Scripting With AppleScript

Basic Data Types

Points

Points are transferred as array of 2 values. Depending on the context the points consist of float or of integer values.

Sizes

Sizes are transferred as array of 2 values. Depending on the context the sizes consist of float or of integer values.

Rectangles

Rectangles are transferred as array of 4 values. Depending on the context the sizes consist of float or of integer values.

The first 2 values are the position of the rectangle, the following 2 are the width and the height. The width and the height always have to be larger than or equal to 0.

Ranges

A range is transferred as an array of 2 integers. The first one is the position of the range, the second one is its length.

Elements

application

application represents the PhotoLine application.

Elements

Element	Type	Description
document	document	Access the open documents.

Commands

open, print, quit

document

document represents a PhotoLine document.

Elements

Element	Type	Description
page	page	The pages in the document.

Properties

Element	Type	Description
active layer	layer	The active layer of the active page. May be missing value.
active page	page	The active page. May be null/nothing.
character styles	list of text style records	An array of records, that describe the character styles of the document.
color profile	color profile record	The color profile of the document. May be missing value.
colors	List of color records	An array of colors assigned to the document. Every color must have a unique name.
can change document mode	boolean	(Read-only) Checks whether document mode can be changed.
document mode	boolean	False: The document is in picture mode True: The document is in document mode
file	file	The file of the document.
modified	boolean	Returns the modified state of the document.
resolution	float	The resolution of the document in dpi.
root	layer	(Read-only)The root layer of the active page.
selected layers	list of layers	The selected layers of the active page. If there are entries, the first entry is always the active layer.
size	list of integer	Size of the document in pixels.
paragraph styles	list of text style records	An array of records, that describe the paragraph styles of the document.

Commands

close, print, save, export, copy, copy selection, duplicate, merge, do operation, show operation dialog

image

image offers access to all properties of a PhotoLine image layer. It inherits from layer.

Properties

Property	Type	Description
alpha	boolean	True: The image has an alpha channel.
picture size	integer[2]	The size of the picture.
picture type	integer	The type of the picture. This property is a combination of the following values: 0: gray image 1: RGB image 2: CMYK image 3: 1 bit image 12: Lab image 4096: 32 bit float image 8192: 16 bit image 16384: alpha channel So a possible value is (1 + 8192 + 16384) which is a 16

Property	Type	Description
		bit RGB image with an alpha channel.

Properties only for the make command

Method	Type	Description
fill color	color record	Fill color which should be used to fill the new image.
fill value	float	Fill value used to fill the new image. [0;255] for 8 bit, [0; 65535] for 16 bit and default range [0;1] for 32 bit.

layer

layer offers access to all basic properties of a PhotoLine layer.

Elements

Element	Type	Description
layer	layer	The child layers of the layer.

Properties

Property	Type	Description
adjustments	list of records	list of records, that describe the adjustments attached to a layer. See Operations applicable to images and as adjustments.
blend mode	blend mode	The blend mode/mix mode of the layer.
bounds	float[4]	(Read-only) The bounds of the layer as rectangle.
channel mask	integer	The color channels of the document that are modified by the layer. This is a bit mask. In a RGB document 1 is red, 2 is green und 4 is blue. So a value of 6 means, that green and blue is modified.
clipping	boolean	True: The layer is either a clipping layer or a layer mask.
clipping width	float	For clipping layers, layer masks and adjustment layer and a value > 0: an optional blur applied to mask, that is created by the layer.
color profile	color profile record or missing value	The color profile of the layer. This property is usually missing value.
document	document	(Read-only) The layer's document.
first child	layer	(Read-only) The first child of the layer or missing value.
intensity	float, range [-2;2]	The layer's intensity (1 = 100%)
invert clipping	boolean	For clipping layers, layer masks and adjustment layer: The effect of the layer is inverted.
isolated	boolean	True: The layer is drawn isolated (isn't affected by its background).
last child	layer	(Read-only) The last child of the layer or missing value.
layer mask	boolean	If clipping and layer mask are true, the layer is a layer mask.
matrix to page	float[6]	float[9]	The transformation matrix of the layer relative to the page. This value is a concatenation of "matrix to parent"

Property	Type	Description
		of the layer with the "matrix to parent" of its ancestors.
matrix to parent	float[6] | float[9]	The transformation matrix of the layer relative to its parent.
modifies transparency	boolean	True: The layer modifies the transparency of its background.
name	string	The layer's name.
next	layer	(Read-only) The layer's following layer (the layer above it) or missing value.
origin	float[2]	The position of the top left corner of a layer.
page	page	(Read-only) The layer's page.
parent	layer	(Read-only) The layer's parent.
pixel alignment	alignment	The content of the layer is aligned to the document pixels. Only used with Layer, Image and Vector.
previous	layer	(Read-only) The layer's preceding layer (the layer below it) or missing value.
quality	quality	The layer's rendering quality.
reference point	float[2]	The layer's reference point. This point can be adjusted by the user, and can be used as fix point for rotations, scaling, ...
relative colors	boolean	True: If the layer uses pattern colors, the patterns will by transformed just the same as the layer.
root	layer	(Read-only) The deepest ancestor of the layer or the layer itself.
size	float[2]	The size of a layer.
type	layer type	(Read-only) The layer's type.
visible	boolean	Visibility of layer.

Commands

save, do operation, create document, copy, copy selection, duplicate, merge, show operation dialog

Related Commands

Matrix commands

page

Properties

Property	Type	Description
active layer	layer	The active layer of the active page. May be missing value.
color profile	color profile record or missing value	The color profile of the layer. This property is usually missing value.
root	layer	(Read-only)The root layer of the page.
selected layers	list of layers	The selected layers of the page. If there are entries, the first entry is always the active layer.

Property	Type	Description
size	integer[2]	Size of the page in pixels.

Commands

save, copy, copy selection, do operation, merge, show operation dialog

text layer

text layer offers access to all properties of a PhotoLine text layer. It inherits from layer.

Properties

Property	Type	Description
auto flow in	boolean	True: The text layer can automatically create a text flow to the previous page.
auto flow out	boolean	True: The text layer can automatically create a text flow to the next page.
next in flow	text layer | missing value	The next text layer in the text flow. This property must not be set for text text layers with auto flow out equal to true. May be missing value.
text contents	string	The text of the text layer. If the text layer is part of a text flow, this is the complete text of the text flow.
text range	integer[2]	(Read-only) The range of the text in the text layer. If the text layer is not part of a text flow, this is the complete text.
text length	integer	(Read-only) The length of the text in characters. If the text layer is part of a text flow, this is the length of the complete text.
vertical alignment	text vertical alignment	The vertical alignment of the text.

Related Commands

Text commands

vector

vector offers access to all properties of a PhotoLine vector layer. It inherits from layer.

Elements

Element	Type	Description
vector attribute	vector attribute	The drawing attributes of the vector layer.
vector point	vector point	The points of the vector path.

vector attribute

vector attribute defines the appearance of a vector path.

Properties

Property	Type	Description
fill color	<u>color</u> record (variable, RGB)	Fill color
line color	<u>color</u> record (variable, RGB)	Line color
line style	<u>line style</u> record (variable)	Line style

vector point

vector attribute defines the appearance of a vector path.

Properties

Property	Type	Description
command	<u>vector point command</u>	The type of vector point.
positions	float[2 * n]	The positions of the vector point. *move to*s and *line to*s have 1 point, *curve to*s 3. On setting vector points with the same command can be combined. And a starting *move to* can be combined with following *line to*s. So this is a valid command to append a rectangle to a vector layer: `make new vector point at end of newVector with properties {command:move to, positions:{0, 0, width, 0, width, height, 0, height, 0, 0}}`

Generic Commands

close

Parameter	Type	Description
close *object*	<u>document</u>	Close the object.
[saving *options*]	<u>save options</u>	(Optional) Save options (yes, no ask)

copy

Copy a document, page, layer or list of layers to the clipboard.

Parameter	Type	Description
copy *specifier*	<u>layer</u>	list of <u>layer</u>s	<u>page</u>	<u>document</u>	If the specifier is a document or a page, this command will do a merged copy.

copy selection

Similar to copy, it will copy a document, a page, a layer or a list of layers to the clipboard, but with additional options.

If there is a selection, it will only copy the content of the selection. Note: The selection will not be used, if the command is applied to a list of layers.

Parameter	Type	Description
copy selection *specifier*	layer | list of layers | page | document	If the specifier is a document or a page, this command will do a merged copy.
[with options *options*]	options record	(Optional) The parameter of the operation.

Options Record

Parameter	Type	Description
Clear	boolean	(Optional) True: Delete the copied parts after copying. True is only allowed, if • the command is applied to a single layer • the command is applied to list of layers and "Selection" is set to false. Default: false
Defringe	boolean	(Optional) True: Remove the color fringe at the edge of the copied layer. This is only applicable, if "Selection" is true and the command is applied to • a single image layer • a page or documents Default: false
Selection	boolean	(Optional) False: Copy the selected layers. True: Copy the contents of the selection, if there is any. If there is no selection, the selected layers will be copied. True is not allowed for a list of layers. Default: false, if the specifier is a list of layers. Otherwise true.

create document

Duplicates a layer and create a new document containing that duplicate.

Parameter	Type	Description
layer create document	layer	The layer the newly created document is based on.
[with options *options*]	options record	(Optional) The parameter of the operation.

Result

Type	Description
document	The created document.

Options Record

Parameter	Type	Description
visible	boolean	True: The new document is visible. False: The new document is hidden.

do operation

Apply an operation (filter, ...) to an object.

Parameter	Type	Description
object do operation	document, page, layer	The object to manipulate.
type *name*	string	The name of the operation.
[with options *options*]	operation parameter record	(Optional) The parameter of the operation.

Result

Type	Description
object specifier	If the operation created a new layer, the result is this new layer. Otherwise it will return the active layer, if sent to a document or page. If sent to a layer, it will return this layer.

duplicate

Duplicate one or more layers or a document.

Parameter	Type	Description
duplicate *specifier*	layer	list of layers	document	The layer the newly created document is based on.
[to *location*]	location	(Optional) The location of the duplicate.
[with options *options*]	options record	(Optional) The parameter of the operation (only with layer(s)).

Result

Type	Description
object specifier	The duplicate(s).

Options Record

Parameter	Type	Description
virtual	boolean	True: The duplicate will be a virtual layer. False: The layer will be copied.

export

Export a document to a new file.

Parameter	Type	Description
export *document*	document	Export the document.
[in *file*]	file	(Optional) File to create. The extender of the file controls the file format.
[with options *format options*]	file format record	(Optional) File format options.

input box

Query user for a value with an input dialog. If the user cancels the dialog, the return value will be an empty string.

Parameter	Type	Description
input box		

Parameter	Type	Description
[title *title*]	string	(Optional) The title of the input dialog. Default: "PhotoLine"
[description *description*]	string	(Optional) The description of the input field. Default: "Value:"
[value *value*]	string	(Optional) The initial value of the input field. Default: "" (empty string)

Result

Type	Description
string	The user input or an empty string, if the user cancelled the dialog.

merge

Merge a document, page, layer or list of layers to a single image.

Parameter	Type	Description
merge *specifier*	layer | list of layers | page | document	Merges the document or a page or a layer or an array of layers to a single image.

Result

Type	Description
object specifier	The created image. If no image was created, it can be missing value.

open

Open the given files.

Parameter	Type	Description
open *file(s)*	file or list of files	Open the given file(s).
[with options *options*]	record	Additional options.

Result

Type	Description
document	The first opened document.

The additional options are:

Key	Value	Description
AddToRecentFiles	boolean	(Optional) If true, the used filename will be added the list of recently used filed. Default: false
CreatePlaceholder	boolean	(Optional) If true, the new document will contain a single placeholder layer containing the file/data. Default: false
Data	data or	(Optional) If present, the document will be opened with

Key	Value	Description
	Base64 string or hex string	this data instead of a file.
EmbedFile	boolean	(Optional) If "CreatePlaceholder" is true, "EmbedFile" controls whether the file data will be embedded in the new document. Default: false

paste

Paste the content of the clipboard as one or more new layers.

Parameter	Type	Description
paste [to *location*]	location specifier	Either a document or a page or any other valid AppleScript location specifier. If there is no location, paste will insert the layer(s) after the active layer in the active document.

Result

Type	Description
list of layers	The list of the newly inserted layers. If paste couldn't create any layers, the list will be empty.

print

Print the given files or document.

Parameter	Type	Description
print *object*	file or list of files or document	Print the given object(s).

quit

Quit the application.

Parameter	Type	Description
quit [saving *options*]	save options	(Optional) Save options (yes, no ask)

save

Save an object.

Parameter	Type	Description
save *object*	document, page, layer	Save the given object(s).
[in *file*]	file	(Optional) File to save. The extender of the file controls the file format.
[with options *format options*]	file format record	(Optional) File format options.

show operation dialog

Show the dialog of an operation (filter, ...). The operation is not executed. The return value can be used for a call to do operation later on.

Parameter	Type	Description
object show operation dialog	layer	The object to show the dialog for.
type *name*	string	The name of the operation.
[with options *options*]	operation parameter record	(Optional) The initial settings of the dialog.

Result

Type	Description
record	The settings made by the user or missing value, if the user clicked Cancel.

Matrix Commands

concatenate matrix

Concatenate two transformation matrices.

Parameter	Type	Description
concatenate matrix *matrix*	float[6]	float[9]	The first matrix.
with *matrix*	float[6]	float[9]	The second matrix.

Result

Type	Description
float[6]	float[9]	The resulting matrix.

identity matrix

Create an identity matrix.

Parameter	Type	Description
identity matrix	none	

Result

Type	Description
float[6]	The identity matrix.

invert matrix

Invert a transformation matrix.

Parameter	Type	Description
invert matrix *matrix*	float[6]	float[9]	The matrix to invert.

Result

Type	Description
float[6]	float[9]	The inverted matrix.

perspective matrix

Create a matrix for a perspective transformation.

Parameter	Type	Description
perspective matrix	none	
from *sourceRect*	float[4]	The rectangle that should be transformed.
to *quadrilateral*	float[8]	4 points defining the result.

Result

Type	Description
float[6]	float[9]	The perspective matrix.

rotation matrix

Create a transformation matrix for rotations.

Parameter	Type	Description
rotation matrix	none	
[angle *degrees*]	float	(Optional) The rotation angle in degree.
[radians *angle*]	float	(Optional) The rotation angle in radians.
[with offset *point*]	float[2]	(Optional) The fix point for the rotation

Result

Type	Description
float[6]	The rotation matrix.

scale matrix

Create a transformation matrix for scaling.

Parameter	Type	Description
scale matrix	none	
[x *factor*]	float	(Optional) The horizontal scaling factor. Default: 1
[y *factor*]	float	(Optional) The vertical scaling factor. Default: 1
[with offset *point*]	float[2]	(Optional) The fix point for the scaling

Result

Type	Description
float[6]	The scaling matrix.

translation matrix

Create a transformation matrix for translating an object.

Parameter	Type	Description
translation matrix *offset*	float[2]	The translation as point.

Result

Type	Description
float[6]	The scaling matrix.

transform points

Transform points using a transformation matrix.

Parameter	Type	Description
transform points *points*	float[2*n]	Transform n points.
using *matrix*	float[6]	float[9]	The transformation matrix.

Result

Type	Description
float[2*n]	The transformed points.

transform rectangles

Transform rectangles using a transformation matrix.

Parameter	Type	Description
transform rectangles *rects*	float[4*n]	Transform n rectangles.
using *matrix*	float[6]	float[9]	The transformation matrix.

Result

Type	Description
float[4*n]	The transformed rectangles. Each resulting rectangle is the bounding box of the transformed corners of the input rectangle.

transform sizes

Transform sizes using a transformation matrix.

Parameter	Type	Description
transform sizes *sizes*	float[2*n]	Transform n sizes.
using *matrix*	float[6]	float[9]	The transformation matrix.

Result

Type	Description
float[2*n]	The transformed sizes.

Text Commands

paragraph range

Query the paragraph range for a given text position.

Parameter	Type	Description
paragraph range	none	none
for index *index*	integer	The text position. Must be smaller than the text length.
of *text layer*	text layer	The text layer.

Result

Type	Description
integer[2]	The paragraph range.

set text attribute

Set a single text attribute for a given text range.

Parameter	Type	Description
set text attribute *name*	string	The name of the text attribute.
in range *range*	integer[2]	The text range that should be modified.
of *text layer*	text layer	The text layer.
to *new value*	any	The new value of the attribute. The type of the value is dependent on the attribute.

set text attributes

Set all text attributes for a given text range.

Parameter	Type	Description
set text attributes	none	None.
in range *range*	integer[2]	The text range that should be modified.
of *text layer*	text layer	The text layer.
to *new value*	text attributes record	The new attributes.

set text block

Set the text in a given text range.

Parameter	Type	Description
set text block	none	None.
in range *range*	integer[2]	The text range that should be modified.
of *text layer*	text layer	The text layer.
to *new text*	string	The new text..

text attribute

Query the a single text attribute for a given text position.

Parameter	Type	Description
text attribute *name*	string	The name of the text attribute.
at index *index*	integer	The text position. Must be smaller than the text length.
of *text layer*	text layer	The text layer.

Result

Type	Description
text attribute	The data of the attribute.

text attributes

Query the all text attributes for a given text position.

Parameter	Type	Description
text attributes	none	None.
at index *index*	integer	The text position. Must be smaller than the text length.
of *text layer*	text layer	The text layer.

Result

Type	Description
text attributes	The text attributes.

text block

Query the text of a given text range.

Parameter	Type	Description
text block	none	None.
in range *range*	integer[2]	The text range.
of *text layer*	text layer	The text layer.

Result

Type	Description
string	The text.

Enumerations

alignment

Value	Description
default = 0	Use the inherited alignment.

Value	Description
pixels = 1	Align to the document pixels.
no alignment = 2	Don't align.

blend mode

Value	Description
normal = 0	Normal
multiply = 1	Multiply
dissolve = 2	Dissolve
screen = 3	Screen
overlay = 4	Overlay
soft light = 5	Soft light
hard light = 6	Hard light
color dodge = 7	Color dodge
color burn = 8	Color burn
darken = 9	Darken
lighten = 10	Lighten
difference = 11	Difference
exclusion = 12	Exclusion
linear dodge = 13	Linear dodge/add
remove = 14	Remove
linear burn = 15	Linear burn
hard mix = 16	Hard mix
linear light = 17	Linear light
vivid light = 18	Vivid light
pin light = 19	Pin light
lighter color = 20	Lighter color
darker color = 21	Darker color
subtract = 22	Subtract
divide = 23	Divide
hue = 24	Hue
saturation = 25	Saturation
color = 26	Color
luminance = 27	Luminance

color model

The color model is used for a color record.

Value	Description
Gray = 0	Gray
RGB = 1	RGB

Value	Description
CMYK = 2	CMYK
Lab = 10	Lab
HIS = 11	HIS
HSV = 12	HSV

layer type

Value	Description
LTImage = 1	An image layer.
LTVector = 2	A vector layer.
LTText = 4	A text layer.
LTGroup = 8	A group.
LTVirtualCopy = 16	The virtual copy of another layer.
LTPlaceholder = 32	A placeholder.

quality

Value	Description
default = 0	Use the inherited/default quality.
antialias = 1	Always use antialiasing/interpolation.
no antialias = 2	Never use antialiasing/interpolation.

save options

Value	Description
yes	Save the object if needed.
no	Don't save the object.
ask	Ask the user.

text vertical alignment

text vertical alignment defines the options for vertical alignment of text layers.

Value	Description
top = 0	The text is at the top of the layer frame (default).
center = 1	The text is centered.
bottom = 2	The text is at the bottom.

vector point command

Value	Description
move to = 0	The start of a (sub) path, a "Move To".
line to = 1	A line point.
curve to = 2	A point, that is part of a curve. A curve always has 3 points: the control point 1 (index 0), the control point 2 (index 1) and the end point (index 2).

Operations

Every operation has a unique name (a string) and optional parameters. Operations can be executed on <u>documents</u>, <u>pages</u> and <u>layers</u> by using '*object* <u>do operation</u> type "operationName" with options *options record*'.

Each operation has the optional parameter "ShowDialog". If it is set to true, PhotoLine will show the dialog of the operation before executing it.

Operations applicable to all objects

Action

This operation executes an action. You can either execute an action installed in PhotoLine by using its name or a saved action by passing its path or its binary data.

Parameter	Type	Description
Data	data or Base64 string or hex string	(Optional) The binary data of a saved action.
Name	string	(Optional) The name of the action.
Path	file	(Optional) The path of a saved action.

Barcode

This operation creates a barcode layer.

Parameter	Type	Description
Font	string	(Optional) The font used for the description of the barcode. Not used, if ShowText is False. Default: "Arial"
Position	float[4]	The rectangle defining the position of the barcode.
ShowText	boolean	(Optional) The barcode operation can display the value of the barcode below the actual barcode as text. Default: False
Type	integer	(Optional) The type of the barcode. 0: I25 1: EAN8 2: EAN13 3: UPCA 4: UPCE 5: ISBN 6: C39 7: EAN128 8: C93 9: C128 10: QR Code 11: C39E Default: 10 (QR code)
Value	String	The content of the barcode. Must not be empty.

Resize

Resize can operate with <u>documents</u>, <u>pages</u> and <u>images</u> und changes the size of that object.

Parameter	Type	Description
Color	[color](#) record (variable, count)	(Optional) For documents the color that will be used for new areas. Default: white
FormulaX, FormulaY, FormulaW, FormulaH	string	If Mode is Formula (2): The new size of the object and the position of the original content in this new area as formula. The formulas can use the values "w" and "h" (original size) and "dw" and "dh" (document size).
Mode	integer	(Optional) The resize mode: 0: Normal mode (the new size will be the value of Size). 1: Resize mode (the new size will be the original size plus the value of Size). 2: Formula mode (the size and position are defined by formulas). Default: 0
Horizontal, Vertical	integer	(Optional) The alignment of the original content inside the new area. 0: Left/top aligned 1: Right/bottom aligned 2: Centered 3: Position is the position of the original area. Default: 3 (use Position)
Position	float[2]	(Optional) If Mode is 3, the position of the original content inside the new area. Default: (0; 0)
Size	float[2]	The new size.

Rotate

Parameter	Type	Description
Angle	float	The rotation angle in degrees (counter-clockwise). Either that or "Radians" has to be set.
Crop	LONG (boolean)	(Optional) TRUE: The result will be cropped removing parts not filled by the original content-
Interpolation	LONG ([InterpolationMode](#))	The interpolation mode used for scaling images.
Radians	float	The rotation angle in radians (counter-clockwise). Either that or "Angle" has to be set.

Scale

Parameter	Type	Description
Mode	integer	The scale mode. 0: Normal 1: DPI 2: Percent 3: Width 4: Height 5: Fit 7: Formula
Interpolation	integer	The interpolation mode used for scaling images. 0: Nearest pixel 1: Bilinear 2: Bicubic 3: Lanczos3 4: Lanczos8 5: Mitchell Netravali

Parameter	Type	Description
		6: Catmull Rom 7: Cubic spline 8: Liquid
ValueX	float	For the modes Normal, Percent, Width and Fit the new width. SMPercent expects percent values, the rest pixels.
ValueY	float	For the modes Normal, Percent, Height and Fit the new height. Percent expects percent values, the rest pixels.
ValueDPI	float	For the modes Normal and DPI the new dpi value.
FormulaX FormulaY FormulaDPI	string	The new width/height/dpi as formula. "w", "h" and "d" can be used as the original width, height and dpi.

Operations applicable to images and as adjustments

AdaptiveSharpen

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

AdaptiveSoften

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

ChannelMixer

Parameter	Type	Description
Mode	boolean	(Optional) False: normal, channel-wise mode. True: Brightness mode: Factor1 and Offset1 are the values for the new brightness. Default: False
Factor1 Factor2 Factor3 Factor4	float[4], range[-2;+2]	The factors for each channel of the image, that will be used to produce the new channel value. Example with RGB and Factor1 values {0.7, 0.2, 0.1}: newR = oldR * 0.7 + oldG * 0.2 + oldB * 0.1
Offset1 Offset2 Offset3 Offset4	float, range [-2;2]	(Optional) Offset that will be added the new channel value. Default: 0

ChromaticAberration

Parameter	Type	Description
BlueShift	float, range [-10;10]	(Optional) Scaling of the blue channel in pixels. Default: 0
Center	float[2], range [0;1]	(Optional) Relative center of scaling. Default: (0.5;0.5)
RedShift	float, range [-10;10]	(Optional) Scaling of the red channel in pixels. Default: 0
WidthCompensation	boolean	(Optional) True: Depending on the size of the image a different scaling factor may be applied to x and to y. Default: False

Clouds

Parameter	Type	Description
Color1	color record (variable, RGB)	(Optional) The first cloud color. Default: black.
Color2	color record (variable, RGB)	(Optional) The second cloud color. Default: white.
Contrast	float, range [0;1]	(Optional) Contrast of the created clouds. 0.5 is the neutral value. Default: 0.5
Intensity	float, range [0;1]	(Optional) Intensity of the created clouds. 0.5 is the neutral value. Default: 0.25
NoiseAmplitudeStep	float, range [1;4]	(Optional) Amplitude scaling of the additional noises for NTTurbulence and NTFractalSum. Default: 2
NoiseDetail	float, range [1;256]	(Optional) Resolution of clouds, higher values create more fine grained clouds. Default: 4
NoiseDetailStep	float, range [1;8]	(Optional) Detail scaling of the additional noises for NTTurbulence and NTFractalSum. Default: 2
NoiseScaleX	float, range [1;64]	(Optional) Additional scaling of NoiseDetail in x direction. Default: 1
NoiseScaleY	float, range [1;64]	(Optional) Additional scaling of NoiseDetail in y direction. Default: 1
NoiseSteps	integer, range [1;6]	(Optional) Number of overlapped noise functions for NTTurbulence and NTFractalSum. Default: 4
NoiseType	integer	(Optional) Noise type, that is the base of the cloud creation. 1: Turbulence, 2: Fractal sum, 3: Noise.

Parameter	Type	Description
		Default: 2

ColorBalance

Parameter	Type	Description
Data	list of 9 integers, range [-100;100]	Three groups of three values. 0 to 2: cyan-red correction 3 to 5: magenta-green correction 6 to 8: yellow-blue correction. The first value corrects the shadows, the second the midtones and the third the highlights.
Preserve	boolean	(Optional) Preserve luminosity. The default value is false.

ColorCorrection

Parameter	Type	Description
BlueYellow	float, range [-0.25;0.25]	(Optional) Shift ainteger the blue-yellow axis. Default: 0
GreenRed	float, range [-0.25;0.25]	(Optional) Shift ainteger the green-red axis. Default: 0
FixWhitePoint	boolean	(Optional) True: Don't change bright areas, the effect on saturated colors is stronger. Default: True

ColorLookup

Parameter	Type	Description
Profile	color profile record | file	Either a color profile or a file path to 3D look-up table.

ColorTemperature

Parameter	Type	Description
Temperature	integer, range [2000;13000]	Color temperature.
WorkMode	boolean	(Optional) False: Set the given temperature. The color profile of the image defines the source color temperature. True: The given temperature is the source color temperature. The color profile defines the destination temperature. Default: False

ColorToTransparency

Parameter	Type	Description
Color	color record (variable, count)	The color, that will be made transparent.
SimpleMode	boolean	(Optional) False: Convert a color range to transparent. True: Use a simple calculation. Default: True
HueSize	float, range [0°;180°]	(Optional) If SimpleMode is false: The hue range, that will be made transparent. Default: 30°
BrightnessStrength	float, range [0;2]	(Optional) If SimpleMode is false: The strength with

Parameter	Type	Description
		which the transparency is influenced by the brightness. Default: 1
SaturationStrength	float, range [0;2]	(Optional) If SimpleMode is false: The strength with which the transparency is influenced by the saturation. Default: 1
SaturationFilter	boolean	(Optional) If SimpleMode is true: Controls whether the saturation influences the result. Default: True
LowLimit HighLimit	float, range [0;1]	(Optional) Used range of the calculated transparency. Default: 0 and 1

CorrectHighlights

CorrectHighlights is an adjustment, that will only be created by the import of raw files. Over exposed raw files often create magenta highlights, and it is CorrectHighlights job to fix that.

Parameter	Type	Description
Limit	float, range [0;1]	(Optional) Brightness values above this limit will be corrected. Default: 1

Curves

Parameter	Type	Description
PictureType	integer	(Optional) The picture type which the curves are defined for. If not set, it is assumed to be the picture type of the image. 0: gray, 1: RGB, 2: CMYK, 12: Lab
Contrast	integer, range [0;100]	(Optional) The contrast.
Brightness	integer, range [0;100]	(Optional) The brightness.
Gamma	float, larger than 0	(Optional) The gamma value.
CurveMain	curve record (variable)	(Optional) The curve that controls the brightness.
Curve1 – Curve4	curve record (variable)	(Optional) The curves for the channels 1 to 4.

Custom

Parameter	Type	Description
Bias	integer	(Optional) Offset added to the result of the filter kernel. Default: 0
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
Clamp	boolean	(Optional) True: The end result of "filter kernel / divider + bias" is clamped to the range [0;255]. Default: False
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Data	float[9]	float[25]	The values of a 3x3 or a 5x5 filter kernel.

Parameter	Type	Description
Divider	integer	(Optional) Divider for the result of the filter kernel. Default: 1
Intensity	float, range [0;1]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1

Denoise

Parameter	Type	Description
IntensityIntensity	float, range [0;1]	(Optional) Intensity of intensity noise reduction. Default: 1
ThresholdIntensity	float, range [0;1]	(Optional) Threshold for intensity noise reduction. Default: 0.04
SizeColor	float, range [0;20]	(Optional) Filter size for color noise reduction. If absent, no color noise reduction. Default: no value.
SizeIntensity	float, range [0;20]	(Optional) Filter size for intensity noise reduction. If absent, no intensity noise reduction. Default: no value.

Dither

Parameter	Type	Description
Angle	float, range [0°;360°]	(Optional) Angle of dither pattern. Default: 0°
RasterSize	float, range [4;100]	(Optional) Size of dither pattern. Default: 32

Exposure

Parameter	Type	Description
Brightness	float, range [-150;150]	(Optional) Brightness
Contrast	float, range [-50;100]	(Optional) Contrast
Exposure	float, range [-20;20]	(Optional) Exposure.
Gamma	float, range [0;9]	(Optional) Gamma. Default: 1
Offset	loat, range [-0.5;0.5]	(Optional) Offset

FalseColor

Parameter	Type	Description
Gradient	gradient record	The gradient used.

GaussianBlur

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use

Parameter	Type	Description
		for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

Grain

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The grain density.

GrayMixer

Parameter	Type	Description
Tint	boolean	(Optional) True: The result will be tinted. Default: False
Color	color record (variable, RGB)	(Optional) If Tint is true, this is the color of the tint.
Factors	list of 8 floats, range [-1;1]	The factors with which the single color ranges influence the result.

Highpass

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.

Histogram

Parameter	Type	Description
Auto	boolean	(Optional) True: The parameters are preset with values calculated from the image (cannot be used with

Parameter	Type	Description
		adjustments).
Gamma	list of floats | float, larger than 0	(Optional) The gamma values to be set.
PicMin PicMax OutputMin OutputMax	list of floats | float, range [0;1]	(Optional) [PicMin;PicMax] is the picture range, that will be mapped to [OutputMin;OutputMax].

If you use float arrays for Gamma, PicMin, PicMax, OutputMin and OutputMax, the values will be applied to the corresponding channel. With RGB pictures, float[3] will be used for the sum channel. With gray it is a bit weird: float[3] controls the gray channel. This way RGB values can be used for gray and viceversa.

With gray and RGB you can set a single float value instead of an array. With RGB this will control the sum channel, with gray it will control the single image channel.

HorizontalEdge

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, 1.5 or 2.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

HueEditor

Parameter	Type	Description
ColorMode	integer	(Optional) 1: HIS, 2: HSV, 3: Lab, 4: RGB Default: 2
Brightness	curve record (variable)	(Optional) The correction curve for brightness.
Hue	curve record (variable)	(Optional) The correction curve for hue.
Saturation	curve record (variable)	(Optional) The correction curve for saturation.

HueSaturation

Parameter	Type	Description
Colorize	boolean	(Optional) True: Colorize mode. The default value is false.s
Hue	float	(Optional) Colorize: Hue in the range [0;1] Other: Hue change in the range [-0.5;0.5]
Saturation	float	(Optional) Colorize: Saturation in the range [0;1] Other: Saturation change in the range [-1;1]
Brightness	float	(Optional) Colorize: Intensity in the range [0;1]

Parameter	Type	Description
		Other: Intensity change in the range [-1;1]
Ranges	float[7*n], 0 <= n <= 6	(Optional) If not in colorize mode, Ranges describes the modifications applied to up to 6 hue ranges. Every sequence has a length of 7 floats: The first 4 floats define the hue range, that will be modified. The other 3 are the hue, saturation and intensity change.

LightShadow

Parameter	Type	Description
Auto	boolean	(Optional) True: The parameters are preset with values calculated from the image (cannot be used with adjustments).
LightGamma	float, range [0;1]	(Optional) Gamma applied to the lights. Default: 1
LightIntensity	float, range [0;1]	(Optional) Stretching of the lights. 0: No stretching. Default: 0
LightMin	float, range [0;1]	(Optional) Amount of lights range, that will be clipped. 0: Nothing is clipped. Default: 0
ShadowGamma	float, range [1;2]	(Optional) Gamma applied to the shadows. Default: 1
ShadowIntensity	float, range [0;1]	(Optional) Stretching of the shadows. 0: No stretching. Default: 0
ShadowMin	float, range [0;1]	(Optional) Amount of shadows range, that will be clipped. 0: Nothing is clipped. Default: 0

Median

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius. The diameter is rounded to the next odd integer value.

OptimizeHDR

OptimizeHDR maps the pixel values of a 32-bit-HDR image to a [0;1] range.

Parameter	Type	Description
Gamma	float, larger than 0	(Optional) The gamma value to be set.
Min Max	float	The pixel value range, that will be mapped to [0;1].

MatchColors

Parameter	Type	Description
DestinationAverage	float[3], range [0;1]	Average of the destination pixel values.
DestinationDeviation	float[3], range [0;1]	Deviation of the destination pixel values.
DestinationReadFromSelection	boolean	(Optional) UI setting. True: Read destination pixel values from the selection only.
SourceAverage	float[3], range [0;1]	Average of the source pixels values.
SourceDeviation	float[3], range [0;1]	Deviation of the source pixel values.
SourceReadFromSelection	boolean	(Optional) UI setting. True: Read source pixel values from the selection only.
Strength	float[3], range [0;2]	Strength of the adjustment, float[0] controls the brightness, float[1] and float[2] control the color.
UseMask	boolean	(Optional) True: Edit only in the selection area. Default: Use the PhotoLine setting.

Maximum

Maximum is a square, channel-wise maximum filter.

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.

MaximumRound

MaximumRound is a round, channel-wise maximum filter. For large radii it is significantly slower than Maximum.

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

Minimum

Minimum is a square, channel-wise minimum filter.

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.

MotionBlur

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;360[	(Optional) The filter direction. Default: 0

OutlineFilter

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius. The diameter is rounded to the next odd integer.
Special	float, range [0;100]	The filter threshold.

Perturbation

Parameter	Type	Description
Granularity	float, range [0;1]	(Optional) 0: The result is smooth, 1: the result is extremely fine grained. Default: 0.8
Distance	float, range [0;0.5]	(Optional) The range of the effect. Default: 0.2

Relief

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, 1.5	2.5	The filter radius.
Special	float, 0	45	90	135	180	225	270	315	(Optional) The filter direction. Default: 0

RemoveDirt

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius. The diameter is rounded to the next odd integer value.

RemoveDisturbance

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000

Parameter	Type	Description
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	Float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius. The diameter is rounded to the next odd integer value.
Special	float, range [0;100]	The filter threshold.

ReplaceColor

Parameter	Type	Description
DestinationColor	color record (variable, RGB)	The destination color.
DestinationTolerance	float, range [0;1]	The range of the destination color.
SourceColor	color record (variable, RGB)	The color, that should be replaced.
SourceTolerance	float, range [0;1]	The color range, that should be replaced.

Roughen

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The density of the noise.

SelectiveColorCorrection

SelectiveColorCorrection has 9 sets of parameters, one set for each available color range. Each set is an array of 4 floats and each of these floats corrects one color aspect:

- float[0]: cyan

- float[1]: magenta

- float[2]: yellow

- float[3]: black

Parameter	Type	Description
Red	float[4]	(Optional) Red
Yellow	float[4]	(Optional) Yellow
Green	float[4]	(Optional) Green
Cyan	float[4]	(Optional) Cyan

Parameter	Type	Description
Blue	float[4]	(Optional) Blue
Magenta	float[4]	(Optional) Magenta
White	float[4]	(Optional) White
Gray	float[4]	(Optional) Gray
Black	float[4]	(Optional) Black

Sharpen

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.

Soften

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.

Sponge

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use

Parameter	Type	Description
		for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius. The diameter is rounded to the next odd integer value.

Threshold

Parameter	Type	Description
Threshold	float, range [0;1]	The threshold value.

UnsharpMasking

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

VerticalEdge

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, 1.5 or 2.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

WhitePoint

Parameter	Type	Description
Auto	boolean	(Optional) True: The parameters are preset with values calculated from the image (cannot be used with adjustments).
Color	color record (variable, RGB)	(Optional) The color that should become white. Default: white.

Parameter	Type	Description
FixWhitePoint	boolean	(Optional) If WhitePoint uses the gray point mode (Mode is 1), the FixWhitePoint controls whether white is a fix color, that shouldn't be modified. Default: False.
Gamma	float, range [0;5]	(Optional) Gamma value applied to the image. Default: 1
Limit	Float, range [0;1]	(Optional) If WhitePoint uses the gray point mode (Mode is 1), Limit controls the brightness value, that corresponds to the color. Default: 1
Mode	integer	(Optional) 0: White point mode 1: Gray point mode Default: 0

Operations applicable to images

Descreen

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;100]	The filter threshold.

Invert

Invert the colors of an image.

VariableBlur

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;1]	(Optional) Contrast value applied to depth values.

Parameter	Type	Description
		Default: 0.5

WipeEffect

Parameter	Type	Description
Channels	integer, bit mask	(Optional) A bit mask defining the channels to filter. 1 is the first color channel, 2 the second, … The last one is the alpha channel. There are two special values: 0x40000000: Filter every color channel 0x80000000: Filter alpha Default value: 0xc0000000
ColorMode	integer	(Optional) 0: Native, 1: HIS, 3: Lab Default: 0
Intensity	float, range [-5;5]	(Optional) Intensity, 1 corresponds to 100%. Do not use for adjustments. Default: 1
Radius	float, larger than 0.5	The filter radius.
Special	float, range [0;360]	(Optional) The filter direction in degrees. Default: 0

Operations Related to Layer Masks

ApplyLayerMaskToAlpha

This operation only works in combination with a layer mask of an image. It copies the contents of the layer mask to the alpha channel of the image and deletes the layer mask afterwards.

ApplyLayerMaskToMask

This operation only works in combination with a layer mask of an image. It creates a selection based on the content of a layer mask.

CreateLayerMask

This operation adds a layer mask to a layer.

CreateLayerMaskFromAlpha

This operation adds a layer mask to a layer. The layer mask is initialized with the transparency of the layer. If the layer is an image, its alpha channel will be removed.

CreateLayerMaskFromLayer

This operation converts the layer into a layer mask of its preceding layer.

CreateLayerMaskFromMask

This operation converts the current selection into a layer mask of the layer. The selection is removed afterwards..

Operations Manipulating Selections

BorderSelection

This operation creates a new selection that is a border around the current one.

Parameter	Type	Description
Relative	boolean	(Optional) Defines whether the border width is a percent value relative to the selection size or the number of pixels. Default: false
Size	float	The border width, either the number of pixels or a relative value in the range of [0;0.5].

ClearSelection

This operation clears the selection. It doesn't edit any layer and doesn't have options.

ContractSelection

This operation contracts the current selection mask.

Parameter	Type	Description
Relative	boolean	(Optional) Defines whether the size change is a percent value relative to the selection size or the number of pixels the selection will contract. Default: false
Size	float	The resize value, either the number of pixels or a relative value in the range of [0;1].

ExpandSelection

This operation expands the current selection mask.

Parameter	Type	Description
Relative	boolean	(Optional) Defines whether the size change is a percent value relative to the selection size or the number of pixels the selection will expand. Default: false
Size	float	The resize value, either the number of pixels or a relative value. A relative value of 0.5 will expand the selection by half of its current size.

FillSelection

This operation fills the selection of an image layer with a color. If there is no selection, the whole image is filled.

Parameter	Type	Description
Color	color record (variable, count)	(Optional) The color used to fill the selection. If missing, the foreground color will be used.

InvertSelection

This operation inverts the selection. If there is no selection, it creates an empty selection.

MakeSelection

This operation creates or modifies a selection based on the opacity of the layer it is applied to. If the operation is applied to a document or page, it will base the selection on the active layer.

Parameter	Type	Description
Mode	integer	(Optional) The creation mode. 0: Create new selection, 1: add to current selection, 2: subtract from current selection, 3: intersect with current selection. Default value: Create new selection (0)

Records

Color Profile record

Key	Value	Description
Data	data	(Optional) The data of the color profile.
DisplayName	string	(Optional) The display name of the color profile.
Name	string	(Optional) The name of the color profile.
RenderingIntent	integer	(Optional) The rendering intent of the color profile: 0: perceptive, 1: relative colorimetric, 2: saturation, 3: absolute colorimetric
Path	file	(Optional) The file path to the color profile.

Color Records

Color Record

The Color record defines the appearance of colors.

If a command or record wants a color record, you can usually use a list of floats instead.

If the type is named "color record (variable, count)", the color will be created based on the number of elements in the float list:

- 1 element creates a gray color.

- 3 elements create a RGB color.

- 4 elements create a CMYK color.

If the type is named "color record (variable, RGB)", PhotoLine will always create a RGB color. In this case the number of elements has to be 3 or 4 (with alpha/opacity).

Key	Value	Description
ApplyTransparency	boolean	(Optional) Only for document colors: False: if applied, the colors inside the document keep their transparency. True: if applied, the color inside the document get the transparency from the document color.
Gradient	gradient record	(Optional) The gradient used as color.
Matrix	list of floats	(Optional) A transformation matrix used to transform the gradient of the color.

Key	Value	Description
Model	color model or integer	The color model of the color.
Name	String	(Optional) Name of the color.
SpotColor	boolean	(Optional) Only for document colors: Defines whether the color is a spot color. Spot colors must have a name.
Values	float[], default range [0;1]	The color values of the color. The number of elements depends on the model of the color. The last element is the color's alpha value. If this property is set, the alpha value is optionally and 1 (opaque) is used if it's missing.

Gradient Record

The Gradient dictionary defines the appearance of gradients. If a property or method expects an IPLColor, you can usually also use a Gradient dictionary instead.

Key	Value	Description
ColorMode	integer	(Optional) The colors of the gradient will be interpolated in this color model. 0: native mode, 1: HIS, 2: HSV, 3: Lab Default: 0
Colors	list of color records (variable, RGB)	An array of colors defining the color stops. If this property is set, you can use an array of float arrays instead. The float array data will be interpreted as RGB.
Gammas	float[number of colors[- 1]], range]0;1[	(Optional) Gamma value used for interpolation of two colors. The number of float values must be equal to or 1 less than the number of colors.
Interpolation	integer	(Optional) The interpolation used to interpolate the colors. 0: linear, 1: cubic
Name	string	(Optional) Name of the gradient.
Points	float[4]	(Optional) Start and end point of gradient in a unity coordinate system. If not set, [0 0.5 1 0.5] will be used.
Scale	float	(Optional) A circular gradient allows scaling the gradient perpendicular to the line defining it. Values smaller than 1 compress the gradient, values larger than 1 stretch it. Default: 1
Spread	integer	(Optional) Repeating behavior of the gradient. 0: continue with last color, 1: reflect colors, 2: repeat colors Default: 0
Stops	float[number of colors], range [0;1]	The stop positions of the colors. The positions must be ascending.
Type	integer	(Optional) The type of gradient. 0: linear, 1: circular, 2: radial, 3: radial reflected Default: 0

Curve Record

If a command or record wants a curve record, you can usually use a list of floats instead. In that case, PhotoLine will create a spline curve and the type is named "curve record (variable)" in this description.

Property	Type	Description
Points	float[]	The curve points. A normal curve has at least 2 points, resulting in a list size of 4.
Type	integer	(Optional) The curve type. 1: Bezier, 2: Lagrange, 3: line, 5: spline Default: 5

Line Style Record

If a command or record wants a line style record, you can usually use a float instead. In that case, PhotoLine will create a line style with the given float value used as width. This is indicated by the type name "line style record (variable)".

Properties

Property	Type	Description
AdjustDashLength	boolean	(Optional) True: The length of the dashes is adjusted, so that they are aligned to the corners of the path. Default: True
Alignment	integer	(Optional) The alignment of the line on a path: 0: center, 1: inside, 2: outside. Default: 0
ArrowLength	float	(Optional) The length of an optional arrow (1 is 100%) Default: 3
ArrowWidth	float	(Optional) The width of an optional arrow (1 is 100%) Default: 3
DashLengths	list of floats	(Optional) An array with the lengths of the line style dashes. May be empty. Default: empty
DashPhase	float	(Optional) The starting position inside the dashes. Default: 0.
EndCap	integer	(Optional) The appearance of the end of the line. 0: butt, 1: round, 2: square, 128: arrow (added to the others) Default: 0
Join	integer	(Optional) The join type. 0: miter, 1: round, 2: bevel Default: 0
MaximumWidth	float, range [MinimumWidth;1]	(Optional) If a width curve is set, this value can be used to stretch the width of the curve. Default: 1
MinimumWidth	float, range [0;MaximumWidth]	(Optional) If a width curve is set, this value can be used to stretch the width of the curve. Usually 0.
StartCap	integer	(Optional) The appearance of the end of the line. 0: butt, 1: round, 2: square, 128: arrow (added to the others)
Width	float	The line width. If smaller than 0, the line is invisible.
WithCurve	curve record	(Optional) The shape of the line style or missing value. Default: missing value

Records for File Exports

On saving/exporting an object, you can use customized export settings. All settings are optional. If no customized settings are used, the values set inside PhotoLine are used.

Additionally to the file format options, there are:

Key	Value	Description
AddToRecentFiles	boolean	(Optional) If true, the used filename will be added the list of recently used filed. Only used in combination with the save command with either a file path or ShowDialog set to true. Default: false
ShowDialog	boolean	(Optional) True: The file dialog is shown. Default: false
Title	string	(Optional) A title for the file dialog.

The BMP Parameters

Key	Value	Description
ColorDepths	integer	(Optional) 0: Automatic, depending on the content, 8, 15, 16, 24
Transparency	boolean	(Optional): True: Create transparent BMP.

The DDS Parameters

Key	Value	Description
SaveMipMaps	boolean	(Optional) True: Save mipmaps.

The EXR Parameters

Key	Value	Description
Compression	integer	(Optional) The compression used. 0: None 1: RLE 2: ZIP 3: ZIP Block16 4: PIZ 5: PXR24 6: B44 7: B44A

The GIF Parameters

Key	Value	Description
Interlace	boolean	(Optional) True: Create an interlaced GIF.

The JPEG Parameters

Key	Value	Description
Compress	integer, range [0;100]	(Optional) The resulting image quality.
Progress	boolean	(Optional) True: Create a progressive JPEG.
EXIFPreview	integer	(Optional) Controls whether an EXIF preview image is created. 0: always save preview, 1: keep existing

Key	Value	Description
		preview, 2: don't save a preview
ColorSubsampling	boolean	(Optional) False: Use standard subsampling. True: Use subsampling for better color quality.

The JPEG 2000 Parameters

Key	Value	Description
Compress	integer, range [0;100]	(Optional) The resulting image quality.
Lossless	boolean	(Optional) True: The file is compressed lossless.

The JPEG XR Parameters

Key	Value	Description
Compress	integer, range [0;100]	(Optional) The resulting image quality.
Lossless	boolean	(Optional) True: The file is compressed lossless.

The PDF Parameters

Key	Value	Description
Bleed	float	(Optional) The bleed width in inch.
ClipImages	boolean	(Optional) True: Clipped images are cropped.
ClipToBleed	boolean	(Optional) True: A clipping rectangle is created, so that everything outside the bleed rect is clipped.
ColorMode	integer	(Optional) The treatment of colors. 0: The colors are saved unmodified. 1: CMYK mode 2: Gray mode 3: PDF/X1a 4: PDF/X3
FontEmbedding	integer	(Optional) controls the embedding of fonts. 0: no embedding 1: if allowed embed fonts, otherwise convert to vector 2: if allowed embed fonts 3: convert all text to vector
MaxResolution	integer	(Optional) The maximum resolution of images. Images with a higher resolution will be scaled down. 0: Don't scale any images.
OnlyPrintable	boolean	(Optional) Only printable layers are exported.
PictureCompression	integer	(Optional) The compression mode for colored images. 0: Flate 1: JPEG (high quality) 2: JPEG (medium quality) 3: JPEG (low quality) 4: Flate fast 5: No compression
Preview	boolean	(Optional) If true, a small preview image is created.
TextCompression	integer	(Optional) The compression mode for text data. 0: Flate 4: Flate fast 5: No compression

Key	Value	Description
TransparencyMode	integer	(Optional) The treatment of transparency. -1: Replace transparency with background 0: Bayer dither 1: Coarse dither 2: Vertical dither 3: Horizontal dither 4: Fine dither 5: Ordered dither 6: Fat dither 7: Dither 45° 8: Threshold dither 1000: Save as PDF 1.4 with full transparency

The PLD Parameters

Key	Value	Description
Compress	integer	(Optional) 0: No compression, 3: best compression, 5: faster compression

The PNG Parameters

Key	Value	Description
Compress	integer, range [0;9]	(Optional) 0: No compression, 9: best compression
Interlace	boolean	(Optional) True: Create an interlaced PNG.

The SVG Parameters

Key	Value	Description
EmbedFonts	integer	(Optional) 0: Keep text unchanged, 3: convert text to vector
ImageCompression	integer	(Optional) Image Compression 0: PNG fast 1: PNG strong 2: JPEG (low quality) 3: JPEG (medium quality) 4: JPEG (high quality)

The TIFF Parameters

Key	Value	Description
Compression	integer	(Optional) 1: No compression 3: CCITT/Fax3 4: CCITT/Fax4 32773: PackBits 32946: ZIP
SaveLayers	boolean	False: The document will be reduced to a background layer before saving. True: Every layer of the document will be exported as separate image.

The WebP Parameters

Key	Value	Description
Compress	integer, range [0;100]	(Optional) The resulting image quality.

Key	Value	Description
Filter	boolean	(Optional) True: A prefilter is applied.

Dictionaries for Text

Text Style Record

The text style record is used to define a character or a paragraph styles. Character styles must not and paragraph styles must have a paragraph attribute.

Key	Value	Description
Name	String	Name of the text styles. Text styles must have a unique name.
Parent	String	(Optional) The name of the parent style. Attributes which are equal to the parent style, are inherited. The parent style must exist.
Follow	String	(Optional, only paragraph styles)The name of the following style.
Attributes	<u>Text attributes</u> record	The <u>text attributes</u> of the style.

Text Attribute Record

The text attribute record is used to define a single attribute.

Key	Value	Description
attribute	any	The data type is dependent of the attribute (see <u>text attributes</u>).
range	integer[2]	The text range of the attribute.

Text Attributes Record

The text attribute record is used to define a single attribute.

Key	Value	Description
attributes	record	A record containing the attributes.
range	integer[2]	The text range of the attributes.

Text Attributes

The text attributes record is used to define a character or a paragraph styles. Character styles must not and paragraph styles must have a paragraph attribute.

Key	Value	Description
Attachment	<u>attachment</u> record	(Optional)A text attribute defining an <u>attachment</u> like page number, document name, … Attachments my only be assigned to a single character with the hex value 0x02 which symbolizes attachments in the text.
AutoKerning	integer	(Optional) != 0: use the font kerning as it is defined in the font. Default value: 1
Baseline	float	(Optional) Distance of the text to the baseline.
Color	<u>color</u> record	The color of the text.
Font	<u>font</u> record	The <u>font</u> record defining the font.

Key	Value	Description
Kerning	float	(Optional) Manual kerning: additional distance between two characters.
Ligatures	integer	(Optional) != 0: use the ligatures as defined in the font. Default value: 1
Outline	outline record	(Optional) Outline record. If this key exists, the text will be outlined.
Paragraph	paragraph record	The paragraph attribute. The paragraph attribute must not change inside a paragraph.
Superscript	integer	(Optional) -1: subscript, 0: normal, 1: superscript
TextStyle	String	(Optional) The name of the character style assigned to the text.
Underline	underline record	(Optional) Underline record.

Dictionaries Used in Text Attributes

The Attachment Record

Text attributes containing an attachment attribute must only be assigned to a single character and this character must be 0x02 which symbolizes text attachments in the text.

Key	Value	Description
Type	String	There are the following types: - Date - PageNumber - PageCount - Document name

The other keys in this dictionary depend on the type.

Date

Key	Value	Description
Date	String	(Optional) The date has the format "day:month:year"
DayOffset	integer	(Optional) The number of days added to the date.
Format	integer	(Optional) != 0: Use long format. Default: Use short format.
MonthOffset	integer	(Optional) The number of months added to the date.
YearOffset	integer	(Optional) The number of years added to the date.

DocumentName

The document name doesn't have any additional keys.

PageCount

Key	Value	Description
Offset	integer	(Optional) An offset added to the page count.

PageNumber

Key	Value	Description
Offset	integer	(Optional) An offset added to the page number.

The Font Record

Key	Value	Description
FamilyName	String	The name of the font family
PostScriptName	String	The postscript name of the font.
Scale	float	(Optional) A horizontal scaling of the font. 1 means no additional scaling, 0.5 halves the character width, 2 doubles it.
Size	float	The size of the font.
Style	integer	(Optional) 0: No special style, 1: italic
Weight	Integer, range]0;1000]	Weight of the font. 300 is light, 400 is normal/regular, 700 is bold.
Width	integer, range]0;1000]	Width of the font. 300 is condensed, 500 is medium and 700 is expanded.

If PostScriptName is set and a font with that name exists, FamilyName, Style, Weight and Width don't have to be set, because they are implicitly defined by the properties of that font.

The Outline Record

The Outline record controls the appearance of outlined text.

Key	Value	Description
Color	color record	The color of the outline.
LineStyle	line style record	The line style of the outline.

The Paragraph Dictionary

The Paragraph dictionary controls the formatting of paragraphs. It must not change inside a paragraph.

Key	Value	Description
After	float	(Optional) An additional space after a paragraph. The default value is 0.
Alignment	integer	The alignment of the paragraph. There are: 0: left, 1: right, 2: centered, 3: justified, 4: justification for all lines The default value is 0 (left).
Before	float	(Optional) An additional space before a paragraph. The default value is 0.
Connect	boolean	(Optional) True: The paragraph will be on the same page as the next paragraph. The default value is false.
FirstIndent	float	(Optional) The indention of the first line of the paragraph. This value must be larger than or equal to 0. The default value is 0.
FixLine	boolean	(Optionally) True: The Line key controls the distance between two baselines inside a paragraph. False: The Line key is an additional offset between two lines. The default value is false.
LeftIndent	float	(Optional) The indention of all lines of the paragraph except the first one. This value must be larger than or equal to 0. The default value is 0.
Line	float	(Optional) The line distance between two lines of the

Key	Value	Description
		paragraph. FixLine controls its exact meaning. The default value is 0.
Register	integer	(Optional) Controls whether the lines of the paragraph should be placed on the line register. There are: 0: no alignment 1: the whole paragraph is aligned 2: the first line of the paragraph is aligned The default value is 0 (no alignment).
RightIndent	float	(Optional) The right indention of the paragraph. If the value is larger than 0, it is relative to the left edge of text layer. In that case it has to be larger than the left indent. If the value is smaller than 0, it is relative to the right edge of the text layer. The default value is 0.
StickStart	integer	(Optional) The number of following lines, that have to be on the same page as the first paragraph line. The default value is 0.
StickEnd	integer	(Optional) The number of preceding lines, that have to be on the same page as the last paragraph line. The default value is 0.
Style	String	(Optional) The name of the paragraph style assigned to the text.
Tabs	IPLDictionary *[]	(Optional) An array of tab dictionaries, that define the tabs for the paragraph.

If PostScriptName is set and a font with that name exists, FamilyName, Style, Weight and Width don't have to be set, because they are implicitly defined by the properties of that font. In other words: PostScriptName will override these settings.

The Tab Dictionary

The Tab dictionary defines the properties of a tab..

Key	Value	Description
Type	integer (TabType)	(Optional) The tab type (left, right, …) The default value is TTLeft (0).
Position	float	The position of the tab. The position must be larger than or equal to 0.
Filler	String	(Optional) Fill character used for the tab space. Only the first character of the string is used. The default value is no fill character.
Decimal	String	(Optional) If the type is TTDecimal, the value defines the decimal character, that will be used for alignment. Only the first character of the string is used. The default value is ".".

The Underline Dictionary

The Outline dictionary controls the appearance of outlined text.

Key	Value	Description
Color	color record (variable, count)	(Optional) The color of the outline. If absent, the text color will be used.
LineStyle	line style record	(Optional) The line style of the outline. If absent, the

Key	Value	Description
		default value for the font will be used as line width.
Position	float	(Optional) Offset factor for underline position. Positive values move the line up. Default: 0

Vector Attributes Dictionary

The vector attributes dictionary is used to define the appearance of a vector layer..

Key	Value	Description
FillColor	color record (variable, RGB)	(Optional) The fill color. If it is missing, the vector layer will not be filled.
LineColor	color record (variable, RGBs)	(Optional) The line color. If it is missing, the vector layer will not be stroked.
LineStyle	line style record (variable)	(Optional) The line style. If it is missing, the vector layer will not be stroked.

Adjustments

Adjustments are a subset of the available operations, that can be applied to images. The parameters of the adjustments are stored as records. All adjustment records contain the key "Type" whose value is the name of the operation as string. The other keys and values are the dependent on the operation.

The available adjustments are listed in *Operations applicable to images and as adjustments*.