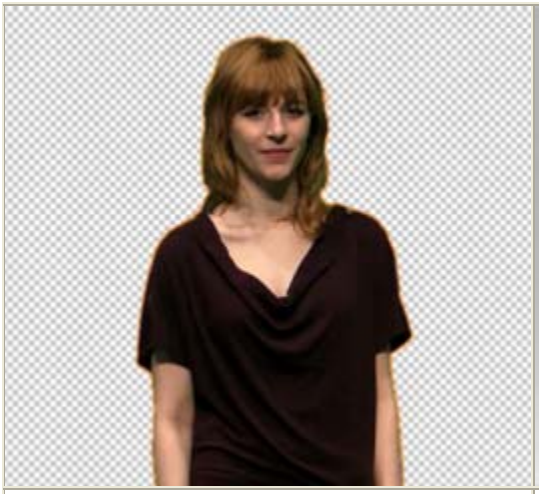
1. Increase the **Mask Expand** value in order to show the edge thread.
2. After the edge color shows, change the edge color with the color picker box.



3. Export the video as a **popVideo** and load into an **iClone** project with a similar background color as the color you set in step 2.

popVideo with edge color	Blending result in **iClone** project

4. You may also increase the **Mask Blur** value so that the edge blurs and provides you with a cleaner, smoother video.

	
Edge color blurred	Blending result in **iClone** project

Note:

- The **Decrease** brush button only affects the area that has been manually brushed but not the area created by the **One-click Chroma Key** or **Import Mask Media** features.
- Press the **Increase** or **Decrease** buttons to later hide the appended mask.

Using popVideo Converter - Applying Mask Media

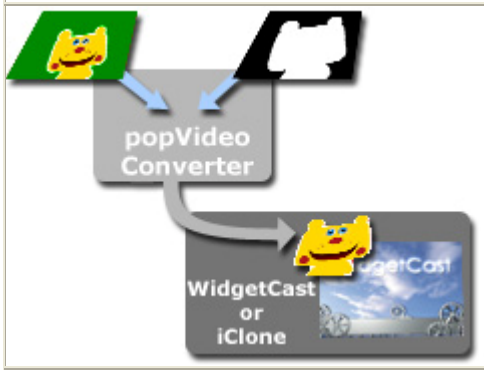
The Concepts of Mask

The basic concept of the **Mask** (grayscale) is to have the un-wanted area of the source files (image, video) removed and turn the resulting area transparent in the exported files. When the exported files are edited in a layer-based external editor, the transparent area can reveal the object underneath.

Basically, the black part of the mask removes the respective area, the white one keeps the area, and the grey part is set to semi-transparent in the source media file.

Image or Sequence Images

It is highly recommended that you generate the source sequence images in **PNG** format with alpha channel data embedded.

<table>
<tr><td> </td><td> </td></tr>
<tr><td>Source Image
or
Sequence Images</td><td>Mask Image (Grayscale)</td></tr>
<tr><td> 
</td><td>
</td></tr>
<tr><td>Export to WidgetCast or iClone</td><td>Result in WidgetCast</td></tr>
</table>

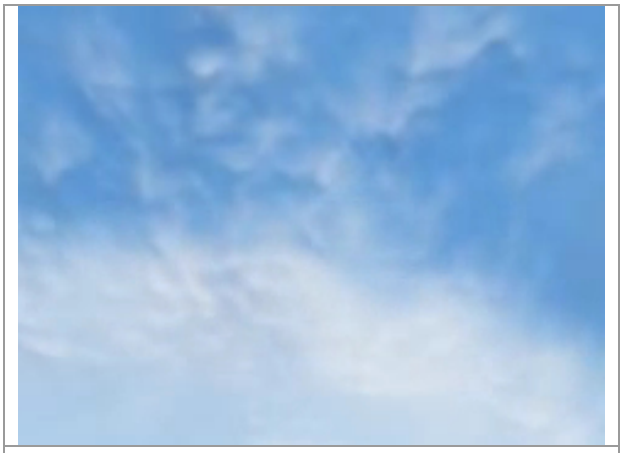
Video

Source Video

Mask Video (Grayscale)

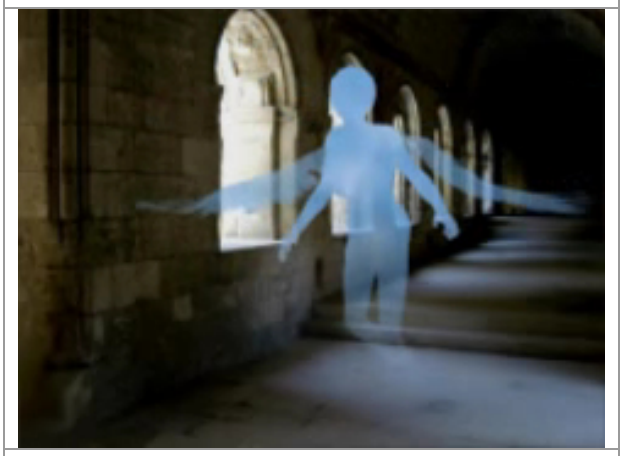
Covers Other Objects (In WidgetCast)

You may also combine video and mask video to generate unique video files. Please note that the gray area in the mask media will generate a semi-transparent effect in the resulting video.



Source Video

Mask Video (Grayscale)



Semi-Transparent Effect (In WidgetCast)

Note:

- The **Format**, **Resolution**, **Length** and the **FPS** of the mask video must be identical to the source video.
- Also see:

  WidgetCast Online Help

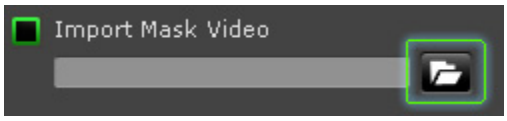
Applying Mask Media

With a mask media image or video, you may filter out the unnecessary part of the source image or video and create a masked iWidget or popVideo file for further use in **WidgetCast** or **iClone**.

1. Load a source media by clicking the

button.

2. Click the **Browse...** button on the **Edit** panel.



3. Locate the target mask file and click the **Open** button.

4. The video file will be masked out according to the content of the mask file during the export procedure.

Source and Mask Media Table

	Source Media		
	Video	**Single Image**	**Sequence Images**
Single Mask Image	**Mask Image** will be auto-resized to fit the resolution of the source file.	**Mask Image** will be auto-resized to fit the resolution of the source file.	**Mask Image** will be auto-resized to fit the resolution of the source file.
Mask Video	The **Length**, **Resolution**, and **Format** of the source and the mask videos must be identical.	N/A	N/A

Note:

- Also see:

  Loading Source Media

  The Concept of Mask

Using popVideo Converter - Output

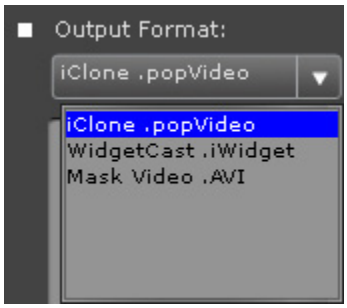
Output - General Settings

popVideo Converter allows you to export files in specific formats, quality, resolution, or FPS.

Setting Format and Quality

To define the format and the quality of the output file, please follow the steps:

1. Select the format in the **Format** drop-down list.

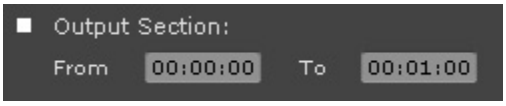


2. Utilize the sliders to specify the video/audio quality for the output file.

Exporting Partial Video

You can mark a range of the video for exporting as a popVideo file.

1. Switch to the **Output** panel.
2. In the **Output Section**, type the values for the **From** and **To** fields.



3. You may also drag the **Mark In** and **Mark Out** tools under the time slider to define the range.

(Please note that the minimum time range is 1 second.)

4. Click the **Convert** button to generate a popVideo file of the defined range.

Resizing and Cropping

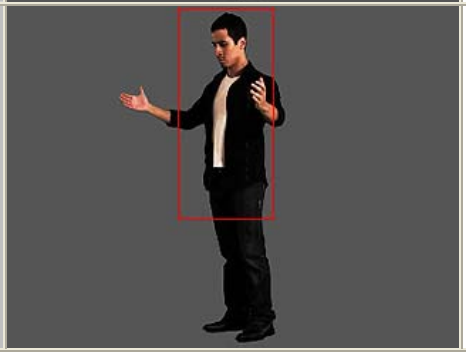
You may define the resolution of the output file by entering desired numbers in the **Output Size** fields. The output size then can differ from the size of the source file.

Please refer to:

- Output - Resizing Video
- Output - Cropping Video

Defining Thumbnail of Exported Video

You may drag the slider in the preview window and click the **Capture Thumbnail** button to define the thumbnail for the exported video.

	Preview Window	Thumbnail of Exported Video
No Cropping		NoFrame.popVideo
Cropping		Frame.popVideo

The Output FPS

The **Output FPS** defines the number of the frames to be displayed per second. Basically the higher the value is, the smoother the video playback will be. The maximum value of **FPS** is 30.

- For **Video**, this field merely shows the **FPS** of the output file. You are not allowed to adjust the value.
- For **Sequenced Image**, you may enter a value to define the number of the images to be displayed per second.
- For **Single Image**, the **FPS** will be 1 and the length of the output video will also be 1 second.

Output - Resizing Video

The **Output Size** fields help you set the size for the output files. You may choose to downsize the source media and create a smaller size video for better performance in the target applications that load the exported videos (**WidgetCast** or **iClone**).

Please note:

- **popVideo Converter** automatically keeps the aspect ratio of the output file automatically.
- The minimum size of the output file is 32 x 32 and the maximum is 2000 x 1000 (for popVideo format) and 912 x 912 (for iWidget format).

Resizing Video

If you want to resize the video, please follow the steps below:

1. Go to the **Output** panel.
2. Change the value for one of the **Output Size** fields. The other value will change simultaneously (initial ratio kept).

3. Click the **Convert** button to export the video in new size.

Please refer to Output - Cropping Video for more information about cropping videos.

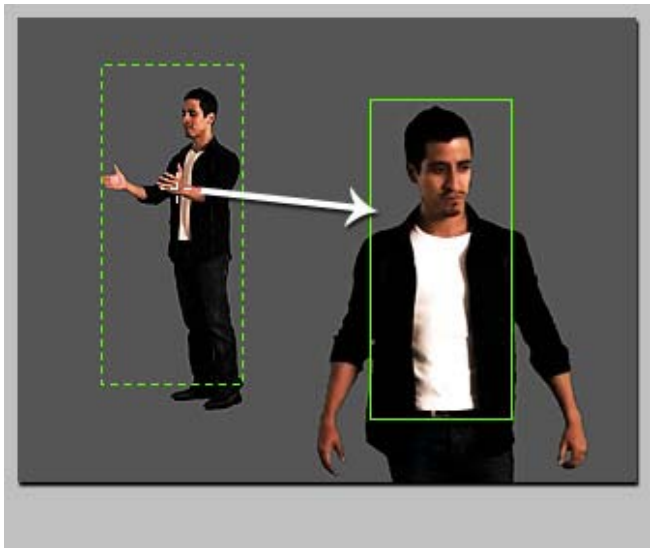
Output - Cropping Video

If you want to export a popVideo with a specific area of the source video, you may use the cropping feature provided by **popVideo Converter**.

Free Cropping

1. Check the **Crop Video** box. A frame then shows on the preview window.
2. Click and drag one of the sides or corners to change the ratio of the frame.

Drag inside the frame to re-locate the frame.



3. Export the video.

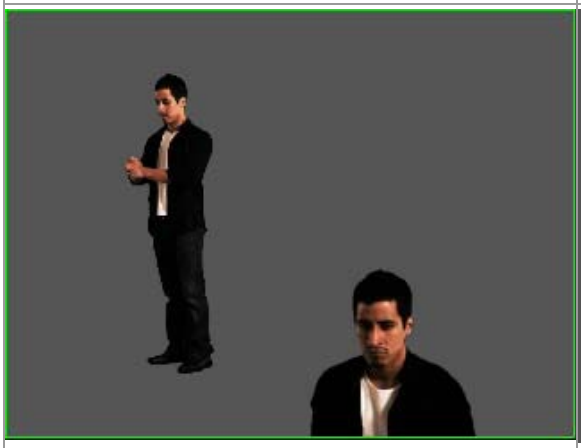
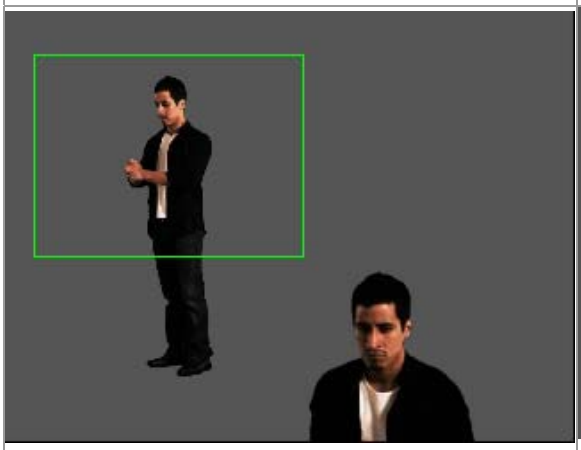
The **Output Size** fields are disabled, but they will display the size of the frame.

Cropping and Fitting in Defined Resolution

You may specify a resolution and have the exported video to **Fit Into the Resolution**.

1. Check the **Crop Video** box and then the **Keep Ratio** box.
2. Set a target resolution of the result video by entering in the Output Size fields.
3. In the preview window, drag one of the corners to include the area for exporting a new video.

   Drag inside the frame in order to move the frame.
4. Export the video.

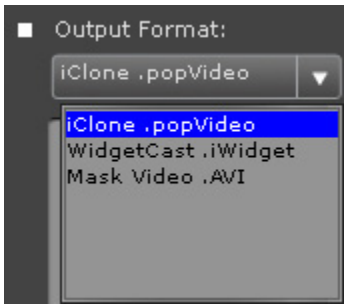
Cropping Frame (Green)	**Result Video** (320 x 240)
	
	

Exporting Pipelines to iClone/WidgetCast/Video Editors

Editing popVideo with iClone (.popVideo)

The popVideo files can be loaded into iClone in order to combine the video with 3D objects.

1. Load the Source and Mask files.
2. Set the Output Settings and convert the file.



3. Click the **Launch** button to open **iClone**:
   - You must drag the exported popVideo file onto the target object in order to replace its texture.
   - Alternatively, hold the **Ctrl** key and drag the exported file onto the iClone preview window to generate a board with popVideo mapping on it.

Note:

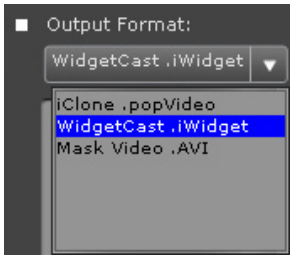
- Also see:

  iClone Online Help - Utilizing popVideo

Editing iWidget with WidgetCast (.iWidget)

If you have WidgetCast installed on your system, you may send the output file right into WidgetCast for further editing.

1. Load the Source and Mask files.
2. First, set the Output Settings and convert the file.



3. Click the **Launch** button. When you are prompted if you want to open the file, click the **Yes** button:
   - If WidgetCast has already been launched then the output file will instantly be loaded into the editor's **Edit** step.
   - If WidgetCast has not yet launched, **popVideo** will launch it for you. You must then click the **Edit** button to load the output file.

Note:

- Also see:

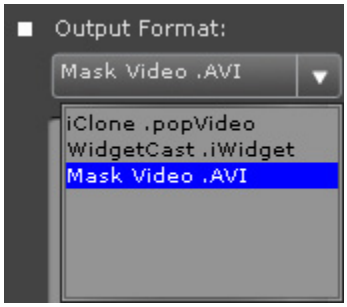
  WidgetCast Online Help

- To play the iWidget on a desktop, first visit the http://www.adobe.com/downloads/ for downloading and installation of the Adobe AIR.
- If the file fails to play, check to see if AIR is already minimized in the system tray.

Editing Mask Video with External Video Editors (.AVI)

If you have external **Video Editors** installed on your system, you may send the mask AVI file right into it for further editing.

1. Load the Source and Mask files.
2. First, set the Output Settings and convert the file.



3. Click the **Launch** button to launch your default media player to playback the mask video.
4. You may then edit the mask video in any other external video editor.