

TextDescriptors & TimeStamps

Editing text in movies is now a little easier. The import/export text components now work with text descriptors and timeStamps. Text descriptors are just that, descriptions of the text that follows. TimeStamps make it simple to do repeated export-edit-import tasks. The timeStamp keeps track of the starting time and duration of the sample. Thus keeping the samples in sync with other media in the movie.

Text Descriptors

The text stream containing descriptors and timeStamps will always start with the '{QTtext}'. It can then be followed by any number (and in any order) of text descriptors. Some text descriptors have no parameters, like '{plain}'. Some text descriptors take additional information that follows a colon like '{font:New York}'. Notice that there is no space between the ':' and the first letter of the font name, although there can be, it is not required.

If {height:0} is set to zero, the text track will be determined automatically to fit the text.

The color descriptors take three parameters that are separated by a ',' (ASCII 44). The three parameters are red, green, blue. For example, {textColor: 0, 0, 65535} is blue text, {textColor: 65535, 32000, 0} is orange. To make editing colors better, we now allow white spaces before the color values, it is not required.

Although the parser is not uppercase/lowercase sensitive, it does not have a spell checker. If a typo is encountered you may get partial results or an error stating that this file cannot be converted.

Here is a list of the current descriptors.

{QTtext}

This is required at the start of any file that has descriptors or timeStamps. If this is not at the first, the file is assumed to be normal text.

{font:}

The parameter is the name of the font.

{font:Apple Chancery}

This will change all text after the descriptor to the Apple Chancery.

The following descriptors change the style of the text. {plain} resets

{plain}

{bold}

{italic}

{underline}

{outline}

{shadow}

{condense}

{extend}

{justify:} is the text alignment descriptor. It takes the following parameters.

Indicates the justification of the text. The following constants are available:

{justify:left}

{justify:right}

{justify:center}

{justify:default} will align to whatever the script system has set.

See Inside Macintosh: Text for details on these constants and on text alignment.

{size:}

This is the point size of the text.

{size:18} will set the point size of text that follows to 18 point.

{textColor: , , }

To set the color of the text. There are three numbers between 0 and 65535 that make up the parameters. These numbers are RGBColor values. The order is red, green, blue. The values are separated by a comma ','.

{textColor:45000,0,0}

This sets the text to a shade of red.

{backColor: , , }

This is the same as **textColor** except that it changes the background color.

{height:}

Takes one parameter, the height of the text track in pixels.

{height:50} will set the text track height to 50.

A value of zero will set the height to the best fit for the contents.

{width:}

same as **height** except a value of zero will set the width to 240 or to that of the movie if importing into a movie.

{language:}

Text tracks can be set to a specific language. It is handy to keep this information around. The ordinal value of the language is used instead of the actual name.

{language:11} sets the language of the track to Japanese.

{timeStamps:}

This tells us if the **timeStamps** are absolute or relative.

{timeStamps:absolute}

the **timeStamps** show the time the samples start and ends beginning from the start of the track.

{timeStamps:relative}

The **timeStamps** are the duration's from one sample to the next.

{timeScale:}

This is the value of the units in the mantissa of a timeStamp.

Think of it as the fractional part of a second, usually $1/\text{timeScale}$ of the movie.

Let's look at a timeStamp of [00:00:07.300]. If {timeScale:600}, then this is interpreted to be 7.5 seconds($7 + 300/600$). If {timeScale:400}, it would be 7.75 seconds($7 + 300/400$). The timeScale cannot go over 1000. The size of the mantissa is determined by the timeScale value. If {timeScale:10} 7.5 seconds would be '[00:00:07.5]'.

The following are descriptors to set the textDisplay flag.

{doNotDisplay:}

Does not display the specified sample.

{doNotAutoScale:}

Does not scale the text if the track bounds increase.

{clipToTextBox:}

Clips to just the text box. (This is useful if the text overlays the video.)

{useMovieBackColor:}

What it says, use the backColor of the movie instead of it's own.

{shrinkTextBox:}

Recalculates size of the textBox parameter to just fit the given text and stores this rectangle with the text data.

{scrollIn:}

Scrolls the text in until the last of the text is in view. This flag is associated with the scrollDelay parameter.

{scrollOut:}

Scrolls text out until the last of the text is out of view. This flag is associated with the scrollDelay parameter. If both scrollIn and scrollOut are set, the text is scrolled in, then out.

{horizontalScroll:}

Scrolls a single line of text horizontally. If the horizontalScroll flag is not set, then the scrolling is vertical.

{reverseScroll:}

If set, scrolls vertically down, rather than up. If not set, horizontal scrolling proceeds toward the left rather than toward the right.

{continuousScroll:}

New samples will cause previous samples to scroll out (scrollIn and/or scrollOut must also be set for this to take effect).

{flowHorizontal:}

Lets horizontally scrolled text flow within the text box. This behavior contrasts with letting text flow as if the text box had no right edge.

{dropShadow:}

Support true drop shadows. Using SetTextSampleData, the position and translucency of the drop shadow is under application control.

{anti-alias:}

Display text anti-aliased. While anti-aliased text looks nicer, it incurs a significant performance penalty.

{keyedText:}

Render text over the background without drawing the background color. This technique is otherwise known as "Masked Text."

{inverseHilite:}

Use inverse hiliting rather than hilite color.

These display flag descriptors take one parameter that is either 'on' or 'off'. To turn dropShadow on you would use {dropShadow:on} and the following text will be displayed with dropShadow. {dropShadow:off} to turn off(easy huh...).

Text Descriptors added 2.2

textBox

Used to set the dimensions of the textBox. Mainly useful when exporting, editing, importing text. This will retain the original textBox settings so that multiple edits can be done without losing the dimensions. Following is an example of usage, parameters are top, left, bottom, right.

```
{textBox:0, 0, 80, 320}
```

hilite

Useful for hiliting text. The parameters are first and last character to hilite in the sample.

```
{hilite: 11, 14}This is a text track
```

hilites the word 'text' in "This is a text track" sample.

hiliteColor

Use this to change the color used in hiliting. The order of the parameters is red, green, blue.

```
{hiliteColor:35000, 0, 0} sets the hilite color to a shade of red.
```

scrollDelay

Whoa, slow down and wait to make a fashionable delayed entrance.

```
{scrollDelay: 600} will cause subsequent text to be delayed one second(if the movie has a rate of 600). This only works when scrolling is on.
```

dropShadowOffset

```
{dropShadowOffset: 3, 4} will offset the text shadow 3 pixels to the right and 4 pixels down. Only works when the dropShadow display flag bit is set.
```

dropShadowTransparency

Pass in a value between 0 and 255. Changes the intensity of the drop shadow.

```
{dropShadowTransparency: 127}
```

TimeStamps are of the format

[HH:MM:SS.xxx] followed by a return.

The HH is hours, the MM is minutes, the SS is seconds, the xxx is in the timeScale. Think of the xxx as the fractional part of the second expressed in timeScale units. If your timeScale value is 1-10 use only one digit in the mantissa [HH:MM:SS.x]. If it is 11-100, use two digits [HH:MM:SS.xx]. If 101-1000 use three digits [HH:MM:SS.xxx].

In between timeStamps we put the text, if no text you can put a space or nothing(internally we will put a space).

Dialogs

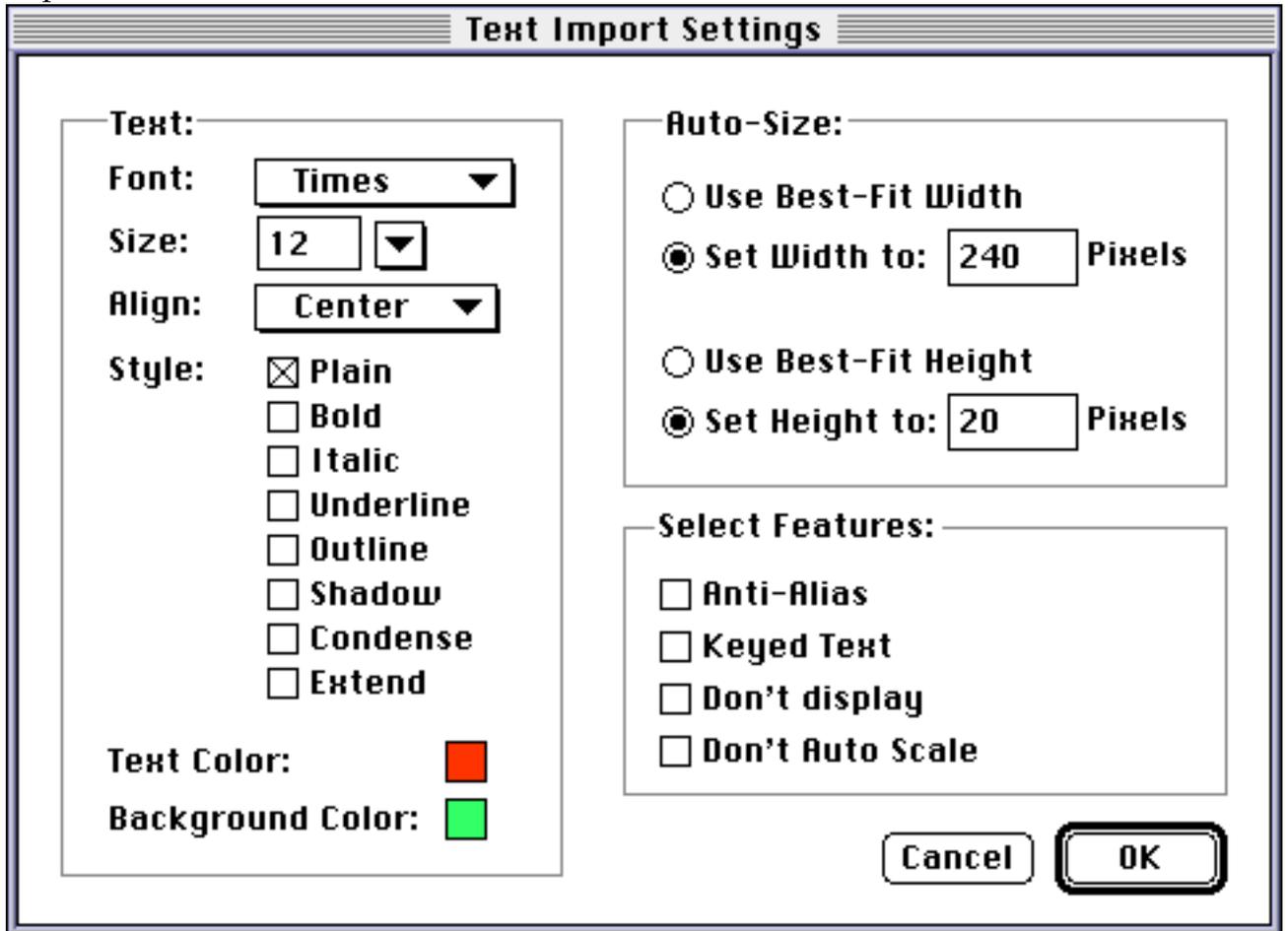
When importing and exporting text you can access various options via the 'Options' button. Clicking on the 'Options' button will bring up a dialog. The 'Text Export Settings' dialog is shown below. The topmost radio buttons let you export text only or export the text with timing and descriptor information.



When the 'Show Text, Descriptors, and Time' button is selected, the dialog will look this. The timeStamps can be either relative to each other or absolute time from the start of the movie. The fractions of seconds can be chosen from the popup menu or typed into the edit field. On import we currently limit the fractions to 1/1000 so the number here should be between 1 -1000 inclusive.



The 'Text Import Settings' dialog allows the overriding of textDescriptors in the text file. Attributes set here will be applied to all the samples being imported.



The dialog box is titled "Text Import Settings" and is divided into several sections. On the left, under "Text:", there are controls for "Font:" (a dropdown menu showing "Times"), "Size:" (a text box with "12" and a dropdown arrow), "Align:" (a dropdown menu showing "Center"), and "Style:" (a list of checkboxes for "Plain", "Bold", "Italic", "Underline", "Outline", "Shadow", "Condense", and "Extend", with "Plain" checked). Below these are "Text Color:" with a red color swatch and "Background Color:" with a green color swatch. On the right, under "Auto-Size:", there are two radio button options: "Use Best-Fit Width" (unselected) and "Set Width to:" (selected) with a text box containing "240" and the word "Pixels" to its right. Below that are "Use Best-Fit Height" (unselected) and "Set Height to:" (selected) with a text box containing "20" and the word "Pixels" to its right. Under "Select Features:", there are four checkboxes: "Anti-Alias", "Keyed Text", "Don't display", and "Don't Auto Scale", all of which are unselected. At the bottom right, there are two buttons: "Cancel" and "OK".

Text:

Font: Times

Size: 12

Align: Center

Style:

- Plain
- Bold
- Italic
- Underline
- Outline
- Shadow
- Condense
- Extend

Text Color: ■

Background Color: ■

Auto-Size:

Use Best-Fit Width

Set Width to: 240 Pixels

Use Best-Fit Height

Set Height to: 20 Pixels

Select Features:

- Anti-Alias
- Keyed Text
- Don't display
- Don't Auto Scale

Cancel OK

New Calls

There are new calls to get settings and set settings in when exporting text.

The caller can get/set the units of the mantissa with these two calls. This will typically be in the $1/\text{timeScale}$ of the movie.

```
pascal ComponentResult
TextExportGetTimeFraction(TextExportComponent ci, long*
movieTimeFraction)
```

```
pascal ComponentResult
TextExportSetTimeFraction(TextExportComponent ci, long
movieTimeFraction)
```

The following calls get/set the options of exporting text. To export text only use `kExportTextOnly`. To export text, descriptors, and timeStamps, use either `kExportAbsoluteTime` or `kExportRelativeTime`. The difference between these is the values of the timeStamps. The setting `kExportAbsoluteTime` calculates the timeStamps from the beginning of the movie for each sample. The setting `kExportRelativeTime` represents the time deltas between each sample.

```
pascal ComponentResult
TextExportGetSettings(TextExportComponent ci, long* setting);
```

```
pascal ComponentResult
TextExportSetSettings(TextExportComponent ci, long setting);
```

```
enum{
    kExportTextOnly = 0,
    kExportAbsoluteTime,
    kExportRelativeTime
};
```