

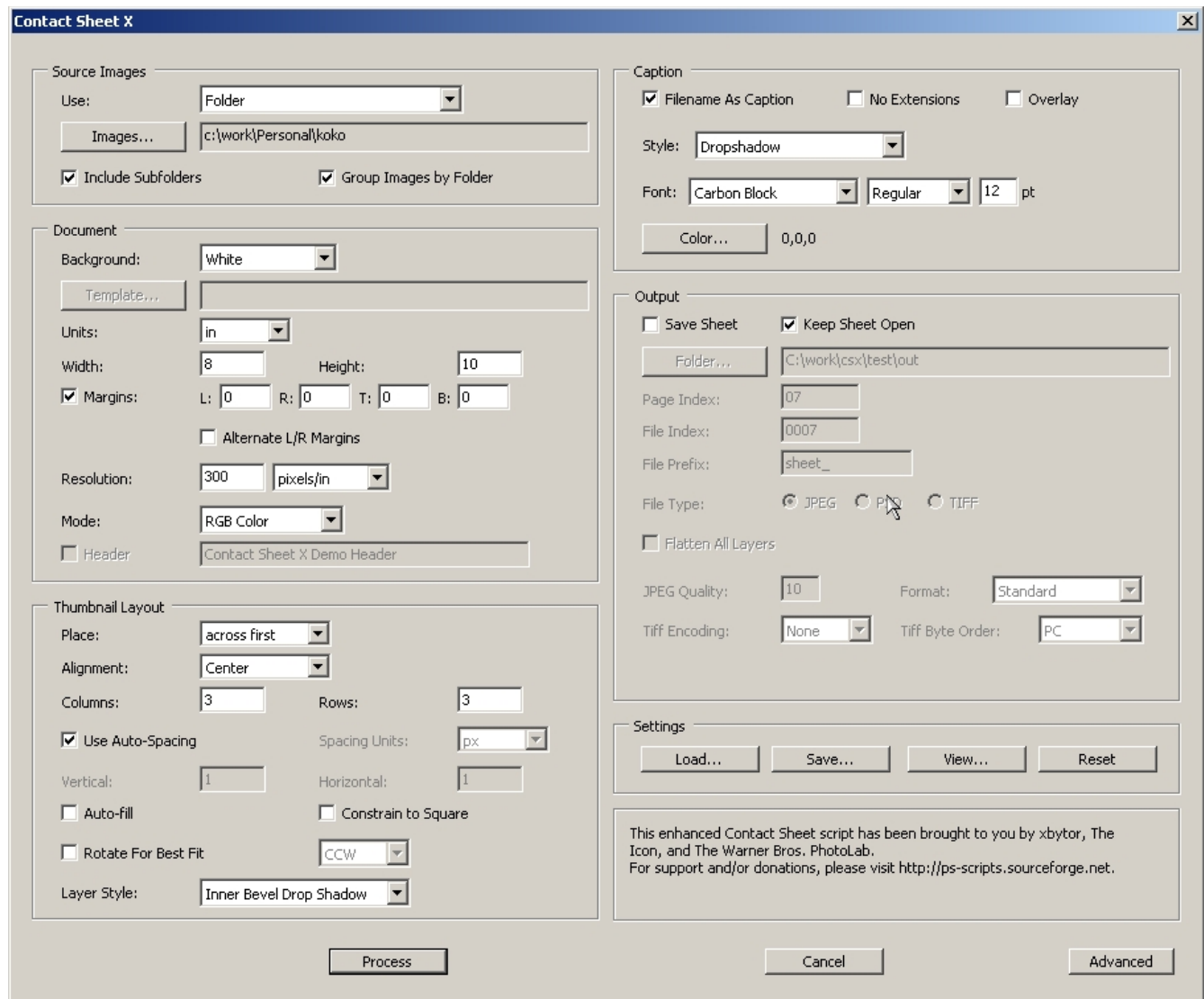
Contact Sheet X

Contact Sheet X (aka CSX) is a script written as an enhanced replacement of the Contact Sheet II plugin provided with Photoshop CS and CS2.

CSX provides builds on the functionality provided in CSII and extends it in many useful ways. For instance, CSII offers a limited number of fonts for captions whereas CSX offers access to the complete set of fonts available to Photoshop.

CSX has completely new functionality such as the ability to specify a template document into which contact sheets will be inserted.

When CSX is first launched, this is the dialog that you first see



The 'Advanced' button in the bottom right of the window will switch CSX into a tabbed-panel window. The tabs in the *Advanced* window roughly correspond to the panels in this (*Standard*)

window. Later in this document, the individual panels will be described. The descriptions and screenshots are of the *Advanced* UI which may contain more or different fields than is contained in the *Standard* UI.

CSX has been tested on CS2 on both the Mac and PC platforms. It also works with the CS3 Beta as an Automation plugin.

To launch CSX from Photoshop CS2, it will be in the File Scripts Menu (**File > Scripts**) as 'ContactSheetX-1' (or something similar).

To launch CSX from the Photoshop CS3 Beta, it will be in the File Automate Menu (**File > Automate**) as 'Contact Shee tX...!.

Installation

To install CSX, unzip the distribution zip file into your Adobe scripts directory `<Adobe CS2>/Presets/Scripts` where `<Adobe CS2>` is your Photoshop CS2 installation directory. You should end up with a directory structure like this:

```
.../Presets/Scripts/  
    CSX/  
    CSX/templates
```

At a minimim, the following files will be present:

```
Presets/Scripts/ContactSheetX.jsx  
Presets/Scripts/CSX/README  
Presets/Scripts/CSX/CHANGELOG  
Presets/Scripts/CSX/RELEASENOTES  
Presets/Scripts/CSX/Extensions.txt  
Presets/Scripts/CSX/CSX.pdf  
Presets/Scripts/CSX/templates/CSXTemplate-Default.psd  
Presets/Scripts/CSX/templates/CSXTemplate-LayerText.psd  
Presets/Scripts/CSX/templates/*.ini
```

Runtime Files

CSX automatically creates two files when it executes. An INI file is used to store your settings. A Log file is used to record the actions of the most recent execution. Both of these files are discussed in a later section.

These two runtime files are stored in a preferences folder. The location of this folder on WinXP is something like:

```
<user-home>\Application Data\Adobe\xtools
```

On OSX, the location is something like:

```
<user-home>/Library/Application Support/Adobe/xtools
```

where <user-home> is your home directory.

CSX Features

Templates

One of the more innovative features of CSX is the ability to specify a template document into which a sheet will be placed. Normally, a CSX template file will be a multilayer PSD file. Any PSD file will work, but depending on the names of the layers present in the document, we can have a great deal of control over the final appearance of the contact sheet.

Special Layer Names

- *Contact Sheet* – This names layer into which the sheet will be inserted.
 - There should be a mask on the layer to specify where the sheet should be placed.
 - Any layer style will be kept as will the opacity and blend settings.
 - If the layer has any content (color fill or other image data), the sheet will overlay that content.
- *@Page Number* – This names the layer used for page numbers. Page numbering starts with the value in the *Output->Page Index* field in the user interface. The text layer determines the font, font size, color, alignment, etc... of page number on the contact sheet. The contents of this layer specify how the page information is to be formatted.
- *@Date* – This layer name is used for inserting the date and/or time that the contact sheet was generated. The contents of this layer specify how the date/time is to be formatted. If no format is specified, a default format is used. The existing text attributes (font, color, etc...) are used.

Layer Text Substitution

Layer text substitution is a mechanism whereby the contents of text layers can be substituted by text specified by a user either in an INI file or via the CSX user interface.

There are two predefined substitutions that occur. If you create a text layer in your template with the name *@Date*, the date at the time you ran CSX will be inserted into the text layer based on the format specification in that text layer. *@Page Number* is used for inserting page numbers into a text layer using a similar format specification. These layers are strictly optional. You may also have more than one of each of these layers.

You can also define your own substitutions. An example of one that I defined (and provide a default for) is *@Credits*. Another that does have direct support in the CSX UI is *@Header*. To substitute text in for the *@Credits* layer, add a line to your INI file that looks like:

```
@Credits : Photos by xbytor
```

The template file *CSXTemplate-LayerText.psd* that is included with script illustrate how these may be used.

A more detailed tutorial on creating and using templates will be included in a future version of this document.

@Page Number Format Specification

@Page Number layers have their contents determined by the format specification that resides in that text layer. CSX will replace portions of the original contents based on these mappings:

<i>%0p</i>	The current page number, zero padded.
<i>%p</i>	The current page number with no padding.
<i>%P</i>	The total number of pages.

For example, a page format specification of "*Page %p of %P*" will result in layer text that looks like "*Page 5 of 25*". A page format specification of "*Page %0p*" will result in layer text that looks like "*Page 05*".

@Date Format Specification

@Date layers have their contents determined by the format specification that resides in that text layer. CSX supports two styles of format specification. An date/time of October 31, 2006 20:43:02 will be used for the examples below.

The first style of format specification has these mappings:

<i>YYYY</i>	Four digit year. <i>2006</i>
<i>YY</i>	Two digit year. <i>06</i>
<i>MM</i>	Two digit month. <i>10</i>
<i>DD</i>	Two digit month. <i>31</i>
<i>H</i>	Two digit hour on a 24 hour clock. <i>20</i>
<i>I</i>	Two digit hour on a 12 hour clock. <i>08</i>
<i>M</i>	Two digit minute. <i>43</i>
<i>S</i>	Two digit seconds. <i>02</i>
<i>P</i>	AM or PM. <i>PM</i>

Using these formats, you could create a text layer with the name *@Date*, set its contents to "*Created on YYYY/MM/DD*", and end up with a layer that looks like "*Created on 2006/10/31*".

The second style of format specification is based on the Unix *strftime(3)* implementation.

<i>%a</i>	A three-letter abbreviation for the day of the week, one of 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', or 'Sat'. <i>Tue</i>
<i>%A</i>	The full name for the day of the week, one of 'Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', or 'Saturday'. <i>Tuesday</i>

%b	A three-letter abbreviation for the name of the month, one of 'Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', or 'Dec'. <i>Oct</i>
%B	The full name of the month. One of 'January', 'February', 'March', 'April', 'May', 'June', 'July', 'August', 'September', 'October', 'November', or 'December'. <i>October</i>
%c	The complete date and time in this format: "Tue Oct 31 20:43:02 2006".
%C	The century portion of the year, zero padded. <i>20</i>
%d	The day of the month, zero padded. <i>31</i>
%D	The date in the format "%m/%d/%y". <i>10/31/06</i>
%e	The day of the month, space padded. <i>31</i>
%F	The date in the format "%Y-%m-%d". <i>2006-10-31</i>
%h	A three-letter abbreviation for the name of the month, same as %b. <i>Oct</i>
%H	The hour on a 24 hour clock, zero padded. <i>20</i>
%I	The hour on a 12 hour clock, zero padded. <i>08</i>
%j	The Julian date. <i>304</i>
%k	The hour on a 24 hour clock, space padded. <i>20</i>
%l	The hour on a 12 hour clock, space padded. <i>8</i>
%m	The month number, zero padded. <i>10</i>
%M	The minutes, zero padded. <i>43</i>
%n	A newline character.
%p	Either AM or PM as appropriate. <i>PM</i>
%r	12 hour time to the second with this format: "%I:%M:%S %p". <i>08:43:02 PM</i>

%S	The seconds, zero padded. <i>02</i>
%t	A tab character.
%T	24 hour time to the seconds with this format: " <i>%H:%M:%S</i> ". <i>20:43:02</i>
%u	The weekday as a number where Monday is 1 and Sunday is 7. <i>2</i>
%w	The weekday as a number where Sunday is 0 and Saturday is 6. <i>2</i>
%x	The date in the format " <i>%m/%d/%y</i> ". Same as <i>%D</i> .
%X	24 hour time to the seconds with this format: " <i>%H:%M:%S</i> ". Same as <i>%T</i> .
%y	The last two digits of the year. <i>06</i>
%Y	The full four digits of the year. <i>2006</i>
%%	The '%' character.

Using these formats, you could create a text layer with the name *@Date*, set its contents to "*Created on %Y/%m/%d*", and end up with a layer that looks like "Created on 2006/10/31".

INI and Log Files

CSX uses an INI file to store settings between executions. This text file can be manually edited to change the values of various settings. While most properties are set via the UI, some can only be modified by editing the file manually.

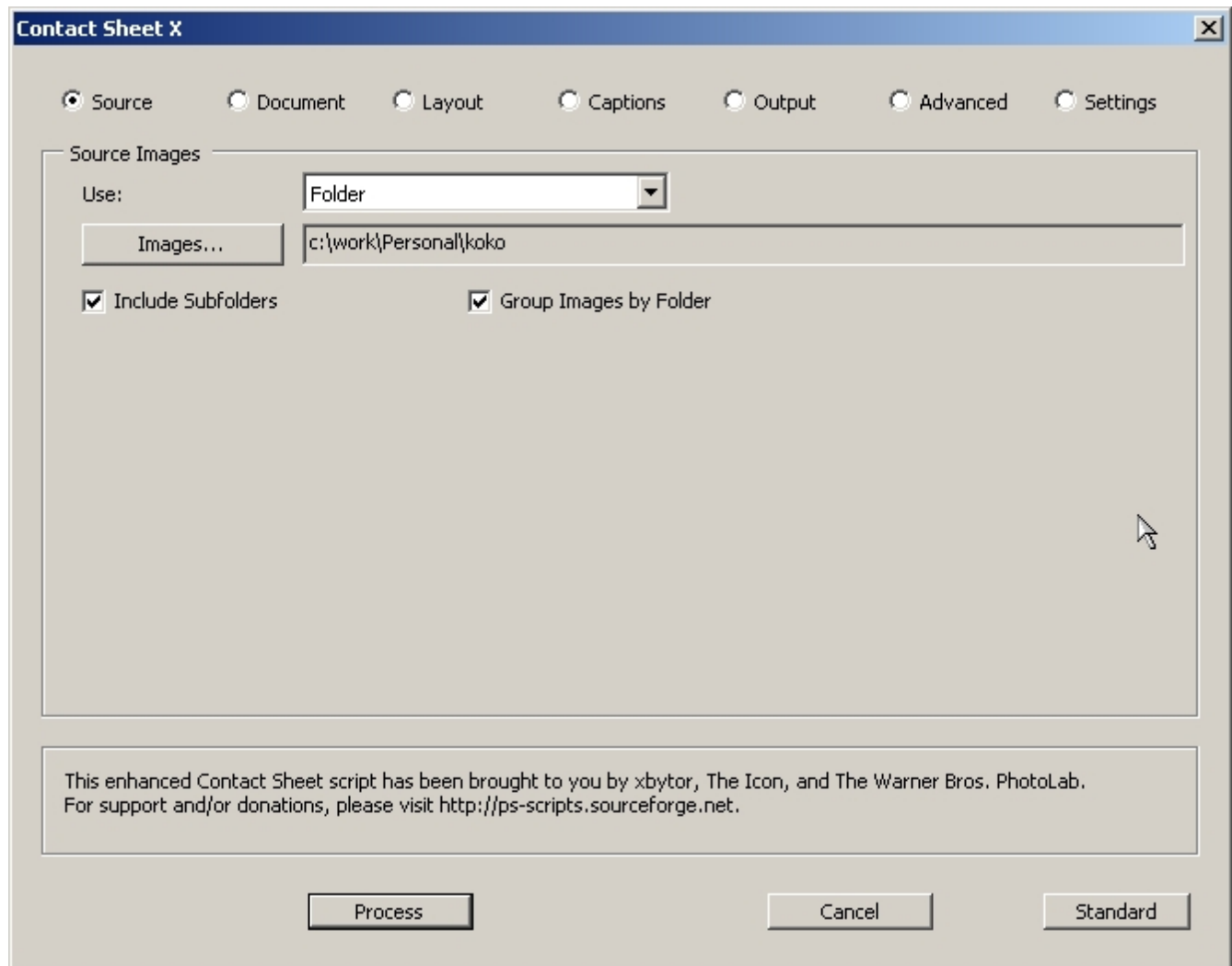
INI files can be saved and reloaded as needed. The Presets feature actually uses saved INI files as presets files. The major difference between loading a presets file and loading an INI file is that when loading a presets file, the folder paths in the file are tweaked. If a source or output folder doesn't exist, for instance, the path is reset to the current working directory. For template files, the path is reset to the `CSX/templates` folder. This simplifies the sharing of presets and templates even though paths are likely different from machine to machine.

CSX also keeps a log of events that happened during an execution. While this may not be very useful for normal work, it aids greatly in tracking down problems when they occur. Both the INI file and the Log file can be found under `Adobe/xtools` in your preferences folder.

CSX User Interface Panels

Source Images

The source panel captures all of the information necessary to specify the source of the images for the Contact Sheets that will be generated.



- **Use**

One of *Folder*, *Open Documents*, *Bridge*

Folder – use the folder specified by *Images* as the source for sheet images

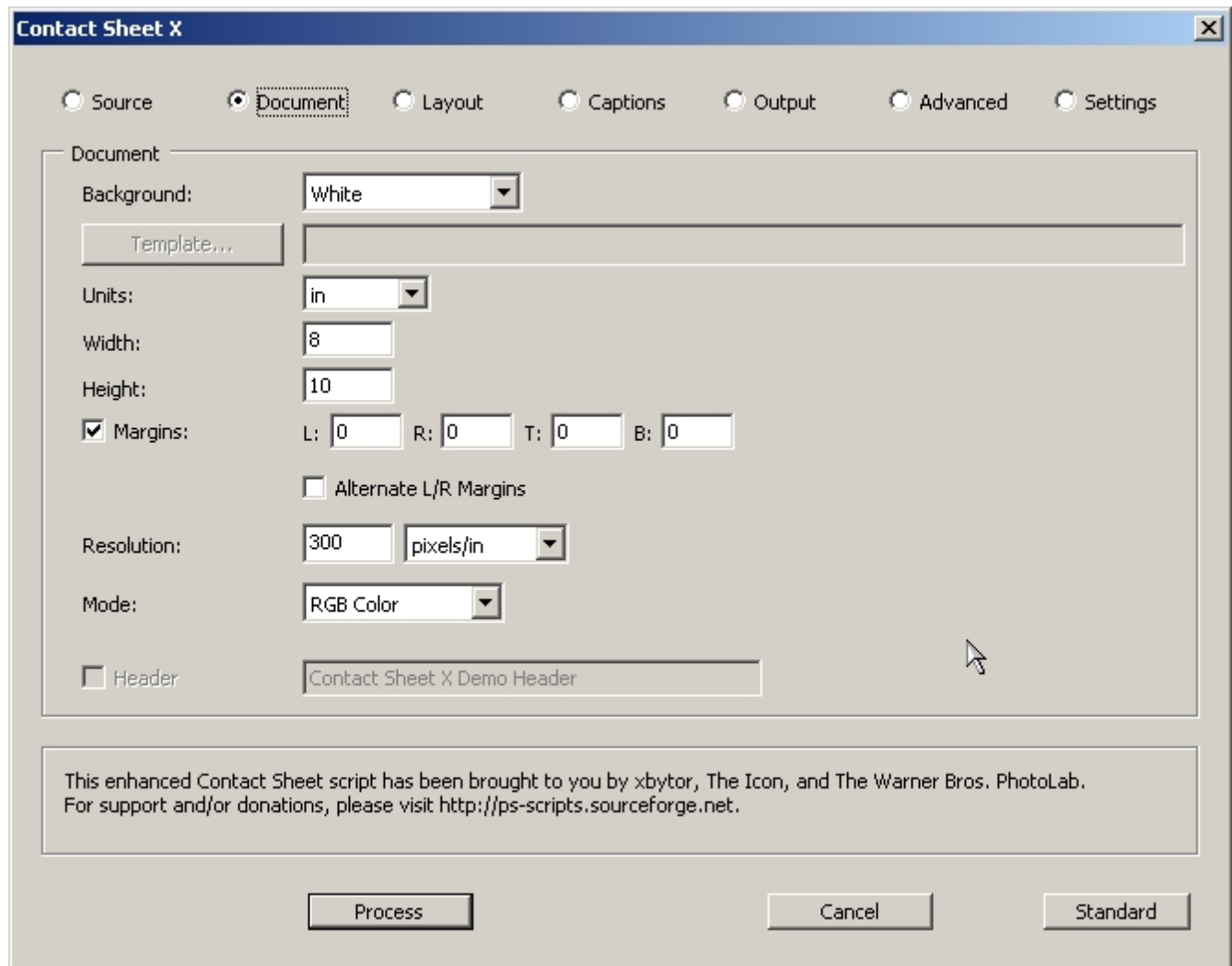
Open Documents – use the set of currently open documents as the source for sheet images. This option does not work at this time.

Bridge – use the current set of selected documents in Bridge. This option does not work at this time.

- **Images** Opens a folder selection dialog for specification of the folder containing the source images.
- **Include Subfolders** CSX can work on a hierarchy of folders. This checkbox turns that functionality on and off.
- **Group Images by Folder** By default, when processing a collection of image folders, if the current sheet is not complete when a folder is finished CSX will use images from the next folder to complete the current sheet. Setting this checkbox will force a new sheet to be started at the beginning of each image folder.

Document Panel

The Document panel lets a user specify either a template file or the document attributes of the sheets being generated.



- Background**

One of *Template, Black, White, Foreground, Background, None*
Template – Use a psd file as a template for CSX output
Black – Use the color black as the background
White – Use the color black as the background
Foreground – Use the current foreground color as the
Background – Use the current background color as the background
None – Make the background transparent. This is only useful if
'Flatten All Layers' is turned off.
- Template**

A file selector to choose the template for CSX. This is only enabled

if **Background** is set to *Template*.

If **Background** is set to *Template*, all of the following Document settings are disabled. CSX determines the appropriate values by the information in the template file.

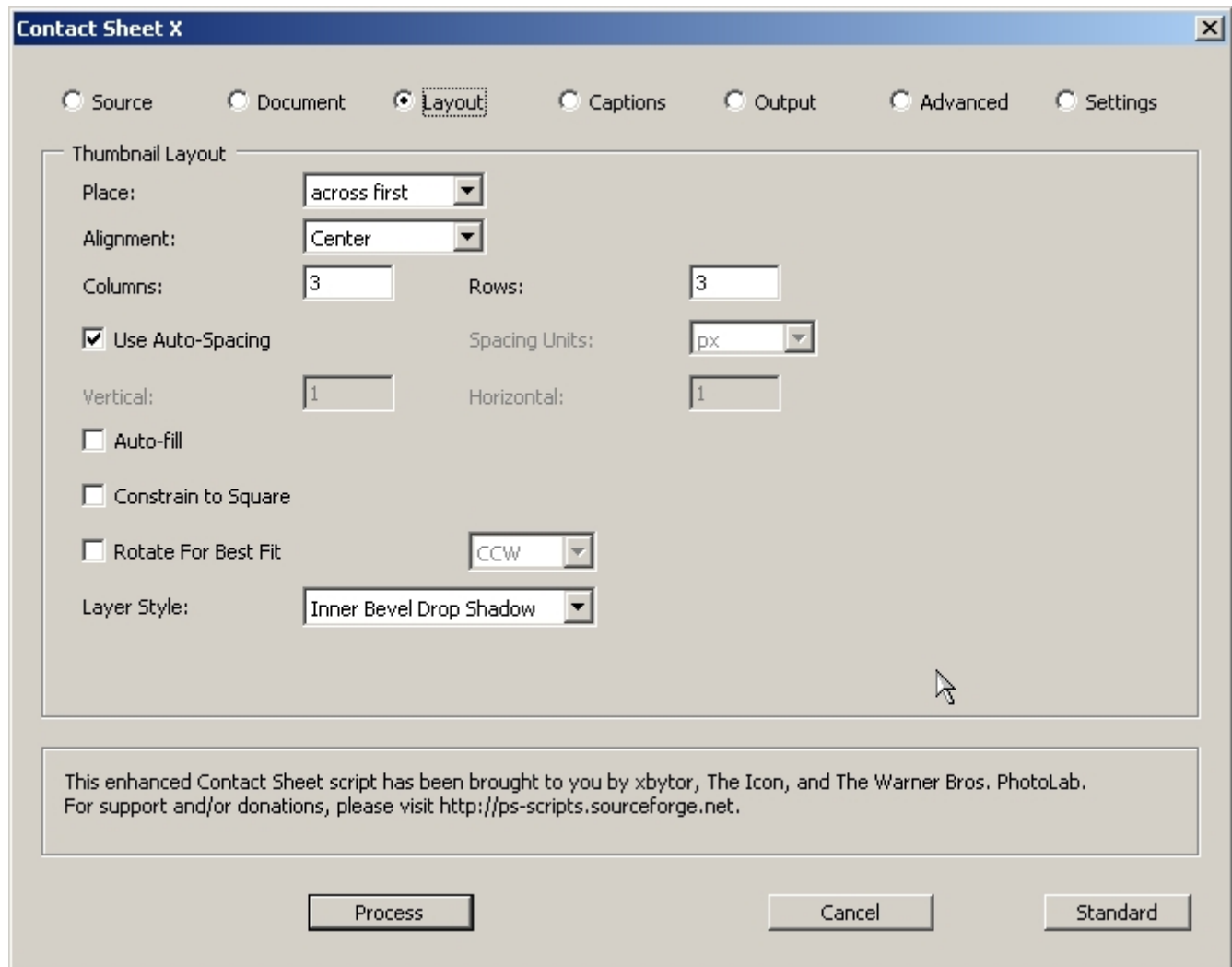
- **Units** One of *in,cm,px*. Specifies the unit type for the **Width** and **Height** settings.
- **Width** The width of the sheet.
- **Height** The height of the sheet.
- **Margins** The left, right, top, and bottom margins. Not yet implemented.
- **Alternate Margins** If checked, the left and right margins will be swapped for alternate pages. This is intended for use with two sided printing where a binding margin is required. Not yet implemented.
- **Resolution** The resolution of the sheet.
- **Resolution Units** One of *pixels/in, pixels/cm*. Specifies the unit type for the **Resolution** setting.
- **Mode** One of *RGB Color, CMYK Color, Lab Color*. Specifies the color mode of the contact sheet document.
- **Header** Specifies the header to be used for the contact sheet. Currently only supported for Templates. The location of this item will likely change in a future release.

Notes:

The settings in this panel are not dynamically adjusted if, for instance, **Units** is changed

Thumbnail Layout

The Thumbnail Layout panel collects information specifying how thumbnails will be laid out in the sheets.



- **Place** One of *across first*, *down first*. Specifies the sequence in which images are added to the sheet.
- **Alignment** One of *Top*, *Center*, *Bottom*. Specifies the horizontal alignment of images in a row. Note that this primarily effects landscape image. There is no support in CSX for vertical alignment at this time.
- **Rotate For Best Fit** If this setting is checked, an image may be rotated 90° counter-clockwise to optimally fill the available space.
- **CW/CCW** If is set, this determines the direction in which an image will be rotated, if necessary.

- **Columns** Specifies the number of columns of thumbnails in the sheet.
- **Rows** Specifies the number of rows of thumbnails in the sheet.
- **Columns** Specifies the number of columns of thumbnails in the sheet.
- **Use Auto-spacing** If this setting is checked, images are automatically spaced apart from each other. The auto-spacing interval works out to be about 5% of the width of the sheet.

If **Use Auto-spacing** is selected, the **Spacing Units**, **Vertical**, and **Horizontal** settings are disable.

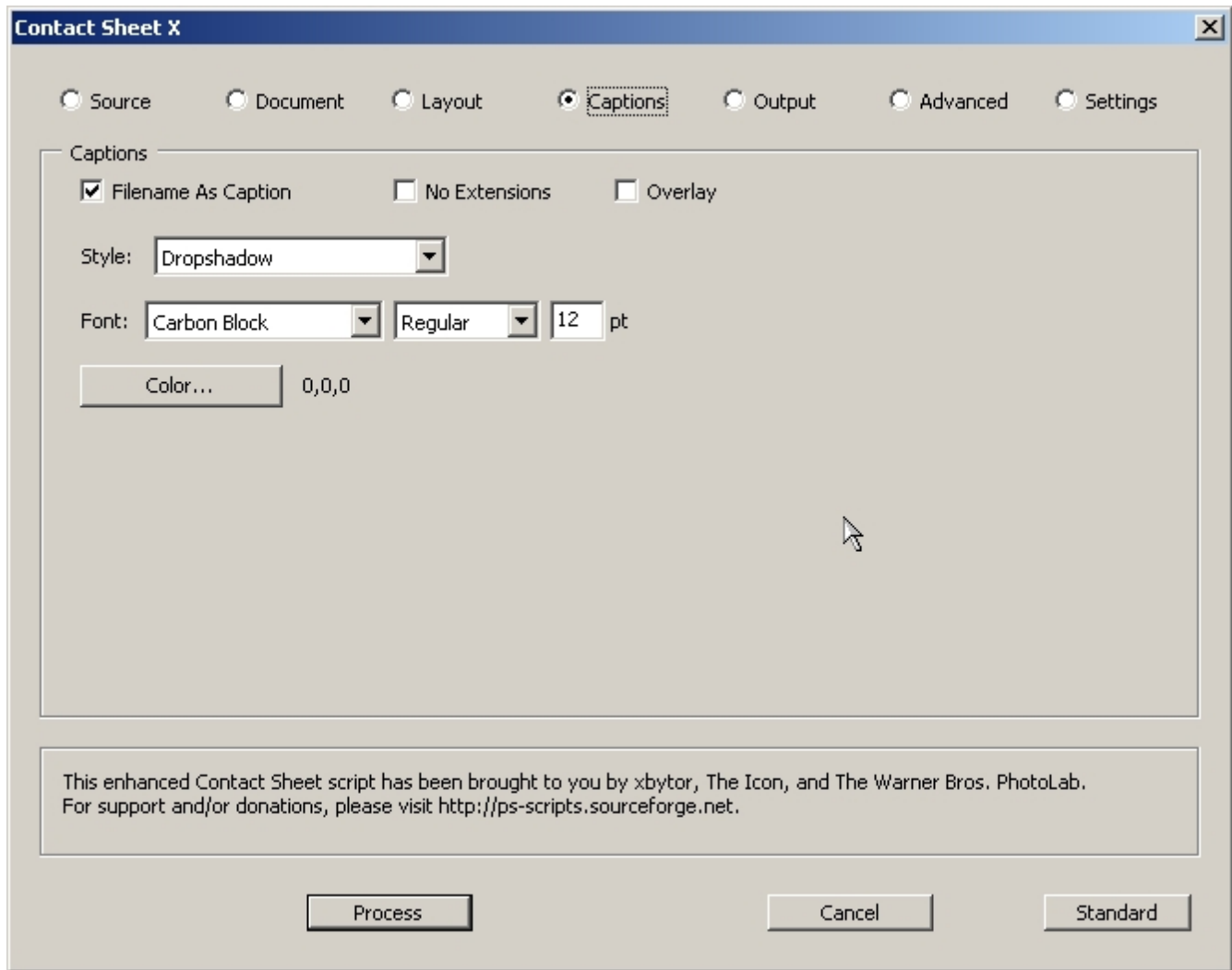
- **Spacing Units** One of **in,cm,px**. Specifies the unit type for the **Vertical** and **Horizontal** settings.
- **Vertical** The vertical spacing between thumbnails on the sheet.
- **Horizontal** The horizontal spacing between thumbnails on the sheet.
- **Style** The Style to use for the thumbnail.
- **Auto-fill** If this setting is checked, the image will *fill* all of the available space even if it requires cropping the image. Normally, an image will be *fit* into the available space.
- **Constrain to Square** This setting forces the area into which a thumbnail is placed to be a square. The effect of this is to keep landscape and portrait images to be the same apparent size.

Notes:

[insert some text about how the caption and font size influence the spacing intervals]

Captions

The Captions panel is used to specify the form of thumbnail captions.



- **Filename As Caption** Specifies that the image's filename should be used as a caption.

The **Font**, **Style**, **Color**, and **NoExtensions** settings are only enabled if **Filename As Caption** is selected.

- **No Extensions** The filename's extension will not be included in the caption.
- **Overlay** Determines whether or not the caption will overlay the bottom of the thumbnail or be placed in an area just beneath the thumbnail.
- **Style** The Style to use for the caption text.

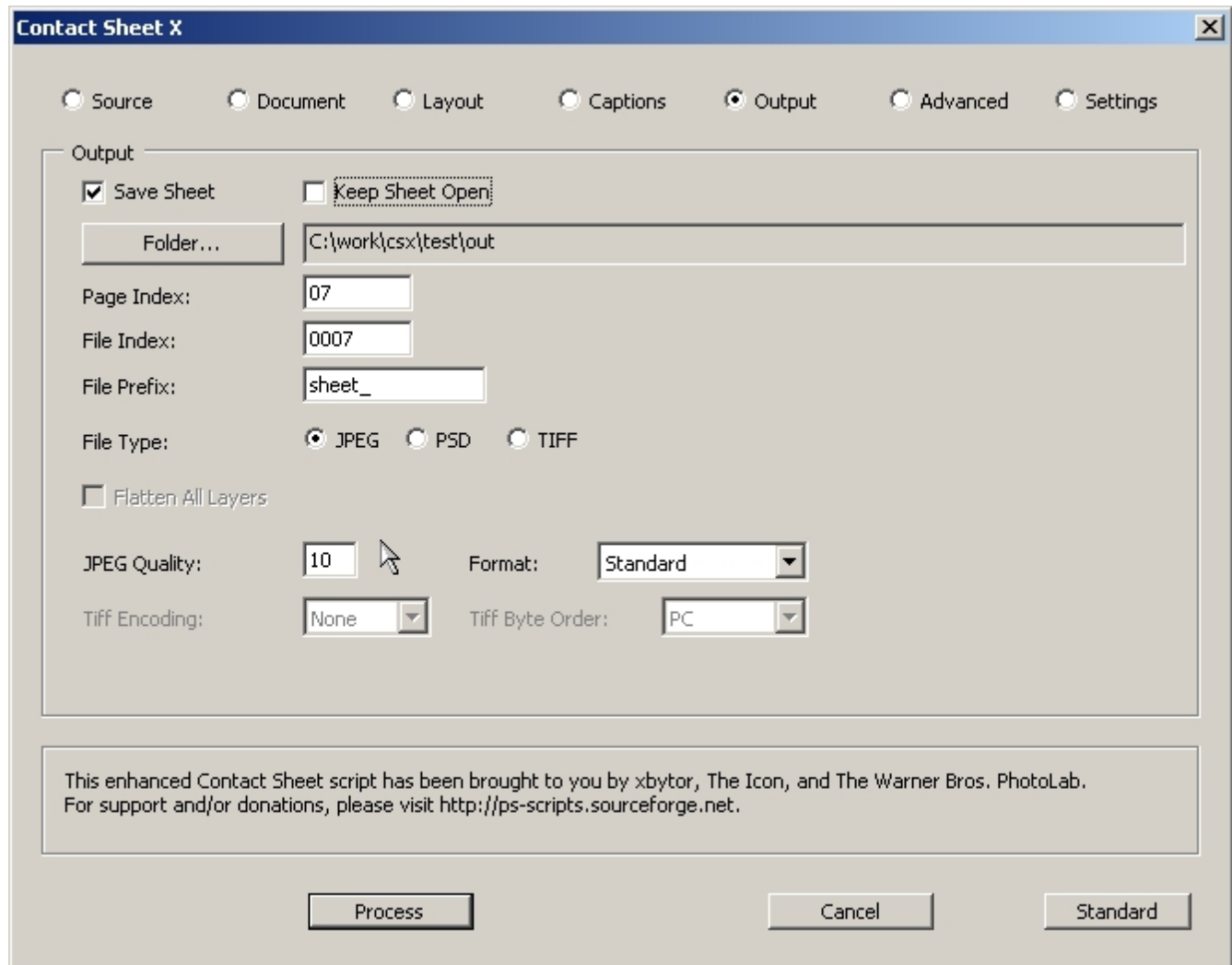
- **Font** Specifies the family, style, and size of the font to use for the caption.
- **Color** Specifies the color of the caption font (in RGB). A simple RGB color selector is provided for selecting the actual color.

Notes:

[insert some text about how the color dialog works. may consider using named colors. need support for metadata in the caption]

Output

The Output panel lets a user specify how the final sheets should be handled.



- **Save Contact Sheet** This enables and disables the saving of contact sheets. If sheets are not save, they are left open in Photoshop.
- **Keep Open** Setting this will keep all of the contact sheets open after they are created.
- **Folder** Opens a folder selector dialog for specification of the output folder.
- **Page Index** Specifies the starting page number to use when adding page numbers to sheets. If the number has leading 0's, this also specifies

the number of digits to use when the page number is inserted in a template. For instance, a value of '003' means that the first page number will be 3 and '003' will be inserted into the page number layer in the template. The default starting page index is the same as the starting file index with padding value of two.

- **File Index** Specifies the starting file number to use when creating filenames for sheets. If the number has leading 0's, this also specifies the number of digits to use when the page number is inserted in a template. For instance, '00004' means that the first file number will be 4 and formatted to a width of five characters. The default file index value is determined by looking for numbered files in the output directory. The file index will be the next one in sequence with the same padding.
- **File Prefix** Specifies the prefix string to use in the sheet's file name.
- **File Type** One of **JPEG**, **PSD**, **TIFF**. Specifies the file format (and extension) to use when a sheet is saved.
- **Flatten All Layers** If this setting is selected, all layers in the document are flattened before saving a sheet. This is not available for **JPEG** since that format does not support layers.
- **JPEG Quality** Specifies the JPEG quality to use when saving a sheet. (1..12). Only enabled for **JPEG**.
- **Format** One of *Standard*, *Progressive*, *Optimized*. Specifies the download format for a saved sheet. Only enabled for **JPEG**.
- **Tiff Encoding** One of *LZW*, *None*. Specifies the compression type. Only enabled for **TIFF**.
- **Tiff Byte Order** One of *MacOS*, *PC*. Specifies the default byte order used in the saved sheet.

Notes:

Filenames

With the current release of CSX, filenames will look like:

<Folder>/<File Prefix>####.<Format>

Folder, **File Prefix**, and **Format** are the values specified in the **Output** panel.

is the sequence number for the Contact Sheet. The length of the number is dependent on the

number of digits entered into the **File Index** field. The value of this field also determines the sequence number used for the first file.

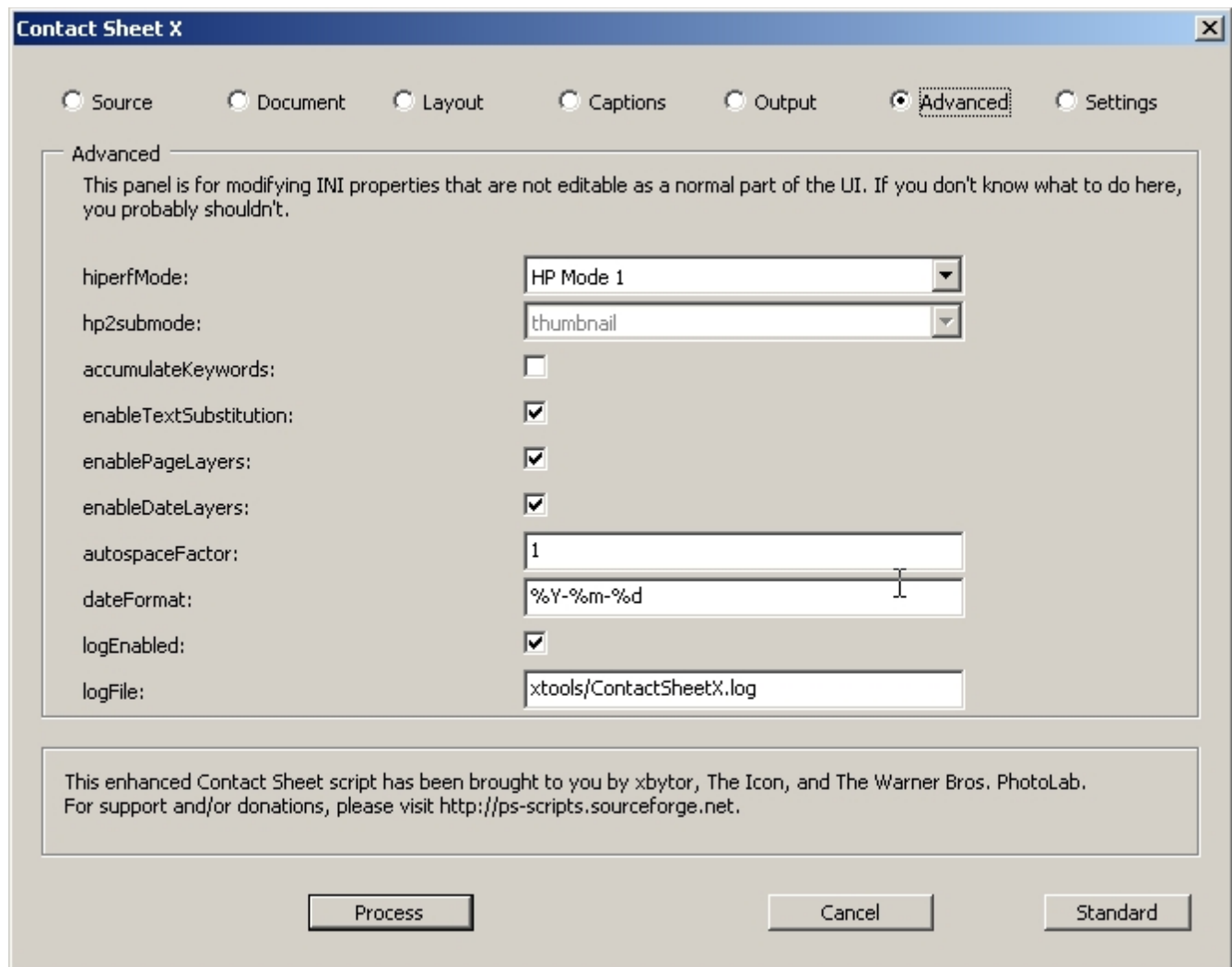
For instance, for the **Output** panel pictured above, the full pathname for the first sheet generated would be `C:\work\csx\test\out\sheet_00015.jpg` while the second would be `C:\work\strat\test\out\sheet_00016.jpg`.

The default **File Index** number is determined when the CSX dialog is first opened. The output folder is examined for files with the same prefix. If one or more is found, the default number is set to one greater than largest sequence value found. The width of that sequence number is also used. For the **Output** panel picture above, it's safe to assume that there was a file with a basename of `sheet_0015` found in the output folder. This value is also used as the initial **Page Index** value but with a field width of 2. If no file is found with a prefix-sequence number pattern, both of the fields default to a value of 1.

One possible extension to this naming scheme would be to have some sort of naming specification. For example, we could define a substitution mechanism where %D, %P, %N, %E, and %F would be replaced by the folder, prefix, sequence number, format, and filename of the sheet. To reproduce the format that CSX currently uses, you would need a specification of "%D/%P%N.%E". To truly make this useful, a larger set of format specifiers would be needed.

Advanced

The Advanced panel contains settings that are rarely needed or are only of limited use.



- **hiperfMode** A selector for which performance mode to use. See below for a detailed discussion.
- **hp2submode** A selector for which submode of High Performance Mode 2 to use. See below for a detailed discussion.
- **accumulateKeywords** Setting this will cause all of the keywords of the thumbnails in a sheet to be propagated to the contact sheet itself.
- **enableTextSubstitution** This enables or disables all layer text substitution for all layers

except *@Date* and *@Page Number* layers.

- **autospacingFactor** Autospacing works by spacing images using a value that is some percentage of the width of the contact sheet. This value should be a percentage value between 0 and 50.
- **dateFormat** This is the default date format to use in *@Date* layers.
- **logEnabled** Turns logging on and off. Normally, this should be kept on.
- **logfile** The name of the log file using '/' notation, not filesystem notation. If the first character is not a '/' then the name will be relative to the *xtools* preferences directory. If the name begins with *xtools/*, that portion is automatically removed. Normally, this should not be changed.

Notes on Performance Modes

CSX currently supports several performance modes, some of which have submodes.

Basic Mode uses typical PS techniques for opening, resizing, rotating and placing images into a contact sheet. While very reliable it is not the most efficient technique available.

High Performance Mode 1 uses the Photoshop *Place* command to insert an image into a contact sheet. From here, the layer is rotated, resized, and repositioned to the appropriate location on the sheet. It is typically 30-45% faster than Basic Mode. One problem that it has is that metadata from the image is not retrieved. This will be addressed in a future release.

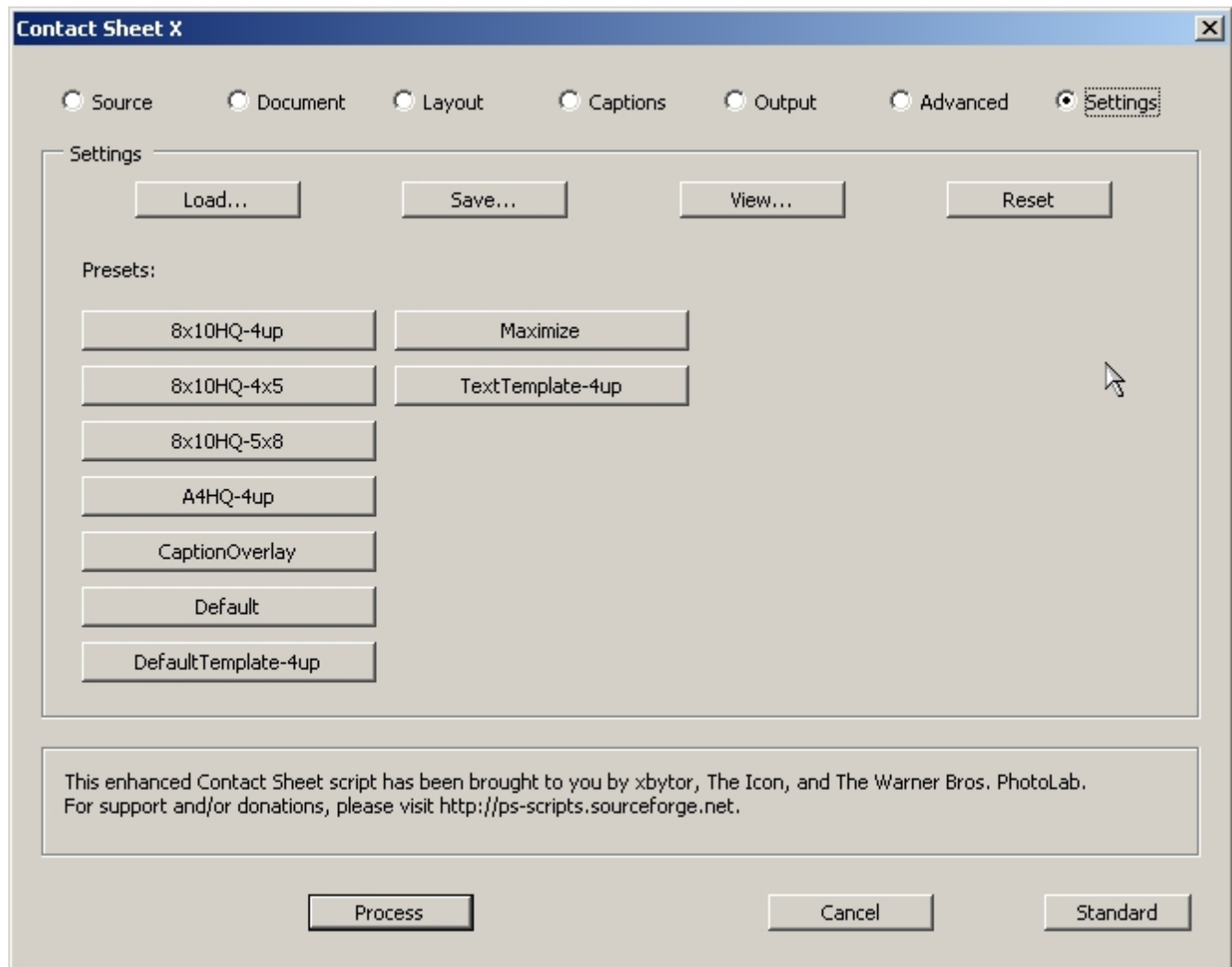
There is another PDF file that is a part of the CSX package called *HighPerformanceModes.pdf*. It goes into more detail on the other HP modes as well as what the installation and configuration requirement modes are.

No performance mode is the fastest for all formats and sizes of images. I typically run in HP1 since I don't normally have to deal with very large images and I am not concerned with metadata. However, HP1 cannot transparently handle DNG and raw file formats: ACR always opens up.

A future rev of this document will have performance numbers and images that should indicate the differences these modes make in time and image quality.

Settings

The Settings panel allows a user to load and save settings independent of the application's INI file. There is also a list of built-in alternate settings that can be used.



- **Load** Load CSX settings from an ini file.
- **Save** Save the current CSX settings to an ini file.
- **View** View the current settings in a popup window.
- **Restore** Restore the CSX settings to their initial values.
- **Presets** These buttons load their corresponding presets file. The presets are determined when the script starts by looking at all INI files in the CSX/templates folder. Load a preset is like loading an INI file

except that pathnames are modified to point to appropriate places on the current machine. This simplifies the sharing of presets and their associated templates.

Notes: