FlipFactory®

USING OPEN SCREEN SUBTITLING WITH FLIPFACTORY

This App Note applies to FlipFactory versions 6.0 & later

Synopsis

Subtitling is an important component of digital media, principally because it benefits the hearing-disabled community and allows for language translation. Additionally, it is becoming commonplace for governments to *require* subtitling as part of digital TV transmission.

Subtitling is available in FlipFactory in two different types: Open Subtitling (burnt-in) integrates subtitling directly into the video; DVB/Teletext Subtitling encodes subtitles into the transport stream. This App Note presents how to implement Open Subtitling in FlipFactory. (For DVB/Teletext Subtitling, consult Telestream App Note *Using DVB/Teletext Screen Subtitling With FlipFactory*.)

Open Subtitling for FlipFactory enables you to apply subtitles to video during the transcoding process. Subtitles are generated from subtitle files, which include details of text, timing, and format. FlipFactory Open Screen Subtitling typically uses **.pac** subtitle files generated by subtitle preparation systems from Screen Subtitling Systems (www.screen.subtitling.com). European Broadcast Union (EBU) **.stl** subtitle files may also be used.

Open Screen Subtitling in FlipFactory

Open Screen Subtitling for FlipFactory is a licensed option implemented as a filter which may be purchased and downloaded by registered FlipFactory users from our Web site at: *www.telestream.net*

The FlipFactory *Open Screen Subtitling* option allows video media with accompanying subtitle file (**.pac**, **.fpc**, or **.stl**) and an optional configuration file to be submitted for processing. The result is a video file with burnt-in subtitles:
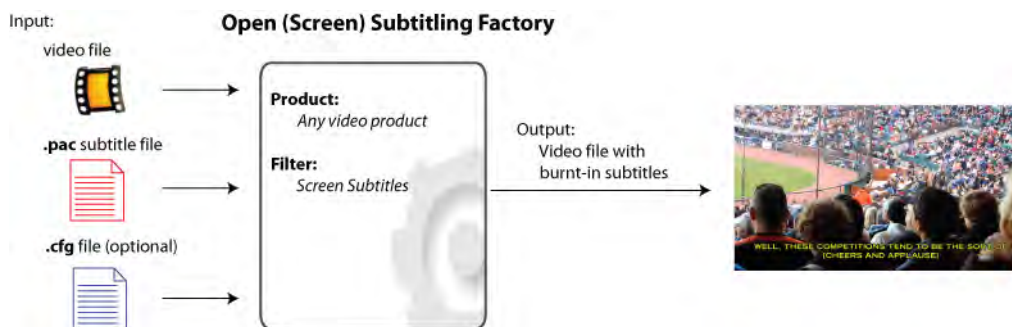
There are two types of PAC files: a Unicode version (**.fpc**) which supports any language covered by the Unicode standard, and standard (**.pac**) files which use Screen Subtitling Systems proprietary codepages.

Standard **.pac** files support the following character sets: Roman / European, Russian, Greek, Arabic, Hebrew, Traditional Chinese, Simplified Chinese, Japanese, and Korean.

The PAC file format supports more sophisticated formatting options than the EBU format and includes features such as *floating accents* (allowing an accent character to be placed over any base character) and *safe area override*.

Creating an Open Subtitling Workflow

Note: *This example requires FlipFactory Version 6.0 (or later) which has the Screen Subtitling Option installed and licensed on it.*

To perform Open Subtitling on a media file, execute the following steps:

1. Create a factory and add a local monitor folder to place media and subtitle input files to be processed by FlipFactory. (Alternatively, you can submit jobs manually.)

2. Right-click *Products* and select *New Product*, then select *VOD Transport Stream* from the list of products. Add a destination to provide a place for output files to be saved. This destination can be a local folder or remote location:
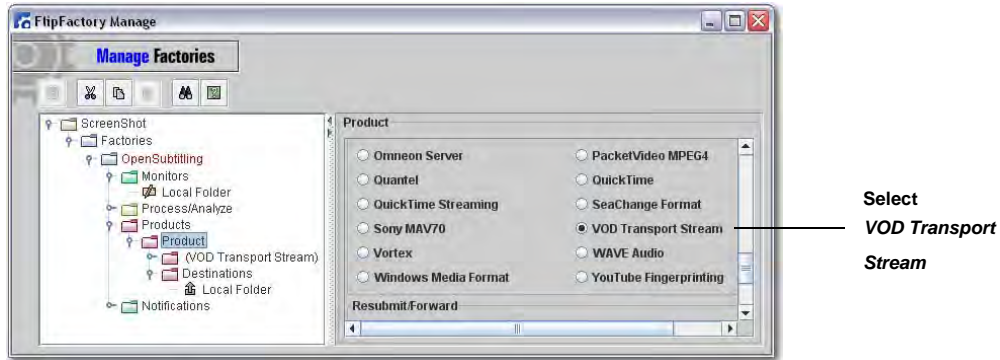
Note: *In this example the product is VOD Transport Stream, though any product with video output can be used.*

3. To add the Screen Subtitles filter, click *Filters*, select the *Screen Subtitles* tab, and check *Enabled.* Notice that the online help page displays below the tabs*:*
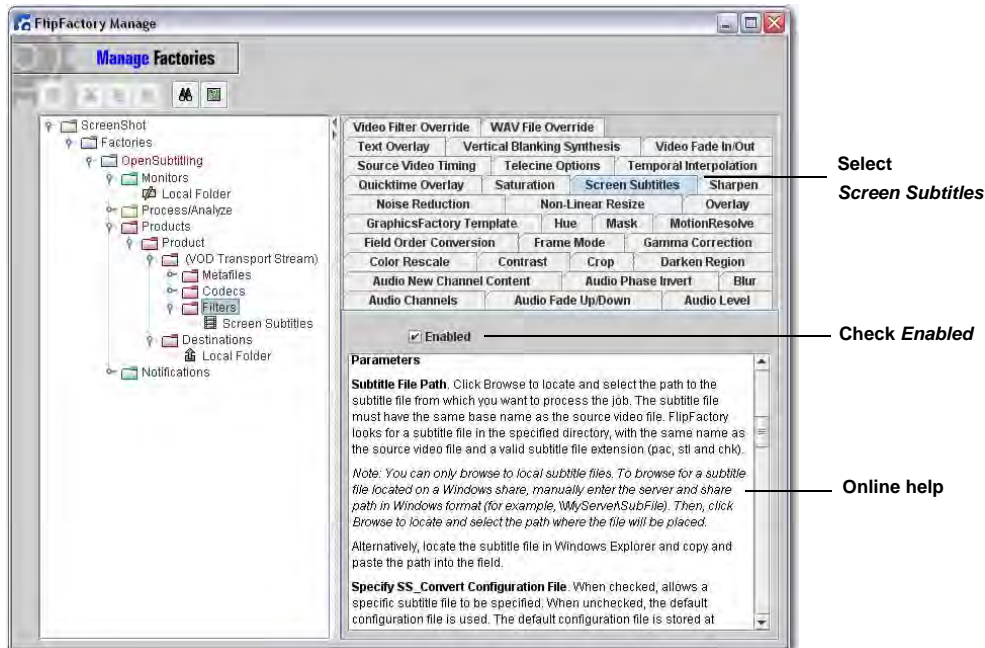
4. Click *Screen Subtitles* and Browse to the location where the subtitle files can be found. Optionally, specify an accompanying configuration file that you have prepared for this job. (Configure the Screen Subtitles Option using on line help):


Click *Screen Subtitles*

Click Browse
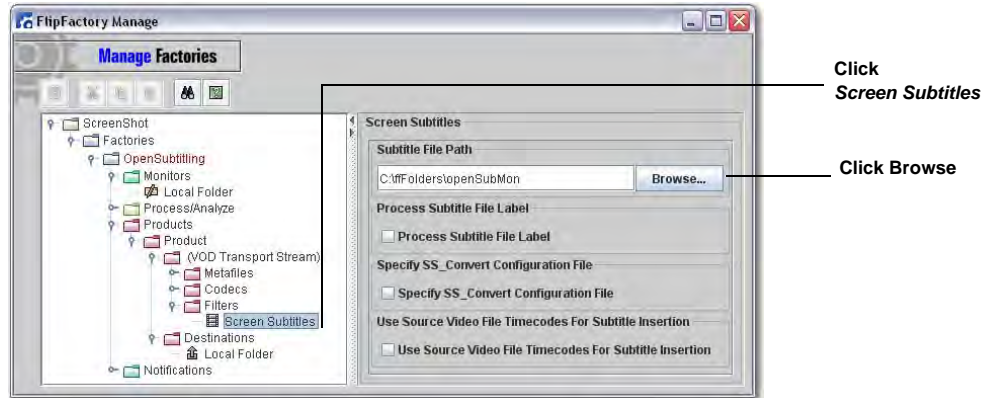
5. Click the Save icon to save the factory settings.

Testing Your Open Screen Subtitling Workflow

Now that you have created a factory to add Open Screen Subtitling to your input media, it should be tested to ensure that subtitling has been successful:

1. In FlipFactory, open the *Job Status* window to monitor factory progress.

2. Place the media file to receive subtitling, a subtitle file (**.pac** or **.stl**), and optional configuration file into the monitored folder. Make sure the subtitle and media files are identically named:

Identically named media and subtitle files
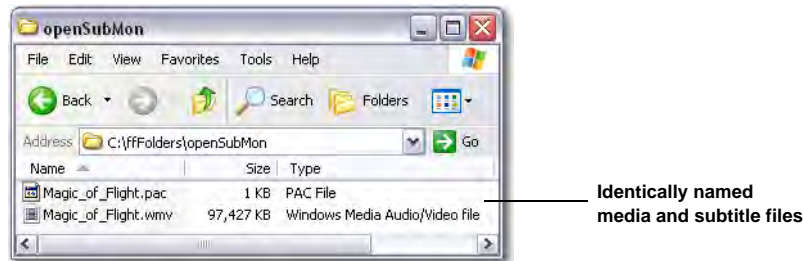
3. Wait for the *Job Status* window to display "Complete":
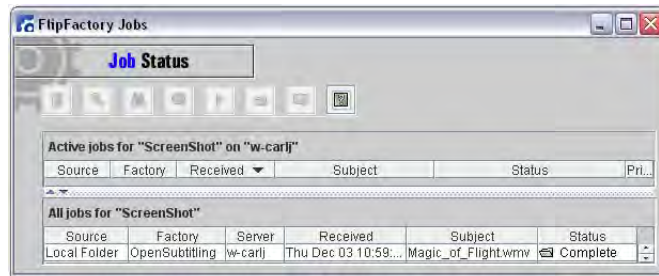
4. Examine the destination folder to ensure that the media file has been created, then play the file to ensure that the that the subtitling been successfully added:
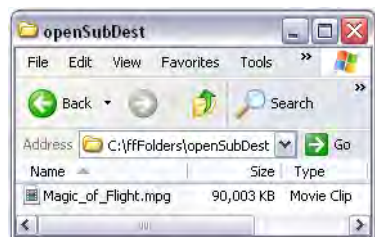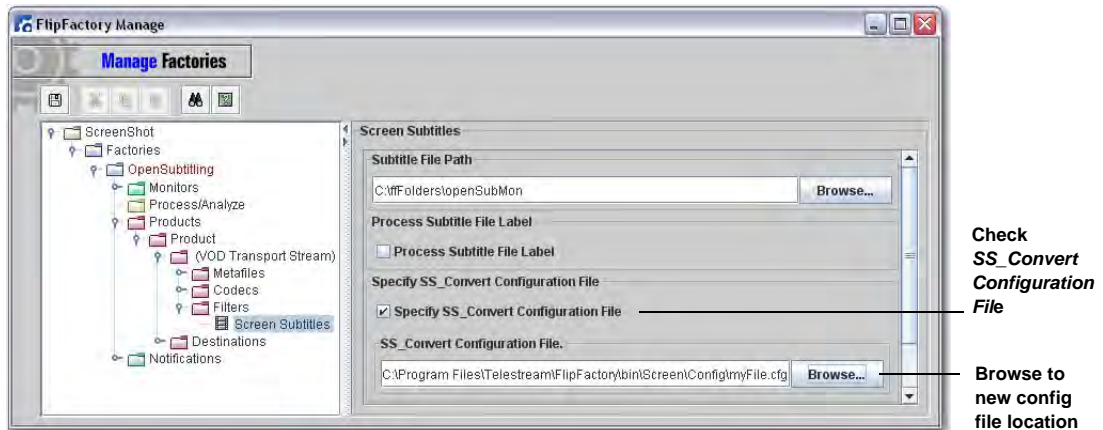
Using a Configuration File

The optional configuration file is used to control many aspects of the display of subtitle graphics.

If a configuration file isn't specified, the default configuration is used. The default configuration file is stored at *C:\Program Files\Telestream\FlipFactory\bin\Screen\Config\std.cfg*. To create a different configuration file, copy the *default.cfg* file, rename it, and modify it accordingly.

In the *Screen Subtitles* configuration window, check *SS_Convert Configuration File* and click *Browse* to identify the location where your new config file is located:

Comments in the configuration file (lines starting with a semicolon) describes each setting. Settings that may not be obvious are noted here:

- **Font1Script and Font2Script**. For PAC files prepared on non-Unicode preparation systems, this specifies which script is to be used. Supported scripts include: Roman, Greek, Russian, Korean, Japanese and Chinese. In each case, the font specified must have support for the desired script. For more information on configuring the Screen Subtitle option for use with different scripts, please contact Telestream technical support. Examples from a typical std.cfg file:

```
Font1Script=ROMANPAC
Font2Script=ROMANPAC
```

- **Canvas size** should be set to the output video size in pixels. Aspect ratio should be set to the aspect ratio for the output video. Examples from a typical std.cfg file:

```
Width=720
Height=480
AspectWidth=4
AspectHeight=3
```

Note: *Note: When generating subtitles for anamorphic content, the canvas size should be set to the output video size in pixels, but the aspect ratio should be that of the intended display.*

- **Lock Settings**. Many of the settings in the configuration file have lock settings; for example, Background style lock. This is for situations where these attributes may be specified in the **.pac** subtitle file. If the lock setting is 0 then the subtitles must have the attributes specified in the **.pac** file. If the lock setting is 1, settings in the configuration file override those in the **.pac** file. Examples from a typical std.cfg file:

```
BackgroundStyleLock=1
BoxTypeLock=0
```

Note: *Lock setting attributes are only used in .pac files, not in .stl files.*

Start of Media Settings

Frequently, the timecode at which subtitles are specified to appear and disappear in the subtitle file assume that the start time code of the video is not 00:00:00:00. Start of Media timecodes of 10:00:00:00, 03:00:00:00, and 01:00:00:00 are often used.

By default, the Screen subtitle's assumed start timecode is 00:00:00:00 and the subtitle files have an assumed Start of Media of 10:00:00:00. The point when a subtitle is inserted is therefore determined by subtracting ten hours from the value in the subtitle file.

There are a number of methods available for overriding this behavior:

1. Altering the StartOfMedia Setting in the Configuration File

   If you know that your subtitle files assume a Start of Media timecode of 03:00:00:00, then you should set StartOfMedia=03:00:00:00 in the last line of the configuration file.

2. Using SOM Tags

   The first subtitle in a subtitle file (referred to as subtitle zero, or *the slate*) usually contains information about the subtitle file, and is not meant to be rendered onto the video. It is good practice for the person preparing the subtitle file to include an SOM tag in subtitle zero. This should be a line of text with the format *SOM:03:00:00:00*.

   If an SOM tag is present in subtitle zero, this is the offset applied to the timecodes in the subtitle file when applying the subtitles to the video. Note that FlipFactory assumes that the first frame of input video is 00:00:00:00. Setting StartOfMediaLock=1 in the configuration file causes the data in the SOM tag to be ignored and the StartOfMedia parameter from the configuration file is used instead.

3. Using Source Media Timecode

   In some workflows the timecodes in the subtitle file corresponds to an actual timecode value in the source media file (such as VITC). If FlipFactory is able to extract the relevant timecode from the source media then it is possible to use these timecodes to control the subtitling process.

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