

INTRODUCTION	13
What is Affinity Photo?	13
Features	14
New features in this version	18
PERSONAS	20
About each Persona	20
Switching Personas	20
USER INTERFACE	21
Interface Visual Reference	21
Persona Toolbar	24
Context toolbar	24
Photo Persona	25
Develop Persona	26
Selections Persona	27
Liquify Persona	28
Tone Mapping Persona	29
GETTING STARTED	30
App registration and content syncing	30
Opening and importing	33
Opening a raw image	35
Creating new documents	36

New document from clipboard	38
Document templates	39
Embedding documents	40
Placing content	42
Panning	43
Saving	44
Closing documents	46
Using stock photos	47
Touch Gestures	48
DEVELOP PERSONA (RAW)	51
Developing a RAW image using Develop Persona	51
Using overlays	54
Basic Studio (Develop Persona only)	56
Tones Studio	57
Details Studio (Develop Persona only)	58
Lens Studio (Develop Persona only)	59
Overlays Studio (Develop Persona only)	60
SIZING AND TRANSFORMING	61
Changing image size (scaling and resampling)	61
Pixel art resizing	63
Changing canvas size	64
Cropping and straightening	66
Transforming	68
Mesh warping	69
Perspective	71
LAYERS	72
About layers	72
Creating layers	74
Layer opacity	75
Layer blending	76
Layer blend ranges	78
Adjustment layers	80
Live Filters	82

Fill layers	120
Pattern layers	122
Layer masks	124
LAYER OPERATIONS	126
Viewing	126
Selecting	127
Duplicating	128
Aligning	129
Clipping	131
Paste Inside	133
Distributing	134
Grouping	136
Linking	137
Merging and flattening	139
Ordering	141
Targeting	142
Soloing	143
Rotating and shearing	144
Locking	145
Rasterising	146
SELECTIONS	147
Creating pixel selections	147
Painting pixel selections	149
Flooding pixel selections	152
Drawing pixel selections	154
Range pixel selections	155
Pixel selections from channels	156
Pixel selections from shapes	157
Sampled colour pixel selections	158
Marquee pixel selections	159
Modifying pixel selections	160
Moving and transforming pixel selections	161
Edit selection as layer (using Quick Mask mode)	163

Refining pixel selection edges	164
Edit selection as layer	165
Saving and loading selections	166
Creating outline selections	167
ASSETS	168
Using Assets	168
RETOUCHING	170
Removing Red Eye	170
Retouching	171
Removing blemishes	173
Cloning and healing	174
About healing	174
Inpainting	176
Patching	178
Frequency separation	180
ADJUSTMENTS	181
Applying adjustments	181
Tonal adjustments	206
Colour adjustments	207
Other adjustments	208
EXPORT LUT	209
Exporting custom adjustments as LUTs	209
FILTERS AND EFFECTS	210
Applying filters	210
Blur filters	241
Colour filters	242
Distortion filters	243
Edge detection filters	244
Noise Filters	245
Sharpen filters	246
Blending Images	247
Lighting effects	249
Haze Removal	251

PANORAMAS	252
Stitching panoramas	252
Editing panoramas	254
HDR	256
32-bit HDR editing	256
Merging to 32-bit HDR	258
Tone Mapping HDR images	260
Using OpenColorIO	262
32-bit OpenEXR Support	263
STACKING AND FOCUS MERGING	265
Image stacks	265
Exposure merging using stacks	267
Object removal using stacks	268
Noise reduction using stacks	270
Creative effects using stacks	272
Focus merging images	274
LIVE PROJECTION	276
Equirectangular projection	276
Perspective projection	279
MACROS	280
Macros	280
LIQUIFY PERSONA	281
Warping using Liquify Persona	281
Masking in Liquify Persona	283
Liquify Studio (Liquify Persona only)	284
PAINTING AND ERASING	285
Painting brush strokes	285
Modifying brush settings	288
Creating custom brushes	290
Erasing	291
Mixing paint colours	293
Replacing colours by brush	294
Pixel-aligned painting	295

LAYER EFFECTS	296
Using layer effects	296
Outer Glow	298
Bevel/Emboss	299
Colour Overlay	300
3D Effect	301
Gradient Overlay	302
Inner Glow	303
Inner Shadow	304
Outer Glow	305
Outer Shadow	306
Outline	307
COLOUR	308
About colour	308
Colour models	309
Colour spaces	311
Colour management	312
Using OpenColorIO	315
Selecting colours	316
Sampling (or picking) colours	319
Gradient editing	321
Global colours	323
Spot colours	324
Overprinting	325
Using channels	326
LINES AND SHAPES	329
About lines and shapes	329
Draw lines and shapes	331
Edit vector lines and shapes	332
About geometric shapes	334
Draw and edit shapes	335
Styles	340
Paste Style and Layer Effects	341

TEXT	342
Working with text	342
Artistic text	343
Frame text	344
Text on a path	346
Character formatting	349
Paragraph formatting	350
Importing custom fonts	352
SHARING	353
Export	353
Print	358
Share	359
EXPORT PERSONA	360
Exporting using Export Persona	360
Slices Studio	362
Layers Studio (Export Persona)	364
About the Layers Studio	364
DESIGN AIDS	366
Using undo, redo and history	366
Guides	367
Dynamic guides	369
Margins	370
Rotate canvas	371
Snapping	372
Force Pixel Alignment	375
Grids	376
Using snapshots	377
Assistant	378
Vector content defaults	380
WORKSPACE	381
Keyboard shortcuts	381
Using on-screen modifiers	384
Preferences	387

TOOLS	390
Photo Editing Tools	390
View tool	390
Move Tool	391
Crop Tool	392
Colour Picker Tool	393
Vector Line Tools	394
Pen Tool	394
Node Tool	396
Selection Tools	397
Smart Selection Brush Tool	397
Flood Selection Tool	398
Marquee Selection Tools	399
Refine Selection Tool	401
Fill Tools	402
Flood Fill Tool	402
Gradient Tool	403
Paint Tools	404
Paint Brush Tool	404
Colour Replacement Brush Tool	405
Pixel tool	406
Paint Mixer Brush	407
Erase Tools	408
Erase Brush Tool	408
Background Erase Brush Tool	409
Retouch Tools	410
Dodge Brush Tool	410
Burn Brush Tool	411
Sponge Brush Tool	412
Clone Brush Tool	413
Undo Brush Tool	414
Blur Brush Tool	415
Sharpen Brush Tool	416
Median Brush Tool	417

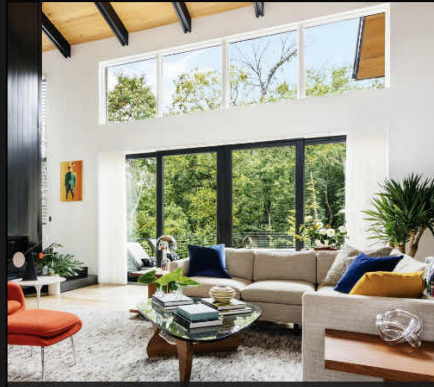
Smudge Brush Tool	418
Healing Brush Tool	419
Patch Tool	420
Blemish Removal Tool	421
Inpainting Brush Tool	422
Red Eye Tool	423
VECTOR SHAPE TOOLS	424
Rectangle Tool	424
Ellipse Tool	425
Star Tool	426
Square Star Tool	427
Triangle Tool	428
Tear	429
Trapezoid Tool	430
Cog Tool	431
Cloud Tool	432
Diamond Tool	433
Crescent Tool	434
Arrow Tool	435
Heart Tool	436
Pie Tool	437
Callout Rectangle Tool	438
Callout:Ellipse Tool	439
Doughnut Tool	440
Polygon Tool	441
TEXT TOOLS	442
Artistic Text Tool	442
Frame Text Tool	443
LIQUIFY TOOLS (LIQUIFY PERSONA)	444
Liquify Tools	444
RAW TOOLS (DEVELOP PERSONA)	446
Raw Tools	446
EXPORT TOOLS	447
Slice Tool	447

STUDIOS	448
Assets Studio	448
Layers Studio	449
Colour Studio	451
Brushes Studio	455
Adjustments Studio	457
Filters Studio	458
Layer FX Studio	459
Stock Studio	461
Text Studio	462
Metadata Studio	465
Channels Studio	470
Transform Studio	471
Navigator Studio	473
Macro Studio	474
History Studio	475
Slices Studio	477
Layers Studio (Export Persona)	479
APPENDIX	480
Supported file formats	480
Contacting us	481
Copyrights	482
Importing Brushes	484
Importing assets	485
Importing LUTs	486
Importing macros	487
Installing styles	488
Installing fonts	489
Importing templates	490
Extracting resources	491
About Affinity Resources	492
EXTRAS	493
Apple Photos library access	493
Using a mouse or trackpad	494

Using external screens	495
Benchmark	497



Longing For Silence



Mount Interior



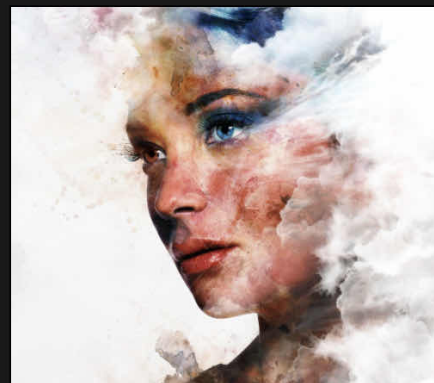
Val d'Orcia



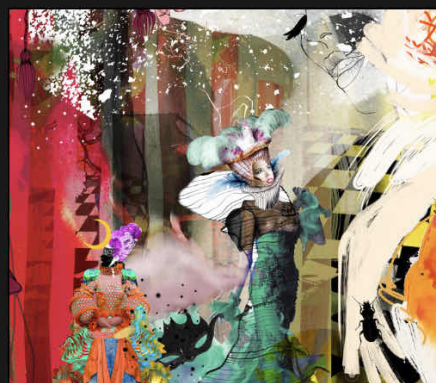
Rabbit Trick



Coral Knight



Iris



Un Ballo In Maschera



Koi

Introduction

What is Affinity Photo?

Affinity Photo for iPad offers the user a new and fresh high-end photo editing experience on your iPad device. All the power and precision of the macOS and Windows versions of Affinity Photo are at hand in this iPad version.

About Affinity Photo

Here's an overview of what you can expect.

- Stunning performance with instant redraw
- Intuitive workflow-oriented user interface
- Real-time pro-level dynamic tools
- Different tool sets (Personas) for different design needs-e.g., Liquify, Develop, Tone Mapping
- End-to-end CMYK, RGB, LAB, and greyscale pro colour spaces
- Non-destructive Adjustment Layers and Live Filters
- Comprehensive blend mode set
- Retouching using all the classic retouch tools
- Liquify tools for retouch or crazy effects
- PSD import/export with fidelity
- Interworking with other Affinity products

and much more...

Why not review the product's key features in more detail?

SEE ALSO:

[Key features](#)

Features

Here's an overview of the features of Affinity Photo.

All features

System, performance and compatibility:

- For iPad Pro (all models), iPad Air 2 & 3&4, iPad 2017, iPad 2018, iPad 2019 (10.2"), iPad 2020 (10.2"), iPad Mini 5
- iOS 11 or later
- Optimised for:
 - Grand Central Dispatch (GCD)
 - Core Graphics
 - Metal
 - 64-bit engine
 - Apple Pencil
 - Retina display
 - Smart/Magic keyboard
- Portrait and Landscape display modes
- 16-bits per channel editing
- End-to-end EXIF preservation
- [Benchmark](#) testing

Raw development:

- Choice of [SerifLabs](#) or [Apple Core Image RAW engines](#)
- [SerifLabs RAW engine](#) support including Canon CR3
- Apple Core Image RAW engine
- Exposure, Colour enhancement and White Balance control
- Dedicated Metadata, Lens, Details (noise), and Tones Studios
- Solid and gradient overlays via Overlay Studio for restricting adjustments
- Support for the latest cameras
- Split view with syncing
- "In-Persona" rotation of raw images
- Show clipped highlights, shadows, and tones
- [Apple ProRAW DNG](#) Support (iPhone 12 Pro)

Colour

Colour formats: RGB (8/16 bit), Greyscale (8/16), CMYK (8), and LAB (16)

Colour models: HSL, RGB, Greyscale, CMYK, LAB

Colour Picker Tool (colour mode aware, colour averaging, layer selection)

Colour Replacement Brush

Paint Mixer Brush

Gradient tool (Linear, Elliptical, Radial, Conical, Bitmap)

Professional colour support

PANTONE colour support

ICC colour profiling

[Global colours](#)

[Spot colours](#)

[Overprinting](#)

Solid photo-editing tools:

- Sizing and transforming
 - Resize images and canvas
 - Rotate canvas
 - Cropping and straightening
 - Crop to original/custom ratios, absolute dimensions or print sizes
 - Crop grids (Thirds, Spirals, or Diagonals)

- Flip
- Mesh Warp filter
- Non-destructive perspective filter
- Liquify tools in dedicated Persona workspace
- Live projections (equirectangular and perspective)
- Pixel art resizing
- Channels:
 - View and isolate colour channels
 - Work on channels for document, layer, adjustment, filter, selection or mask
 - Save pixel selections as spare channels
 - [Isolate and edit spare channels as layers](#)
 - [Duplicate spare channel for backup](#)
- HDR:
 - HDR Merging to 32-bit images
 - Unique Persona for advanced tone mapping
 - OpenEXR and Radiance import and export
 - [Noise reduction](#) for HDR merging
 - [Curves adjustment](#) for Tone Mapping Persona
- Panoramas with intelligent and accurate stitching
- Live projections (equirectangular and perspective)
 - Stacking (including raw images)
 - For noise reduction
 - For exposure merging
 - For moving object removal
 - Auto-alignment
 - Non-destructive behaviour
- Assets for storing layer content
- [Sort assets by date](#) in Assets Studio (from v1.9.2)
- Focus merging with source cloning (including raw images)
- Layers:
 - Drag-and-drop layers
 - Non-destructive adjustment layers with previews
 - Use global colours in [Gradient Map adjustments](#)
 - Shareable [LUTs](#)
 - Non-destructive Live Filter layers with 'Live' before/after split views
 - Non-destructive [Live Liquify filter layers](#)
 - More [filters](#) work on masks, adjustments and spare channels
 - Apply adjustments, filters and blend modes at the stack, layer, group, selection or object level
 - Fill layers
 - [Linking](#) layers
 - [Pattern](#) layers
 - High-quality layer effects
 - Clipping within layers
 - Blend modes
 - [Blend modes](#) work on 'alpha only' layers (masks, adjustments, live filters)
 - [Divide](#) blend mode
 - Blend ranges (linear and non-linear) and blend gamma control
 - [Per-layer hierarchical antialiasing](#)
 - Lock child layer positions
 - Isolating of layers for focused editing
 - Layer masks (brush-based and gradient)
- Selection tools:
 - Smart Selection Brush Tool
 - Polygon Marquee Tool with Freehand and Magnetic modes
 - Shaped selections
 - [Elliptical Marquee Tool](#) draws from centre
 - Flood Selection Tool
 - Select by sampled colour
 - Select Shadows/Midtones/Highlights
 - Select Reds/Greens/Blues
 - Select fully transparent, semi-transparent, fully opaque
 - Refine selections to capture fine detail
 - Store and save selections

- Edit selections as layers
- Image control:
 - Comprehensive metadata editing with IPTC Core 12 support; read metadata from XMP sidecar file
- Image information:
 - Place images as dedicated layers
 - Resampling: Nearest Neighbour, Bilinear, Bicubic and Lanczos 3 pixel scaling
- Painting:
 - Multi-category Brushes Studio
 - [Sort brushes by date](#) in Brushes Studio (from v1.9.2)
 - Undo Brush with 'paintback' to history step
 - Import/export brushes, including ABR file import
 - Create custom brushes (including image-based brushes)
 - [Create image brushes](#) from any pixel selection
 - [Create intensity brushes](#) from any mask's pixel selection
 - Assign tools to brushes selectively
 - Multi-controller support with brush dynamics
 - Pressure sensitivity (for Apple Pencil)
 - Velocity sensitivity
 - Customisable controller ramps
 - Wet Edges support with customisable ramps
 - Stroke stabilisation for smooth strokes
 - Brush symmetry (up to 32-ay) and optional brush mirroring
 - Brushes remember previously used stroke settings
 - Reset modified brushes back to brush default
 - Save current brush stroke as new brush directly
 - Move any custom brush to any category
- Retouching:
 - Red-eye removal
 - Inpainting for object removal
 - Clone Brush/Healing Brush
 - Blemish Removal/Patching
 - Dodge and Burn brushes
 - Sharpen, Blur, and Median brushes
- Macros and batch processing:
 - Playback pre-recorded macros
 - Import recorded macro libraries from desktop version, including Force macro pack
 - Batch processing (for file conversion)

Supporting vector design tools and concepts:

- Precise Pen Tool
- Intuitive Move tool (moves, scales and transforms)
- Customisable nudge distances
- Node tool for fine tuning vectors
- Customisable geometric shapes
- Boolean geometry operations
- Add noise to solid/gradient fills
- Styles presets with import/export
- Artistic and frame text via Text Studio
- [Text on a path](#)
- Advanced typography (ligatures)
- Convert shapes and text to fully editable curves
- Save and synchronise defaults

User interface:

- Personas as task and tool-orientated workspaces

Design Aids:

- Rotate canvas
- Intuitive panning

- Powerful snapping control
- [Snap to pixel selection bounds](#)
- Dynamic snapping guides for precise alignment
- Ruler and column guides
- Pixel-accurate alignment for web graphics and website mockups
- Automatic alignment grid
- Fluid document History <2048 steps
- Snapshots to freeze frame' stages in your design progress
- Save history with document (multi-session)
- Keyboard modifiers for on-the-fly tool changes
- Many modifiers available using Smart keyboard (selected iPad Pro models)
- Customise Smart keyboard shortcuts
- Assistant for controlling user preferences for:
 - layer rasterisation behaviour
 - layer masking control
 - brush tool sharing
 - RAW development

Interoperability/peripherals:

- Open Affinity Photo files (macOS/Win)
- Open Affinity Designer files (macOs/Win)
- Embedded Photoshop PSD Smart Objects retain editability
- Open Affinity template files (.atemplate)
- Access cloud storage (iCloud, Dropbox, Google drive) and local storage
- In-app [registration](#)
- [Content sync](#) of [Affinity Store purchases](#)
- [Mouse, trackpad and Magic Keyboard support](#)
- [External screen support](#)

Document control, Import, Export and Printing

- Affinity Designer, Affinity Photo, Affinity Publisher file placement
- High-quality Adobe Photoshop PSD import and export
- Adobe illustrator (ai) import and place
- PDF import
- Place images (PNG, JPG, GIF, TIFF, SVG, EPS, EXR, HDR)
- SVG import and export, including Inkscape extended SVG support
- [Scaling control](#) for placed documents (PDFs, PSDs and Affinity documents)
- Stock Panel for free and royalty-free image resources
- [JPEG-XR 101010 import](#)
- Export layers, groups and pages to PNG, JPEG, TIFF, GIF, EPS, SVG, PDF and PSD, OpenEXR, Radiance HDR
- Preserve layers in exported TIFF images
- Export image regions as drawn slices, or as layers, groups or whole page.
- Export to retina sizes (2x) and 3x
- Set export areas and file formats during or after designing
- Export document or current selection(s) to many raster image formats, PSD, PDF, EPS and more
- Export as template
- Web-ready PDFS (Acrobat) with presets
- Professional hi-res PDFX printing (CMYK) with presets
- [Spot colours](#) and [overprint](#) control
- AirPrint printing

SEE ALSO:

[Affinity Photo](#)
[Personas](#)

New features in this version

System, performance and compatibility

- [Benchmark](#) testing

Raw development:

- SerifLabs RAW engine support including Canon CR3
- Apple ProRAW DNG Support (Phone12 Pro)

Colour:

- [Global colours](#)
- [Spot colours](#)
- [Overprinting](#)

Solid photo-editing power:

- Channels:
 - [Isolate and edit spare channels as layers](#)
 - [Duplicate spare channel for backup](#)
- HDR:
 - [Noise reduction](#) for HDR merging
 - [Curves adjustment](#) for Tone Mapping Persona
- Layers:
 - Use global colours in [Gradient Map adjustments](#)
 - Shareable [LUTs](#)
 - Non-destructive [Live Liquify filter layers](#)
 - More [filters](#) work on masks, adjustments and spare channels
 - [Linking](#) layers
 - [Pattern](#) layers
 - [Blend modes](#) work on 'alpha only' layers (masks, adjustments, live filters)
 - [Divide](#) blend mode
 - [Per-layer hierarchical antialiasing](#)

Selection tools:

- [Elliptical Marquee Tool](#) draws from centre

Painting:

- [Create image brushes](#) from any pixel selection
- [Create intensity brushes](#) from any mask's pixel selection
- [Sort brushes by date](#) in Brushes Studio (from v1.9.2)

Supporting vector design tools and concepts:

- [Text on a path](#)

Design Aids:

- [Snap to pixel selection bounds](#)

Interoperability/peripherals:

- In-app [registration](#)
- [Content sync](#) of [Affinity Store purchases](#)
- [Mouse, trackpad and Magic Keyboard support](#)
- [External screen support](#)

Document control, Import, Export and Printing

- [Scaling control](#) for placed documents (PDFs, PSDs and Affinity documents)
- [JPEG-XR 101010 import](#)

SEE ALSO:

[Affinity Photo](#)
[Key features](#)

Personas

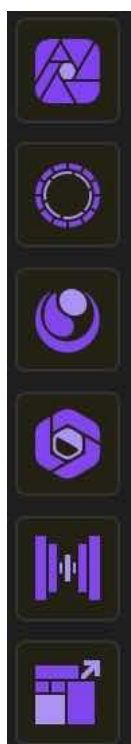
Think of Personas as different ways of working within Affinity Photo. If you want to work on a particular facet of photo editing (eg, retouching) jump to that Persona, then once finished, switch to another. Each Persona is equipped with its own tailored set of tools.

The idea behind Personas is that the user interface is kept uncluttered, thus improving your workflow and general ease of use.

This ensures maximum efficiency and design focus.

About each Persona

Here's an overview of the set of Personas available to you:



[Photo Persona](#): The main Persona, hosting your core photo-editing tools including painting and retouch tools

[Selections Persona](#): Tools for making selections to restrict edits to chosen parts of your image.

[Liquify Persona](#): For distortion of image areas. Great for retouch warping and special warping effects.

[Develop Persona](#): Processes your raw images with full control of image colour and tone.

[Tone Mapping Persona](#): Applies tone mapping to your image, bringing out local contrast.

[Export Persona](#): For exporting regions of your image to different file formats and image sizes. Layers, groups and objects can also be exported.

Switching Personas

When you switch to a different Persona, you get a different set of tools for specific photo-editing needs.

To switch to a different Persona:

At the top left of your workspace, tap the icon of the Persona you want to use.

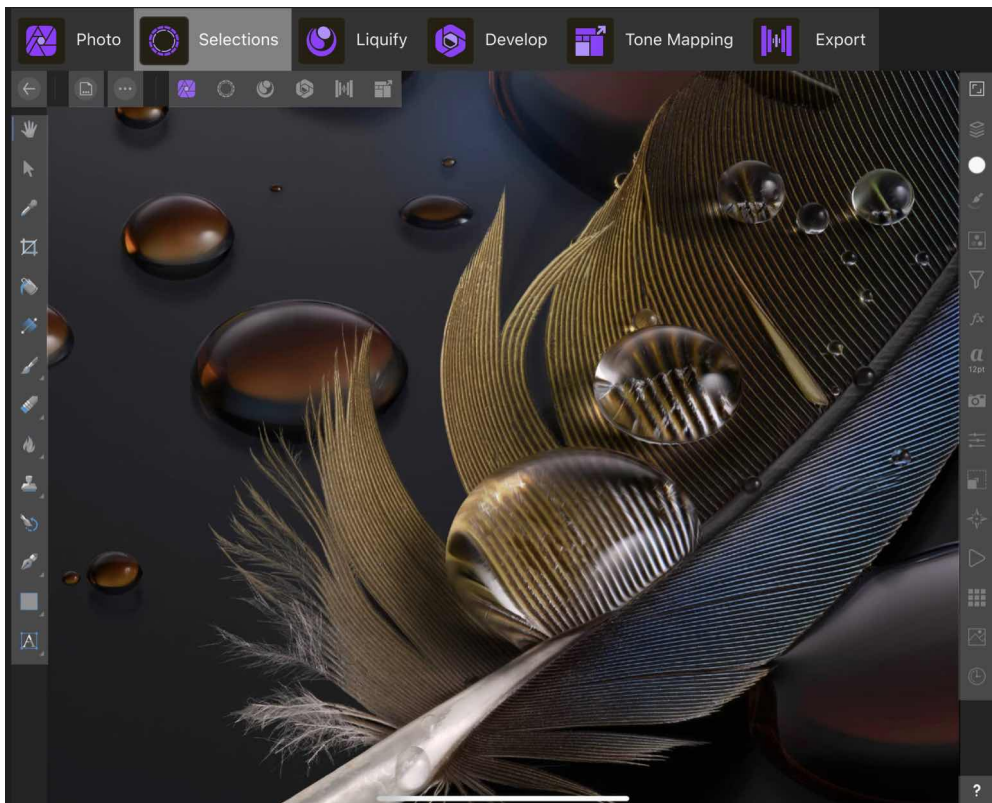
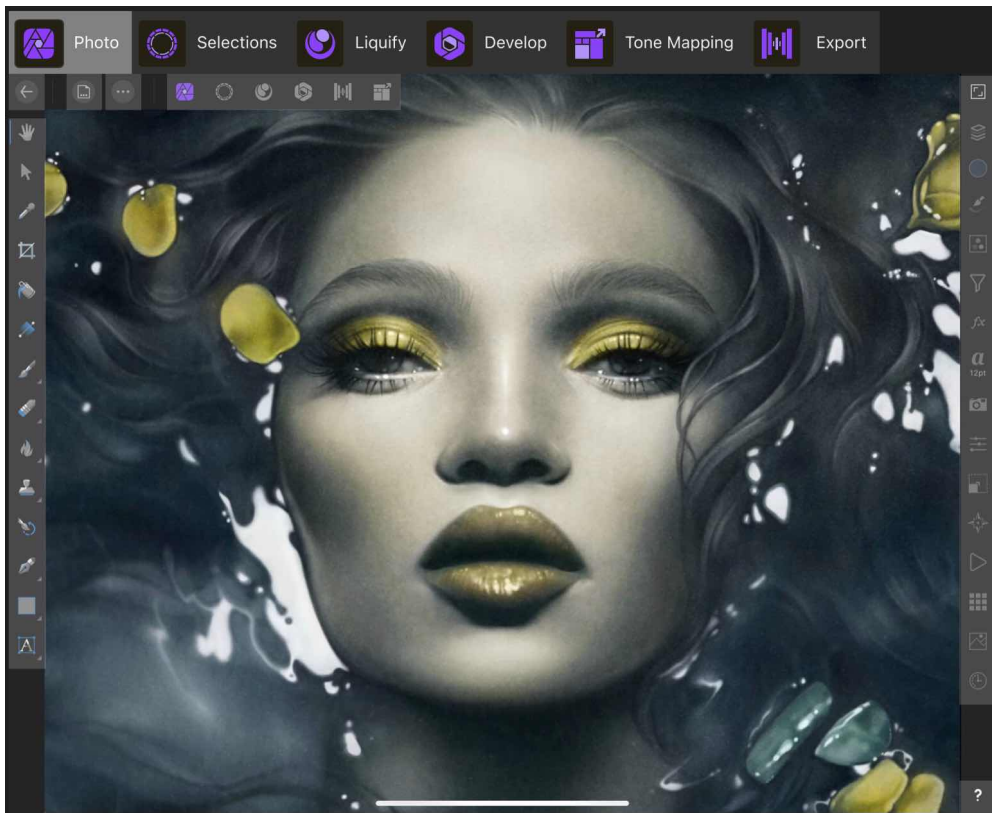
SEE ALSO:

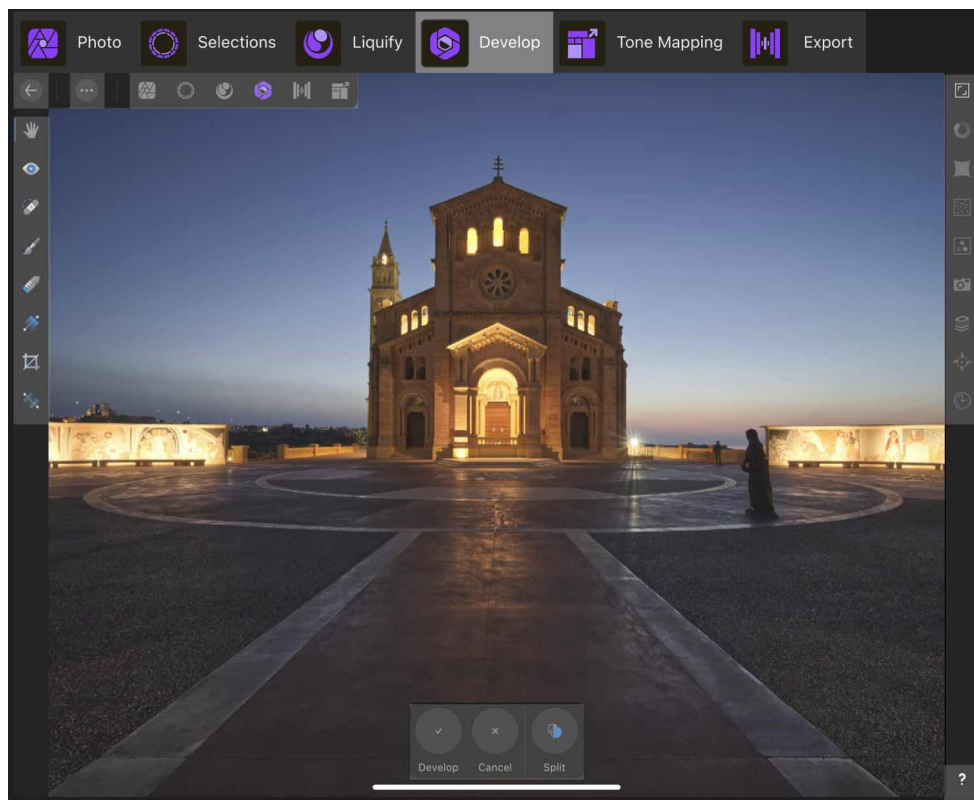
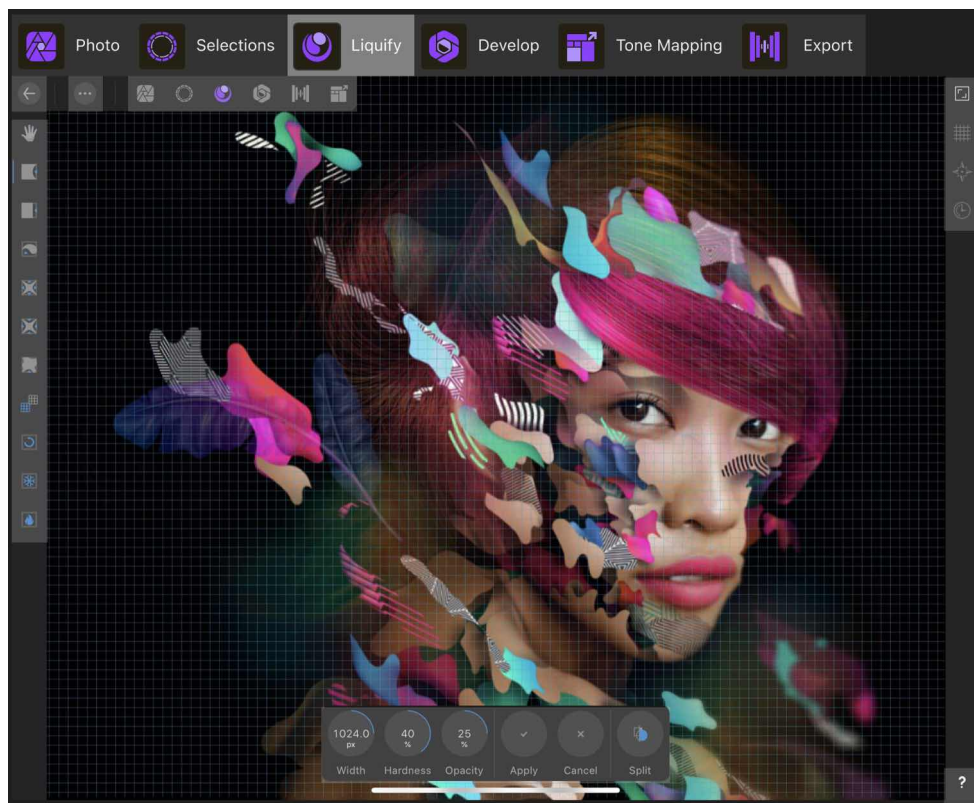
[What is Affinity Photo?](#)

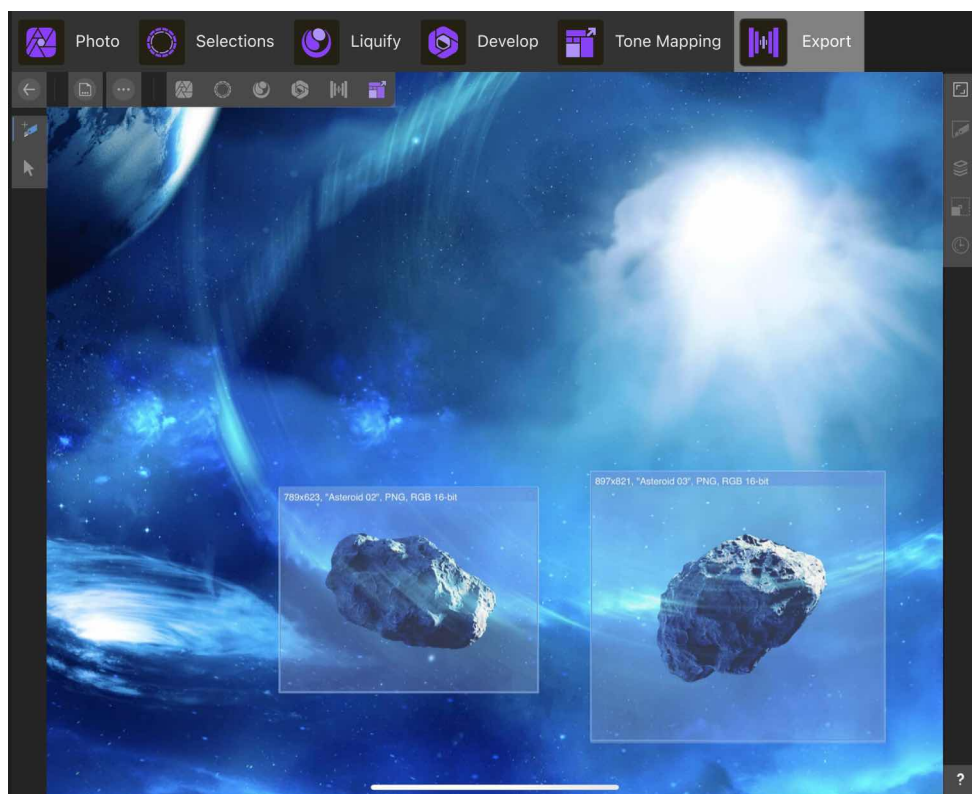
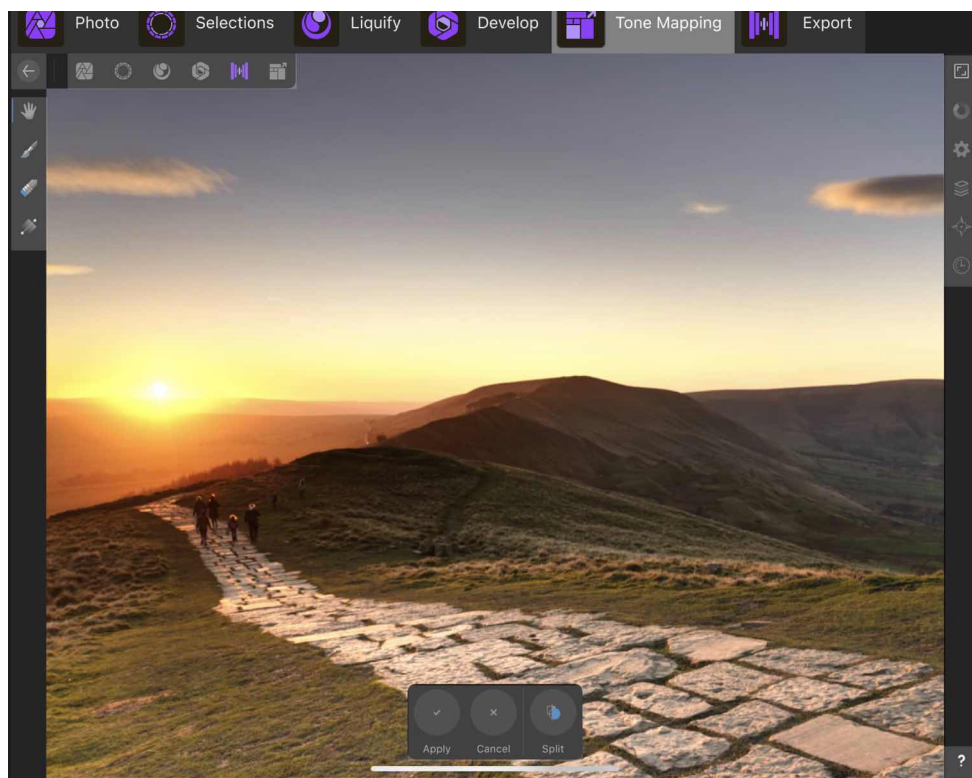
User Interface

Interface Visual Reference

Select a persona and tap any highlighted area to display a tooltip that identifies it.







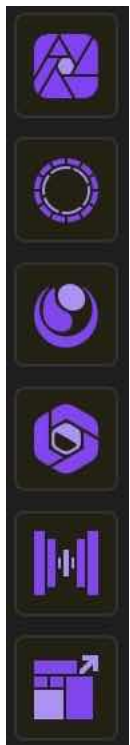
SEE ALSO:

[Persona toolbar](#)
[Context toolbar](#)

Persona Toolbar

The Persona toolbar hosts the current Personas available in Affinity Photo. settings

The following options are available from the Toolbar:



[Photo Persona](#)-provides the core set of photo editing tools.

[Selections Persona](#)-switches to selection tools for creating, editing and refining pixel selections.

[Liquify Persona](#)-switches to warping tools for retouch and special distortion effects.

[Develop Persona](#)-switches to a tonal and lens correction environment with support for raw image development.

[Tone Mapping Persona](#)-moves to an environment for tone mapping HDR and non-HDR imagery through global and local contrast.

[Export Persona](#)-for exporting regions of your image to different file formats and image sizes. Layers, groups and objects can also be exported.

Context toolbar

The context toolbar always updates to show the options available for the currently selected tool, making it quick and easy to tailor the settings as you edit and design.

Each time you select a new tool, adjustment or filter, the context toolbar shows the commands and options relevant to the selected tool.

In some cases, the commands shown by the context toolbar change depending on selection type and the active Persona.

SEE ALSO:

[Interface Visual Reference](#)

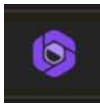


Photo Persona

The Photo Persona is the default Persona that you'll probably spend most of your time in. It hosts a range of commonly used photo editing tools for easy access while editing.

The Photo Persona workspace

The tools presented vertically down the left of the workspace are mostly unique to the Photo Persona. Some other areas of the workspace pertinent to this Persona are the Document Menu, Commands Menu and Studios.



Document Menu

The Document Menu is common to both the Photo Persona and Selections Persona. It hosts the same set of commands which are focused on document-level features such as document resize, print, export, flatten, and various design aids (snapping, grids and guides).



Commands Menu

The Commands Menu differs between Personas-the list of commands are context sensitive to the currently active Persona, and support the Persona's way of working.

For Photo Persona, the commands available are focused on pasting or placing content on the page, as well as various operations that can be performed on layer content.

Studios

The set of Studios in this Persona is shared with the Selections Persona and offers layers, colour, adjustments, filters, channels and many more essential features. The Studios support the current Persona's toolset.

SEE ALSO:

[Selections Persona](#)

[Liquify Persona](#)

[Develop Persona](#)

[Tone Mapping Persona](#)



Develop Persona

The Develop Persona is the environment for processing raw images in Affinity Photo.

The Develop Persona workspace

The tools presented vertically down the left of the workspace are a small subset of editing tools available from the Photo Persona. Some other areas of the workspace pertinent to this Persona are the Commands Menu and Studios.



Commands Menu

The Commands Menu differs between Personas-the list of commands are context sensitive to the currently active Persona, and support the Persona's way of working.

For Develop Persona, the commands available let you synchronise between before and after Split views and view clipped regions that require attention during raw processing.

Studios

This Persona offers unique Studios that are designed for powerful raw image development. Studios allow you to control exposure/white balance, colour, tone, noise, lens issues, and apply overlays for adjusting only specific areas.

SEE ALSO:

[Photo Persona](#)
[Selections Persona](#)
[Liquify Persona](#)
[Tone Mapping Persona](#)



Selections Persona

The Selections Persona provides a range of selection tools for demarcating selected regions of your image for editing.

Selections are used for masking and applying adjustments and filters selectively.

The Selections Persona workspace

The tools presented vertically down the left of the workspace are mostly unique to the Selections Persona. Some other areas of the workspace pertinent to this Persona are the Document Menu, Commands Menu and Studios.



Document Menu

The Document Menu is common to both the Selections Persona and Photo Persona. It hosts the same set of commands which are focused on document-level features such as document resize, print, export, flatten, and various design aids (snapping, grids and guides).



Commands Menu

The Commands Menu differs between Personas-the list of commands are context sensitive to the currently active Persona, and support the Persona's way of working.

For Selections Persona, the commands are focused on different selection operations.

Studios

The set of Studios in this Persona is shared with the Photo Persona and offers layers, colour, adjustments, filters, channels and many more essential features. The Studios support the current Persona's toolset.

SEE ALSO:

[Photo Persona](#)
[Liquify Persona](#)
[Develop Persona](#)
[Tone Mapping Persona](#)



Liquify Persona

The Liquify Persona offers image warping tools for subtle retouch or more creative effects.

The Liquify Persona workspace

The tools presented vertically down the left of the workspace are unique to the Liquify Persona (except the View Tool).

Some other areas of the workspace pertinent to this Persona are the Commands Menu and Studios.



Commands Menu

The Commands Menu differs between Personas-the list of commands are context sensitive to the currently active Persona, and support the Persona's way of working.

For Liquify Persona, the commands available let you control both the liquify mesh and masking.

Studios

The Liquify Studio is the main Studio of interest in this Persona. It offers mesh display and reconstruction options.

SEE ALSO:

[Photo Persona](#)

[Selections Persona](#)

[Develop Persona](#)

[Tone Mapping Persona](#)



Tone Mapping Persona

The Tone Mapping Persona lets you apply local contrast to an image, either as a final step in an HDR merge process or to an image at any time.

The Tone Mapping Persona workspace

The workspace is simpler compared to the Photo Persona workspace. Only a small set of overlay tools are presented vertically down the left of the workspace for tone mapping specific image areas only.

Studios

The Basic or Presets Studio lets you apply tone mapping manually or by using presets, respectively. The Studios are unique to the Tone Mapping Persona. Other Studios are shared with those in the Develop Persona.

SEE ALSO:

[Photo Persona](#)
[Selections Persona](#)
[Liquify Persona](#)
[Develop Persona](#)

Getting Started

App registration and content syncing

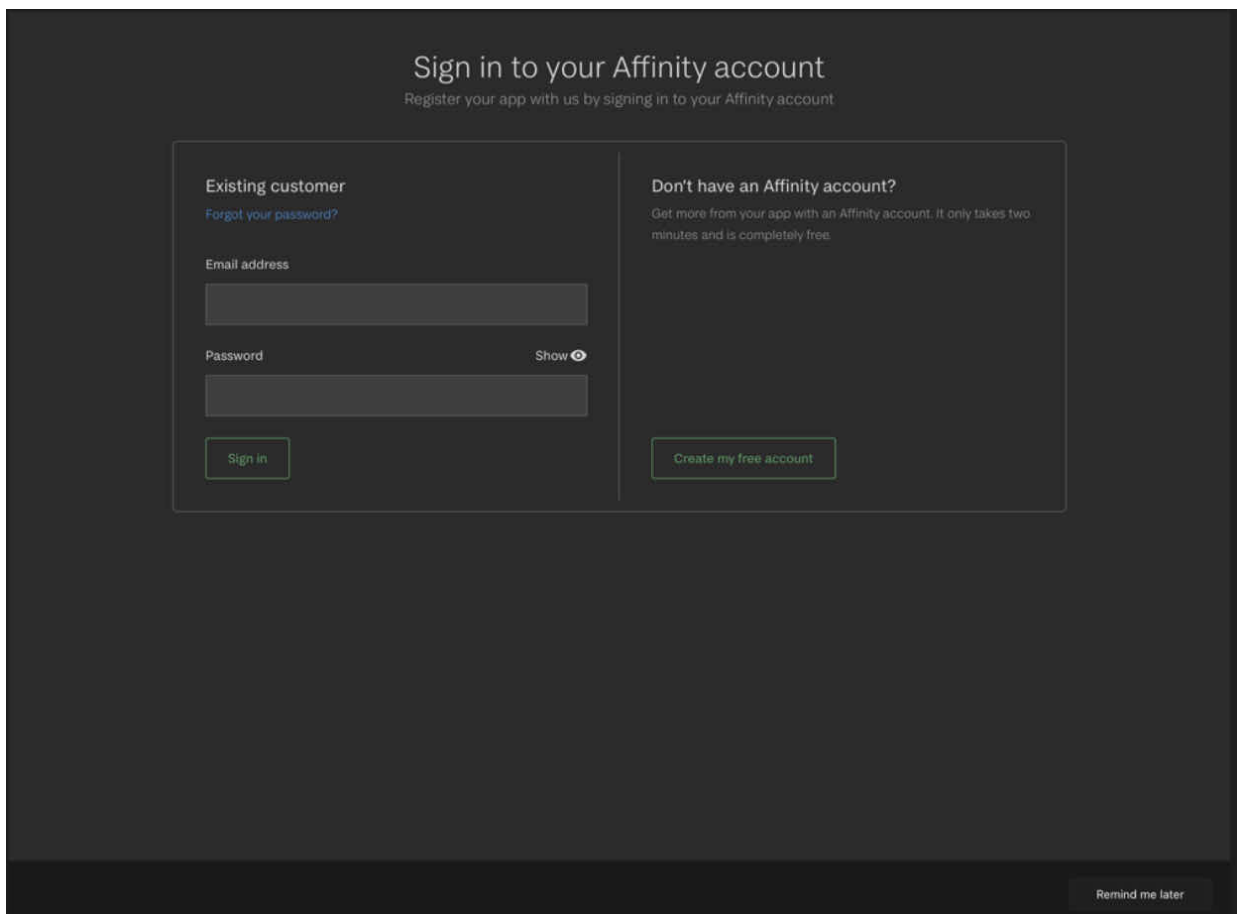
Registering your Affinity app requires an Affinity ID, an account that's used to manage your purchases from the Affinity Store.

You can create a new Affinity ID when registering your app, or sign in to an existing one. Registration is not compulsory to use the app. However, as a bonus for doing so, a licence for specially selected content is added to your account free of charge. You do not have to register payment information to create an Affinity ID and claim the free content.

Content purchased from the store, such as brush packs and .afassets files, is easily installed-manually or automatically-and available to use at all times. A persistent Internet connection is not required.

Registering your app

The registration window is presented the first time your Affinity app is opened. If you deferred registration at that time, select **My Account** at the top right of the app's Home screen to reopen the window.



The screenshot shows a dark-themed registration window titled "Sign in to your Affinity account". Below the title is a subtitle: "Register your app with us by signing in to your Affinity account". The window is divided into two main sections. The left section, titled "Existing customer", includes a link "Forgot your password?", an "Email address" input field, a "Password" input field with a "Show" toggle, and a "Sign in" button. The right section, titled "Don't have an Affinity account?", includes a paragraph: "Get more from your app with an Affinity account. It only takes two minutes and is completely free." and a "Create my free account" button. At the bottom right of the window is a "Remind me later" button.

From the window you can sign in using an existing Affinity ID or create a new one.

To register a new Affinity ID:

1. Select **Register Now** and then **Create my free account**.
2. Across the next few pages, provide your email address, first and last names and country.
3. You'll be asked to create a secure password to protect your Affinity ID. After entering it, select **Show** to confirm what you typed, then select **Continue**.



After revealing what you typed, you can copy it to the Clipboard and paste it into your password manager.

4. Choose whether to stay informed about news and offers, and confirm you've read the [terms and conditions](#) and [privacy policy](#).
5. Select **Create Affinity ID**.
6. In the email that confirms your account's creation, select Verify email address.

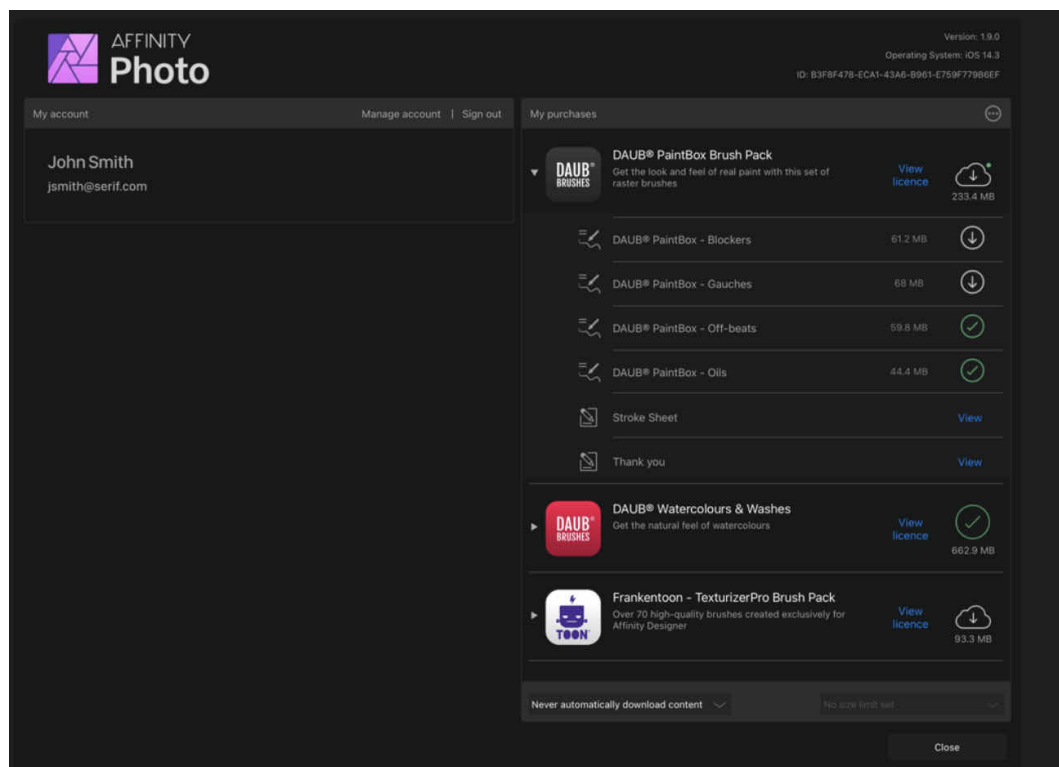


If the email does not arrive, return to the registration window. After a period of inactivity, it will present options to resend the verification email or change your account's email address, e.g. in case you made a typo.

7. Return to the registration window, which will confirm your registration is complete. Select **Go to My Account**.

Managing your Affinity ID

With your app signed in to your account, the window changes to show all the content registered to your Affinity ID.



From here, you can manage your **Affinity ID**, choose which content is installed, and customise the app's installation. The default behaviour is never to automatically download content, which avoids unwanted consumption of any metered data allowance. To open this window at a later time, select **My Account** at the top right of the app's Home screen.

To manage your Affinity 1D's details:

1. Select **Manage Account**.
2. In the web page that opens, enter the email address and password for your Affinity ID.
3. Select **Sign in**.

Use the website to review your order history, download your products, and update your name, email address, country, email marketing preferences and account password.



Downloading your products from the website enables you to keep a backup that can be installed manually at any time, e.g. when an Internet connection is unavailable, via the related part of the app.

To automatically install Affinity Store purchases:

You might do this if your Internet connection is unmetered or your device is only ever online via Wi-Fi.

1. Below the **My purchases** list, open the left-hand menu and select **Download available content on Wi-Fi** or **Always download available content**.
2. From the adjacent menu, choose the maximum size for each piece of auto-installed content.

To manually install content:

1. (Optional) Select **View licence** next to each required item to review its usage terms.
2. Do one of the following:
 - Select each required item's adjacent cloud icon to download the item.
 - Select the icon at the top right of **My purchases** and then select **Download all**.

A green tick indicates the adjacent item is installed and available for use in your app.
A red cross indicates the adjacent item failed to download. Tap it to retry.



If an Affinity Store purchase that is compatible with the Affinity app in use is not listed, select the icon at the top right of My purchases and then Re-sync library.



By default, only Affinity Store purchases compatible with the Affinity app in use are listed. To see all your content purchases, select the icon at the top right of My purchases and then Show incompatible packs.

To uninstall content:

1. Do one of the following:
 - Select each unwanted item's adjacent green tick.
 - Select the icon at the top right of **My purchases** and then **Uninstall all**.
2. Select **Yes** on the confirmation dialog.

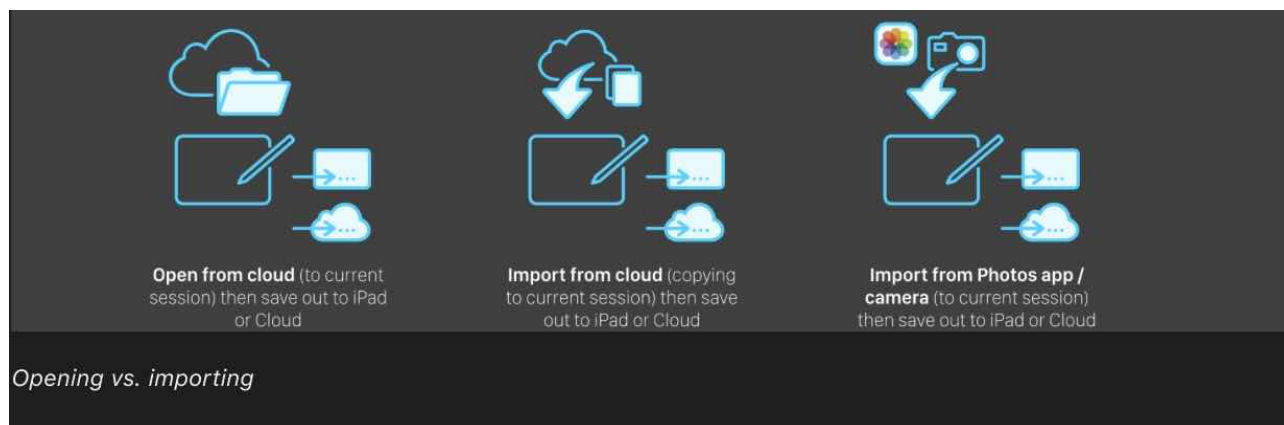
SEE ALSO:

[Creating new documents](#)

Opening and importing

For many users, the starting point to your project will be to open or import an image and then edit it. Images can be accessed from local and cloud storage (eg, iCloud), or from your iPad's Apple Photos app. Of course, you can also open already saved Affinity Photo documents (iPad or desktop), Affinity Designer documents, PSD, and PDF files.

The choice of whether to open or import files is an important decision in Affinity Photo. Understanding the difference will help with file management and backup strategies.



Opening in place

You can open images and previously saved Affinity documents (plus PSDs) from local or cloud storage. When opening, the key point is that these files are kept in their original location and will be overwritten on saving. However, if you add layers to an opened 'flat' image, you can either flatten the document on saving (this overwrites the original image in its original location) or save the document to a new fixed location on local/cloud storage. The latter preserves layer information.

Importing by copying

Unlike opening, importing always makes a copy of the original image or document and loads it as an "internal" document. The imported file could be from your Apple Photos library or from local cloud storage. On saving, the document will be added to cloud storage or On My iPad to a fixed location.



Camera raw images can also be opened, which are launched initially for raw development in a unique Develop Persona for processing, but must be saved as a document to a new fixed location as they have to be processed.

Recent documents are shown as thumbnails at the top of Affinity Photo's Home screen for your convenience. They are actually open minimized documents, so saving and closing a document will create a physical file and remove the document's thumbnail from the app's Home screen.



*When opening Affinity Publisher documents, the **Document** menu gains an additional **Page Locator** on the context toolbar, allowing you to jump between pages.*



To open an image or document in place:

1. From Affinity Photo's Home screen, tap the plus icon.
2. Select **Open From Cloud** to access your local or cloud storage (e.g., iCloud, Dropbox or other cloud storage).
3. Navigate to, then tap the file to open.



To import an image or document (by copying):

1. From Affinity Photo's Home screen, tap the plus icon.
2. Select one of:
 - **Import From Cloud**-accesses your local or cloud storage.
 - **Import From Photos**-accesses your Apple Photos library.
 - **Import From Camera**-captures and opens a photo with your iPad device. You can shoot RAW, bracketed HDR, toggle face detection and display on-screen aids such as a histogram and vectorscope.

For the first two options, navigate to and tap the file you want to open. For the last option, the photo you've taken using the iPad camera will load automatically into Affinity Photo.

To display a document:

- From Affinity Photo's Home screen, tap a recent document's thumbnail.



*An opened or imported file's colour space is preserved by default, but you can assign a different colour space via the **Document** Menu (Convert Document option).*



On opening or importing an image, the 'Background' layer is unlocked by default (this can be changed by updating your Preferences). Layers which are locked show in the Layers Studio with a lock symbol next to them. Locked layer content, when selected, appears with crosses around its bounding box.



*On your iPad's Home screen, hold a finger on Affinity Photo's icon to reveal a quick actions menu. The menu lists PNG and JPEG images saved recently from other iPad apps to iCloud Drive or On My iPad. Tap an image. to open it in Affinity Photo as if you had chosen **Open From Cloud** within the app.*

SEE ALSO:

[Create new documents](#)
[Opening a raw image](#)
[Place images](#)
[Saving](#)
[Closing](#)
[Colour management](#)
[Supported file formats](#)

Opening a raw image

You can open raw images from your digital camera directly into Affinity Photo. In doing so, you'll be able to process the unprocessed image, deciding for yourself how your image is to be developed.

For a comprehensive up-to-date list of RAW file support, please see the following links:

[SerifLabs RAW](#) (iPad, Mac & Windows)

[Apple Core Image RAW](#) (iPad, Mac only)

Processing raw images is carried out exclusively within Affinity Photo's Develop Persona. Once you commit to how you want to your image to be developed, the image can then be worked on in other Personas.

To open a raw image:

1. From Affinity Photo's Home screen, select one of:

- **Open From Cloud or Import From Cloud**-accesses your local and online cloud storage (e.g., iCloud). Note that not all cloud storage options support identification and downloading of RAW images.
- **Import From Photos**-accesses your Photos library. RAW images are identified with a RAW tag on the thumbnail.
- **Import From Camera**-captures a RAW image with the iPad's in-built camera and opens it in Develop Persona.

Once tapped, the raw image is loaded into Develop Persona for processing.

SEE ALSO:

[Developing a raw image](#)

[Cameras supported with SerifLabs RAW \(Mac & Windows\)](#)

[Cameras supported with Apple Core Image RAW \(Mac only\)](#)

Creating new documents

When you create your new document you specify document type, dimensions and colour settings depending on the purpose of your document. Once created, you can duplicate any document.

The following settings are available:

- **Type**-Select the aim and deliverable for your project (for quickly populating settings below). As well as Print for desktop printing, Print (Press Ready) for professional CMYK printing, you can work to specific Photo print sizes, specific Web screen resolutions, and with the Device option, design to iPad, iPhone, and Nexus document specifications.
- **Page Size**-Offers sizes for Uk/US print, photos, screen use, and mobile devices.
- **Document Units**-Displays your rulers and object dimensions in pixels, points or physical measurement units.
- **Colour Format**-Sets the colour mode to RGB or Grey (8 or 16 bit), CMYK (8 bit), or Lab (16 bit).
- **Colour Profile**-Sets the colour gamut for the previously chosen colour format.
- **Dimensions**-Change the Width, Height, or DPI (resolution) values to make a custom page size. (An alternative to selecting a document Page Size above.)
- **Options**-Tap Orientation to present your document in portrait or landscape orientation. Tap Background to set your page background to be either white or transparent.



*To change document units once a document has been created, use the **Document Menu** and tap **Resize**, then adjust the **Units** setting.*



To create a new document:

1. From Affinity Photo's Home screen, tap the plus icon.
2. Choose **New Document**.
3. Adjust above settings according to type of deliverable.
4. Tap **OK**.

To duplicate a document:

1. From Affinity Photo's Home screen, tap the menu icon at the bottom right of the saved document's thumbnail.
2. On the pop-up menu, tap **Duplicate**.

A duplicate of the document is placed alongside the original document on the Home screen.

Document presets

To make document setup quick and easy, one of several presets can be chosen which group recommended document setup options according to how you plan to work.

To select a preset:

- From Affinity Photo's Home screen, tap the plus icon.
- Choose **New Document**.
- From the first menu, select **Presets**.
- Select a preset from the menu below.

To customise a preset:

1. From Affinity Photo's Home screen, tap the plus icon.
 2. Choose **New Document**.
 3. From the first menu, select Presets
 4. Select **Custom** from the menu below.
- The options will be in effect immediately.

To save as a custom preset for future use:

1. Tap the menu button adjacent to the second menu.
 2. Select **Create preset**.
- The custom preset is in effect immediately.



Using the menu button, you can also rename or delete the selected preset.

SEE ALSO:

[Opening and importing](#)
[Colour models](#)

New document from clipboard

You can create a new document based on the current contents on the clipboard. A 'paste as new document' command allows you to start a new project from a range of sources, e.g. from another project in Affinity products or from copied or captured imagery.

Results from copied vector objects (or layers)

If you've copied a vector object to the clipboard, then the command will create a new document that is sized to the vector object. The copied object will remain as a vector object in the new document.

Results from copied pixel selections

If you've copied a drawn pixel selection, the command will paste those pixels into a new 96dpi document in a pixel layer.

Results from copied images or captured screenshots

If you copy images from Internet web pages or capture a screenshot to clipboard (e.g., using Apple's Screenshot app), the new document creates an image layer, not a pixel layer, from the copied data. The advantage being that the layer is non-destructive, i.e. it avoids rasterisation and loss of the image's original resolution and colour space. You can still manually rasterise from the Layers Studio.



To create a new document based on clipboard contents:

- From Affinity Photo's Home screen, tap the plus icon.
- Choose **New from Clipboard**.



You can use this feature without having any document open.

SEE ALSO:

[Creating new documents](#)

[Opening and importing](#)

Document templates

Document templates contain reusable text styles, graphics, and layouts, giving you a file that's ready to go from the moment you open it.



No templates are shipped with your app by default.

About document templates

iOS Photo allows you to create (export) document templates, which typically contain placeholder content and text. Templates have a .aftertemplate file extension.

When saving a template, a preferred set of defaults will be saved with it. Text attributes, object properties, stroke/fill colour, guides, as well as grid setup, and more can be associated with a template.

To save a file as a template:

1. From the **File** menu, select **Export As Template**.
2. A pop-up dialog will appear, prompting you to enter a name and choose a location for your template. When you have selected a location, tap **Save**.



To create a document from a template:

1. From Affinity Photo's Home screen, tap the plus icon.
2. Choose **New Document**.
3. Select **New From Template**.
4. Select a template from **Recents** or tap **Browse** to locate a template.

SEE ALSO:

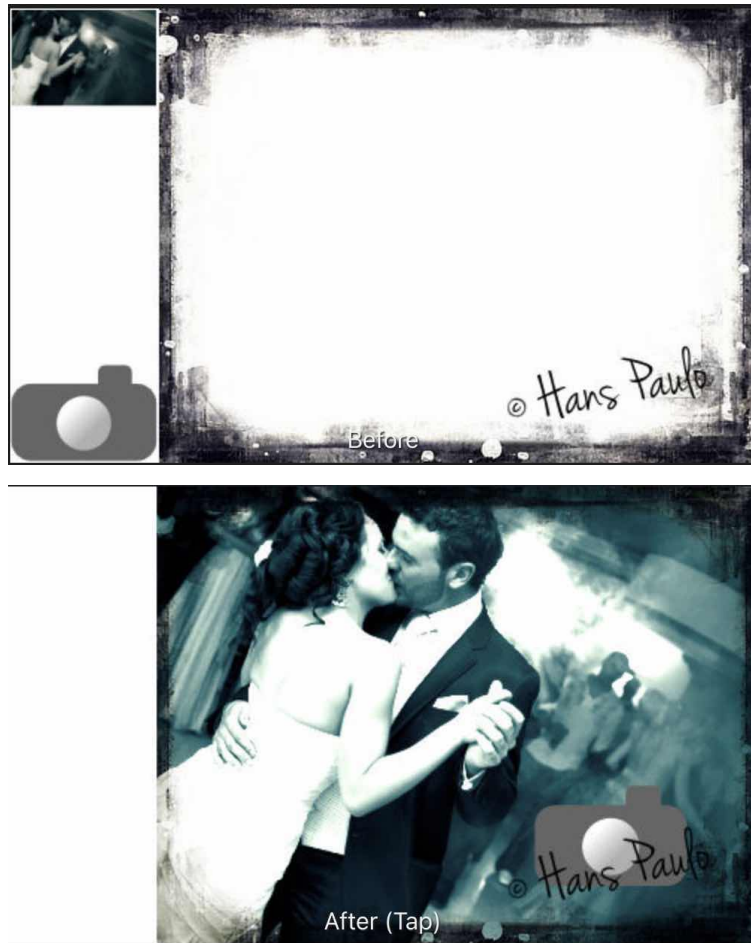
[Create new documents](#)

[Importing templates](#)

Embedding documents

You can place any document from local or cloud storage into your current document without the need to open each file in turn.

Affinity (Designer, Photo, etc.), Photoshop, Illustrator, Freehand, SVG, EPS or PDF can be embedded. These files are embedded documents and can be edited without leaving your current document



Before and after documents from Affinity Photo and Affinity Designer embedded into current document.



To embed a document:

1. From the **Photo Persona**, open the **Commands** Menu and tap **Place**.
2. From the flyout, tap **Place from cloud**. Use this command to also access files on local storage too (On My iPad location).
3. Navigate to, select, then tap your document file.
4. Do one of the following:
 - Tap to place the document at its native size.
 - Drag on the page to set the size and position of the document.



*Embedded documents are indicated as such in the **Layers** Studio and use their original document name as the layer name.*



*Affinity Photo converts Smart Objects in Photoshop documents to pixel layers by default. To convert to embedded documents instead, turn on **Import PSD smart objects where possible** in the app's General*

To edit an embedded document:

With the **Move** tool enabled, double-tap the placed document. You'll notice that the Layers Studio will change to that of the embedded document.



Changes are saved within the main document without affecting the original. You can swap back to the original using the Home button at the very top left of your workspace.



The editability of the embedded document may be affected by how the original document was saved in its native application.

SEE ALSO:

[Opening and importing](#)

Placing content

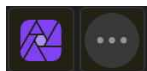
Placing content allows you to include images and Affinity (Designer, Photo, etc.), Photoshop, Illustrator, Freehand or PDF documents into your current document without the need to open each file in turn. You can add as a new layer directly from cloud storage (iCloud, Dropbox, etc.), local storage (On My iPad), Apple's Photos app, or even from email messages.

About placing content

Once you've opened your image/document, you can place additional content.

Some useful tips when placing content include:

- For images, the placed image is added as an image layer rather than a pixel layer. This allows the original image data (e.g., the native resolution, colour space and colour profile) to be kept. Some brush operations (e.g, retouching) will automatically rasterise image layers to the document resolution; inpainting or selection manipulation on an image layer will require manually rasterisation via the **Commands** menu. You can control automatic rasterisation behaviour using the Assistant. On export to PDF the image data is re-embedded into the PDF file.
- Placed PDFs offer a **PDF Passthrough** option on the context toolbar, which defaults to Passthrough for exact reproduction within your own PDFs. If that's not possible, the Interpret option is selected. A bitmap preview of the PDF's contents is displayed while editing your document in Affinity Designer.
- For an Affinity document, PDF or PSD file, it will be listed in the Layers panel as an "Embedded document".
- The added content can be rasterised at any time via the **Layers Studio**.
- The file's embedded colour profile will always be converted to the document's current working space.
- For unprofiled placed images, the colour space is assumed to be RGB.
- Some brush operations will automatically rasterise image layers to the document resolution.



To place content:

1. From the Photo Persona, open the Commands Menu and tap **Place**.
2. From the flyout, tap **Place from Photos** or **Place from cloud**. Use the latter to access local storage via the On My iPad location.
3. Navigate to, select, then tap your image file.
4. Do one of the following:
 - Tap to place the content at its native size.
 - Drag on the page to set the size and position of the content.



Alternatively, you can drag and drop from any of the above locations as well as your emails.

SEE ALSO:

[Opening and importing](#)

Panning

You can work on different areas of your design by using panning. This moves the document within the document view so only portions of your document are shown; the feature is useful when navigating a 'zoomed in' document.



To pan an image with the View Tool:

1. From the left, select the **View** Tool.
2. Drag the document in relation to its view.

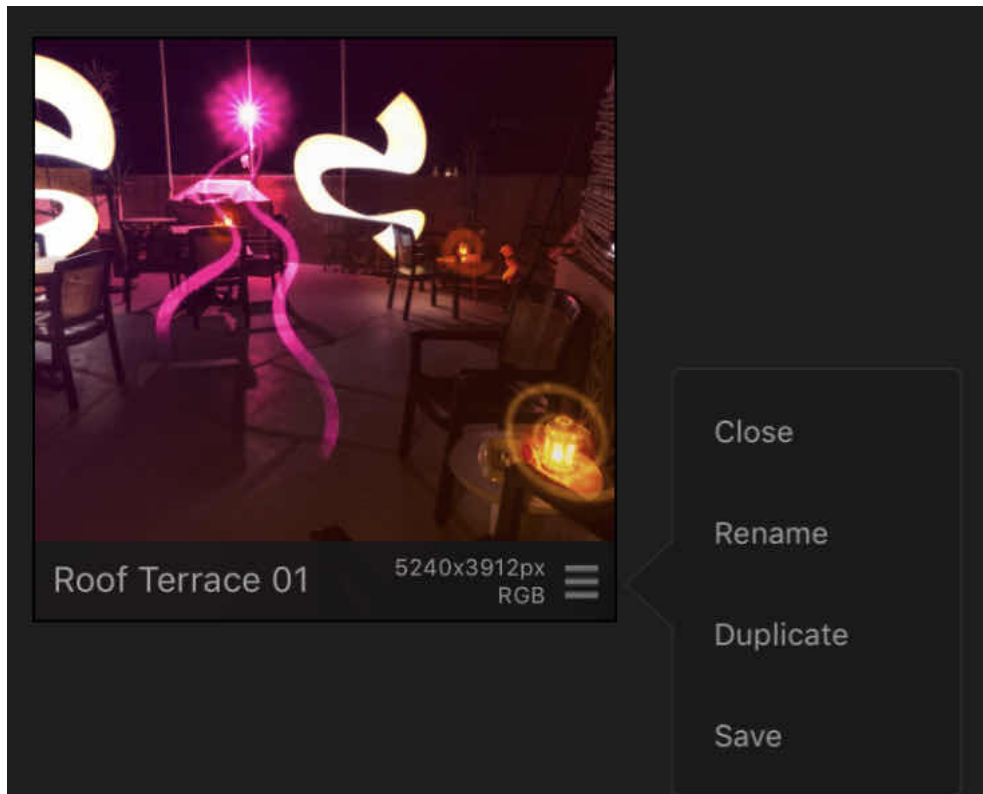
SEE ALSO:

[View Tool](#)

Saving

In Affinity Photo all edits you make are saved in the document history, not just for the current session but for any subsequent session too. You can also save your project as an .afphoto file at any time. Where this file will be written to depends on whether you have imported an image or opened an image "in place".

Affinity Photo's Home screen acts much like a series of "tabbed" documents you would typically find in the desktop version. All documents are stored internally as part of the app's storage, but you can also save them out. If you have opened a file "in place" (eg. from cloud storage), the document will be saved back to that file. If you have imported a file, and thus created a copy, the document will be saved to either local iPad storage ("On My iPad") or to iCloud Storage (in a directory named "Affinity Photo") where you can easily access them. The choice of save location is determined by the Preferences option.



If you have imported a Raw image or an image from your Apple Photos library, a saved Untitled document will be created. For other imported documents (e.g. .afphoto or image files), the existing filename will be used.

If you need to undo your work at any time, you can use the **History** Studio to scroll back to a history step from which to begin editing again; history steps subsequent to this step will be replaced by your new editing steps.

If your document is newly created, you may like to rename it from 'Untitled' to something more meaningful and memorable.

To rename a saved Untitled document:

1. From Affinity Photo's Home screen, tap the menu icon at the bottom right of the saved document's thumbnail.
2. On the pop-up menu, tap **Rename**.

To save your document:

1. From Affinity Photo's Home screen, tap the menu icon at the bottom right of the saved document's thumbnail.
2. On the pop-up menu, tap **Save**.

To close your document:

1. If you wish to keep your work, ensure you have saved the document first by using the **Save** option.
2. From Affinity Photo's Home screen, tap the menu icon at the bottom right of the saved document's thumbnail.
3. On the pop-up menu, tap **Close**.



To save a copy of your document (from workspace):

1. From the **Document** Menu, select **Save a Copy**.
2. (Optional) Enable **Save History** if you want the history to be retained in the copied document.
3. Enter a new file name for the copied document.
4. Tap **Save**.
5. Choose your desired cloud storage and (optionally) a directory to save the document to.

Using either *Save a Copy* or *Save with the location* set to iCloud Drive is useful if you want to continue editing your iPad project on the desktop version of Affinity Photo.

SEE ALSO:

[Opening and importing](#)

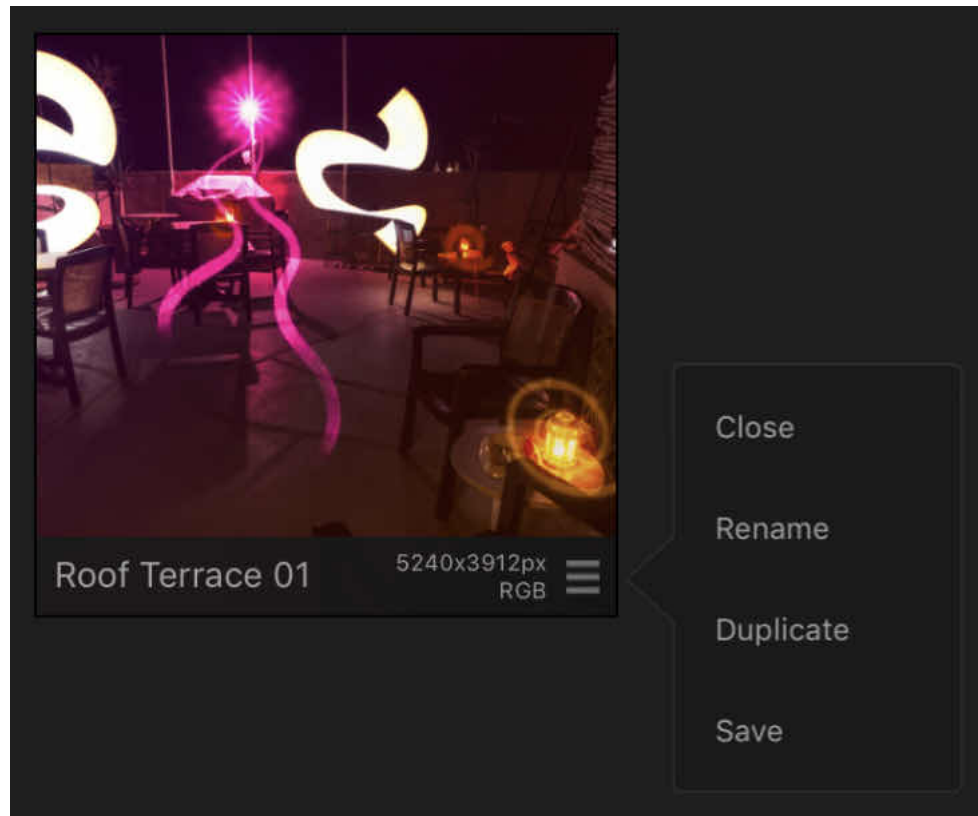
[Closing documents](#)

[Using undo, redo and history](#)

[History Studio](#)

Closing documents

A document is considered open when it appears as a thumbnail, alongside other documents' thumbnails, on Affinity Photo's Home screen. Tapping a document's thumbnail on that screen simply brings the document into view for editing. Closing a document removes its thumbnail from the Home screen if you've already saved a copy of it or deletes it permanently if you haven't saved it. If [saved](#), you can [open](#) the saved copy at a later date.



To close a document:

1. From Affinity Photo's Home screen, tap the menu icon at the bottom right of the document's thumbnail.
2. On the pop-up menu, tap **Close**.

You'll be warned on exit that your work will be lost unless exported or saved.

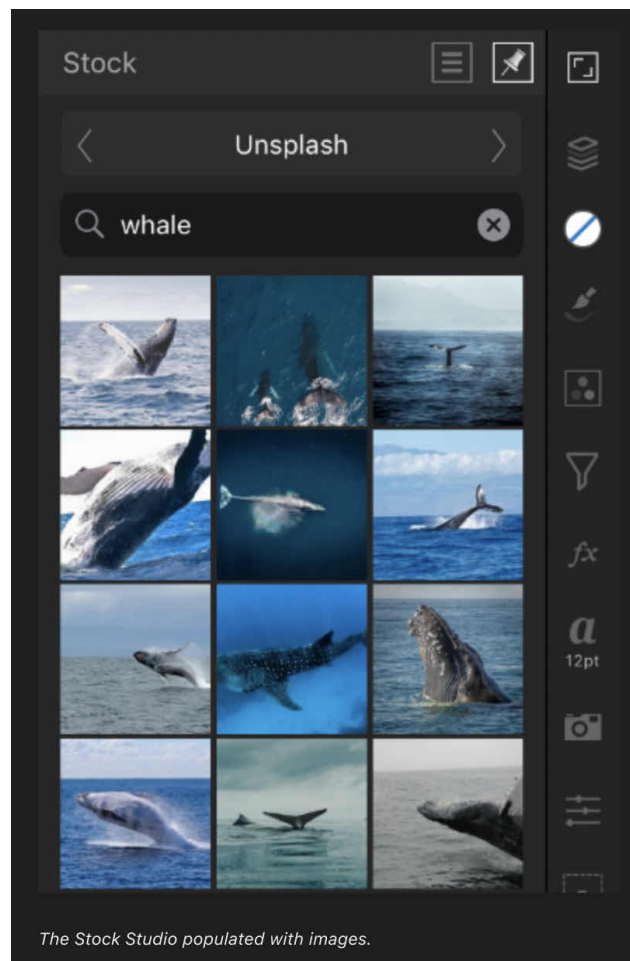


SEE ALSO:

[Opening and importing](#)
[Saving](#)

Using stock photos

The [Stock Studio](#) allows you to search various stock imagery websites to find images and then add them to the page.



To search for stock images:

On the **Stock** Studio

1. Select a stock imagery website from the Archive pop-up menu.
 2. Tap to access the search box, type in your keyword(s), and then tap **OK**.
- Thumbnails of all images matching the search criteria will display in the Studio.

To add a stock image to the page:

Long press and drag the thumbnail of an image from the **Stock** Studio onto the page.

SEE ALSO:

[Stock Studio](#)

Touch Gestures

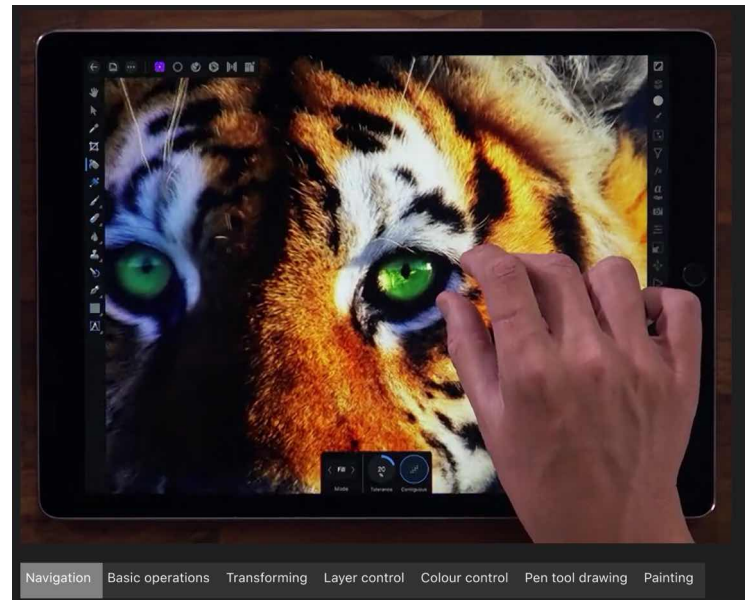
Affinity products for iPad are designed to be used with touch-based gestures like pinching, tapping and swiping. The following gestures can be used in Affinity Photo:



*You can enable palm rejection in Photo so that the app only responds to touch when it is used for gestures. To do this, go to the **Preferences** from Affinity Photo's Home screen and open the Tools tab, then switch on the **Touch for gestures only** option.*

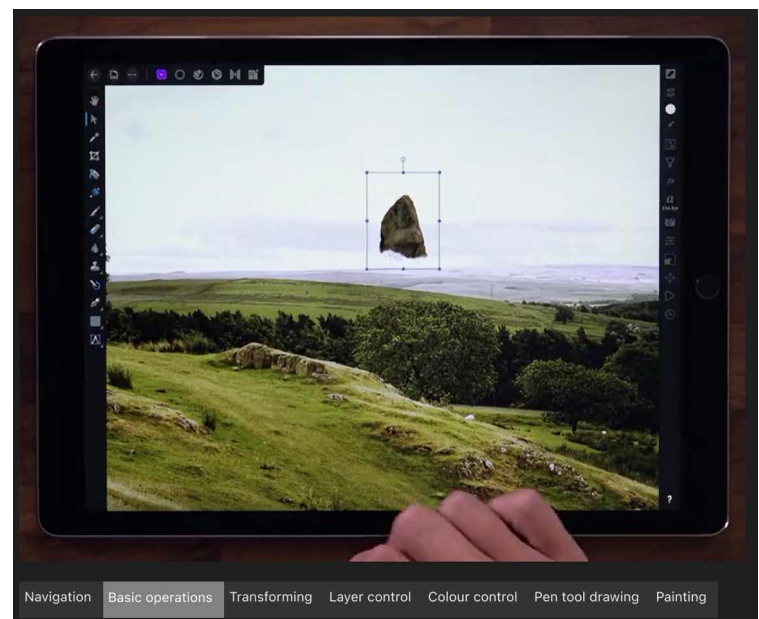
Navigation

- With the View Tool selected, a single-finger drag will pan around your document.
- With any other tool selected, a two-finger drag will pan around your document.
- A pinch gesture will zoom into and out of your document, respectively.
- Swiping up/down on the Navigator Studio's icon will zoom to screen centre.
- Double tapping within the Navigator Studio window will Zoom to Fit; double tap again to revert back to original zoom level.
- Double tapping a layer thumbnail (in Layers Studio) will Zoom to Layer.
- A rotate gesture (twist) will rotate your canvas. Switch Rotation on using the Navigator Studio.



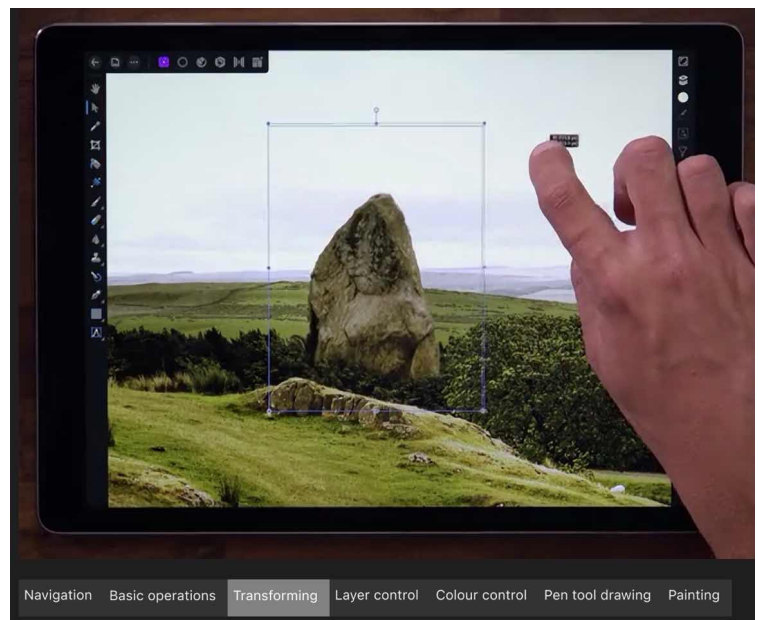
Basic operations

- A two-finger tap undoes the last edit you have made.
- A three-finger tap redoes the last edit you undid.
- A long press shows which fingers are involved in a gesture. This will display as a blue overlay.
- Dragging up and down on the Text Studio icons will increase/decrease text size.
- A single-finger long press (no drag) and release brings up a context menu containing clipboard actions and an option to duplicate the current object or pixel selection to a new layer (if the Photo Persona is active), or pixel selection options (if the Selections Persona is active).



Transforming

- A single-finger hold locks a layer's aspect ratio as you resize.
- A two-finger hold resizes a layer from its centre.
- A three-finger hold resizes a layer from centre and locks its aspect ratio.
- A single-finger hold while rotating a layer will rotate in 15 degree intervals.



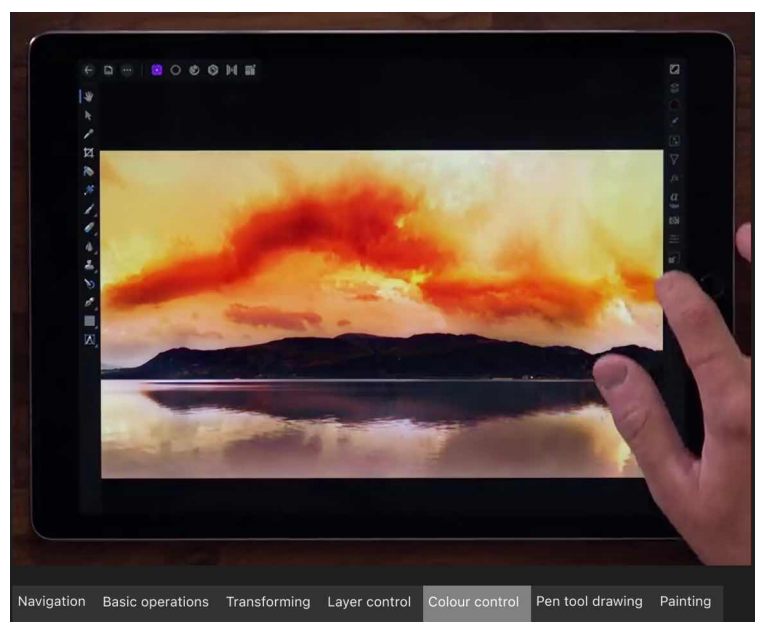
Layer control

- Tap layers to select them individually.
- Swipe right/left on layers to select and deselect them in the Layers Studio.
- On the Layers Studio (within the Photo Persona or Export Persona), with a layer selected, a two-finger tap on another non-adjacent layer will select all layers in between.
- Double tapping on a layer inside a group will select it while still grouped.
- On the Layers Studio, with a layer selected, pinch inwards (either vertically or horizontally) to group selected layers. To ungroup, do the opposite and pinch out.
- With the Move Tool active, a two-finger hold (with a layer selected) plus a one finger drag on a layer duplicates the selected layer.



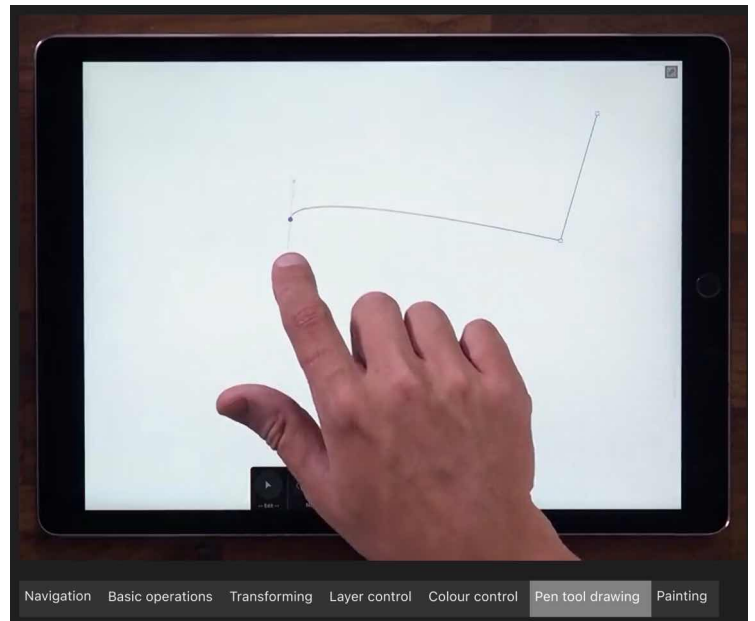
Colour control

- Swipe up/down on the Colour Studio icon to adjust the luminance of the selected colour.
- Swipe left/right to swap colours between stroke and fill on colour selectors in Colour Studio.
- Swipe up on Stroke or Fill colour selector to set no fill in Colour Studio.
- Holding down a finger when using the Gradient Fill Tool constrains fill path movement to 45 degree intervals.



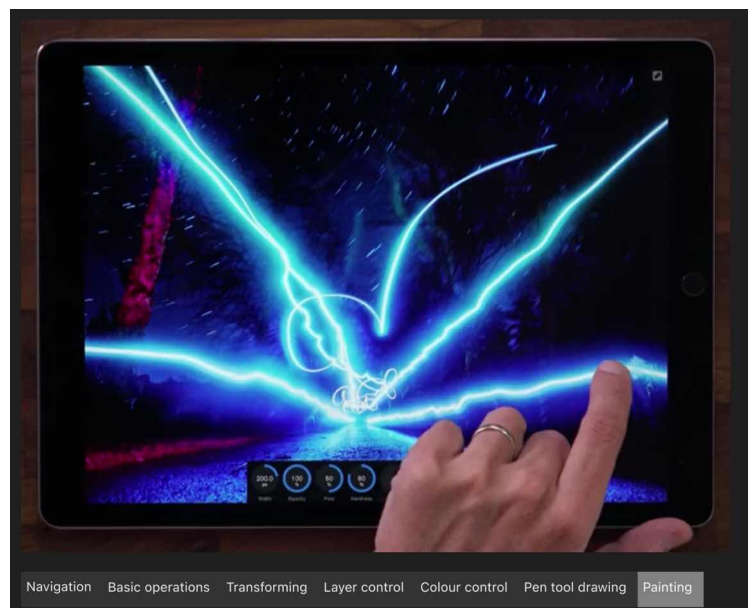
Pen tool drawing

- While drawing, a single-finger hold converts a node to a cusp (sharp corner).
- While drawing, a two-finger hold constrains control handles to 45 degree intervals.
- A two-finger hold lets you reposition existing nodes (control handles are locked).
- A three-finger hold repositions the last active placed node (with snapping).



Painting

- With the Paint Brush or Pixel Tool selected, a long press and drag displays a colour picker for your stroke.
- With the Paint Brush or Pixel Tool selected, after an initial stroke is laid down, a single-finger press and tap at another point on the page draws a straight line stroke.



Develop Persona (RAW)

Developing a RAW image using Develop Persona

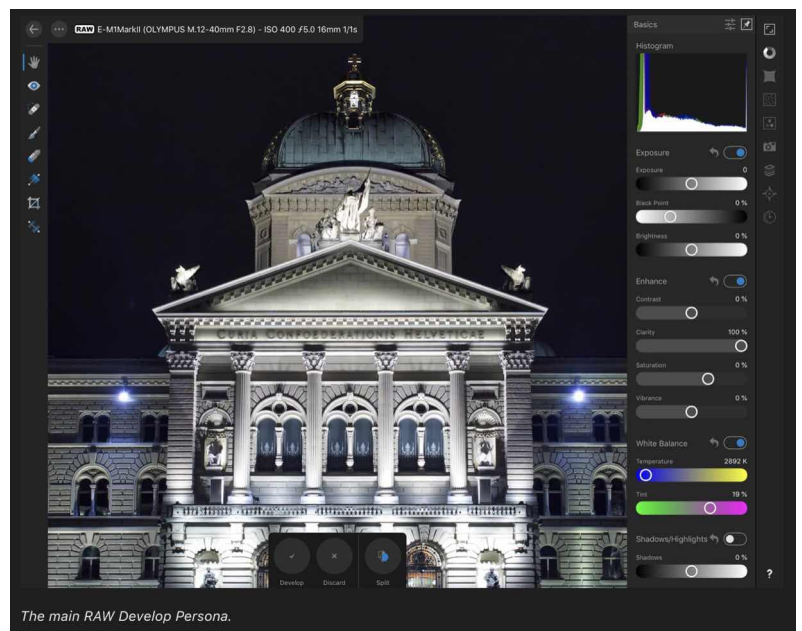
Develop Persona is a dedicated environment used for processing raw images captured using a digital camera.

Working in Develop Persona

If a [supported raw file format](#) is opened in Affinity Photo, it will automatically display in Develop Persona. You can then process the image using the dedicated adjustments, Studios and tools.

Develop Persona gives you access to the following:

- Tonal adjustments using the [Basic](#) and [Tones](#) Studios
- Sharpening and Noise adjustments using the [Details](#) Studio.
- Lens correction adjustments using the [Lens](#) Studio.
- [Overlays](#) for applying adjustments to specific brushed image regions.
- Crop tool for [cropping](#) your image.
- Blemish Removal tool for [correcting image imperfections](#).
- [Metadata Studio](#) for GPS Location and A/F region display.



At any point while working with an image or any selected pixel layer, you can switch to Develop Persona to make use of its unique features.

Split view options

There are a variety of split view options available in Develop Persona's View Tool which give you the opportunity of seeing how your processed image compares to the original raw data.

Rather than comparing the processed image with the original raw data, you can sync the views so 'Before' adopts the current applied adjustments. The 'After' view continues to update as more adjustments are made. See below for details.



Syncing

While applying adjustments, you can update the 'Before' and 'After' view to give you a more focused representation of the applied changes.



Show Clipping

An incorrect level of exposure within an image can lead to pixels falling out of the viewable intensity range. This results in the loss of detail in areas of shadow, highlights, or midtones and is known as clipping.

In Develop Persona, you have the ability to display **Clipped Shadows**, **Clipped Highlights** and/or **Clipped Tones** directly on the image. This can help you identify areas which need correcting as well as preventing overenthusiastic modifications which result in clipping.

To work in Develop Persona:

1. Do one of the following:
 - [Open a raw image](#). Develop Persona will analyse the data and pre-process it, ready for editing
 - Select a pixel layer and then, from the Persona toolbar, tap **Develop Persona**.
2. Activate your preferred view mode. The photo or layer will adopt all the settings as displayed in the 'After view'. The 'Before' view is for comparison purposes only.
3. Adjust the image using the various Studio options and [tools](#).
4. (Optional) Sync applied settings within the view and repeat the above step.
5. On the context toolbar, select **Develop**.



To remove the pre-processing from a raw image, change the develop options available in the [Develop Assistant](#).



*When adjusting settings, you can reset category slider settings (ie. Enhance) to their default values by choosing **Reset**.*



To activate view modes:

On the context toolbar, tap **Split** to cycle between:

- the processed image in isolation on a single page.
- the processed and original raw image simultaneously on the same page. Drag the After/Before slider left/right to preview different areas.
- the processed and original raw image simultaneously on separate pages as a mirror representation. Panning and zooming affects both pages simultaneously so the same area is always displayed in both pages.



To synchronise applied settings in view modes:

On the Commands Menu, choose one of the following:

- Tap **Sync Before** to update the 'Before' view to the most recent applied settings.
- Tap **Sync After** to revert the settings applied in the 'After' view back to the settings shown in the 'Before' view.
- Tap **Swap Before/After** to switch the applied settings between the views.



To show clipping:

On the Commands Menu, choose one of the following:

- Tap **Show Clipped Highlights** to display all 'blown' highlights as a high-contrast red colour.
- Tap **Show Clipped Shadows** to display all clipped shadow areas as a high-contrast blue colour.
- Tap **Show Clipped Tones** to display all clipped midtone areas as a high-contrast yellow colour.

To rotate your raw image:

On the Commands Menu, choose one of the following:

- Tap **Rotate clockwise** to rotate the image clockwise by 90.
- Tap **Rotate anticlockwise** to rotate the image anti-clockwise by 90



To change initial develop settings:

When in the Photo Persona, do the following:

1. From the **Document** Menu, tap the **Assistant** to open its settings dialog.
2. Choose from the following settings at the bottom of the assistant dialog:
 - **RAW Engine:** Provides a choice of RAW processing engines for you to use-Affinity's own Serif Labs engine or Apple (Core Image RAW) engine.
 - **RAW Output colour format:** Choose between RGB (**16bit**) or RGB (**32bit**) output when developing a raw image. Choosing the latter option allows you to maintain a full 32-bit float environment from initial raw development to export and take advantage of extra precision.
 - **RAW tone curve:** If the default 'Apply tone curve' option is active, your raw image is adjusted using a suggested tone curve. The 'Take no action' option makes no tonal correction; the image can be altered within the Develop Persona's BasicStudio later.
 - **RAW exposure bias:** Choose whether to apply exposure bias value if stored in the raw image's EXIF data. Like Histogram stretch, both 'default' and 'initial' give the same results but reports zeroed or actual values, respectively. The 'Take no action' option ignores the exposure bias value.
 - **Default map region:** Sets the map that displays in the Develop Persona's **Metadata** Studio to a chosen region, if the raw image contains no GPS location data in its EXIF data.

If you choose not to apply initial develop settings, your images will not undergo any processing. They may look flat, dull in tone and lacking contrast, but you will have absolute control in how the image is processed.



This approach is similar to "log" video footage that maintains maximum dynamic range before colour grading.

SEE ALSO

[Raw Tools](#)

Using overlays

The Overlay tools can be used in combination with the **Overlays Studio** to allow you to apply standard adjustments to isolated areas of an image.

About overlays

Overlays are elements within Develop Persona which are placed on top of an image. Any adjustment applied to an overlay affects the image below.

However, overlays can have a varying level of visibility, which varies the impact its adjustments have on the underlying image. In this respect, Overlays in Develop Persona act in a similar way to [masks in Photo Persona](#).

Areas of an overlay which are transparent ignore the overlay's adjustments, while opaque areas display the applied adjustments.

Areas of semi-transparency (such as those created with the Overlay Gradient Tool) will display the adjustments by a varying degree.

The adjustments applied to an overlay are determined using the [Overlays Studio](#).

Types of overlay

There are two types of overlay: Brush and Gradient.

Brush overlays can only be edited using the **Overlay Paint** and **Overlay Erase** tools. Areas are added to an overlay using the Overlay Paint Tool. Areas are removed using the Overlay Erase Tool.

The **Overlay Gradient Tool** applies a gradient from transparent to opaque across Gradient overlays tool.



Settings (Overlay Paint and Erase Tools only)

- **Size**-controls the size of the overlay brush in pixels.
- **Hardness**-how hard the edges of the brush are. The painted overlay appears softer and more feathered as the percentage decreases.
- **Edge Aware**-when checked, enables edge detection, which allows for easier overlay painting around edges without having to zoom in and reduce the brush size.



To create an overlay:

Do any of the following:

- On the Overlays Studio, select **Add Brush Overlay** to create a transparent, pixel overlay.
- On the Overlays Studio, select **Add Gradient Overlay** to create an opaque Gradient overlay.
- With no overlay selected, drag on the image with the **Overlay Paint Tool**. A Brush overlay is added automatically.
- With no overlay selected, drag on the image with the the **Overlay Gradient Tool**. A Gradient overlay is added automatically.



To apply adjustments to an overlay:

1. On the **Overlays Studio**, select an overlay.
2. From the **Basic** Studio, tap an adjustment's checkbox to activate it.
3. Drag the adjustment slider to set the value.
4. Tap **Reset** to set the adjustments sliders) back to default.



To remove an overlay:

On the **Overlays** Studio:

1. Select an **overlay**.
2. Choose **Delete Overlay**.

SEE ALSO:

[Overlays Studio](#)

[Raw Tools](#)

[Developing a raw image](#)



Basic Studio (Develop Persona only)

The **Basic Studio** provides standard adjustments which can be applied to an image.

Available Adjustments:

- [Exposure](#)-adjusts the overall exposure of the image, changes black point and overall brightness.
- [Enhance](#)-adjusts contrast, clarity, saturation and vibrance.
- [White Balance](#)*-removes undesirable colour casts from a photo by adjusting the 'temperature' of the light. The default value is the 'As shot' White balance setting from your camera.
- [Shadows & Highlights](#)-applies tonal adjustment to the darkest and/or lightest areas in a photo.

Settings



- **Reset**-sets adjustment slider(s) back to default.



- **Active/inactive**-when enabled, the adjustment is applied to the image.



**The White Balance adjustment can be set automatically using the [White Balance Tool](#).*

SEE ALSO:

[Developing a raw image](#)



Tones Studio

The **Tones Studio** provides adjustments for correcting the tonal and colour values of pixels in an image.

Available Adjustments:

- [Curves](#)-uses graph manipulation to precisely adjust the lightness and contrast of a photo.
- [Black & White](#)-converts a colour photo to greyscale.
- [Split Toning](#)-tints and recolours highlights and shadows.

SEE ALSO:

[Developing a raw image](#)



Details Studio (Develop Persona only)

The **Details Studio** provides adjustments to refine the edges of images and remove (or add) noise.

Available Adjustments:

- [Detail Refinement](#)-sharpen edges to add clarity to raw images. Can be used in conjunction with the Noise Reduction adjustment.
- [Noise Reduction](#)-reduce and remove random luminance and/or colour pixels.
- [Noise Addition](#)-adds random pixels to an image to introduce and enhance noise.

SEE ALSO:

[Developing a raw image](#)



Lens Studio (Develop Persona only)

The **Lens Studio** provides adjustments which can be used to correct lens distortions which can appear in images.

Available Adjustments:

- [Lens Correction](#)-fixes various types of lens distortion by straightening and aligning lines in an image.
- [Chromatic Aberration Reduction](#)-fixes chromatic aberration by realigning blue, green, and red planes
- [Defringe](#)-corrects purple fringing (bi-chrominance) at the edges of high contrast areas.
- [Remove Lens Vignette](#)-corrects unwanted vignetting by adjusting the brightness at the edges of an image.
- [Post Crop Vignette](#)-As with Lens Vignette but adjusted after a crop has been applied to an image.

SEE ALSO:

[Developing a raw image](#)



Overlays Studio (Develop Persona only)

The **Overlays Studio** (in combination with the [Overlay tools](#)) allows you to apply standard adjustments to isolated areas of a raw image.

About the Overlays Studio

The Overlays Studio allows you to add new blank overlays to your raw image as well as setting the adjustments which are applied to individual overlays.

Options

The following options are available in the studio:

- **Opacity**-Adjusts opacity of the selected overlay



- **Add Brush Overlay**-adds a new overlay set which can be modified using the Overlay Paint and Overlay Erase tools.
- **Add Gradient Overlay**-adds a new overlay set which can be modified using the Overlay Gradient Tool.
- **Delete Overlay**-removes the currently selected overlay set.

SEE ALSO:

[Using overlays](#)
[Developing a raw image](#)
[Raw Tools](#)

Sizing and transforming

Changing image size (scaling and resampling)

In Affinity Photo there are options to change a document's or image's pixel dimensions and/or print resolution.

You can change the 'size' of an image by **scaling** or **resampling** it. These can be undertaken independently or simultaneously.

Scaling

Scaling will embed a specific print resolution into an image's metadata to force it to print at a specific dpi (eg. 300 dpi). The image's pixel dimensions remain unaffected.

Resampling

Resampling will do one of the following:

- increase the number of pixels in an image (ie. stretch it) to make its overall pixel dimensions bigger. This is known as upsampling. This will also increase the image's file size.
- decrease the number of pixels in an image (ie. shrink it) to make its overall pixel dimensions smaller. This is known as downsampling. This will also decrease the image's file size.

When you resample an image, you have the option to:

- Maintain the image's aspect ratio or resize unconstrained.
- Select from a variety of interpolation methods (see note below).
- Simultaneously scale your image.

Resampling may be carried out to:

- Enlarge an image to specific dimensions in preparation for printing.
- Reduce an image for on-screen display and to optimise file size.



To scale an image:

1. From the **Document** Menu, select **Resize**.
2. Ensure **Resize** is set to **Document** and the **Resample** option is disabled.
3. Change the DPI to control the number of pixels (dots) which will be printed per inch when your document is printed. Set higher values (eg, 300dpi) for professional printing
4. Choose Apply.

You will see no change in the image on the page as this procedure only affects the image's metadata.



To resample an image:

1. From the **Document** Menu, select **Resize**.
2. Ensure **Resize** is set to **Document** and the **Resample** option is enabled.
3. Enter your new document dimensions in the **Size** boxes-left box for width, right box for height.
 - To resize the width and height independently, tap the lock icon (to unlock) between the **Size** boxes.
4. (Optional) Select a different measurement **unit** from the Units pop-up menu. Rulers will update to the new measurement unit.
5. (Optional) Change the **DPI** to control the number of pixels (dots) which will be printed per inch when your document is printed. Set higher values (e-g., 300dpi) for professional printing.
6. Select a **Resample** method from the pop-up menu.
7. Choose **Apply**.



Resampling methods

The following resample settings are available:

- **Nearest Neighbour**-simple resampling which has the fastest processing time. Use for hard-edge images.
- **Bilinear**-algorithmic resampling for use when shrinking images
- **Bicubic**-algorithmic resampling for use when enlarging images. Results are sharper than Bilinear but has a slower processing time.
- **Lanczos 3**-complex algorithmic resampling which gives the best results but with the longest processing time. Available as 'separable' and 'non-separable'; the latter gives marginally sharper results, but is slightly slower than 'separable'.

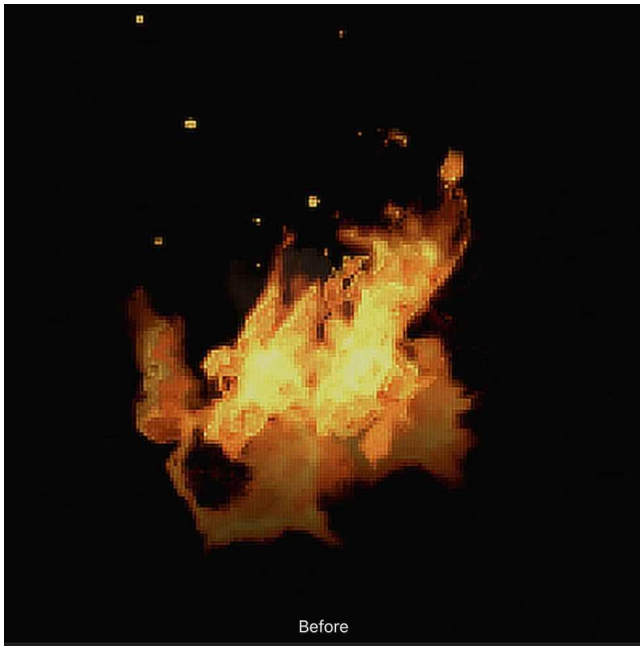
SEE ALSO:

[Image and canvas size](#)

[Creating new documents](#)

Pixel art resizing

Pixel art resizing allows you to upsample your document using one of two renowned pixel art resampling algorithms: XBR and HQX.



Before: Image upscaled 4x using Bicubic filter. Observe the jaggy edges and ringing.



After: Image upscaled 4x using XBR filter. See how the edges are smoother and more refined.



To resize using pixel art filters:

1. From the **Document** Menu, select **Resize**.
2. Set the Resize option to **Pixel**.
3. Choose from either **HQX** or **XBR** as the resampling method under **Mode**, and pick a Size multiplier from **2x**, **3x** or **4x**.



If you are seeking very smooth results, it is recommended to try XBR as the resampling method. HQX produces sharper results but exhibits more jaggedness around fine edges.

SEE ALSO:

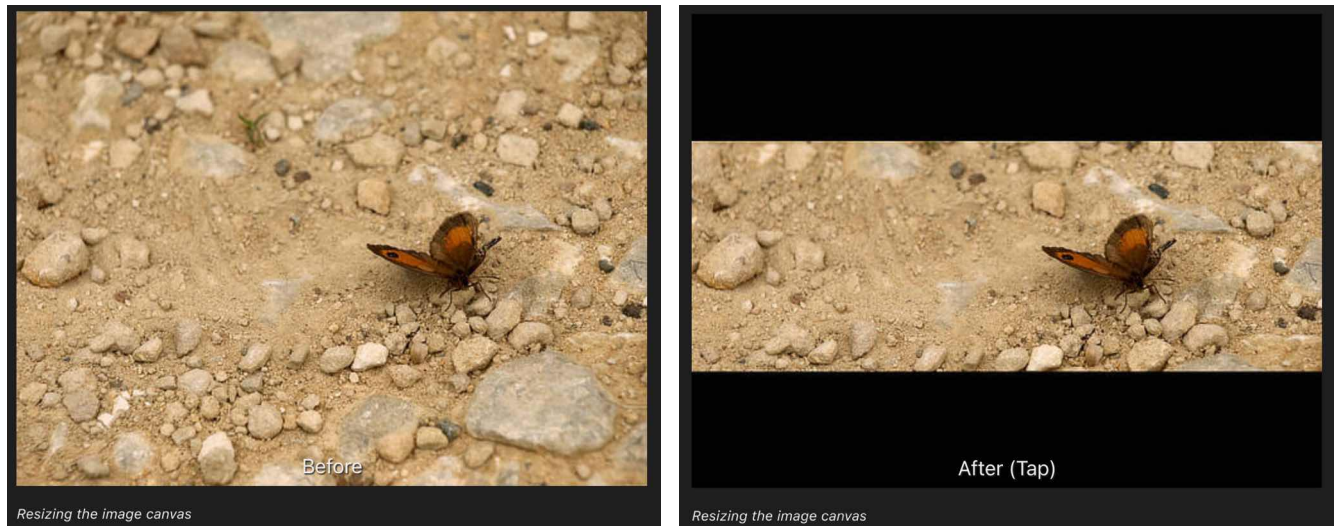
[Changing image size](#)
[Changing canvas size](#)

Changing canvas size

In Affinity Photo there are options to resize the canvas of opened images and newly created documents.

Changing the canvas size involves adding or taking away pixels from around the edge of your image, much like adding a border to a picture or cropping the image to a smaller size, respectively.

Unaffected pixels are not stretched or squashed.



Resizing the image canvas

Unwanted canvas area can be removed (trimmed) from the document edge, and conversely, you can expand your canvas to fit layer content which extends over your document edge.



To change canvas size:

1. From the **Document** Menu, select **Resize**.
2. Change the Resize option to **Canvas**.
3. Enter your new canvas dimensions in the **Size** boxes-left box for width, right box for height.
 - To resize the width and height independently, tap the lock icon (to unlock) between the **Size** boxes.
4. (Optional) Select a different measurement unit from the **Units** pop-up menu. Rulers will update to the new measurement unit.
5. In the **Anchor** box, select alignment options to resize the canvas 'under the image from that anchor point.
6. Tap the check to apply the resize.



To remove unwanted canvas areas:

- From the Document Menu, select Canvas>Clip Canvas.

To expand the canvas to fit layer content:

- From the Document Menu, select Canvas>Unclip Canvas.



*The [Crop](#) Tool can also be used to **resize** the canvas: either cropping into an image or expanding the crop boundary outside the image will resize the canvas when the crop is applied.*

SEE ALSO:

[Changing image size](#)

[Creating new documents](#)

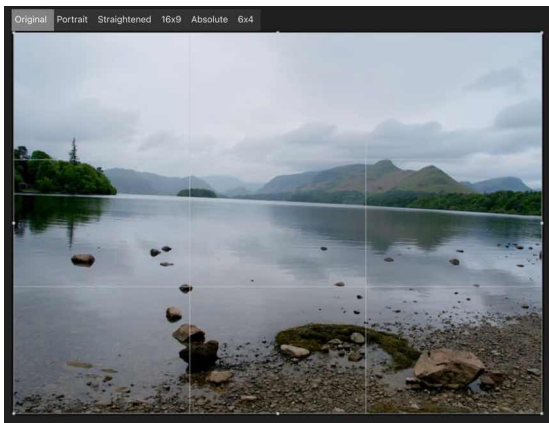
Cropping and straightening

Cropping removes unwanted areas of your image for either practical reasons or better composition. Straightening simply means correcting a crooked image.

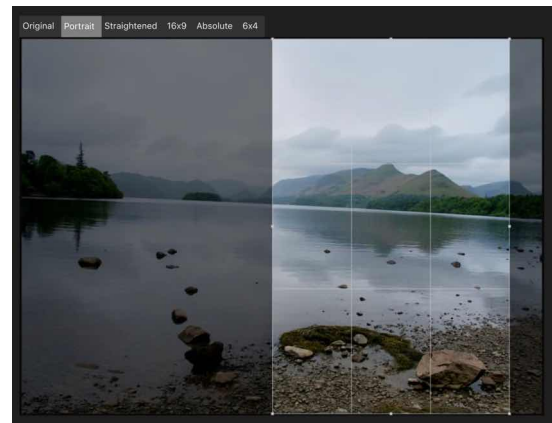
About cropping

Use cropping for practical reasons or aesthetic reasons equally. For instance, an unwanted object or person can be excluded which might otherwise detract from your desired image. Aesthetically, you can balance image content in your composition so that it is more appealing to the eye.

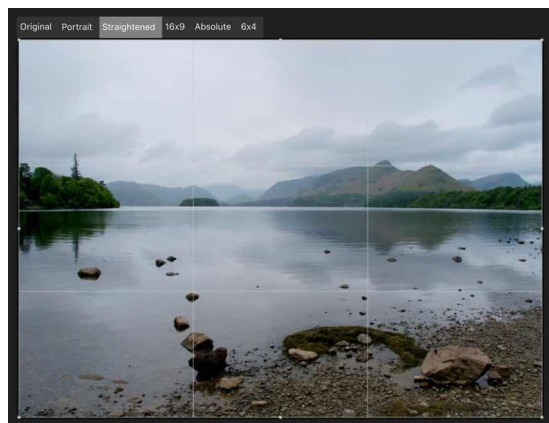
Affinity Photo lets you crop unconstrained or to original or custom aspect ratios. For print or web delivery, you can specify common print sizes (e.g., 6" x 4") or create pixel-accurate custom crop regions, respectively. If [snapping](#) is active, the crop area can snap to page edges and [guides](#) when being resized or moved.



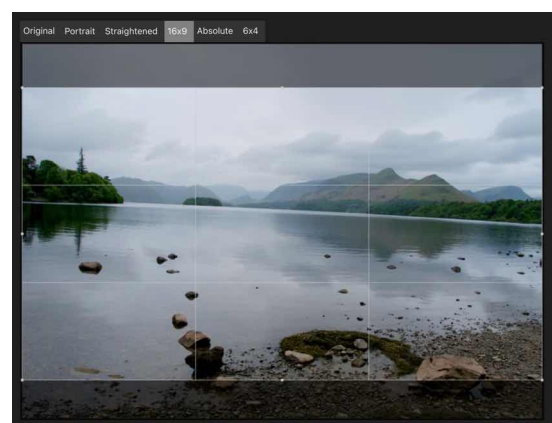
Original



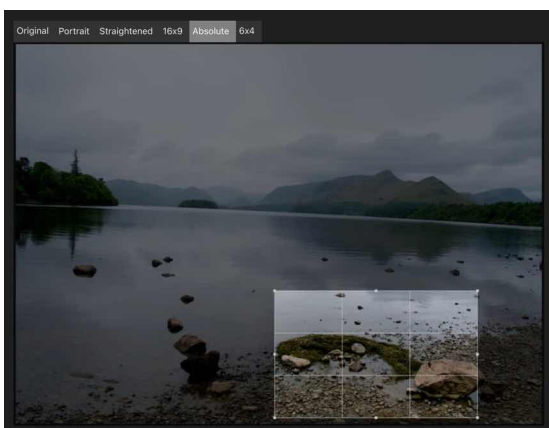
Portrait



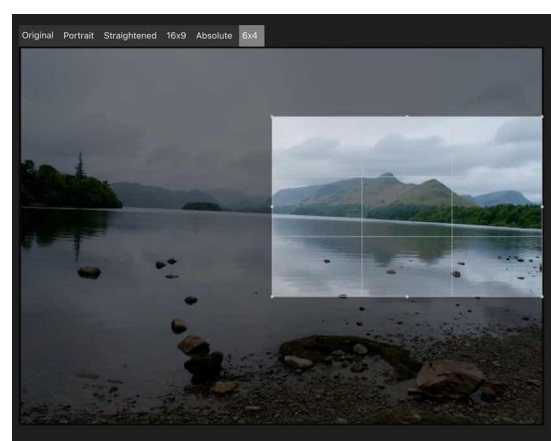
Straighten



16x9



Absolute



6x4

The **Crop** Tool affects the entire canvas, which is typically the native dimensions of an opened image. When a crop is applied, the regions outside the drawn crop area will be hidden. However, cropping is non destructive, which means you can uncrop your image at a later date.

Crop modes

When cropping, you may wish to work unconstrained or to specific ratios or absolute dimensions. These are some of the context toolbar's Mode options available:

- **Unconstrained**-The crop area can be sized freely.
- **Original Ratio**-Retains your image's original aspect ratio.
- **Custom Ratio**-Uses the adjacent X and Y radial sliders to set the ratio- X is width, Y is height.
- **Resample**-Use the adjacent Width and Height radial sliders to set absolute dimensions for the crop area. Set your Units if needed.

Straighten mode

When activated, dragging on the page will orient the photo to align it with the drawn line. We recommend using a reference within your photo such as the horizon or the edge of a building.

Compositional overlays

If you're cropping to remove unwanted subject matter in your image, compositional overlays can be ignored. However, if you're looking for better composition, one of several overlays can be used.

- **Thirds**-Shown by default, the Rule of Thirds grid's intersection lines can be positioned over an object of interest in your image.
- **Spiral**-Size and position the grid so the inner origin of the spiral is centred over the subject of interest; this balances the composition naturally. Also known as Fibonacci Spiral or divine proportions.
- **Diagonals**-Position two objects of interest under the diagonal line intersections to balance the objects against each other.



To crop an image:

1. From the **Photo** Persona, select the **Crop Tool** from the tools on the left.
2. From the context toolbar, select a crop mode from the **Mode** pop-up menu.
3. Adjust the context toolbar settings.
4. Drag a corner or edge handle on the grid to reposition the grid to suit.
5. From the context toolbar, tap the check to apply the crop.

To uncrop the cropped image:

From the **Document** Menu, choose **Canvas>Uncrop Canvas**.



To straighten an image:

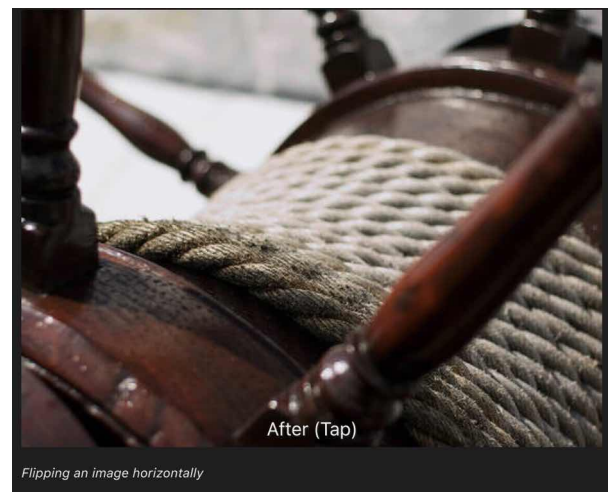
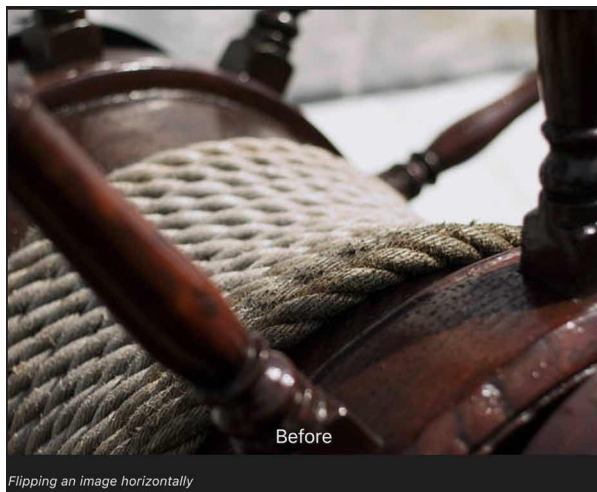
1. From the **Photo** Persona, select the **Crop Tool** from the tools on the left.
2. From the **context** toolbar, select **Straighten**.
3. Drag on the image to define the new alignment.
4. From the context toolbar, choose **Apply**.

SEE ALSO:

[Crop Tool](#)
[Changing canvas size](#)
[Snapping](#)
[Guides](#)

Transforming

Layer content can be flipped, rotated, positioned and sized accurately.



Flipping an image horizontally

To flip or rotate layer contents:

1. Select one or more layers.
2. From the **Transform Studio**, select a **flip** or **rotate** option.



You can also [rotate layer content](#) directly on the page by dragging its rotation handle or by using the **Transform Studio**.

To position layer contents accurately:

1. Select one or more layers.
2. On the **Transform Studio**, change **X** and/or **Y** values.

To size layer content accurately:

1. Select one or more layers.
2. On the **Transform Studio**, change **W** and/or **H** values.

To nudge layer content (Smart Keyboard only):

1. Select layer content.
2. Tap an arrow key to nudging by a single unit of measurement.



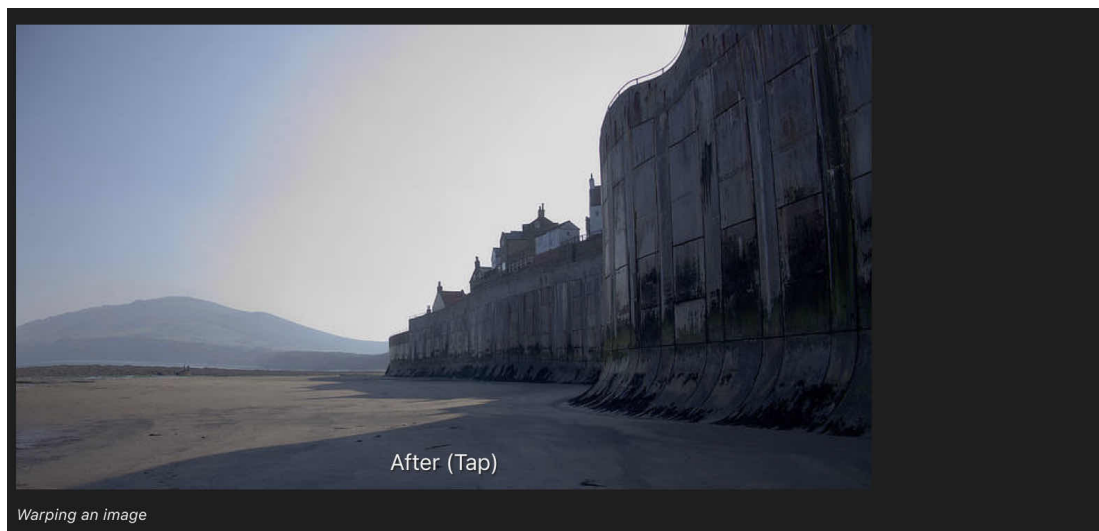
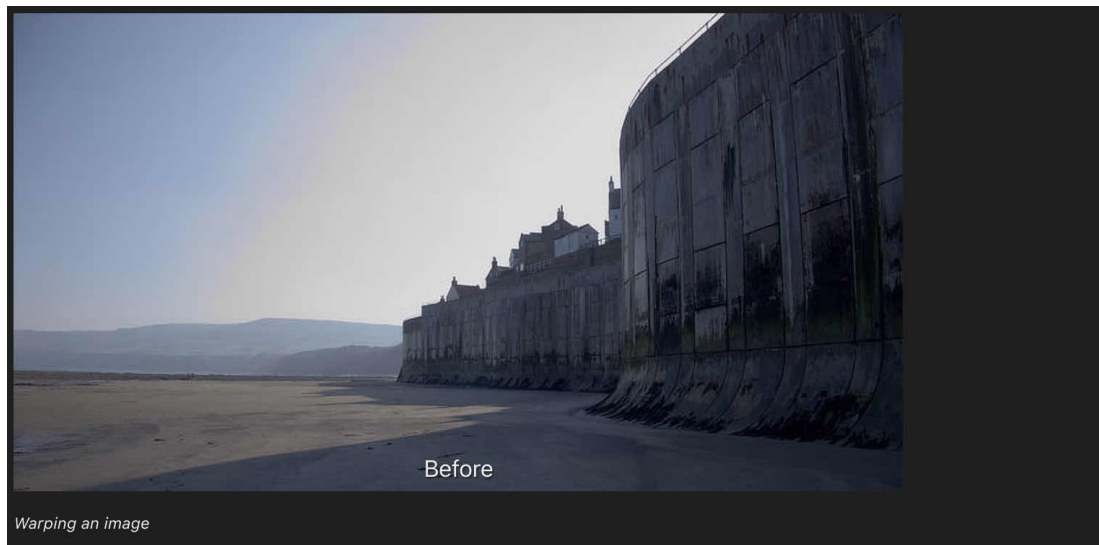
You can change nudge distances via **Affinity Photo > Preferences > Tools**.

SEE ALSO:

[Rotating and shearing Transform Studio](#)

Mesh warping

Mesh warping lets you distort specific areas of your image without affecting other areas. It can be used for dramatic warping effects or for more subtle focused retouching of facial features.



About mesh warping

Mesh Warp provides a flexible mesh grid which can warp your image by repositioning the grid's lines, nodes, and patches; underlying pixels are transformed under the line, node or patch. The extent of warping you want to carry out is governed by the complexity of the grid.

You'll initially start with a mesh grid without lines, but adding your own lines and nodes lets you warp with ease. Position lines adjacent to areas in your image that you want to apply warping to.

To create a mesh:

1. From the **Filters** Studio, choose **Mesh Warp**.
2. Double-tap on the edge of the mesh grid-the top edge gives a vertical line a side edge gives a horizontal line.
3. Repeat for as many lines as you need.



If you want to start again, choose Reset on the context toolbar.

To add nodes to the grid:

- Double-tap anywhere within the grid.

To select multiple nodes in the grid:

- Drag across multiple nodes to create a marquee selection.

To apply warping:

1. (Optional) On the **context** toolbar, use the **Mode** option to manipulate just the grid ('**Source**') or both grid and image simultaneously ('**Destination**').
2. Drag a node, a node's corner handle, line or patch. Patch warping is achieved by tapping in an area contained by mesh lines and dragging the circle-this warps the entire area.
3. Tap the check to apply the mesh warp.



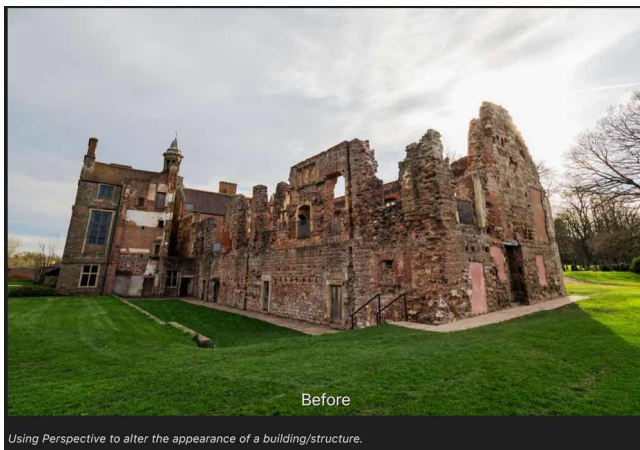
The mesh is really just an assembly of bendable curves. When you alter these curves, distorting the grid, the underlying image deforms accordingly.

SEE ALSO:

[Warping using Liquify Persona](#)

Perspective

Perspective gives your image a three-dimensional appearance by applying a warp along one or more planes. By reshaping a supporting perspective grid you can transform your image.



To apply perspective:

1. From the **Filters** Studio, choose **Perspective**.
2. (Optional) For two opposing, but independent, perspective planes, select '**Dual Plane**' on the **Planes** pop-up menu.
3. (Optional) Use the **Source/Destination** option to set the mode in which the grid will operate. 'Destination' shows the image with perspective applied. 'Source' lets you size, position and shape the grid without affecting the image; you can then apply perspective to the image by jumping back to the 'Destination' option and dragging handles.
4. Drag a corner handle on the grid.
5. Tap the check to apply the filter.



With Snapping enabled, the grid handles will snap to any page edge.

SEE ALSO:

[Snapping](#)

Layers

About layers

Layers allow you to edit and design using a non-destructive methodology. This gives you maximum flexibility for your projects.

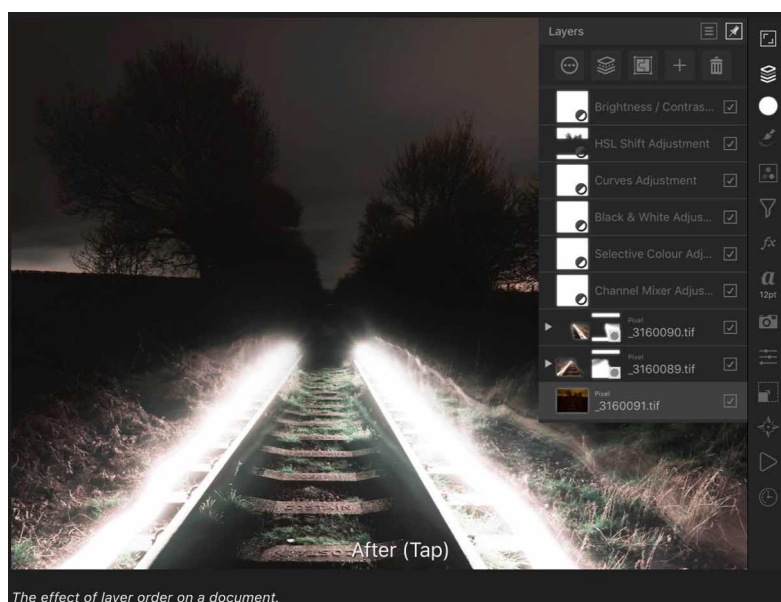
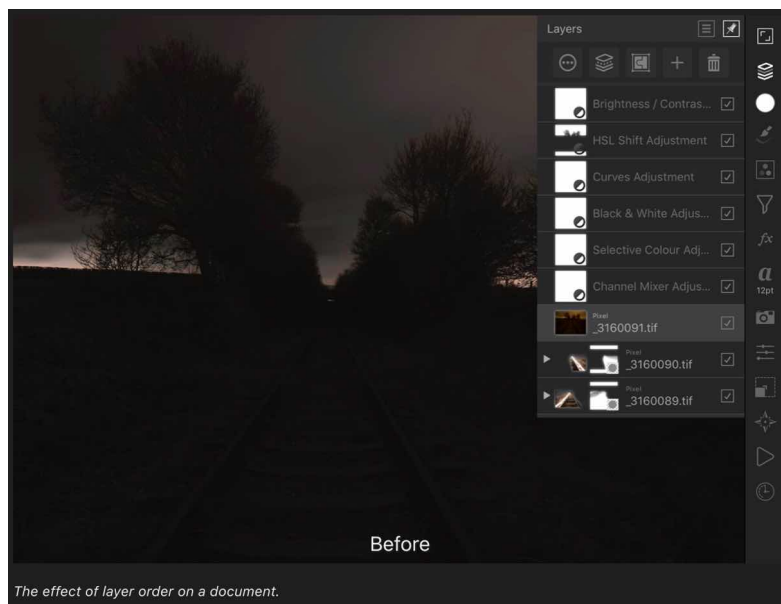
What are layers?

You can think of layers as being like sheets of paper that are stacked one on top of the other. Transparent areas of a layer reveal the layer below, while opaque parts of a layer obscure the layers below.

All layer management is carried out from the **Layers Studio**.

Here are some important points regarding layers:

- Once editing and designing has begun, all documents will have at least one layer.
- The order of your layers is important. A layer at the top of the list is at the front of your document and vice versa.
- Any selected layer(s) are highlighted, so that you can always see what layer you are working on.
- Any layer can be hidden, to exclude its content from displaying in your project.



Types of layer

There are several types of layers that can be created:

- [Pixel layers](#)-containing raster images where pixel-based editing takes place.
- [Mask layer](#)-special layer that allows you to define what content is hidden to reveal layers beneath.
- [Adjustment layer](#)-special layer that can be used to correct or enhance the layers beneath.
- [Fill layer](#)-special layer that contains an adjustable solid or gradient colour.
- **Vector layer**-vector content, such as curves, shapes, text and placed images, occupy their own unique layer.



Vector layers are automatically created whenever you:

- [Draw lines and shapes using the Pen Tool](#)
- [Use any geometric shapes](#)
- [Add Artistic](#) or [Frame text](#)
- Use the [Place image](#) command to add an additional image to your project.

SEE ALSO:

[Create layers](#)
[Using adjustment layers](#)
[Using layer masks](#)
[Layer effects](#)
[Layers Studio](#)

Creating layers

Empty layers can be created in the **Layers** Studio. Layers are created above the currently selected layer. Once created, layers can be renamed for easy identification.

You can also copy and paste selections, layer groups and entire layers using the Commands Menu in the Photo Persona. If you copy a layer group, all layers within the group will be duplicated.



To create a new layer:

Do one of the following:

- From the **Layers** Studio, tap the plus button and select **Pixel Layer** from the pop-up menu.
- With no layers selected, paint on your page with the **Paint Brush** Tool.

By default, the [Assistant](#) will create a new layer to accommodate your paint strokes.

To create a child layer:

- From the **Layers** Studio, drag one layer over another layer to make it a child layer.



To change a layer name:

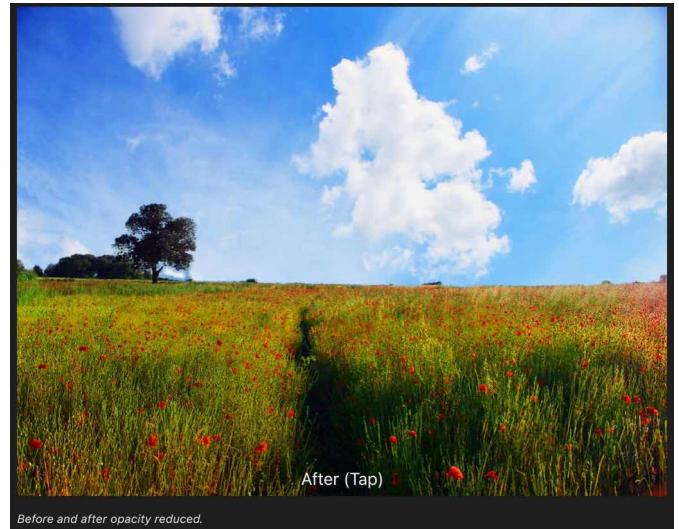
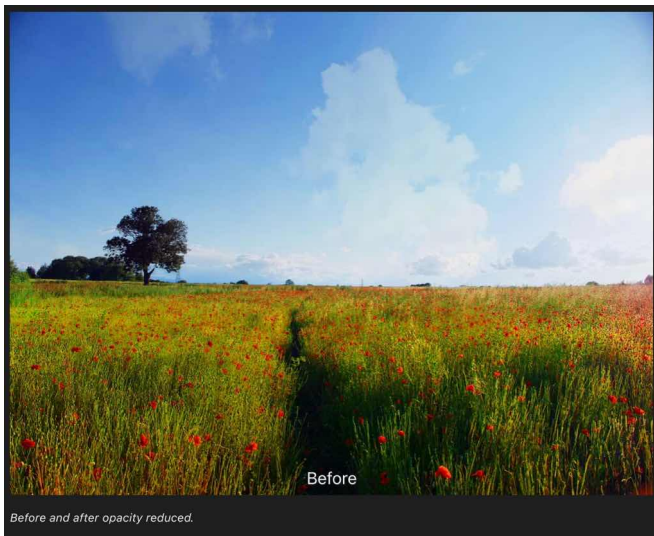
- Select the layer and tap **More**. Tap the layer's name at the top to bring up a rename dialog.

SEE ALSO:

[Layer Opacity](#)
[Layer blending](#)
[Assistant](#)

Layer opacity

A layer's opacity determines how see through a layer is and how much of the layer beneath is obscured or revealed. At 1% opacity, the layer is almost transparent, whereas at 100% the layer is completely opaque.



Different levels of opacity can also be applied to brush strokes, filter effects and the fills of vector content.

To change the opacity of a layer:

1. From the **Layers** Studio, select a layer and choose
2. On the dialog, use the Opacity control to set an



More.
opacity value.

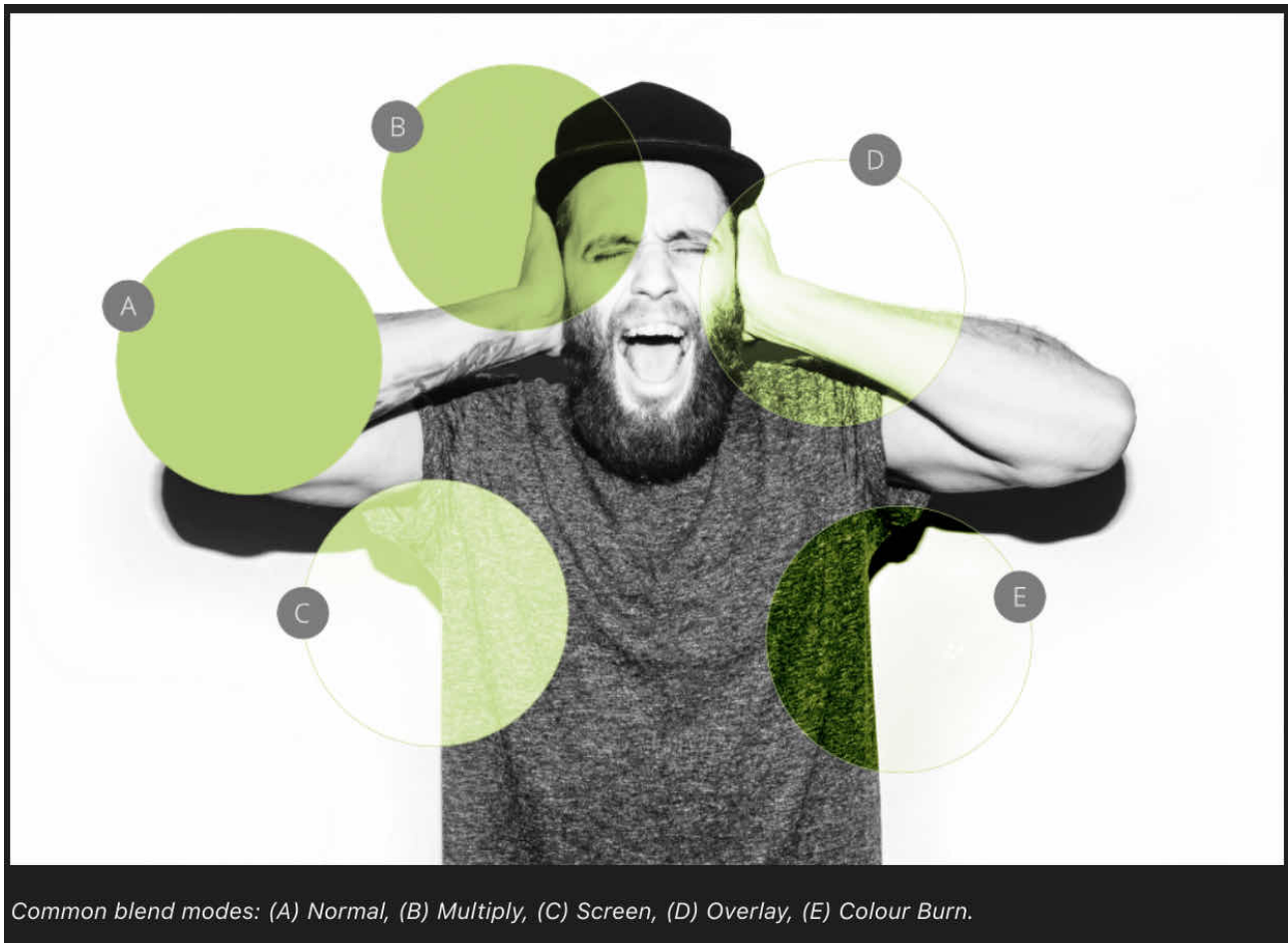
SEE ALSO:

[About layers](#)

Layer blending

A layer's blend mode determines how the layer's pixels or contents blend with the pixels on the layer beneath.

Common blend modes:



Common blend modes: (A) Normal, (B) Multiply, (C) Screen, (D) Overlay, (E) Colour Burn.

Blend mode types

Affinity Photo supports an impressive selection of different blend modes.

The most commonly used blend modes are as follows:

- **Normal**-The default blend mode. The top pixels display over underlying pixels according to the level of top layer opacity.
- **Multiply**-The blending result is a combination of the top and bottom colour at each pixel position, always producing a darker value.
- **Screen**-The opposite of Multiply, where the blending result is a combination of the inverse of the top and bottom colour at each pixel position, always producing a lighter value.
- **Overlay**-Applies either Multiply or Screen blend mode, depending on the bottom colour at each pixel position. If the bottom layer pixels are <50% grey, it multiplies; if >50% it screens.
- **Divide**-Lower layers are lightened based on luminance on the upper layer. White has no effect. Lightness is increased progressively by grey through to black.
- **Colour Burn**-Darkens the bottom colour pixels relative to the values of the top colour pixels.

Other available blend modes include Darken, Linear Burn, Darker Colour, Lighten, Lighter Colour, Colour Dodge, Add, Soft Light, Hard Light, Vivid Light, Pin Light, Linear Light, Hard Mix, Difference, Exclusion, Subtract, Hue, Saturation, Luminosity, Colour, Average, Negation, Reflect, Glow, Contrast Negate and Erase.



Any layer can have a blend mode assigned, including mask, adjustment and filter layers. The default blend mode is 'Normal-no special compositing is applied.'



For a layer group, the default blend mode is 'Passthrough!'. This blend mode affects grouped layers in the following ways:

- *If you have a filter in the group, the Passthrough blend mode will cause the filter to affect all other page content below it. If the group blend mode is changed to Normal, the filter's effect is restricted.*
- *For just an adjustment(s) in a group, Passthrough and any other blend mode will restrict the adjustment to just the Group.*
- *If you have an adjustment above fill layer in a group, the flayer causes the adjustment to affect all other page content below it when blend mode is Passthrough.*



The same blend modes can be utilised on layer effects and brushes.

To change the blend mode of a layer:

1. On the **Layers** Studio, select a layer, then choose **More**.
2. From the dialog underneath **Opacity**, choose a blend mode from the pop-up menu.

SEE ALSO:

[Layer blend ranges](#)

[Layer effects](#)

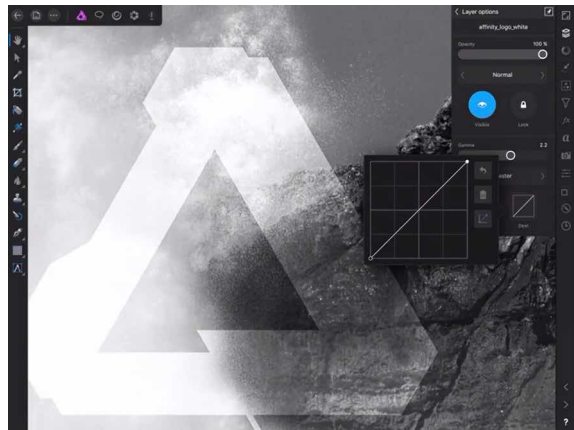
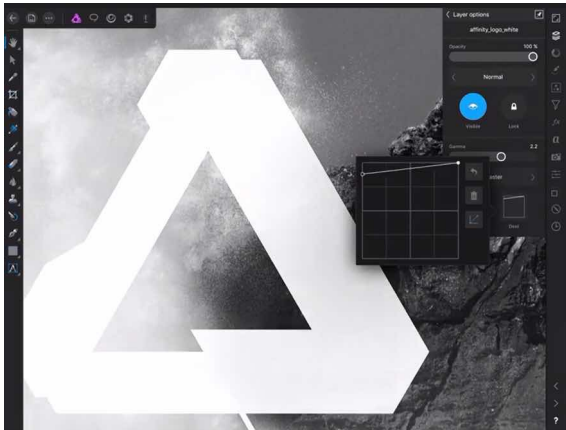
[Painting brush strokes](#)

Layer blend ranges

Blend ranges specify the range of colours on a current layer which are blended with the underlying layer's).

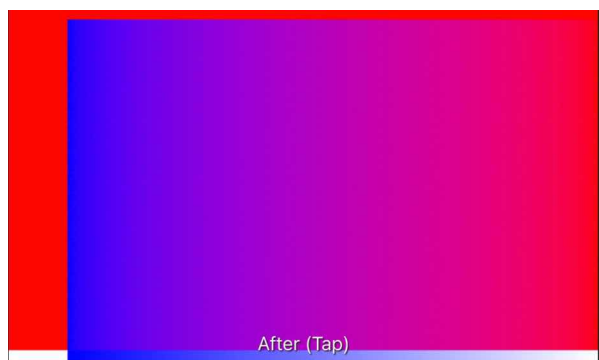
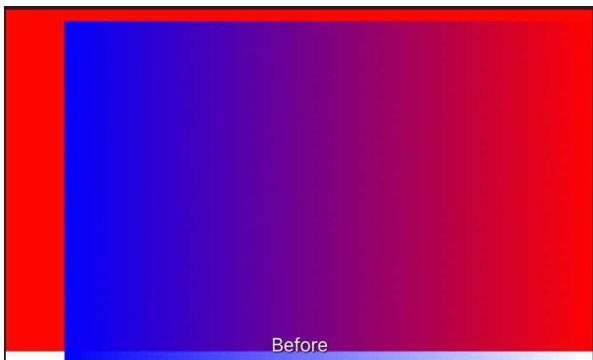
About blend ranges

Blend ranges allow you to specify how tonal values of a layer blend with the layer(s) below. You can set the range of the tonal values affected and can set the range to have any level of opacity (from opaque to transparent).



About blend gamma and antialiasing (RGB documents only)

Layer options allow you to adjust the blend **Gamma** of the selected layer. This gives you the option of designing using a linear-RGB colour space (1.0), regular sRGB-blending (2.2) or any gamma value up to 3.0. In other words, it gives you full control over how the tones of semi-transparent or antialiased edged objects interact with colours underneath.



Blue rectangle using regular sRGB-blending (2.2 gamma; before) and linear-RGB (1.0 gamma; after).



By default, text layers are set to a gamma of 145 and all other types of layer to 2.2 (regular sRGB-blending).

The former's default settings can be changed in [Preferences](#) (Tools option).

Antialiasing is the reduction of the jagged appearance of lines on a pixel grid. Antialiasing is achieved by the addition of semi-transparent pixels along the line to smooth the transition from the line's edge to background objects. This area of transition is sometimes referred to as the **antialiasing ramp** or **antialiasing coverage**.

Layer options allow you to adjust the antialiasing ramp (coverage) of the selected layer, as well as control how (and if) antialiasing is inherited or set independently of other layers. For improved workflow, child layers nested hierarchically in a parent layer can inherit the parent layer's antialiasing setting automatically but can be forced to apply antialiasing or ignore it.

Settings

The following settings are available via Layer Options:

- **Gamma**-controls the layers blend gamma.
- **Antialiasing Mode**-controls antialiasing behaviour for the selected layer: Inherit (default) adopts antialiasing from any parent layer, while Force On and Force Off respectively applies or disables antialiasing independently of any other layers.
- **Channels**-controls which channel is affected when adjusting the blend range. Select from the pop-up menu.
- **Source & Dest**-spline graphs that control the layer's blending.
- The following settings can be adjusted for both the Source and the Dest graphs:
- **Graph**-controls the affected range of pixels and the opacity of pixels within the Source Layer or Destination Layer ranges.
- **Reset**-returns the graph to the default position (a straight line between two nodes positioned at the top of the grid).
- **Delete**-removes the selected node to simplify the shape of the graph.
- **Linear**-when enabled, the graduation between two nodes is linear (ie. nodes on the graph are connected using straight lines). If this option is off, nodes are connected using smooth curves.



When adjusting the graphs in the dialog it is worth noting the following:

- *The graphs represent tonal values from darkest on the left to lightest on the right.*
- *Pixels on the selected layer become less visible as nodes on the **Source** graph are moved downwards.*
- *Pixels on the underlying layer(s) become more visible as nodes on the **Destination** graph are moved downwards.*



To change blend ranges:

1. On the **Layers** Studio, select a layer and then choose **More**.
2. Adjust the blend range settings at the bottom of the dialog. Tap **Source and Dest** to reveal their spline graphs.

To adjust a graph directly:

Do any of the following:

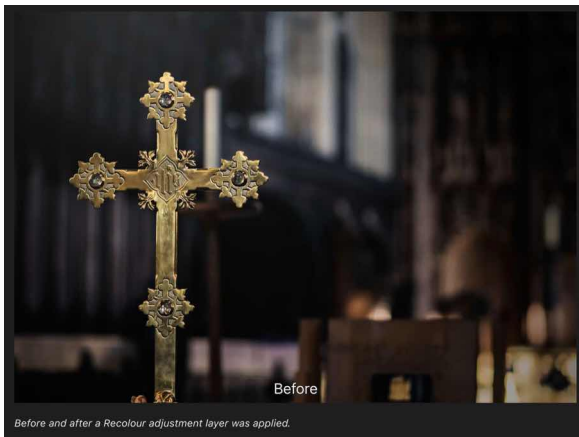
- Drag a node horizontally to affect more or less pixels.
- Drag a node vertically to affect the visibility of pixels at the tonal value selected.
- Tap on the curve to add additional nodes.
- Tap to select a node and then tap **Remove**.

SEE ALSO:

[Layer blending](#)

Adjustment layers

Adjustment layers allow you to make non-destructive corrections and enhancements to your photo project (or individual layers).



About adjustment layers

The **Adjustments** Studio provides a range of adjustments you can apply to your photo or design. Once selected, an adjustment layer is added to the layer stack in the **Layers** Studio.

There may be times that you only want to apply an adjustment layer to either a single layer or a group of layers. This is easily achieved by [clipping](#).

Adjustment layers also have mask layer properties. Areas of an adjustment layer can be revealed or hidden in the same way as with a [mask layer](#).



If you have a [pixel selection](#) in place when you add an adjustment layer, the area selected is automatically masked.



To apply an adjustment:

1. On the **Layers** Studio, select a layer.
2. Move to the **Adjustments** Studio, then select an adjustment from the list.
3. If context options appear for the adjustment, follow the steps below:
 - i. Adjust the settings on the context toolbar.
 - ii. Select another tool or select another layer to close the context toolbar.

The adjustment is added directly above the selected layer.

To modify, merge or delete an adjustment layer:

1. On the **Layers** Studio, double-tap the adjustment layer that you want to modify.
2. Adjust the settings on the context toolbar.
3. On the context toolbar, choose **Merge** to apply the changes and merge the adjustment with the layer beneath, or **Delete** to remove the adjustment layer entirely.

To move an adjustment layer:

Do one of the following:

- Tap-hold and drag the adjustment layer, reposition it, then release.



To mask an adjustment layer:

1. On the **Layers** Studio, select the **Adjustment** layer.
2. Do any of the following:
 - To 'erase' from the mask, paint with the **Erase Brush Tool**.
 - To 'restore' areas to the mask, select the **Paint Brush Tool** and paint (white restores fully, shades of grey or a lower opacity will gradually restore areas).
 - To apply a gradient mask, select the Gradient tool from the **Photo Persona** and drag across the layer. Adjust the gradient colours from the **Colour Studio**.

SEE ALSO:

[Applying adjustments](#)

[Layer masking](#)

[Creating pixel selections](#)

[Assistant](#)

Live Filters

Live Filters allow you to apply filter effects such as blurring, sharpening, noise and distortion non-destructively, meaning you can modify or remove the effects without having to use the [History Studio](#) to undo other operations on your work.

About live filters

Live filters provide a way of applying creative effects to your images whilst retaining the ability to modify the effect settings or remove the effect altogether. The filter is added to the active layer, similar to applying **Adjustment Layers**.



If you have a [pixel selection](#) in place when you add a live filter, the area is automatically masked.

To create a new live filter:

- At the top of the **Filters Studio**, switch on **Add Live filters** to see only filters that have a live version available.
- Tap a live filter to apply it to the currently selected layer.

To modify, merge or delete a live filter:

1. On the **Layers Studio**, double-tap the live filter that you want to modify.
2. Adjust the settings on the context toolbar; the changes will be applied in real time.
3. Close the context toolbar by selecting another layer or tool. Additionally, on the context toolbar, you can **Merge** to apply the changes and merge the adjustment with the layer beneath, or **Delete** to remove the filter layer entirely.

To move a live filter:

- Tap-hold and drag the live filter layer, reposition it, then release.



To mask a live filter:

1. On the **Layers Studio**, select the **live filter**
2. Do any of the following:
 - I. To 'erase' from the mask, paint with the **Erase Brush Tool**.
 - II. To 'restore' the mask, select the **Paint Brush Tool** and paint (white restores fully, shades of grey or a lower opacity will gradually restore areas).
 - III. To apply a gradient mask, select the **Gradient tool** from the **Photo Persona** and drag across the layer. Adjust the gradient colours from the **context** toolbar.

Available live filters

Blur

[Bilateral Blur](#)
[Box Blur](#)
[Depth Of Field Blur](#)
[Diffuse Glow](#)
[Field Blur](#)
[Gaussian Blur](#)
[Lens Blur](#)
[Maximum Blur](#)
[Median Blur](#)
[Minimum Blur](#)
[Motion Blur](#)
[Radial Blur](#)

Sharpen

[Clarity](#)
[High Pass](#)
[Unsharp Mask](#)

Distort

[Displace](#)
[Lens Distortion](#)
[Perspective](#)
[Pinch/Punch](#)
[Ripple](#)
[Spherical](#)
[Twirl](#)

Noise

[Add Noise](#)
[Diffuse](#)
[Dust & Scratches](#)
[Noise Reduction](#)

Colours

[Defringe](#)
[Halftone](#)
[Vignette](#)

Lighting

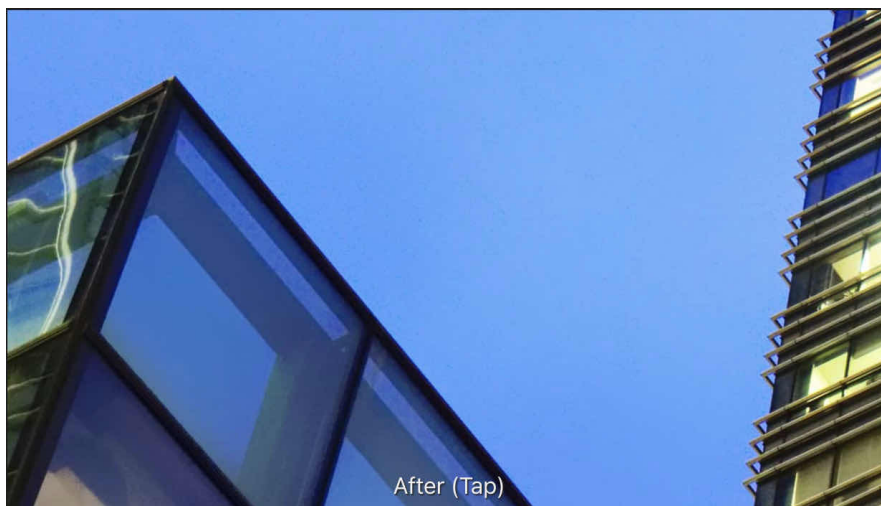
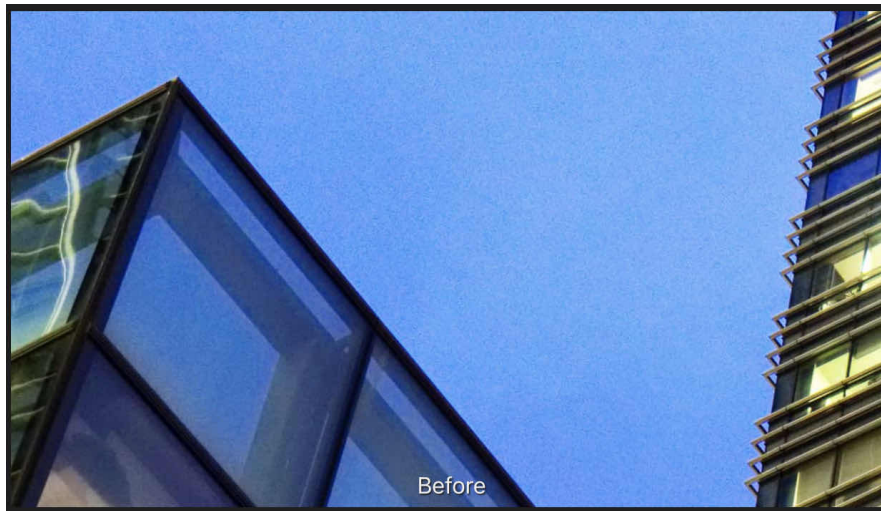
[Lighting](#)
[Shadows/Highlights](#)

SEE ALSO

[Applying filters](#)
[Layer masking](#)
[Creating pixel selections](#)
[Assistant](#)

Bilateral Blur

The Bilateral Blur filter blurs an image while retaining areas of high contrast. As these contrast changes most commonly occur at edges, it makes the filter very useful both for noise reduction and for creating interesting stylistic effects.



About the Bilateral Blur filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

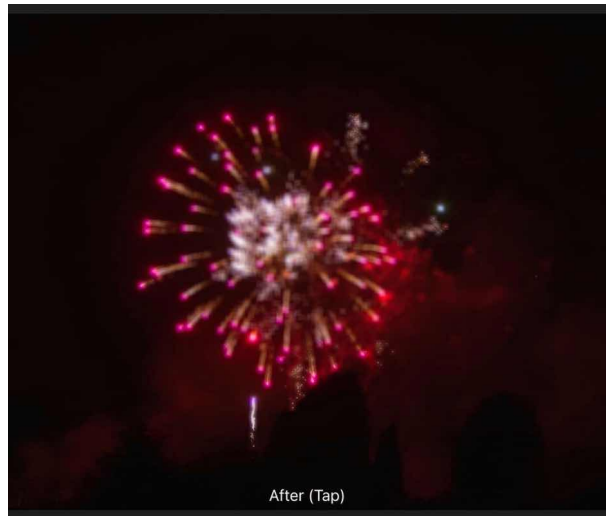
- **Radius**-controls the size of the area sampled for the blur.
- **Tolerance**-controls whether pixels are included within the blur based on the difference between tonal values of neighbouring pixels. At larger tolerance values, pixels with greater tonal differences will be included within the blur.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Median Blur](#)

Box Blur

The Box Blur filter blurs an image based on the average colour of neighbouring pixels. At high radius levels, this results in an obvious 'box' effect. At lower radius levels, it results in an effect similar to Gaussian Blur.



About the Box Blur filter

- This filter can be found in the **Filters** Studio, in the **Blurs** category.
- This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

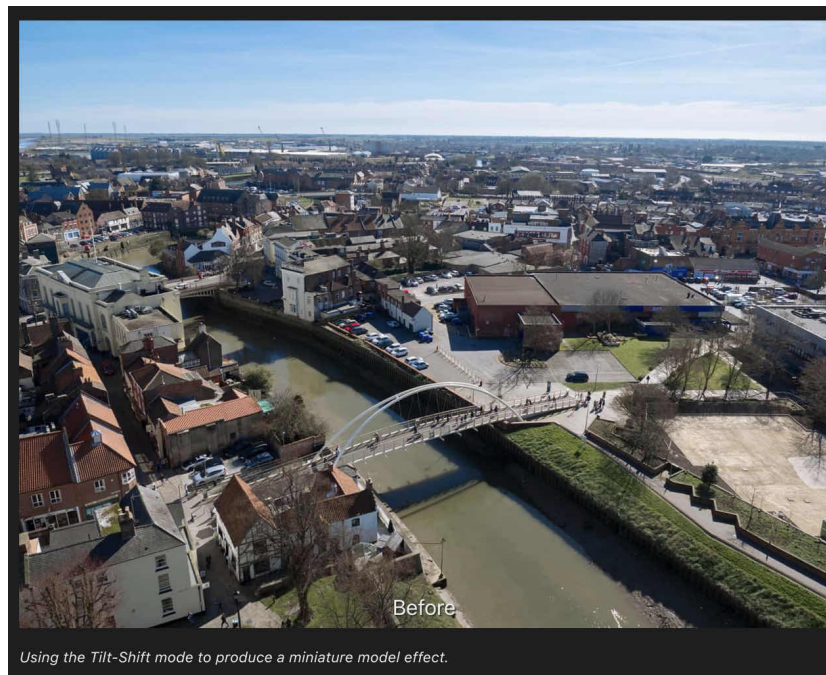
- **Radius**-controls intensity of the filter.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Gaussian Blur](#)

Depth of field blur

The Depth Of Field Blur filter applies a blur gradient that can be used to simulate extreme depth of field and miniaturisation effects, such as tilt shift.



Using the Tilt-Shift mode to produce a miniature model effect.

About the Depth of Field Blur filter

This filter can be applied as a non-destructive, live filter.

Modes

- **Elliptical**-useful for photos with a single subject, as it creates an graduated elliptical blur vignette.
- **Tilt Shift**-often used to simulate a scene created by models.

Settings

The following settings can be adjusted on the context toolbar:

- **Mode**-choose from the pop-up menu to define the type of blur generated.
- **Radius**-controls intensity of the blur.
- **Vibrance**-controls the colour intensity of less saturated colours (a high value increases the 'model-like' effect).
- **Clarity**-increases the local contrast and gives the appearance of increasing the sharpness of the image.
- **Constrain**-(on-screen modifier key) when pressed, the angle of the blur filter is kept fixed to prevent accidental rotation when dragging stops.

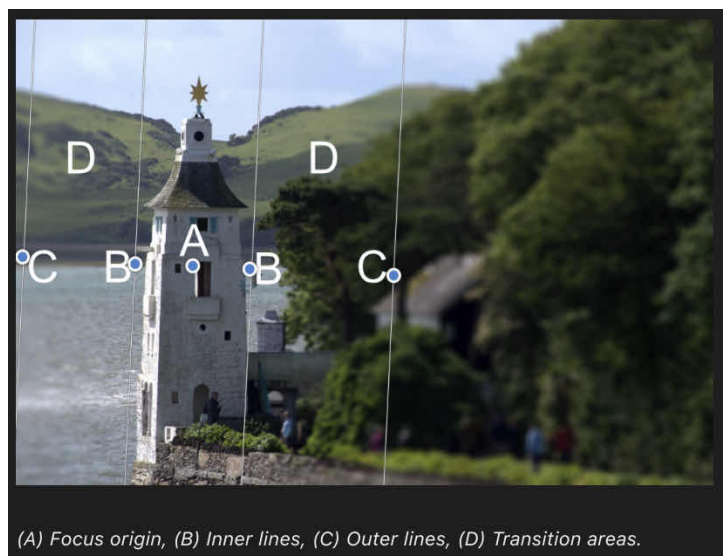
Modifying the applied blur gradient

The gradient stops determine the position and extent of the transition between the areas in sharp focus and those that are blurred.

The focus origin (**A**) defines the central point at which the image is kept completely in focus. Reposition the focus origin by dragging on the stop.

The inner lines (**B**) define the width of the area in focus. For the Tilt Shift mode these can be set independently by dragging each of the stops in turn. The Elliptical mode always matches the shape of the inner lines to the outer lines so that only the width can be specified.

The outer lines (**C**) define the end of the blur transition. For the Tilt Shift mode, these can be set independently by dragging each of the stops in turn. The Elliptical mode always sets the stops in pairs.



The transition areas (**D**) between the inner and outer lines are where the blurring gradually increases. The wider the lines, the more gradual the transition. The area on the outside of the lines has the filter applied at the full amount set by the Radius slider.

The angle of the filter can be changed by dragging the stops at an angle.



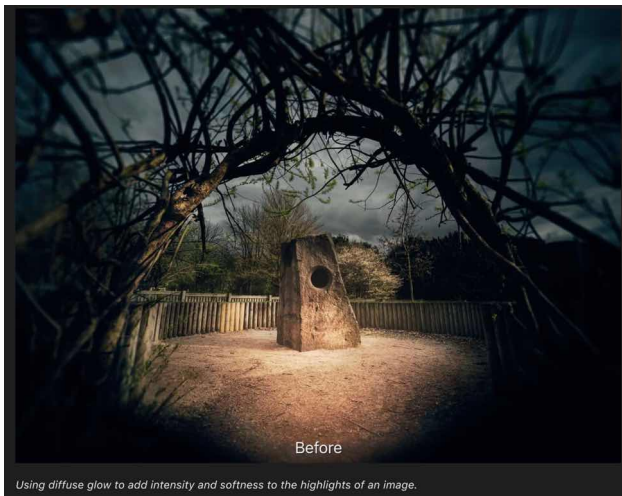
When using the tilt shift effect to "miniaturise" a scene, you will get the best effect if you choose your images carefully. Models are generally viewed from above, so the tilt-shift effect will work best on images taken with an elevated viewpoint and a wide angle of view. Buildings, roads, traffic and railways make excellent subjects.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Diffuse Glow](#)

Diffuse Glow

Diffuse Glow broadens highlights in the active layer or selection by brightening gradually outward from existing highlights, producing a soft halo effect. This creates a romantic, almost dreamy effect, similar to that of photographing an image through a soft diffusion filter.



Using diffuse glow to add intensity and softness to the highlights of an image.

About the Diffuse Glow filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the **context** toolbar:

Radius-controls how much the pixels surrounding the highlights are affected.

Intensity-controls the strength of the highlights.

Threshold-determines the range of lightness values affected. As the tolerance decreases, the effect spreads to areas that were darker to begin with.

Opacity-alters the transparency of the effect.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Depth Of Field Blur](#)

Field blur



The Field Blur filter lets you control blurring at specific areas of your image.

About the Field Blur filter

Against a uniformly blurred image, one or more selection handles can be added, positioned and edited to control the extent of blurring at that handle position, i.e. the focus origin. Multiple areas of focus can therefore be created.

Handles are independent of each other and can be repositioned and edited individually. This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Global**-controls the radius (intensity) of the blur across the whole image.
- **Radius**-controls the amount of blurring at the selected handle. Decreasing the value brings the image under the handle increasingly into focus.
- **Power**-controls the extent of the transition out from the area under the selected handle between sharp focus and blurring.

To add additional selection handles:

- Tap on the image.



A selected handle shows as a double ring, as opposed to a single ring (deselected).

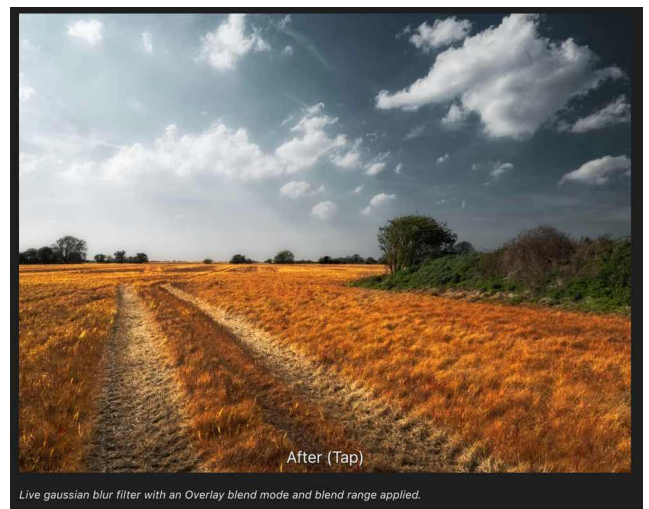
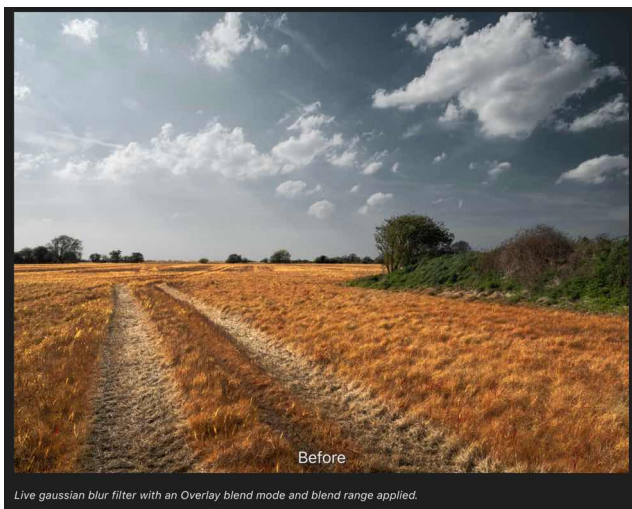
SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)

Gaussian Blur

The Gaussian Blur filter is used to reduce image noise or detail by creating a pleasing, smooth blur using a weighted average.

It's especially useful for reducing moiré (interference) patterns.



Live gaussian blur filter with an Overlay blend mode and blend range applied.

About the Gaussian Blur filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls how much dissimilar pixels are blurred.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Box Blur](#)

[Median Blur](#)

Lens Blur

The Lens Blur filter mimics the blur applied to a photo when a wide aperture is used to achieve a narrow depth of field. It can be used to improve the composition of a photo by applying a shallow depth of field to blur unwanted background. Unlike the Gaussian Blur filter, the Lens Blur filter recreates the bokeh effects generated with a real camera lens.



About the Lens Blur filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls the number of pixels affected.
- **Blades**-sets the number of virtual aperture blades which controls the shape of the 'iris' and the shape of the specular highlights.
- **Threshold**-threshold for bokeh bloom.
- **Factor**-controls the strength of the bokeh bloom.
- **Colour**-controls the saturation of the bokeh bloom.



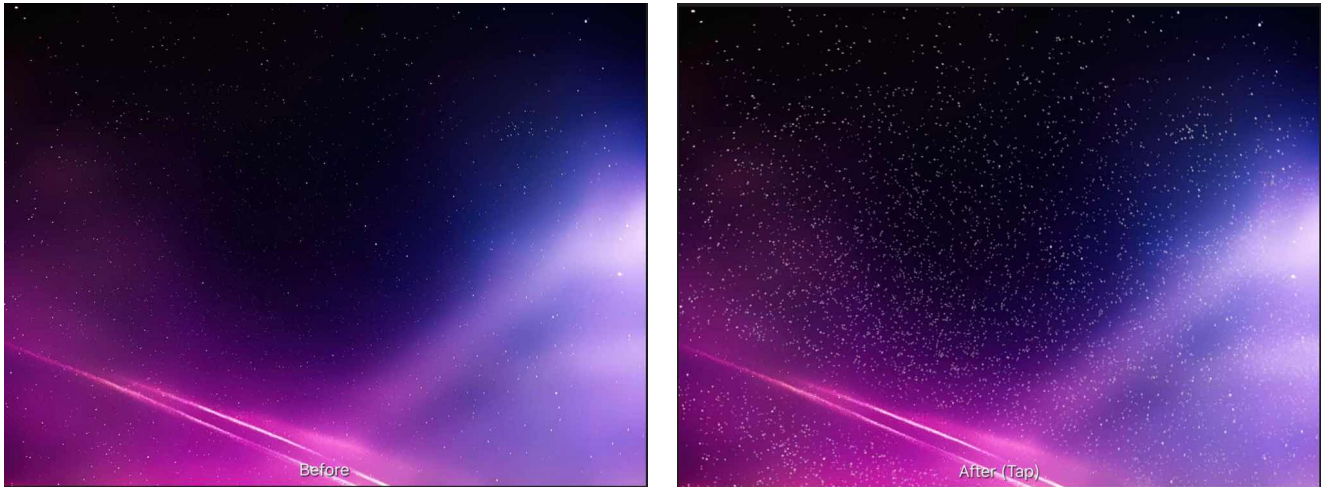
The shape of the iris affects the shape of the specular highlights (bokeh). The most noticeable bokeh shapes are created using a low blade curvature and fewer aperture blades. To mimic the effects of your own lenses, be sure to match the number of aperture blades.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Motion Blur](#)
[Radial Blur](#)
[Zoom Blur](#)

Maximum Blur

The Maximum Blur filter broadens highlight regions in the image, and shrinks darker areas. It works by comparing each pixel to its neighbour and replaces darker pixels with lighter pixels. This is most useful for modifying masks.



Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls the intensity of the filter.
- **Circular**-if this option is off (default), highlight regions expand to form square areas. When selected, expanded highlight regions are circular.

SEE ALSO:

[Applying filters](#)
[Minimum Blur](#)

Median Blur

The Median Blur filter broadens colour regions in the image. At low settings it's useful for removing noise, especially as it retains edges better than Gaussian Blur. At much higher intensities it introduces flat areas of colour.



Median Blur on a photograph.

About the Median Blur filter

This filter can be found in the Filters Studio, in the Blurs category. It can also be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar

- **Radius**-controls intensity of the filter. At high levels it creates large, flat areas of colour.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Gaussian Blur](#)

[Bilateral Blur](#)

Minimum Blur

The Minimum Blur filter shrinks highlight regions in the image, and broadens darker areas. It works by comparing each pixel to its neighbour and replaces lighter pixels with darker pixels. This is most useful for modifying masks.



Above: a duplicated image layer with minimum blur and an Add blend mode applied.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls intensity of the filter.
- **Circular**-if this option is off (default), darker regions expand to form square areas. When selected, expanded darker regions are circular.

SEE ALSO:

[Applying filters](#)
[Maximum Blur](#)

Motion Blur

The Motion Blur filter blurs in a specified direction to give the impression of movement. This gives an effect similar to panning with a camera at slower shutter speeds.



Motion Blur can add the impression of speed or movement to images.

About the Motion Blur filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls the amount of 'zoom'.
- **Angle**-controls the angle at which the blur is applied.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Radial Blur](#)
[Zoom Blur](#)
[Lens blur](#)

Radial Blur

The Radial Blur filter creates blur in concentric circular lines from an origin point. This gives the impression of movement and rotation, similar to the effect of a fast rotating object taken at a slower shutter speed.



About the Radial Blur filter

This filter can be found in the **Filters** Studio, in the **Blurs** category.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:

- **Angle**-controls the amount of 'spin'.

SEE ALSO:

[Applying filters](#)

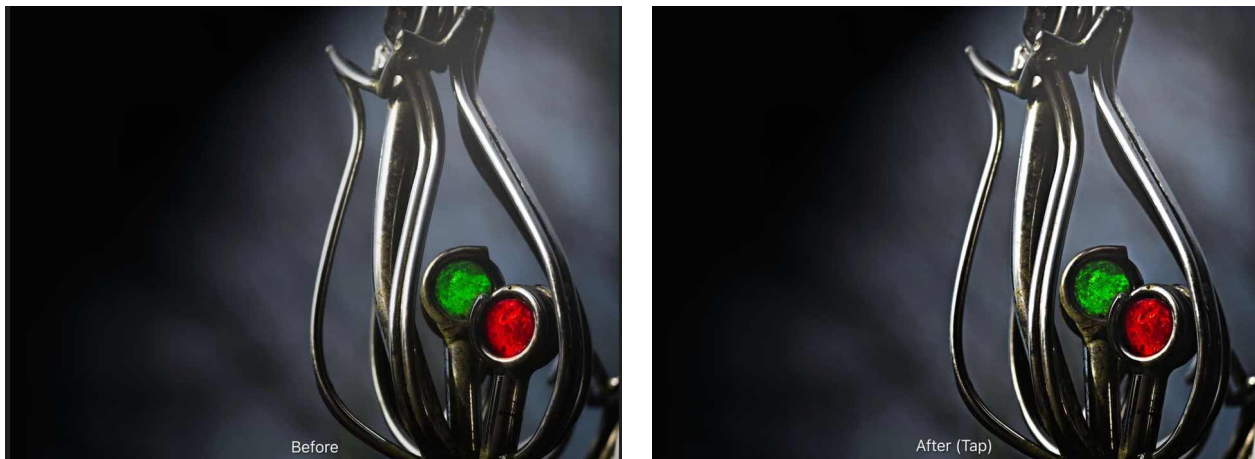
[Motion Blur](#)

[Zoom Blur](#)

[Lens Blur](#)

Clarity

The Clarity filter enhances the local contrast in an image. Its greatest influence is in the mid-tonal range. This results in a perceptual sharpening effect.



Using the Clarity filter to accentuate the outline and details of the image's subject.

About the Clarity filter

In Photo Persona, this filter can be applied as a non-destructive, live filter.
In Develop Persona, this filter is available on the **Basic Studio (Enhance)**.

Settings

The following settings can be adjusted on the context toolbar:

- **Clarity**-controls intensity of the filter.

SEE ALSO:

[Using Live Filters](#)

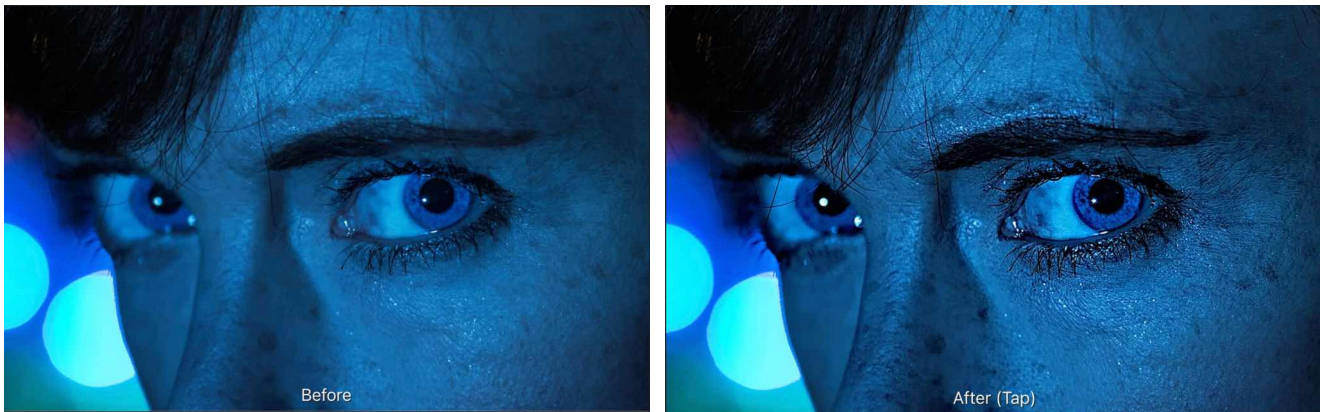
[Applying filters](#)

[Unsharp Mask](#)

[High Pass](#)

High Pass

The High Pass filter retains details where sharp colour transitions occur, generally at the edges, and suppresses the rest of the image.



Several live High Pass layers with Hard Light and Linear Light blend modes applied (selectively to masked areas).

About the High Pass filter

When a High Pass filter is applied at a high radius value to a duplicate layer and combined with a contrast blend mode (such as overlay, soft light or hard light), it can be used as a useful sharpening technique.

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls how many pixels are kept and how many are suppressed. (At higher radius values, only edge pixels are kept.)
- **Monochrome**-when selected, the final effect only contains greyscale values.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Unsharp Mask](#)
[Clarity](#)

Unsharp Mask

In spite of its misleading name, the Unsharp Mask filter is a flexible and powerful way to increase apparent sharpness in an image.



Unsharp Mask can be used to add punch to an image, or to help sharpen soft images.

About the Unsharp Mask filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Radius**-controls the number of pixels affected around the existing light pixels. A smaller radius enhances smaller scale detail.
- **Factor**-controls how much contrast is added.
- **Threshold**-controls how much contrast there needs to be between colours before the sharpening effect kicks in'. Use higher values for grainy images or skin tones.



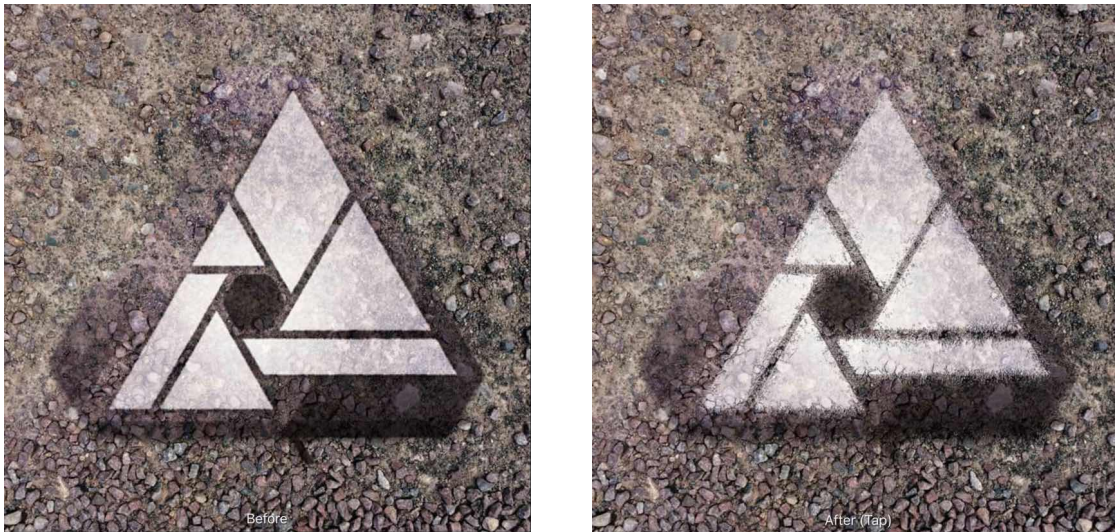
The Unsharp Mask filter affects the whole image (or selection). For fine control, it can be useful to apply it to a separate duplicate layer(s), and then either use a mask to allow sharpening of only specific areas, or use blends modes set to lighten/darken and change the opacity of these layers to get the effect that you want.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Clarity](#)
[High Pass](#)

Displace

The Displace filter applies distortion according to a pattern defined by a displacement map. The lightness values of pixels within the displacement map determine the degree to which the distortion occurs.



Using a texture as a displacement map to blend objects together.

About the Displace filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

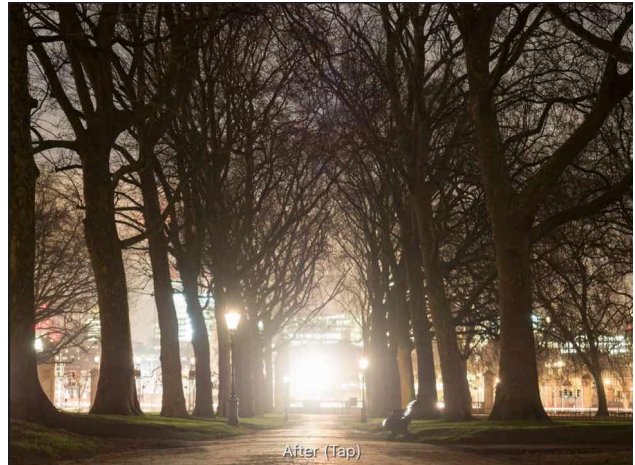
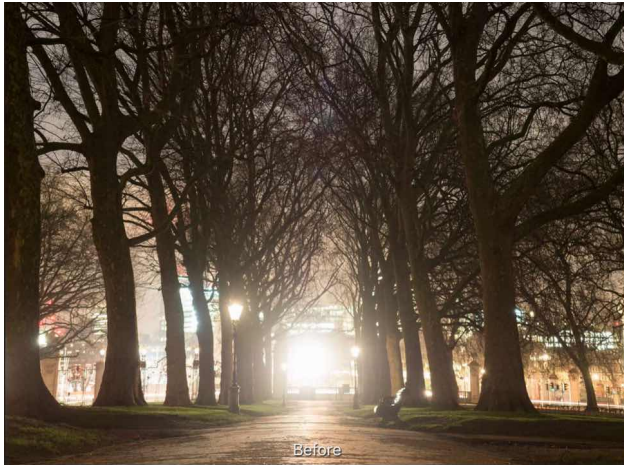
- **Strength**-sets the intensity of pixel displacement. Negative values shift pixels upwards, positive values shift pixels downwards.
- **Beneath**-determines the displacement map using layers beneath the selected layer.
- **Load**-uses a loaded image as the displacement map. Navigate to, then tap the file to load.
- **Scale To Fit**-when enabled, the displacement map stretches or shrinks to fit the document size. If disabled, the displacement map retains its native dimensions.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Shear](#)

Lens Distortion

The Lens Distortion filter provides a way of correcting distortion caused by the curvature of a camera lens. It's especially useful for correcting barrel distortion (where straight edges are bowed outwards), or for correcting pincushion distortion (where straight edges are bowed inwards).



About the Lens Distortion filter

This filter can be found in the **Filters** Studio, in the **Distortions** category. This filter can be applied as a non-destructive, live filter.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar: Distortion-controls how much the filter is applied. Drag to the left (negative value) to remove barrel distortion, drag to the right (positive value) to remove pincushion distortion.



Most lenses only need values between +5 and -3 to correct distortion. It's also useful to turn grids on so that you can see when the lines are straight.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Grids](#)
[Deform](#)

Perspective

The Perspective filter can be used to either correct converging perspective lines caused by lens distortion, or to apply perspective for a creative effect.

Lens distortion can often cause the perspective of a photo to be out, creating the appearance that lines are not vertical or horizontal when they should be.



Using the Perspective Tool to alter the appearance of a building/structure.

About the Perspective filter

The Perspective filter can be adjusted in single or dual plane mode, if applied destructively. If using the non-destructive, live filter, only single plane mode is available.

Settings

The following settings can be adjusted on the **context** toolbar:

- **Mode**-presents the grid as either a single or dual plane.
- **Source Destination**-offers two preview options.
- **Source**-the image remains static as the perspective box is positioned. When the perspective filter is applied, the image is stretched and cropped to the original canvas size.
- **Destination**-the image is directly linked to the perspective box and transforms (in real time) with the box as the anchor points are dragged.
- **Show Grid**-when selected (default), a grid is displayed between anchor points and lines. If this option is off, only anchor points and lines display.
- **Autoclip**-(Available in Dual Plane mode) Specifies whether or not to alter the image beyond the boundaries of the perspective grid points. If disabled, the image will look continuous; if enabled, the image will have visible seams where the perspective tool has been applied that can then be retouched.
- **Before/After**-If this option is off (default), your page displays your image with the current perspective applied. When selected, your page displays the adjusted and original images simultaneously.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)

Pinch/Punch

The Pinch/Punch filter can be used either in small amounts to correct or enhance portraits, or in extreme amounts to create bizarre effects.

Pinch creates a concave spherical distortion (squeezes an area) and Punch creates convex spherical distortion (bulges an area).



About the Pinch/Punch filter

This filter can be applied as a non-destructive, live filter.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:

Pinch/Punch-sets the type and value of the distortion. Negative values give a pinch effect, positive values give a punch effect.

Radius-controls intensity of the filter.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Twirl](#)

[Spherical](#)

[Ripple](#)

Ripple

The Ripple filter adds a watery, undulating pattern, like ripples on the surface of a pond.



About the Ripple filter

This filter can be applied as a non-destructive, live filter.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:

- **Intensity**—controls the extent of the effect.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

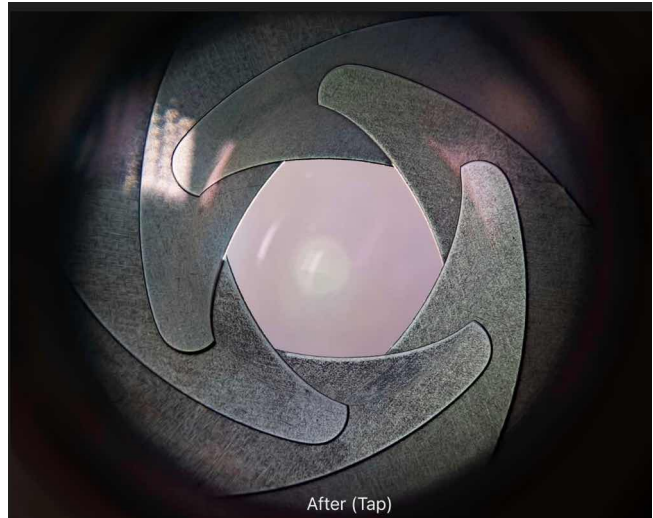
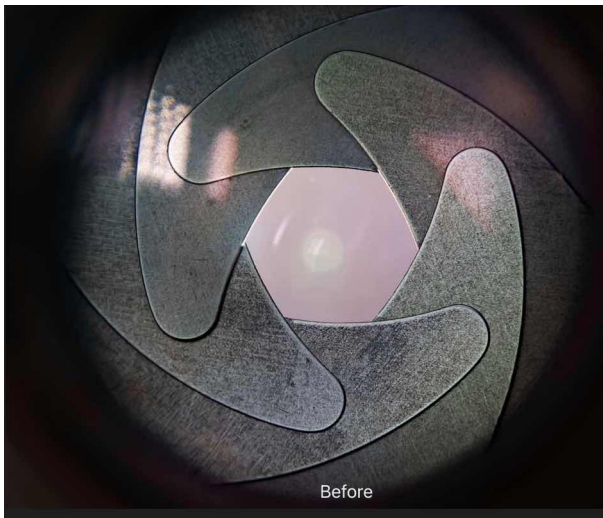
[Twirl](#)

[Pinch/Punch](#)

[Spherical](#)

Sphere

The Sphere filter gives objects the appearance of being wrapped around a spherical shape, distorting the image and stretching it to fit the curve.



About the Sphere filter

This filter can be applied as a non-destructive, live filter.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:

- **Intensity**-sets the type and value of the distortion. Negative values give a concave effect, positive values give a convex effect.
- **Radius**-controls the size of the effect.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

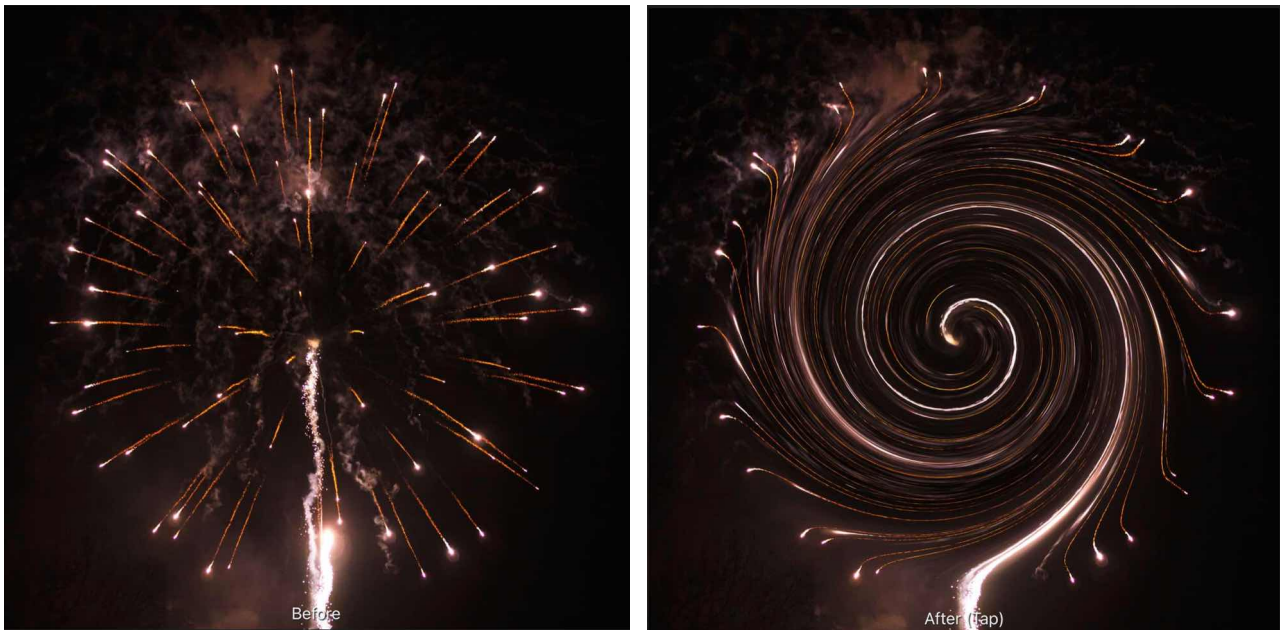
[Twirl](#)

[Pinch/Punch](#)

[Ripple](#)

Twirl

The Twirl filter applies a clockwise or anti-clockwise distortion effect to images.



The Twirl filter applied to a fireworks photograph.

About the Twirl filter

This filter can be applied as a non-destructive, live filter



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:

- **Angle**-sets the type and value of the distortion. Negative values give a anti-clockwise effect, positive values give a clockwise effect.
- **Radius**-changes the number of pixels affected.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)
[Pinch/Punch](#)
[Spherical](#)
[Ripple](#)

Add Noise

All digital images have a certain level of noise (random pixel distribution) which helps to create atmosphere, texture, and depth.

After image manipulation, such as resizing, cloning, applying gradients, etc., this texture noise is often lost and the image can take on a very flat appearance. The Add Noise filter adds random pixels to the image, introducing a level of noise to help return the textures in the image. This also helps to seamlessly blend effects.



About the Add Noise filter

This filter can be found in the **Filters** Studio, in the **Noise** category. It can also be applied as a non-destructive live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Intensity**-controls the level of noise generated.
- **Monochrome**-When checked only tones in the image are affected
- **Gaussian**-when checked, produces softer noise.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Noise Reduction](#)

[Diffuse](#)

[Perlin Noise](#)

Detail Refinement

Sharpen edges to add clarity to images.

This adjustment is only available in **Develop Persona**.



Settings

The following settings can be adjusted:

- **Radius**-controls the number of pixels affected around the existing light pixels. Drag the slider to set the value.
- **Amount**-controls how much contrast is added but does not define the number of pixels affected. Drag the slider to set the value.

SEE ALSO:

[Developing a raw image](#)

Diffuse

The Diffuse filter adds noise to the edges in the image (or selection).



About the Diffuse filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Intensity**-controls the level of noise generated.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Denoise](#)

[Add Noise](#)

[Perlin Noise](#)

Dust & Scratches

The Dust & Scratches filter removes artefacts like dust and scratch marks from your images by mapping out dissimilar pixels.



About the Dust & scratches filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the **context** toolbar:

- **Radius**-controls the size threshold for determining dust and scratch artefacts. If the artefacts are mainly fine in detail, use a smaller radius. Larger radius values will tackle larger artefacts.
- **Tolerance**-determines how aggressively the filter should analyse the image. Increase the slider to reduce the amount of the image that the filter will effect.
- **Channels**-when checked, the Tolerance works on a per-channel basis. Useful for colour images as it can produce smoother results and fewer artefacts.



*If you are struggling to remove all dust and scratch marks whilst maintaining a sharp image, don't forget that you can use the **Undo Brush** tool to remove the effect from areas where you want to retain detail.*

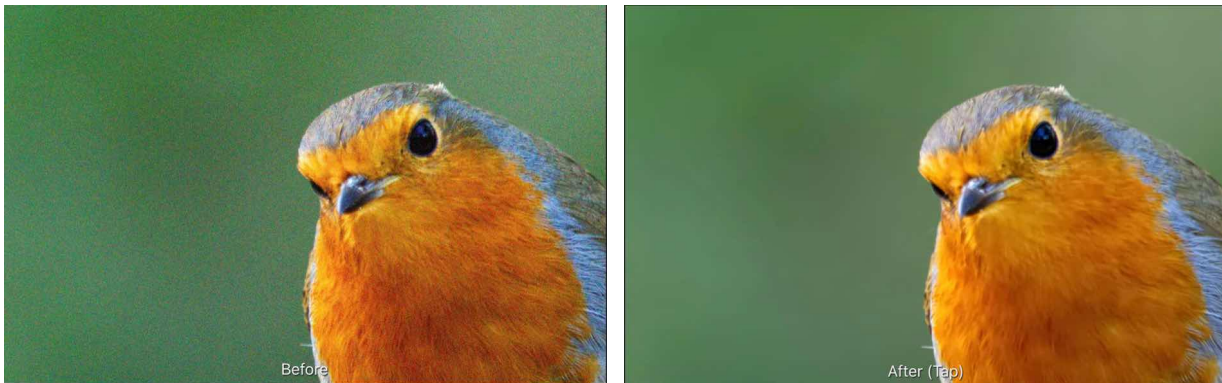
SEE ALSO:

[Applying filters](#)
[Noise Reduction](#)

Noise Reduction

The Noise Reduction filter is a powerful form of noise reduction.

About the Noise Reduction filter



Settings

The following settings can be adjusted on the context toolbar:

- **Luminance**-specifies how much luminance noise to reduce.
- **Details**-controls the final quality of the reduction. Higher values will give a better quality finish but the application of the filter will take longer. Drag the slider to set the value.
- **Contribution**-controls how much of the overall luminance noise reduction is added to the image.
- **Colour**-specifies how much chrominance noise to reduce.
- **Contribution**-controls how much of the overall chrominance noise reduction is added to the image.

SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

[Add Noise](#)

[Diffuse](#)

[Perlin Noise](#)

Defringe

Purple fringing, or bi-chrominance as it's more correctly termed, is a form of chromatic aberration caused by the over-excitation of the pixels on the sensor in the camera. The effect can occur anywhere within an image but it's most common at the edges of high contrast areas, especially when a dark element is strongly backlit, such as branches silhouetted against a blue sky. The Defringe filter selectively adjusts these areas to remove the colour fringing.



Using the Defringe filter to remove purple fringing from the wall edge.

About the Defringe filter

This filter can be applied as a non-destructive, live filter.

On selecting the Defringe filter, it will default to settings which remove the purple fringing, as this is the most common type.

This can be manually adjusted as necessary on the context toolbar, or by sampling the fringe colour on the page to remove it.

Settings

The following settings can be adjusted on the **context** toolbar:

- **Hue**-defines the colour of the fringe to be desaturated. Drag the slider to define the hue.
- **Complementary**-also removes fringing matching the chosen hue's complementary colour (e.g., choosing purple would also remove yellow fringing).
- **Radius**-defines the radius of the pixels affected around the fringed areas.
- **Tolerance**-defines how close the fringe colour must be to the defined colour before it is affected.
- **Threshold**-defines the amount of contrast needed between the fringed areas before affecting the pixels.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)

Halftone

The Halftone filter simulates the look of continuous tone through a choice of screen types.



Settings

The following settings can be adjusted on the context toolbar:

- **Screen Type**-provides a choice of how the continuous tone is generated from Dot, Line, Circular or Colour.
- **Dot Type**-provides a choice of how the tone appears from Cosine or Round.
- **Size**-dictates the size of each individual dot, line or circle that makes up the continuous tone.
- **Screen Angle**-changes the direction of the tone reproduction.
- **Contrast**-increases or decreases the tonal contrast between each cell.
- **Grey Component Replacement (GCR)**-(Colour screen type only) controls the contrast of areas between colour cells.
- **Under Colour Removal (UCR)**-(Colour screen type only) controls the influence of the colour cells. Increase to lessen their influence and desaturate the image.

SEE ALSO:

[Applying filters](#)

Vignette

The Vignette filter can be used to either add vignetting to an image, or remove it from the image.



About the Vignette filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

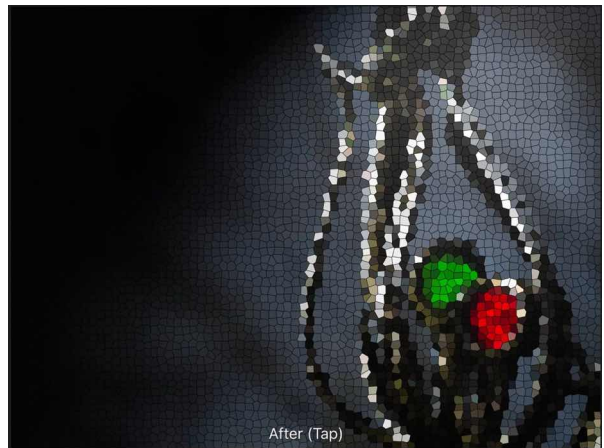
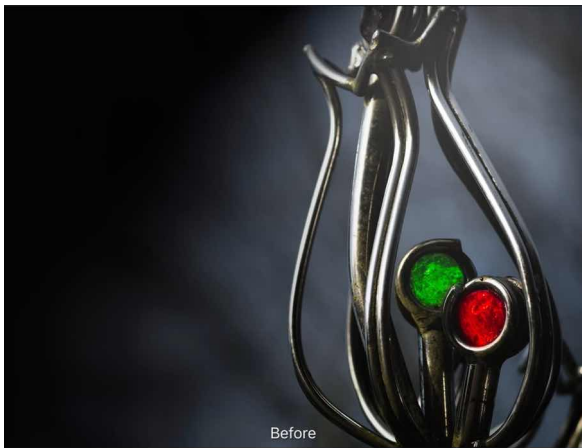
- **Exposure**-sets the type and value of the effect. Negative values darken the effect, positive values lighten the effect.
- **Hardness**-controls how much feather/blur is applied to the transition.
- **Scale**-controls the size of the vignette.
- **Shape**-determines whether the vignette is circular or elliptical.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)

Voronoi

The Voronoi filter creates a Voronoi diagram (also known as a Dirichlet tessellation) from a pixel layer.



Settings

The following settings can be adjusted in the filter dialog:

- **Size**-controls how the plane is partitioned into regions (Voronoi cells). A larger value results in larger regions.
- **Line Width**-alters the thickness of the black lines separating the regions.

SEE ALSO:

[Halftone Filter](#)

[Applying filters](#)

Remove Lens Vignette/Post Crop Vignette

The Remove Lens Vignette adjustment corrects unwanted vignetting by modifying the brightness at the edges of an image. The Post Crop Vignette adjustment achieves the same effect on cropped images.



Before and after adjustment applied.



This adjustment is only available in [Develop Persona](#).

Settings

The following settings can be adjusted:

Intensity-sets the type and value of the correction. Drag the slider to set the value.

Scale-controls the size of the correction. Drag the slider to set the value.

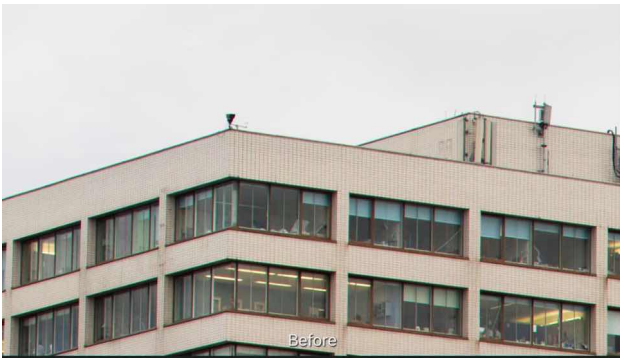
Hardness-controls how much feather/blur is applied to the transition. Drag the slider to set the value.

SEE ALSO:

[Developing a raw image](#)

Chromatic Aberration Reduction

Fixes chromatic aberration by realigning blue, green, and red planes.



Aligning the chroma planes using the filter.

This adjustment has no customisable settings.

SEE ALSO:

[Developing a raw image](#)

Procedural Texture

The Procedural Texture filter allows you to perform a number of pixel manipulations using predetermined functions and user defined variables.

About the Procedural Texture filter

This filter can be applied as a [non-destructive, live filter](#). It can be accessed via the **Filters** Studio.

Settings

The following settings can be adjusted from the context toolbar:

Presets-select a preset to apply using the **arrows**. Additional percentages will appear depending on the preset you have selected.

SEE ALSO:

[Applying filters](#)

[Equations filter](#)

Shadows/ Highlights

The Shadows / Highlights filter allows for stronger manipulation of the shadow and highlight tonal regions in an image. It can be used to reduce contrast, boost shadow detail and recover highlight detail.



About the Shadows/ Highlights filter

This filter can be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Version**
 - **Default**-The improved version of this filter, introduced in version 1.7. Recommended for more natural-looking results.
 - **1.6**-The classic version of this filter, retained for backwards compatibility with existing documents.
- **Shadows**-control how much shadow detail is boosted.
- **Range**-specify the tonal range to boost. Increase the value to boost a greater range of shadow tones.
- **Highlights**-control how much highlight detail is recovered.
- **Range**-sets the tonal threshold for recovering highlight detail. Increase the value to boost a greater range of highlights.

SEE ALSO:

[Using Live Filters](#)

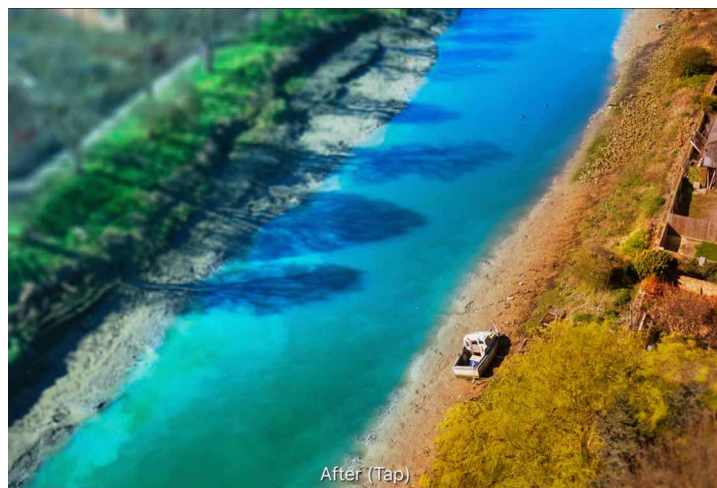
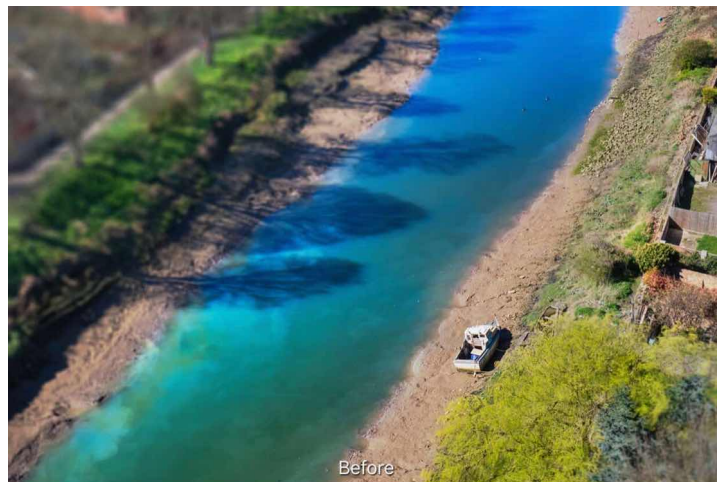
[Applying filters](#)

[Clarity](#)

[Shadows/Highlights adjustment](#)

Fill layers

Fill layers contain an adjustable solid or gradient colour. They can be used for photo editing and corrective or creative purposes.



Using a Fill layer with a blend mode to recolour an image.



When using fill layers it is common to apply a specific [opacity](#) and/or [blend](#) mode to the layer to achieve highly customisable photo effects.



A fill layer will automatically resize to fill the page if the canvas size is modified.



To create a new fill layer:

- From the **Layers Studio**, tap the plus button and select **Fill Layer** from the pop-up menu.

A new fill layer is added above the current layer (or at the top of the layer stack if no layer is selected) with a solid colour applied.



You can use the [Colour Studio](#) to update the solid colour. Colour picking from another layer is also popular for harmonising colours. For details see [Selecting colours](#).

To apply a gradient to a fill layer:

1. Select the **Gradient** tool from the **Photo** Persona. This is automatically selected by default when creating a new fill layer.
2. From the context toolbar, select a fill type from the **Type** pop-up menu.
3. Drag across the canvas.



Once applied, you can modify the gradient and its colours to suit your specific needs. For details see [Gradient editing](#).

SEE ALSO:

[Selecting colours](#)
[Gradient editing](#)
[Gradient Tool](#)
[Layer Opacity](#)
[Layer blending](#)

Pattern layers

Pattern layers contain a fixed-size bitmap image which repeats across the entire document. Pattern layers can be mirrored, creating a symmetrical tiled effect. You can paint designs on blank pattern layers and transform them.



(A) Pattern from painted raster brush strokes; (B) pattern area after resizing and rotating.

After a pattern is added or made from a pixel selection, a faint grey box indicates the "real" area of the pattern which can be transformed or edited at any time.

To create a blank pattern layer:

- From the **Layers Studio**, tap the plus button and select **New Pattern Layer** from the pop-up menu.

Specify the dimensions of the pattern area that will repeat across the pattern layer-this sets the scaling of the pattern.

To paint a pattern:

Use the **Layers Studio** to select the pattern layer that you want to work on, or create a new pattern layer.

Select the **Paint Brush Tool** or another brush-based tool and adjust it to your preferences. Paint on the page to paint a pattern. The stroke will be repeated across the entire document.



To resize a pattern:

1. With the **Move Tool**, select the **pattern layer**.
2. Drag a corner or edge control handle on the pattern area's bounding box. The opposite handle is used as the anchor point.



Hold down a finger while dragging to maintain the aspect ratio of the pattern or stretch it.



To rotate a pattern:

1. With the **Move** Tool, select the **pattern layer**
2. Do one of the following:
 - Drag the pattern area's rotation handle.
 - Position the cursor close to a corner handle and drag on the page.
 - From the **Arrange** menu, select a **rotate** option.



*You can rotate layer content with more precision using the **Transform Studio**.*



To shear a pattern:

To make a pattern layer mirrored or turn off mirroring:

- With the **pattern layer** selected, go to the **Layers** Studio and tap **More** to see more layer options.
- Tap **Mirror** to toggle the setting on or off. The changes you have made will be displayed immediately.

SEE ALSO:

[Painting brush strokes](#)

[Applying filters](#)

[Transforming](#)

[Rotating and shearing](#)

[Creating pixel selections](#)

Layer masks

A layer mask is used to reveal a portion of a layer while the rest of the layer remains hidden. This means that you can use a mask layer to 'delete' areas of a layer that you don't want.

In Affinity Photo, two types of masking are possible:

- **Pixel masking:** performs a similar task to the erase tools with one important difference; a pixel mask can be modified, or even discarded, at any point in time.
- **Vector masking:** this involves using vector content as a mask over another layer that crops to the vector content's outline.



Masking can be applied at any level in the [Layers Studio](#)-as an independent mask layer or applied to a specific layer or to a layer group. This is governed by the mask layer's positioning in the layer stack.

The non-destructive power of masking

Masks are applied as a separate layer, allowing them to be freely edited and moved. Mask layers affect any layer below them within the Layers Studio. They can also be [clipped](#) to individual layers so that only that layer is affected. Alternatively, mask layers can be added to layer groups so they only affect that group.

[Adjustment layer](#) and [Live Filter layers](#) also have mask layer properties. Areas of an adjustment layer can be revealed or hidden in the same way as with a mask layer.

You can apply destructive filters to mask layers. For example, a selection of blur, sharpen, distortion or noise filters can be applied to mask layers, as well as layers with mask layer properties such as adjustment layers, live filter layers and masked fill layers; spare channels can also take destructive filters too.



To create a mask layer:

Do one of the following on the **Layers Studio**:

- Tap the plus button and select **Mask Layer** from the pop-up menu. The added mask will hide areas outside a selection (if a selection is in place) or display the entire layer (if no selection is in place).
- Tap the plus button and select **Empty Mask Layer** from the pop-up menu. The added mask will hide the entire layer regardless of any selection in place.



By default, a created mask layer is clipped to the selected layer or added at the top of the Layer stack if no layer is selected. It can be moved within the Layer stack to affect greater or lesser areas.



You can create a mask from a selection which has been 'painted' on your image using Quick Mask mode. See [Edit selection as layer using Quick Mask mode](#) for more information.



*You can use the **Pen Tool** to draw a closed shape that can be made into a mask. From the tool's context toolbar, choose **To Selection**.*



To edit a pixel mask:

1. On the **Layers** Studio, select the **mask** layer.
2. Do one of the following:
 - To 'erase' from the mask, paint on the canvas using the **Erase Brush Tool**.
 - To 'restore' the mask, paint on the canvas using the **Paint Brush Tool**. A white fill completely restores, while greyscale fills partially restore the mask by varying amounts.
 - To apply a gradient mask, select the **Gradient** tool from the **Layer** Studio and drag across the layer. Adjust the gradient colours from the context toolbar.



The **Erase Brush** Tool always erases using 100% black (ignoring the current fill swatch).



To invert a pixel mask:

1. On the **Layers** Studio, select the **layer mask**.
2. On the **Channels** Studio, choose **More** next to the mask's alpha channel entry and select **Invert**.

To change pixel mask properties:

- As you erase or paint on the mask, adjust Width, Opacity, Flow and Hardness from the brush's context toolbar.

To hide/show a pixel mask:

- Tap the mask layer's checkbox on the **Layers** Studio.

To add a vector mask:

1. Add vector content, e.g., draw a line or shape or add text.
2. On the **Layers** Studio, drag the created vector content's layer directly onto the thumbnail of another 'target' layer. The thumbnail of the target layer changes to indicate that a mask (and crop) has been applied.



To add a pixel mask to vector content:

1. On the **Layers** Studio, select a layer with vector content.
2. Paint on the page using the **Erase Brush Tool**.

By default, the [Assistant](#) will add a layer mask to the selected layer to accommodate your paint strokes. Once the mask is in place, you can 'restore' the mask using the **Paint Brush Tool**.



To delete a mask:

1. On the **Layers** Studio, select the layer mask.
2. Choose **Delete Layer**.

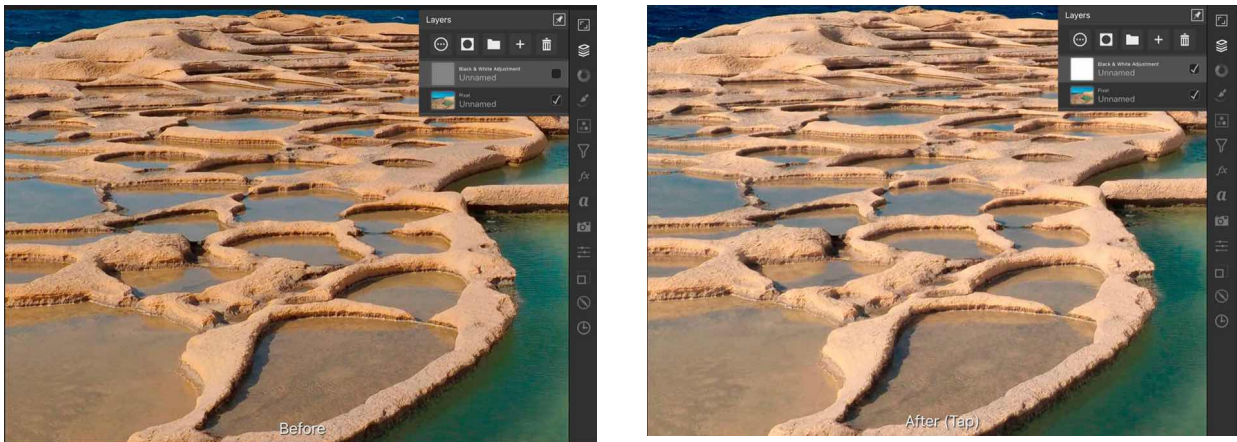
SEE ALSO:

[Using adjustment layers](#)
[Applying filters](#)
[Layer clipping](#)
[Assistant](#)

Layer operations

Viewing

Show or hide layers to include/exclude layers (and layer content) in your document and any output.



Before and after - black & white adjustment layer hidden.

✓ To hide or show a layer:

On the **Layers** Studio, tap the **Show/Hide Layer** checkbox

✓ To hide or show multiple layers simultaneously:

In the **Layers** Studio:

1. Select layers by swiping right on the layer entry.
2. Tap **Show/Hide Layer** on one of the selected layers.

SEE ALSO:

[Selecting](#)

Selecting

Before you can move or modify layers, you must first select them.:



To select a layer:

Do one of the following:

- With the **Move** Tool selected, tap layer content on the document.
- On the **Layers** Studio, tap a layer.



To select multiple layers:

Do one of the following:

- With the **Move** Tool selected, tap a layer's contents on the document to select it. Now tap-hold for one second, then tap additional layer contents on the document to select them in turn.
- On the **Layers** Studio, gently swipe left or right on a layer to select or deselect it. Do this for multiple layers.
- For selecting a span of layers using the Layers Studio (Photo Persona or Export Persona), tap an initial layer to select, then a two-finger tap on another non-adjacent layer will select all layers in between.



To select a specific child layer:


1. On the **Layers** Studio, expand the parent layer or layer group to show its contents by tapping the layer's arrow or double tapping the layer.
2. Tap the child layer to select it.



To deselect layers:

With the **Move** Tool selected, tap on any empty area of the canvas or anywhere else in the document.



You can  Lock/Unlock layers from the **Layers** Studio.



Gesture(s)

- Swipe right/left on an object(s) to select and deselect in **Layers** Studio.
- On the Layers Studio (within the Photo Persona or Export Persona), with a layer selected, a two-finger tap on another non-adjacent object will select all objects in between.

SEE ALSO:

[Move Tool](#)
[Grouping](#)

Duplicating

Affinity Photo lets you make duplicate layers to increase workflow or to temporarily create a 'backup' layer.



To duplicate:

- On the **Layers** Studio, select a layer or group.
- Do one of the following:
 - Two-finger tap on the document, and select **Duplicate**.
 - From the **Commands** Menu, choose **Duplicate**.



Gesture(s)

With **Move** Tool active, a two-finger hold (with an object selected) plus a one finger drag on the selected object duplicates the selected object.

Power duplicate

If you duplicate layer content and then transform the duplicate, you can immediately duplicate this transformed content. If you do, the newly created content will adopt the transform of the duplicate and will be also transformed again using the same settings. In other words, the transform is applied accumulatively to subsequent duplicates.

To power duplicate:

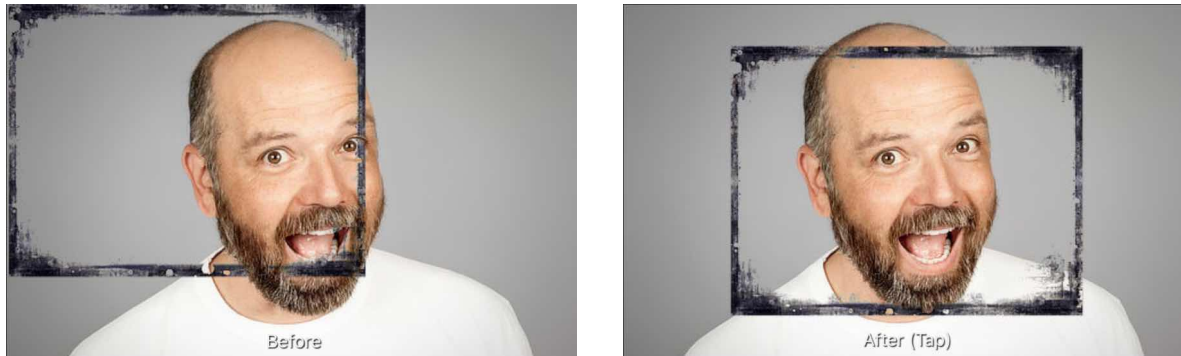
1. Select one or more layers or groups.
2. From the **Commands** Menu, select **Duplicate**.
3. Transform the duplicated layer or group, e.g. offset the duplicate from its parent.
4. Choose **Duplicate** again.

SEE ALSO:

[Selecting](#)
[Transforming](#)

Aligning

Layer content can be aligned on the page accurately using the **Transform Studio**.



Before and after alignment applied.

Settings

Settings can be adjusted from the Studio's **Alignment Options**:

- **Align to**-the pop-up menu sets the alignment criteria for the operation. For example, you can align in relation to Selection Bounds, page Spread, page Margin or the first (or last) object selected during a multiple selection (by marquee drag over or layer selection).

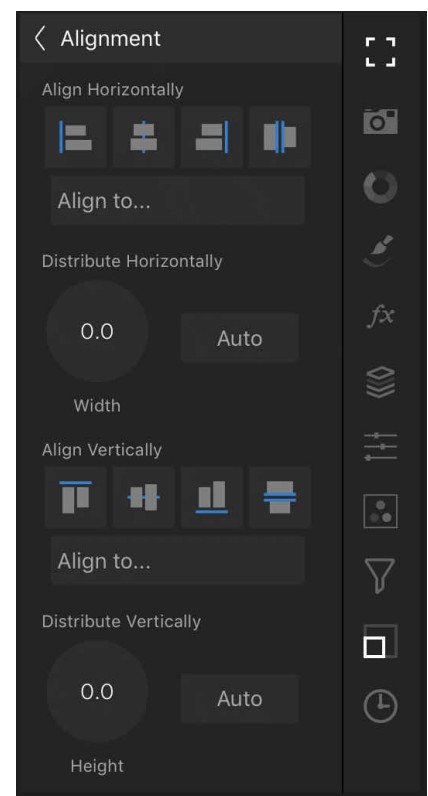


Alignment Options also offers options for [distributing](#) objects.



To align layer content:

1. Select your layer(s).
2. On the **Transform Studio**, choose **Alignment options**.
3. Set the **Align To** option, then an **Align** or **Align Vertically** option.



The Alignment Options, accessed through the Transform Studio.

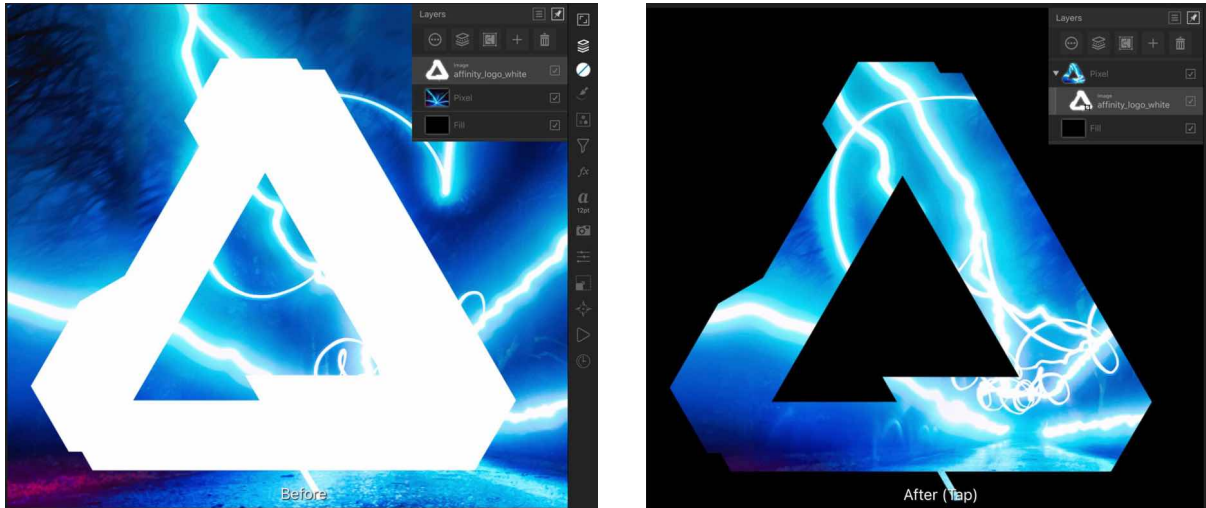
SEE ALSO:

[Distributing](#)
[Transform Studio](#)

Clipping

Clipping involves positioning one layer inside another, creating a parent - child layer relationship. The path of the parent layer becomes the new boundaries for the child layer. Any areas of the child layer which lie outside the parent layer's path are masked (hidden).

Clipping can also be used to confine an adjustment, filter or mask to a single layer or layer group.



The logo layer becomes a child layer and behaves as a mask for the image layer.

About clipping

When scaling a parent layer, child (clipped) layer scale to maintain the correct aspect ratio. Scaling a clipped layer has no effect on the parent layer. A clipped layer can be edited independently from its parent, e.g. adjusting opacity, and/or blend mode.

Any layer can act as a parent or child in clipping relationships. Therefore both pixel and vector layer content can be either clipped or clipping.

Layers can be clipped on creation by activating Insert inside the selection targeting. For more information, see the [Targeting](#) topic.



To clip layers:

1. On the page, position the content to be clipped so it overlaps the content which will perform the clipping.
2. On the **Layers** Studio, tap-drag the layer to be clipped on top of the layer which is to perform the clipping, then release.

The clipped layer is nested within the clipping layer, becoming a child of the clipping layer.



To select clipped layers:

1. On the **Layers** Studio, expand the clipping layer's contents (if needed) by tapping the layer's arrow or double tapping the layer name.
2. Tap to select the clipped layer.

The clipped layer can now be edited as needed.

To remove clipping (unclip):

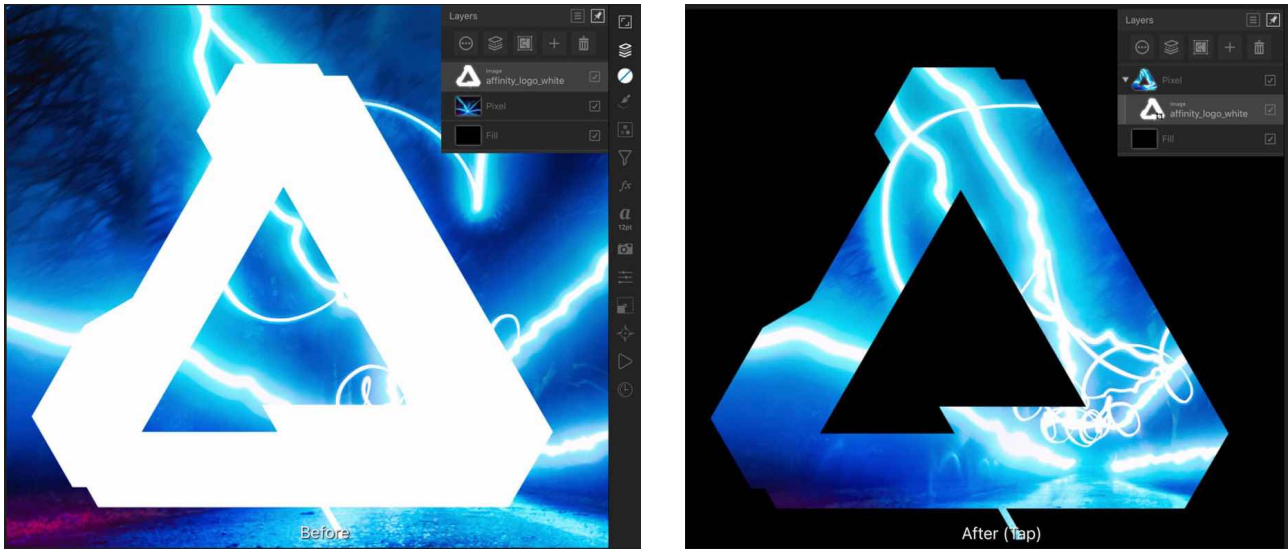
On the **Layers** Studio, tap-drag the clipped layer from inside the parent layer.

SEE ALSO:

[Targeting](#)
[Layers Studio](#)

Paste Inside

This feature allows you to paste one or more layers inside another layer. The layer to be pasted could be copied from another document.



The image layer was pasted inside a transparent pixel overlay of brush strokes.



To copy and paste inside:

1. From the **Photo** Persona, select the layer (in **Layers** Studio) with the style to be copied.
2. From the **Commands** Menu, select **Pasteboard>Cut** or **Pasteboard>Copy**.
3. Select the layer which will act as the parent layer.
4. From the **Commands** Menu, select **Pasteboard>Paste Inside**.

The pasted layer is shown within the path of the parent layer, producing layer clipping.

SEE ALSO:

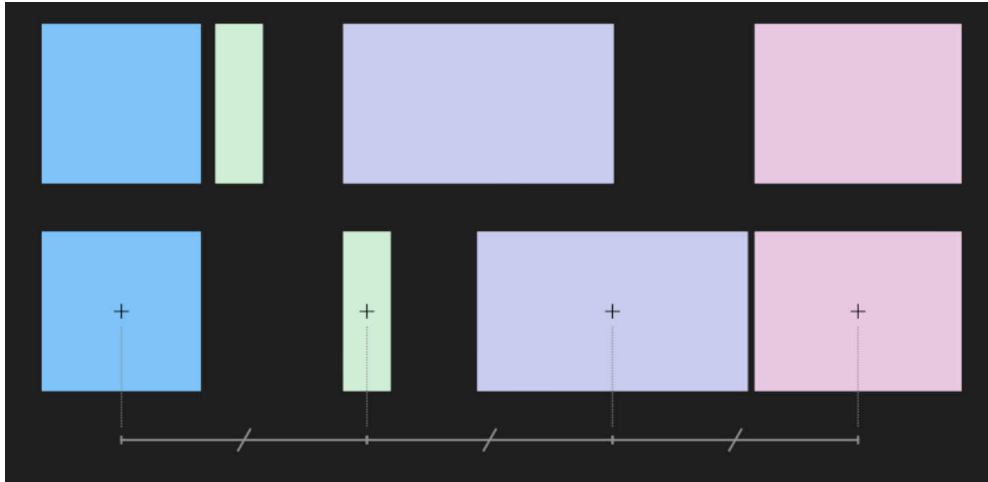
[Targeting](#)
[Layer clipping](#)

Distributing

Layer content across multiple layers can be distributed or spaced evenly on the page using the Alignment commands.

Distribution and spacing

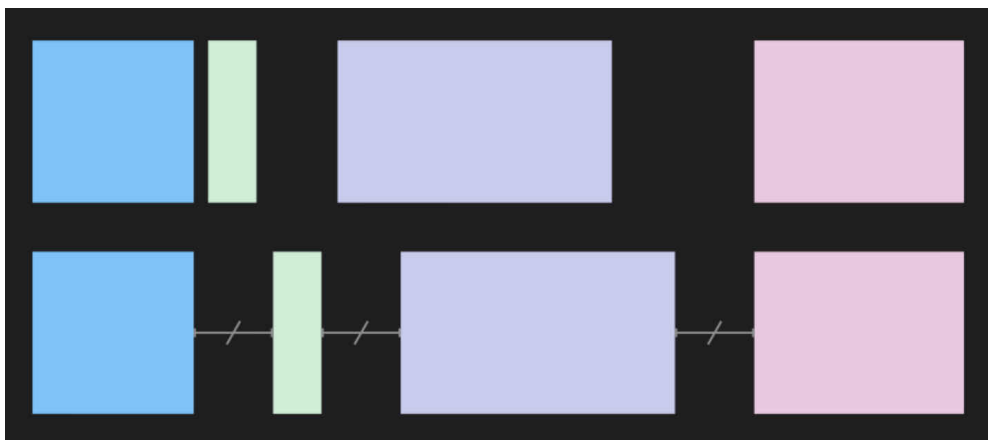
Distribution involves setting an equal distance between the centres of layer content.



Before and after distribution.

Spacing ensures there is an equal distance between the edges of layer content.

Before and after spacing.



Settings

Settings can be adjusted from the **Alignment Options** on the **Transform Studio**. Distribution is always carried out within the selection bounds:



- **Space Horizontally**-evenly distributes selected layers' contents horizontally.



- **Space Vertically**-evenly distributes the selected layers' contents vertically

- **Auto**-when selected (default), the selected layers' contents are distributed evenly within the selection bounds. If this option is off, a specified distance between selected layers' contents can be set adjacent to the Auto Distribute option.

To distribute layers' contents:

1. Select your layers.
2. On the **Transform** Studio, tap **Alignment Options**, and set your options, which will update in real time.

SEE ALSO:

[Aligning](#)

Grouping

Layers can be grouped together for easier management and for restricting adjustments or masks to particular layers within your project. Layer groups can be nested together within a 'parent' layer group.

Grouped layers remain together so they can be easily selected, moved and copied. Furthermore, once a layer group is established, adjustments and masks can be applied to the group and will affect all the layers within the group but not those outside the group.

Groups, and nested groups, can be broken apart at any time into their separate layers



*Layer groups display as a nested Group layer on the **Layers Studio**.*



For a layer group, the default blend mode is 'Passthrough' (i.e. the group itself has no special blend properties of its own). Please see the [Layer blending](#) topic for more information on how this blend mode affects layer groups.



To group/ungroup layer content:

- On the **Layers Studio**, swipe across each layer to select multiple layers. Pinch inwards (either vertically or horizontally) to group selected layers. To ungroup, do the opposite and pinch out.
- Alternatively, from the **Layers Studio**, with layer content selected, choose **Group**. To ungroup, choose Group again.
- You can also ungroup content through the **Commands Menu** by selecting **Ungroup**.

To release a layer from a layer group:

- On the **Layers Studio**, drag the layer out of the group to another layer position.



To select a specific layer within a layer group:

1. On the **Layers Studio**, expand the layer group to show its contents by tapping its arrow or double tapping the layer name.
2. Tap to select a layer within the group.



Gesture(s)

- *Double tapping on a grouped object will select it while still grouped.*
- *On the Layers Studio, pinch non-adjacent selected objects and objects in between (pinch either vertically or horizontally anywhere in the Studio). To ungroup, pinch the group layer entry.*

SEE ALSO:

[Selecting Layers Studio](#)

Linking

Linking layers means you can share layer attributes between layers and have them all update simultaneously if any one of the linked layers' attributes is altered.



Linked HSL adjustment layers applied to all balloons allow them to be recoloured simultaneously by changing a single setting.

About unlinking

There may be an occasion where you might want to selectively unlink a attribute from a specific linked layer, giving it its own independent setting. For example, if you wanted a linked Gaussian Blur Live Filter Layer to share the same attributes as other linked Gaussian Blur Live Filter Layer, but not its Blend mode settings, you can unlink this attribute.

Relinking simply adopts the same attribute as all other linked layers-the reverse of unlinking.

To create linked layers:

1. Select the layer(s) to be liked.
2. On the **Commands** menu, select **Duplicate Linked**.



To indicate linkage, Inked layers on the **Layers** Studio will show a ink icon on both the original and duplicated layer. Striped vertical strips are also shown at the furthest left of the linked layer entry.

On the now displayed **Links** pane at the bottom of the **Layers** Studio, the attributes associated with the linked layer are listed. These attributes can be hidden if needed.



To view/hide linked layer settings:

•On the **Layers** Studio, click **Studio Preferences** and check or uncheck **Show Links** from the menu.

Attribute	For sharing	Example
Pixel content	..the same pixels between layers that update simultaneously on editing	Making a mask share the same pixel content as another mask
Blend mode & ranges	..the same blend mode and tonal blending	Swapping out a multiply blend mode for a soft light blend mode en masse amongst composite images
Visibility & opacity	..the same opacity level and Show/Hide settings between layers	Making multiple semi-transparent text frames that update with opacity changes
Layer effect parameters	..the same layer effect settings (shadow, bevel, colour overlays)	Multiple text captions can use a common drop shadow appearance that update if the effect is modified.
Adjustment parameters	..the same adjustment layer settings	Using the same white balance settings to uniformly 'warm' composited images
Live filter parameters	..the same live filter layer settings	Sharing uniform blurs on multiple background composited images
Vector shape parameters	..the shapes' appearances can be morphed	Rounded rectangles could update simultaneously if the the corner roundness is to change
Vector fill	..a solid or gradient fill	Consistent colour-to-transparency 'tail-off' radial and linear gradients applied to composited images
Vector line style	..the stroke width, colour and style	Dotted lines on a travel map could change their dot pattern simultaneously.



To unlink linked layer attributes:

- On the **Links** pane at the bottom of the **Layers** Studio, click **Unlink** on the layer attribute you want to unlink.



To relink linked layer attributes:

1. On the **Layers** Studio, select the 'source linked layer, ie. the layer whose attribute you want to relink to.
2. Drag the 'target layer, ie. the layer whose attribute is currently unlinked, to the Link Drop icon in the Links pane.

SEE ALSO:

[Layers Studio](#)

Merging and flattening

Merging layers combines multiple layers together. Pixel, vector, mask, adjustment or image layers can be merged into a new merged layer or into the first available pixel layer beneath it in the layer stack.

The entire document can also be flattened to produce a single-layer document.

Once layers have been merged, they become a single layer and their previous contents are no longer separately editable. There are several ways of merging layers.



To merge a layer with a pixel layer below:

- On the **Layers** Studio, select a pixel layer by tapping on it and select **Merge Down** from the Merge and Rasterise pop-up menu.



The selected layer merges with the first available pixel layer beneath it. Any non-pixel layer existing between the layers to be merged will not be included in the merge.



To merge all visible layers:

In the Layers Studio:

1. Select **Show/Hide Layer** to set the visibility of layers in the project.
2. Select **Merge Visible** from the Merge and Rasterise pop-up menu.

A new layer is added one step above the selected layer. This layer is a merged copy of all visible layers.

Please note that this operation can only be performed if the lowest in the selection is a pixel layer.



To merge selected layers:

In the Layers Studio:

1. Select multiple layers by swiping right on each layer entry you wish to select.
2. Select **Merge Selected** from the Merge and Rasterise pop-up menu.

The selected layers merge down into the lowest layer in the selection.

To create a copy of all visible layers merged:

1. On the **Layers** Studio, select **Show/Hide Layer** to set the visibility of layers in the project.
2. From the **Commands** menu, select **Pasteboard>Copy Merged**.

A flattened version of the visible layers is added to the Clipboard.



Any non-pixel layer existing between the layers to be merged will not be included in the merge.

To flatten all layers:

- From the **Document** Menu, select **Flatten**.

The document will then contain a single flattened layer.



You can also merge layers using the



***Commands** Menu's Merge sub-menu.*

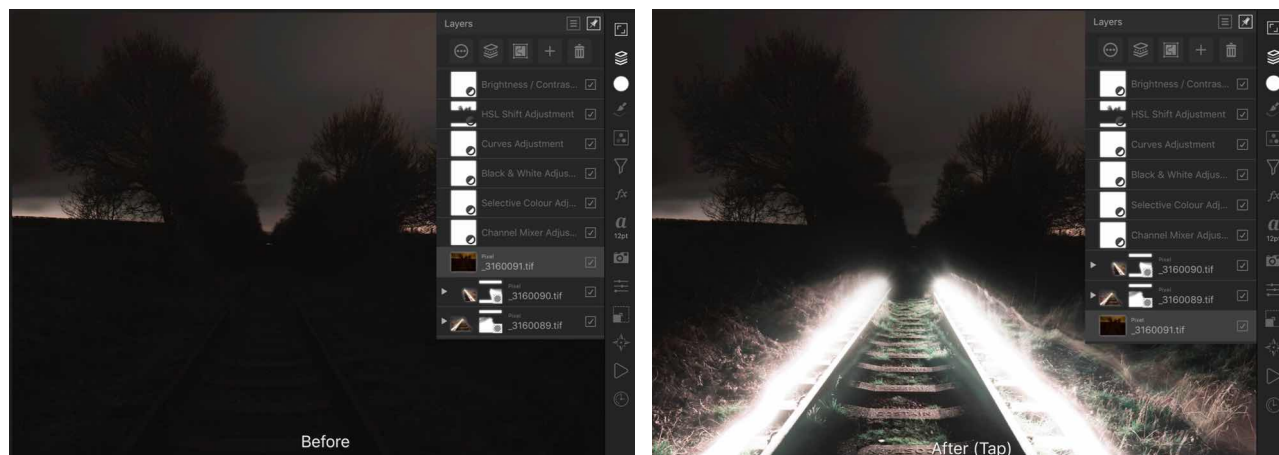
SEE ALSO:

[Create layers](#)

Ordering

Once created, any layer in the layer stack can be reordered.

This stacking order will dictate which layer content will show in front of other layer content; the higher the layer in the layer stack the more that layer will be brought to the front of the image.



The effect of layer order on a document.

To change a layer's position:

Do one of the following:

1. From the **Layers** Studio, drag a layer entry up/down the layer stack. When you see a blue line between two layers, drop the layer to place.
2. With layer(s) selected, from the **Transform** Studio, choose one of the following Order options:



- **Move to Back**-repositions the selected layer(s) at the bottom of the layer stack.
- **Back One**-moves the selected layer (s) down one position in the layer stack.
- **Forward One**-moves the selected layer(s) up one position in the layer stack.
- **Move to Front**-repositions the selected layer(s) at the top of the layer stack.

SEE ALSO:

[Targeting](#)
[Layers Studio](#)

Targeting

Targeting controls where new layers are placed in the layer stack on creation.

By default, layers are positioned:

- Directly above the currently selected layer.
- At the top of the layer stack, if there is no layer selected.

This default targeting behaviour can be modified so a new layer can be created below the current layer, at the top of the layer stack (regardless of selection), or nested inside a layer.



To change targeting behaviour:

From the **Commands** Menu, tap **Insertion Target** and choose one of the following:

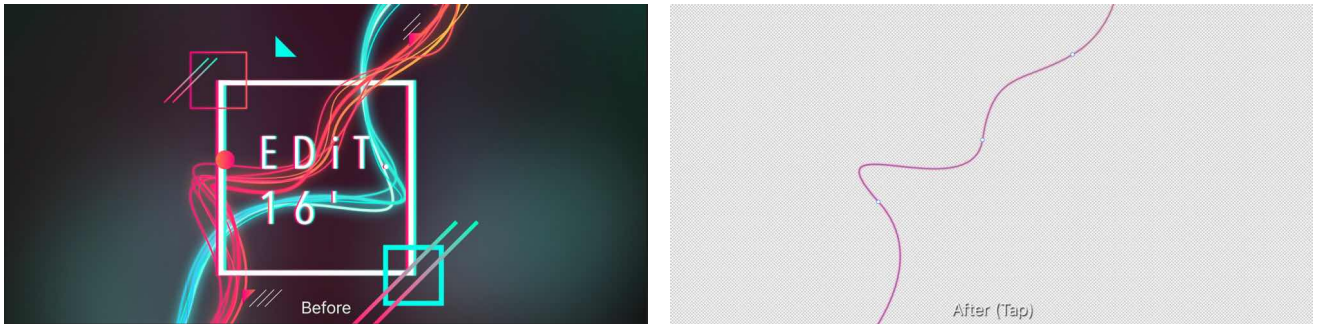
- **Insert Behind**
- **Insert On Top**
- **Insert Inside**

SEE ALSO:

[Layer clipping](#)
[Grouping](#)
[Layers Studio](#)
[Ordering](#)

Soloing

Soloing temporarily hides all layers apart from the selected layer. This allows you to focus on editing layer content without any distraction.



Soloing activated for a single strand of light (selected with the Node Tool).

The solo mode lets you continue to edit on the currently selected pixel layer, e.g. paint, erase, transform, etc. If you perform any operation that creates a new layer (e.g., create an empty pixel layer, apply an adjustment layer or adding a curve), the operation will automatically exit the selected layer from solo mode.

You can jump to different Personas while in solo mode.



To enable soloing:

1. On the **Layers** Studio, select the layer to be soloed, and tap **More** to see more layer options.
2. Tap **Solo**.

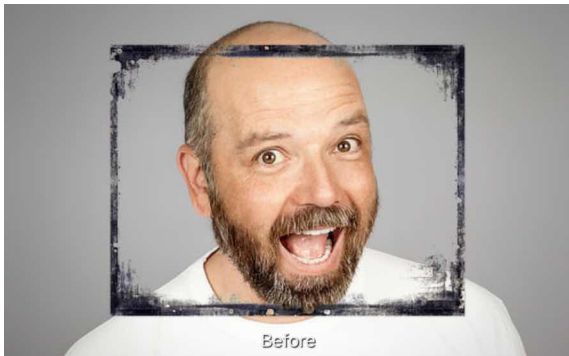
Select Solo again to exit the mode manually.

SEE ALSO:

[Selecting](#)

Rotating and shearing

Layer content can be rotated and sheared using the **Move** Tool and **Transform** Studio.



Before and after rotate and shear applied.



To rotate layer content:

1. Either with the **Move** Tool or through the **Layers** Studio, select layer content on a chosen layer.
2. Do one of the following:
 - Drag the selected layer content's rotation handle.
 - On the **Transform** Studio, drag **Rotation** to change the layer's rotation. Using this option, you can also change the **Anchor** to determine which point of the layer to rotate around.

To undo the rotation:

- Double-tap the rotation handle.

To move the rotation centre:

1. Either with the **Move** Tool or through the **Layers** Studio, select layer content on a chosen layer.
2. On the **Transform** Studio, tap a point on the **Anchor** options to set a new rotation centre.

Once you've moved the centre, you can rotate your layer content about it using the **Rotation** option in the **Transform** Studio.



To shear layer content:

1. Either with the **Move** Tool or through the **Layers** Studio, select layer content on a chosen layer.
2. On the **Transform** Studio, use **p** to shear the layer about its current rotation centre.



Modifiers

When using the **Move** Tool, the following modifiers can be used:

- Hold down a secondary finger (or thumb) to constrain rotation to 15° increments.

SEE ALSO:

[Transforming](#)
[Transform Studio](#)

Locking

Locking is useful when you need to prevent a layer from being moved or transformed unintentionally. Editing of layer content is still possible.



To lock a layer:

1. On the **Layers** Studio, select the layer to be locked, and tap **More** to see more layer options.
2. On the **layer** menu, tap **Lock**.

Select **Lock** again to allow the layer content to be transformed again.



*Layers which are locked show in the **Layers** Studio with a lock symbol next to them. Locked layer content, when selected, appears with crosses around its bounding box.*



Opened images, or images developed from Develop Persona, are unlocked by default.

SEE ALSO:

[Selecting](#)

Rasterising

Shape, Line, and Text layers can be rasterised to create pixel layers. This "Flattening" operation can be performed manually or automatically (when [applying filters](#) or retouch brushes).

Rasterisation has various uses:

- For when the appearance of complex vector gradients or effects needs to be honoured, particularly for print artwork.
- To convert a placed image layer to a pixel layer (for pixel manipulation). By default, many brush tools rasterise image layers before painting.
- Inpainting: after cropping, inpainting may be used to tidy up an image's corners, but the inpainting may be using information outside of the crop area. Rasterising will discard this information and force the inpainting to use only what is visible.

To rasterise a shape, line, image or text layer:

On the **Layers** Studio, select a layer, then choose one of the following from the Merge and Rasterise pop-up menu:

Rasterise-Rasterises the selected vector layer.

Rasterise & Trim-Rasterises and trims off-canvas content from the selected vector layer. Previously recorded macros will trim.

Rasterise To Mask-Rasterises the selected vector layer as a mask layer.



When applying filters or retouch brushes to the above layers, automatic rasterisation occurs. This means the layers can't be edited as vectors afterwards. Ensure shapes, lines and text are completely edited to your satisfaction beforehand.



*When rasterising a layer that has layer effects applied to it, a dialog offers an option to **Preserve layer FX**. Clear the tick-box to include the effects in the rasterisation process along with the layer's shape, line or text content. Leave it ticked to rasterise only the layer's content and still be able to edit the effects afterwards.*

SEE ALSO:

[Draw lines and shapes](#)

[Draw and edit geometric shapes](#)

[Working with text](#)

Selections

Creating pixel selections



A pixel selection is simply a drawn area on your image (bounded by a flashing dashed line, often called 'marching ants').

A selection is created for various reasons:

- To limit editing (e.g, painting, applying fills, etc.) to within that selection area only.
- To selectively copy pixels.
- As a precursor to creating a mask layer.
- To draw areas for removal (cutout).

Selection boundaries are defined depending on whether individual pixels are included or excluded.

Once your selection has been created, you can invert it so included pixels are excluded and vice versa.

Selection tools

There are several tools you can use to create pixel selections:



Smart Selection Brush Tool (see [Painting pixel selections](#))

Flood Selection Tool (see [Flooding pixel selections](#))

Rectangular Marquee Tool (see [Marquee pixel selections](#))

Elliptical Marquee Tool

Column Marquee Tool

Row Marquee Tool

Polygon Marquee Tool (see [Drawing pixel selections](#))

Selection procedures

Alongside the many selection tools available, there are also a variety of procedures you can follow to create a pixel selection from:

- **Layer and composite channels** (see [Pixel selections from channels](#))
- **Curves and shapes** (see [Pixel selections from shapes](#))
- **Tonal or colour ranges** (see [Range pixel selections](#))
- **Sampled colours** (see [Sampled colour pixel selections](#))
- **Quick Masks** (see [Quick Mask selections](#))
- **Previously created selections** (see [Creating outline selections](#))

About selection modes

When working with selections, you may have access to the following Modes which affect how your selection develops:

- **New**-cancels all current selections and creates a new selection.
- **Add**-adds areas to the current selection. If there is no selection in place, a new selection will be created.
- **Subtract**-removes areas from the current selection.
- **Intersect**-a new selection area is created from the overlap between the newly added selection area and the current selection.

When you switch to one of the tools listed above, its mode may vary according to the following rules:

- If pixels are selected the tool remembers its last-used mode.
- If pixels are not selected, the tool defaults to **New** or **Add** mode.

When defaulting to **New/Add** mode, the **Smart Selection Brush** Tool defaults to the former while other selection tools default to the latter.

To select every pixel in the image:

From the **Selections** Persona, do one of the following:

- Two-finger tap and select **Select all** from the pop-up menu.
- From the **Commands** menu, select the same option.

To invert, deselect or reselect, use the same procedure as above.

SEE ALSO:

[Modifying pixel selections](#)



Painting pixel selections

Using the **Smart Selection Brush Tool** you can define a selection by painting on your page.

Default Selection Brush 'expansion' behaviour

By default the [Smart Selection Brush Tool](#) is set to intelligently expand the selection to include high contrast edges within the design, even if these are not directly painted.



Before and after selection painted.

The number of pixels selected is determined by the size (width) of the brush in two ways:

- A larger brush size will paint a larger area in one stroke and therefore more pixels are selected.
- A larger brush size will give Affinity Photo a larger sample size in which to determine how far the selection should expand.



The selection will only expand to pixels with similar colour values if they are adjacent to the stroke painted.

To select a separated area, you must start another stroke within that area.

Alternative 'non-expansion' behaviour

As an alternative to the expansion method detailed above, the [Smart Selection Brush Tool](#) also has a non-expansion method of selection. This method will only select pixels which are under the brush when the stroke is painted.



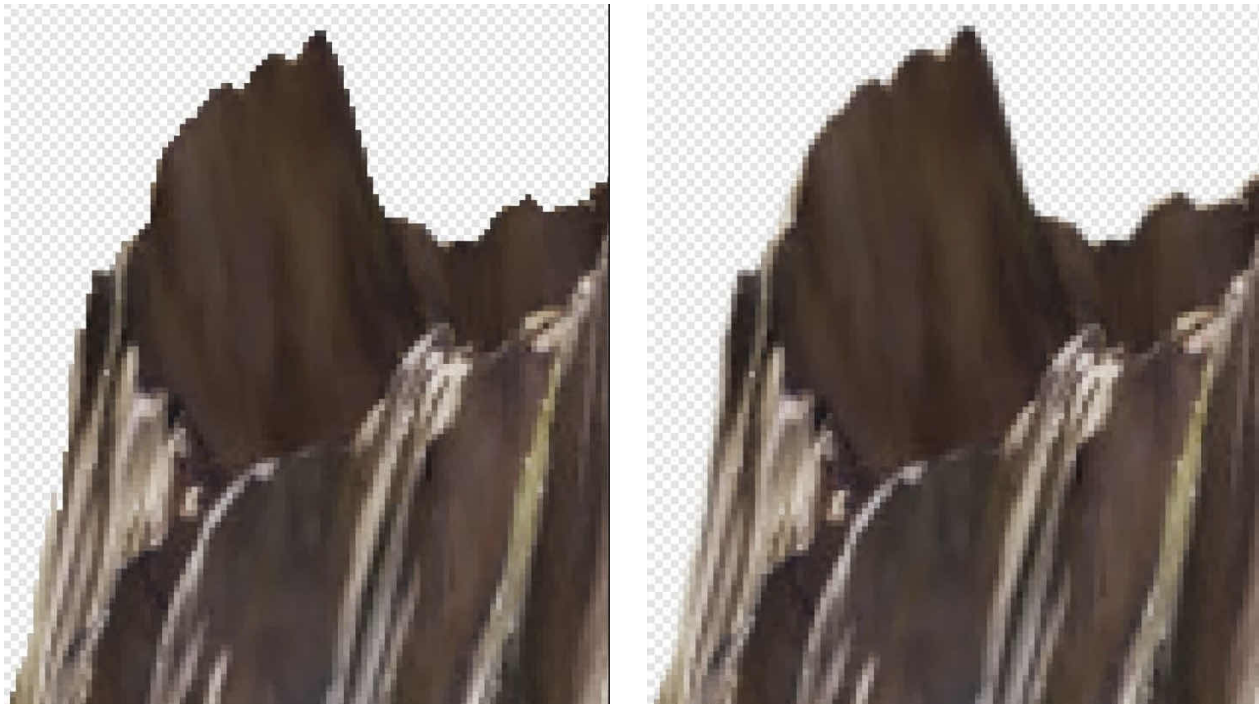
Difference in selection method between non-expansion (before) and expansion (after).

Selection edge fidelity

Pixels along the edge of a selection made using the Selection Brush Tool are fully opaque by default, which may result in a ragged edge when the selection is, for example, used as a mask or to composite a cut-out against a new background.

If the area being selected has a relatively simple edge, turn on **Soft edges** on the context toolbar and then make your selection.

The tool will antialias the selection's edge; some pixels will be semi-transparent, giving an appearance that is less sharp yet often more desirable.



Edge fidelity of a selection made with the **Soft edges** option disabled (left) and enabled (right).

For complex edges, such as finely detailed hair or fur, better results can be achieved using the tool's Refine option.



To create a pixel selection:

1. From the **Selections** Persona, select **Smart Selection Brush Tool**.
2. Adjust the context toolbar settings. (See [Smart Selection Brush Tool](#) for details.)
3. Drag on your page.



To change selection criteria:

With the **Smart Selection Brush Tool** selected, do any of the following:

- Switch the tool's working **Mode** on the context toolbar. Add grows the existing selection or creates a second selection area;
- Subtract paints ways from an existing selection.
- Change the brush size (**Width**).



Modifiers

From the Affinity Photo Home screen's **Preferences** (Interface tab), On-screen modifier keys are enabled to extend the tool's functionality. From the tool's context toolbar:

- Press **Subtract** to temporarily toggle to the **Subtract working mode** to paint away selection areas.
- Press **Toggle snapping** to temporarily disable snapping while creating or modifying your selection.



To set 'non-expansion' method:

With the **Smart Selection Brush Tool** selected, on the context toolbar, ensure the **Snap to edges** option is off.

SEE ALSO:

[Smart Selection Brush Tool](#)

[Creating pixel selections](#)

[Modifying pixel selections](#)

[Refining pixel selection edges](#)

[Flooding pixel selections](#)

Flooding pixel selections

Using the **Flood Selection Tool** you can define a selection of similar colour value pixels with a single tap.

Flooding and tolerance

When using the [Flood Selection Tool](#), Affinity Photo will analyse the target (tapped) pixel and use its colour value to create a selection which includes pixels with similar colour values.



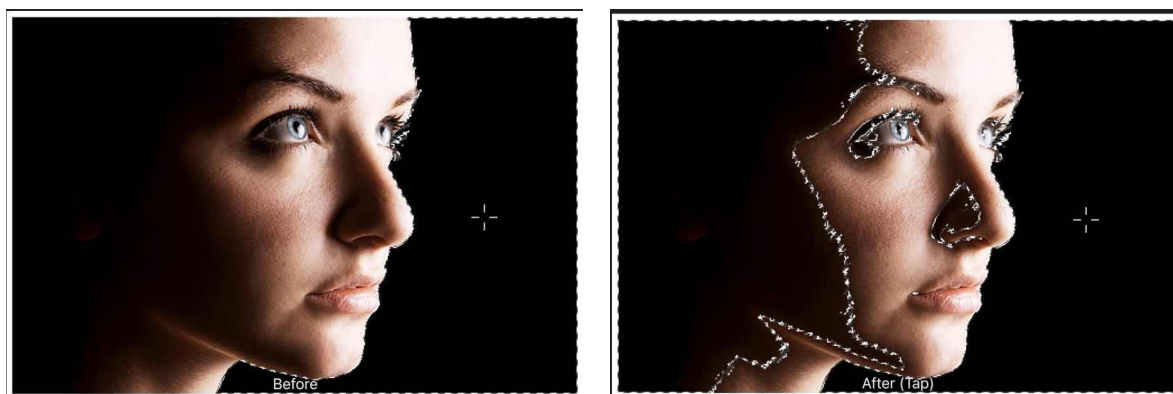
Before and after pixel selection.

The number of pixels selected is determined by the tool's tolerance setting. The higher the tolerance the more variance allowed between the target pixel and selected pixels. Therefore a higher tolerance will likely lead to more pixels being included in the selection. This makes selecting an area of similar colour and tone effortless.

Contiguous behaviour

By default, flood selecting is contiguous. This means pixels with similar colour values must be adjacent to one another to be selected. Therefore, pixels must be directly connected to the target pixel (or other selected pixels) to be selected. If there is a high contrast edge between areas of similar colour, the pixels on the opposite side of the edge will not be selected using a single tap.

The number of pixels selected is determined by the tool's tolerance setting. The higher the tolerance the more between the target pixel and selected pixels. Therefore a higher tolerance will likely lead to more pixels being in selection. This makes selecting an area of similar colour and tone effortless.



Difference in selection method with contiguous on (before) and off (after).



To create a pixel selection:

1. From the **Selections** Persona, select the **Flood Selection Tool**.
2. (Optional) On the **context toolbar**, set the **Tolerance**.
3. Tap on your page.



To create a pixel selection using multiple target pixels:

With the Flood Selection Tool selected:

1. On the **context** toolbar, set the Mode to **Add**.
2. Tap on your page.
3. Repeat step 2 as needed.



*Alternatively, you can subtract or intersect a 'flood selection' from the current selection using the other **Mode** options. For more information on the available selection modes, see [Creating pixel selections](#).*



To switch off contiguous selection:

With the **Flood Selection Tool** selected, on the context toolbar, ensure the **Contiguous** option is off.

SEE ALSO:

[Flood Selection Tool](#)
[Creating pixel selections](#)
[Modifying pixel selections](#)
[Refining pixel selection edges](#)
[Painting pixel selections](#)



Drawing pixel selections

Using the **Polygon Marquee Tool** you can draw on your page to define a pixel selection based on a freehand-drawn line, a straight-edged polygon or an area created by a line that magnetises to image edges.



Freehand selection in the process of being drawn.



To create a pixel selection:

- From the **Selections Persona**, select the **Polygon Marquee Tool**.
- From the context toolbar, choose a selection **Type** (from Freehand, Polygonal or Magnetic).
- With the **Freehand** type:
 - Tap-drag to draw a freehand line that forms a selection on release
- With the **Polygonal** type:
 - Single-tap to define corners of a straight-edged polygon. Tapping back on the starting point converts the polygon to a selection.
- With the **Magnetic** type:
 - Single-tap directly over strong edges in your photo. Magnetic nodes will be laid down that will snap to those edges.

SEE ALSO:

[Marquee Selection Tools](#)
[Pixel selections from shapes](#)
[Creating pixel selections](#)
[Modifying pixel selections](#)
[Refining pixel selection edges](#)

Range pixel selections

You can create a pixel selection using colour, tonal or transparency (alpha/opacity) ranges from your image.

If you decide to create a selection based on any range, your image is analysed and all pixels which fall into the chosen range are included in the selection. Pixels which are not in the chosen range are excluded.



Before and after pixel selection which targeted reds.

Colour, tonal and transparency range selections are available from the **Commands** menu. These include:

- From the **Select Hue Range** sub-menu:
 - **Select reds**
 - **Select blues**
 - **Select greens**
- From the **Select Tonal Range** sub-menu:
 - **Select shadows**
 - **Select midtones**
 - **Select highlights**
- From the **Select Transparency Range** sub-menu:
 - **Select opaque**-only pixels that are 0% transparent are selected.
 - **Select partially transparent**-all pixels with a transparency higher than 0% are selected.
 - **Select transparent**-only pixels which have a transparency of 100% are selected.



Try creating range pixel selections before [applying an adjustment layer](#). This allows you to target the adjustment directly to any one of the Colour or Tonal ranges.

SEE ALSO:

[Creating pixel selections](#)
[Sampled colour pixel selections](#)

Pixel selections from channels

You can create pixel selections based on a single channel or combination of channels. This feature is available from the **Channels Studio**.

Pixels are selected based on the contribution that the chosen channel makes to its colour value. If a channel only contributes partially to a pixel, that partial amount is selected (ie. where a channel contributes 20% of the colour to that pixel, that 20% is selected).



Selection created from the image's blue channel.



A selection marquee only appears around areas which are selected by more than 50%. Areas selected by 50% or less will not display a marquee at their edges.



To create a pixel selection from a channel:

In the **Channels Studio**, tap the **More Options** button on the chosen channel, then **Load to Pixel Selection**.

To combine channels in a single pixel selection:

1. Create an initial channel selection using **Load to Pixel Selection** as above.
2. On another channel, tap **More Options**, and then **Add to Pixel Selection**.
3. Repeat step 2 as needed to include other channels.



*Alternatively, you can also subtract or intersect a channel from a selection using **More Options**.*



To create a pixel selection from a selected layer's channel:

1. In the **Layers Studio**, select a layer.
2. In the **Channels Studio**, tap **More Options** on a channel named after the selected layer (eg. Pixel Red), then select **Create Spare Channel**.
3. Tap **More Options** on the newly created Spare Channel entry and select **Load to Pixel Selection**.

SEE ALSO:

[Using channels](#)
[Channels Studio](#)
[Creating pixel selections](#)
[Range pixel selections](#)



Pixel selections from shapes

You can convert a curve or shape (path) drawn using the Pen into a selection. When created from a curve, the resulting selection will be closed using a straight line between the end nodes.



The original line or shape will be discarded when the selection is created. Ensure you keep a copy of your original line or shape if you wish to use it later in your project.



To create a pixel selection from a drawn line or shape (path):

1. Do one of the following:
 - Using the **Pen** draw a curve or closed shape on your page.
 - Select a previously drawn curve or shape and then select the **Pen Tool**.
2. From the context toolbar, tap **To Selection**.



You can convert geometric shapes created using the Shape tools into selections using the same procedure.

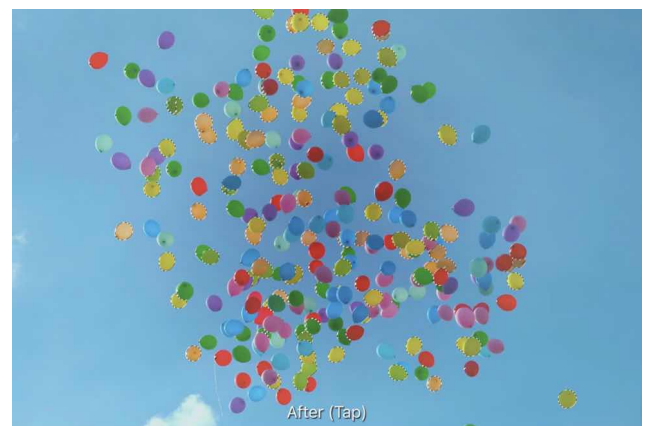
SEE ALSO:

[Creating pixel selections](#)
[Draw lines and shapes](#)
[Draw and edit geometric shapes](#)



Sampled colour pixel selections

You can create a pixel selection by sampling a colour from pixel layers.



Before and after pixel selection.

Settings

The following settings can be adjusted from the context toolbar:

- **Model**-determines the colour model used when sampling.
- **Tolerance**-determines how closely pixels must match the selected colour to be included in the selection. For lower tolerance settings, pixels must be very close in value to the targeted pixel. For higher tolerance settings, pixel colour can vary widely from the targeted pixel.

To create a pixel selection from a sampled colour:

1. Select the pixel layer containing the colour to be sampled.
2. From the **Selections Persona**, select the **Select Sampled Colour Tool**.
3. Tap on the colour to be sampled.
4. Adjust the settings on the context toolbar.
5. Tap the **tick** button to apply.

SEE ALSO:

[Creating pixel selections](#)

Marquee pixel selections

The marquee selection tools allow you to create selections based on standard geometric shapes, such as ellipses and rectangles.

Selection tools

There are several marquee tools you can use to create pixel selections:



Rectangular Marquee Tool-creates a rectangular or square selection.

Elliptical Marquee Tool-creates an elliptical or circular selection.

Row Marquee Tool-creates a rectangular selection of a set pixel height which spans the entire image's width.

Column Marquee Tool-creates a rectangular selection of a set pixel width which spans the entire image's height.

To create a pixel selection:

With one of the above marquee selection tool selected, drag on your page.



Modifiers

As you create marquee selections, the following modifiers can be used while the selection is being drawn:

- Hold down a secondary finger (or thumb) to constrain the selection's proportions at the time of creation.



To set the width of a row/column selection:

With the **Row Marquee Tool** or **Column Marquee Tool** selected, on the **context toolbar**, adjust the **Height** or **Width** setting, respectively.

SEE ALSO:

[Marquee Selection Tools](#)
[Creating pixel selections](#)
[Modifying pixel selections](#)



Modifying pixel selections

Once you have a pixel selection in place, it can be modified in several ways.

You can modify your pixel selection by enlarging or shrinking it, applying a feather to its edge, and/or by smoothing its curve.

These options are available from the **Selections Persona** as **Grow/Shrink**, **Feather** and **Smooth** selection tools, respectively.

Transforming and editing selection

In addition to the options mentioned above, you can [Move or transform a selection](#) or [edit it using pixel-editing tools](#) in **Quick Mask mode**.

Settings

The following settings can be adjusted from the tool's context toolbar:

- **Radius**-controls the extent of the selection change. Negative values for Grow/Shrink will shrink the selection while positive values enlarge it.
- **Circular**-if this option is disabled (default), resizing honours the original selection shape. When enabled, the selection shape is made more rounded with increasing Radius values.



For some selection tools, feathering can be applied to a selection from the context toolbar



*In addition to the modifications discussed here, you can also refine pixel selection edges using the **Refine Selection Tool**.*

SEE ALSO:

[Moving and transforming pixel selections](#)
[Edit selection as layer using Quick Mask mode](#)
[Creating pixel selections](#)
[Refining pixel selection edges](#)

Moving and transforming pixel selections

Once a selection has been made, it can be moved and transformed in a variety of ways.

Moving and transforming a selection and its contents.

If you have a selection in place, you can move and transform it, and the pixels it encompasses using the Move Tool or Transform Studio, respectively.

Moving and transforming a selection only

If you're looking to reposition a selection, but leave the pixel content untouched, you can use the Marquee tools. However, if you wish to transform your selection while leaving the pixel content untouched, you need to use either the **Transform Studio** or the [Edit Selection as Layer](#) option. In Quick Mask mode, you can resize, reposition, rotate or shear a selection using the Move Tool or Transform Studio.



For pixel-accurate selection, **Force pixel alignment** (**Document Menu > Snapping**, will snap pixel selection areas to full pixels when created, moved or modified. If this option is off, selections can occupy partial pixels.

If [snapping](#) is active, selection areas can snap to page edges and [guides](#) when being created (using the [Marquee Selection Tools](#)) or moved.



To move and transform a selection and the pixels it encompasses:

1. With a selection in place, select the **Move Tool** from the **Photo Persona**.
2. Resize, reposition, [rotate or shear](#) the selection on the page using the displayed handles or, for precision, use the settings on the [Transform Studio](#). The pixels within the selection will be moved and transformed to match the new selection.



Every time the selection is moved or transformed, new pixels may be included within the new selection area. These new pixels will then be moved and transformed if the above procedure is followed again.



To move a pixel selection (leaving pixel unaffected):

1. With a selection in place, select a **marquee selection tool** or the **Polygon Marquee Tool**.
2. Drag inside the selection.



To transform a selection (leaving pixel unaffected):

1. With the Selections Persona active, from the Commands menu, select **Selection as Layer > Toggle Edit Selection As Layer**.
2. From the **Photo Persona**, select the **Move Tool**.
3. Resize, reposition, [rotate or shear](#) the selection on the page using the displayed handles or, for precision, use the settings on the [Transform Studio](#).
4. Repeat step 1 to exit the mode and return to display the selection as a marquee.



By default, while in **Edit Selection As Layer** mode, the page shows a translucent, red overlay. The red areas are not included in the selection. For more information, see [Edit Selection as Layer](#).

SEE ALSO:

[Modifying pixel selections](#)

[Creating pixel selections](#)

[Rotating and shearing](#)

[Transforming](#)

[Transform Studio](#)

[Edit Selection as Layer](#)

Edit selection as layer (using Quick Mask mode)

Using this mode, you can modify (or create) a selection using pixel-editing tools. When entering this mode, your selection is temporarily presented as a **pixel mask**.

Pixels can be added or erased using the standard Painting and Erase tools.

- Painting in black will erase areas from the selection.
- Painting in white will add areas to the selection.
- Painting a grey will vary the opacity of the selection depending on the tone of grey used.
- Erased areas are always removed from a selection.

By default, while in this mode your page will show with a translucent, red overlay. After painting in white, the resulting untinted areas will not be included in the selection. This default view can be changed depending on your preferences.



You can create a new selection from scratch using the Painting tools by entering [Edit Selection as Layer](#) mode without a selection in place. Tools which can be used include, but are not limited to, the [Erase Brush](#), [Flood Fill Tool](#), [Gradient Tool](#), [Paint Brush](#), [Paint Mixer Brush](#) and [Pixel Brush](#).



To edit a selection using Edit Selection as Layer mode:

1. With the **Selections Persona** active, from the **Commands** menu, select **Selection as Layer> Toggle Edit Selection As Layer**.
2. Tap or drag on the page using any pixel-editing tool. Painting with white or grey will unmask.
3. Repeat step 1 to exit the mode and return to display the selection as a marquee.
4. (Optional) To create a layer mask using the current selection, from the **Layers Studio**, select **New Mask Layer**.

To change Edit Selection As Layer view

From the **Commands** menu, select a 'Show' option from the **Selection as Layer** sub-menu.

SEE ALSO:

[Moving and transforming pixel selections](#)

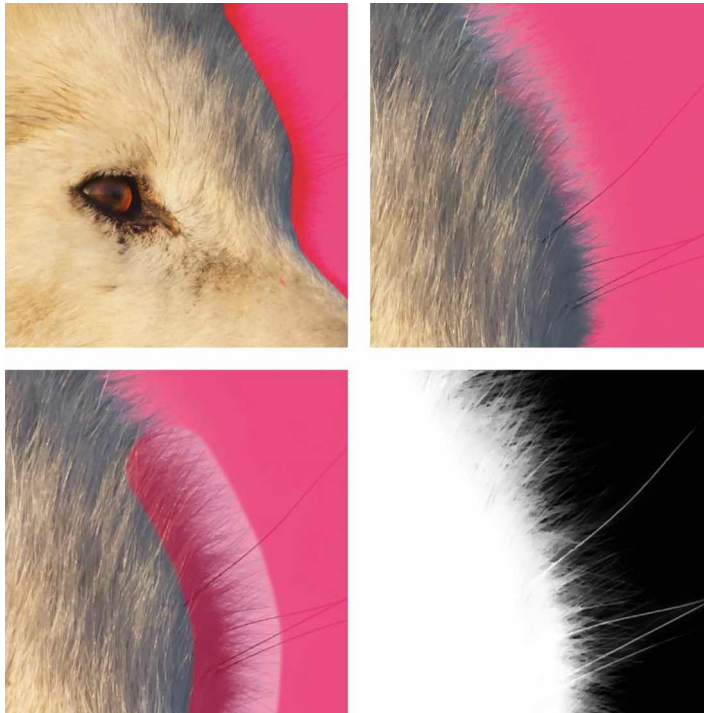
[Modifying pixel selections](#)

[Creating pixel selections](#)

Refining pixel selection edges

Once a selection has been created, you can refine its edges to ensure your selection is as accurate as needed.

For very fine selection, e.g. of hair against a coloured background, you can use an adjustment brush as part of the refinement to 'brush-in' fine detail.



Use the **Foreground adjustment brush** to select the interior (top left, brush strokes; top right, resulting selection), then the **Matte adjustment brush** to paint along the edge and individual hairs (bottom left). Use the Preview options to inspect the refined selection (bottom right).



Brush size can be adjusted mid-stroke from the context toolbar.



To refine pixel selection edges:

1. With a selection in place, from the **Selections** Persona, select **Refine Selection Tool**.
2. Adjust the context toolbar settings. (See [Refine Selection Tool](#) for details.)
3. If you wish to adjust the selection edges by painting with the adjustment brush, set a Brush width that encompasses the detail to be included in the selection, then drag over the detail (eg, hair) next to the selection edge.
4. Tap the Apply button to apply.

SEE ALSO:

[Refine Selection Tool](#)

[Creating pixel selections](#)

[Modifying pixel selections](#)

Edit selection as layer

Using this mode, you can modify (or create) a selection using pixel-editing tools.

When entering this mode, your selection is temporarily presented as a pixel mask. Pixels can be added or erased using the standard Painting and Erase tools.

- Painting in black will erase areas from the selection.
- Painting in white will add areas to the selection.
- Painting a grey will vary the opacity of the selection depending on the tone of grey used.
- Erased areas are always removed from a selection.

By default, while in this mode your page will show with a translucent, red overlay. After painting in white, the resulting untinted areas will not be included in the selection. This default view can be changed depending on your preferences.



You can create a new selection from scratch using the Painting tools by entering Edit Selection as Layer mode without a selection in place. Tools which can be used include, but are not limited to, the [Erase Brush](#), [Flood Fill Tool](#), [Gradient Tool](#), [Paint Brush](#), [Paint Mixer Brush](#) and [Pixel Brush](#).



To edit a selection using Edit Selection as Layer mode:

1. With the **Selections Persona** active, from the **Commands** menu, select **Selection as Layer > Toggle Edit Selection As Layer**.
2. Tap or drag on the page using any pixel-editing tool. Painting with white or grey will 'unmask'.
3. Repeat step 1 to exit the mode and return to display the selection as a marquee.
4. (Optional) To create a layer mask using the current selection, from the **Layers Studio**, select **New Mask Layer**.

To change Edit Selection As Layer view:

From the **Commands** menu, select a 'Show' option from the **Selection as Layer** sub-menu.

SEE ALSO:

[Moving and transforming pixel selections](#)
[Modifying pixel selections](#)
[Creating pixel selections](#)

Saving and loading selections

You can save pixel selections for later use in the current project or future projects. It's useful to be able to reinstate more complex selections at any time and stage of your project.

Saving selections as alpha channels

Any number of selections can be stored as spare alpha channels in the Channels Studio for future use. From there you can reinstate any selection on demand.

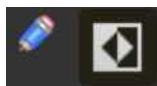


To save a selection as an alpha channel:

- With a pixel selection in place, display the **Channels** Studio.
- Tap the More button on the Pixel Selection (Alpha) entry. Select **Create Spare Channel** from the flyout.

The selection is stored at the bottom of the Channels Studio as a new 'Spare Channel' entry.

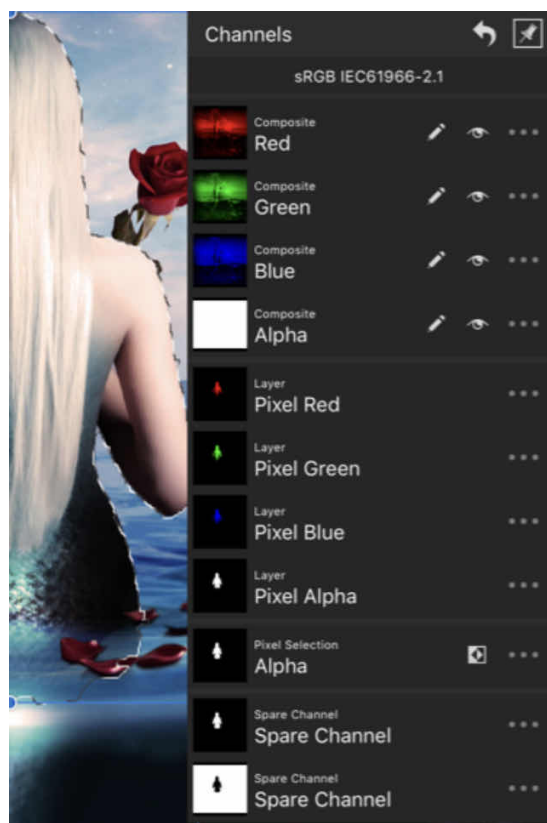
Tap the invert icon to reverse the pixel selection (selected becomes unselected, and vice versa) and save as a second spare channel if needed.



To reinstate a saved selection:

On the **Channels** Studio, tap the More button on the Spare Channel entry, which lets you:

- **Load to Pixel Selection**-the saved selection is added as a new selection on the page.
- **Add/Subtract/Intersect to Pixel Selection**-the saved selection is added to, subtracted from, or intersected with an existing selection on the page.
- **Load to "Layer name"**-the saved selection is added to the mask, adjustment, or Live filter layer if previously selected in the **Layers** Studio.
- **Load to "Layer name channel"**-loads the selection to a channel (e.g., Red) if the channel's layer was previously selected in the **Layers** Studio.



Channels Studio showing two stored selections (each named as Spare Channel for future use when masking).

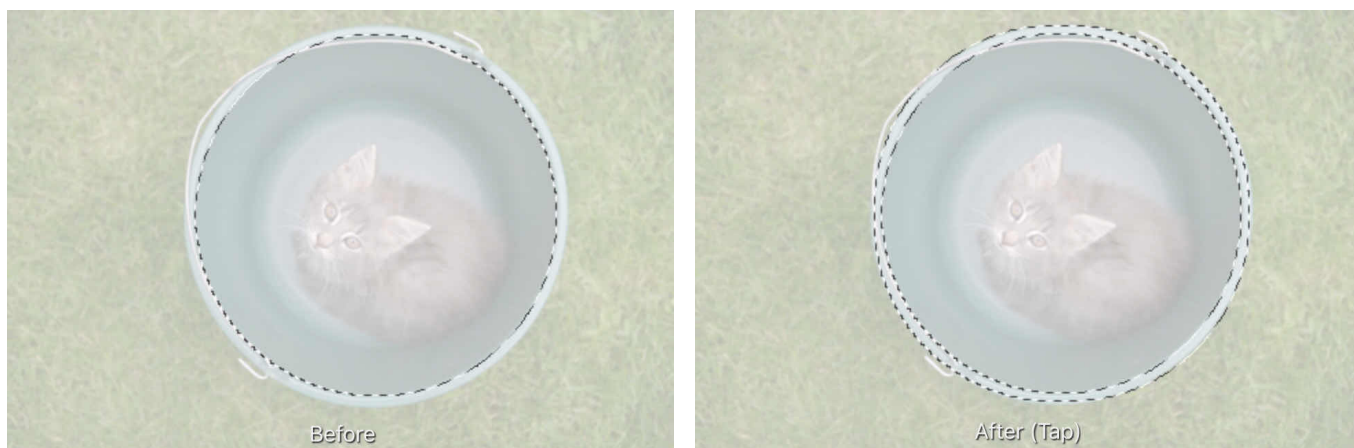
SEE ALSO:

[Creating pixel selections](#)
[Using channels](#)



Creating outline selections

The Outline selection feature allows you to create a new selection based on the outer edges of a previously created selection.



Before and after outline selection created.

Settings

The following settings can be adjusted from the context toolbar:

- **Radius**-controls the width of the selection.
- **Circular**-when selected, the selection edges become increasingly rounded with increasing Radius values
- **Alignment**-determines the origin for the expansion.

To create an outline selection:

1. With a selection in place, from the **Selections** Persona, select **Outline Selection Tool**.
2. Increase the Radius value to form the outline, then adjust further context toolbar settings if needed.
3. Tap the **tick** button to apply.

SEE ALSO:

[Creating pixel selections](#)

Assets

Using Assets

Assets are stored design elements which can be accessed from any document you have open.
Working with assets

Assets are created from objects or groups of objects. Once selected on the page, these objects and groups can be added to the Assets Studio. When a new assets category is created, this creates a subcategory for you, ready to drag objects to.



Organising assets

Categories can be created at any time to help you organise your assets. They are then listed in the pop-up menu at the top of the Assets Studio. Each category can accommodate an unlimited number of subcategories. A typical example, would be a category name of 'MyAssets, containing subcategories such as 'Buttons, 'Icons, 'Toolbars, etc.



Assets cannot exist directly in categories, they must reside in subcategories.

You can import assets directly into the Assets Studio at any time.



To create a new category:

- On the **Assets** Studio, tap **Studio Preferences** and choose **Add Category**.
- From Studio Preferences, you can also delete and rename the selected category and any of its subcategories.

To create a new subcategory:

- On the **Assets** Studio, select the parent category for the proposed subcategory, then tap **Studio Preferences** and choose **Add Subcategory**.



To store an asset:

1. Select one or more objects or groups on the page or via the Layers Studio.
2. On the **Assets** Studio, tap **Studio Preferences** on the Asset subcategory you want to save the asset into, then choose **Add Asset from Selection**.



If you want a selection of objects to be added as a single asset, they must be grouped first.

To add an asset to the page:

Do one of the following:

- Hold down and drag an asset's thumbnail from the **Assets** Studio directly onto the page.
- Tap to select an asset thumbnail, then choose **Insert** from the pop-up menu.



To import assets:

1. Tap **Studio Preferences** and choose **Import Category**.
2. Locate the **.afassets** file you want to import via the **Files** app and select the file.

The newly imported assets (in their subcategories) will be located in a new parent category.

SEE ALSO:

[Assets Studio](#)

Retouching

Removing Red Eye

Red eye is an unsightly effect caused by a camera's flash in low light conditions. However, it can be easily corrected using the [Red Eye Removal Tool](#).

The Red Eye Tool detects red colouration in a subject's pupil and instantly removes it.



To fix red eye:

1. Use the **Layers** Studio to select the layer containing a subject with the red eye effect.
2. From the **Photo Persona**, choose the **Red Eye Tool**.
3. On the canvas, drag above and slightly to the left of the pupil.
4. Drag the bounding box so that it covers the pupil and release. The pupil should change colour. If the initial selection is wrong, [undo](#) the result and reselect the bounding box.
5. The effect of the tool is cumulative. If the result is not dark enough, repeat the selection.



Avoid making the rectangle too large as you may affect other red-based areas of the image.

SEE ALSO:

[Red Eye Removal Tool](#)

Retouching

Retouching techniques utilise a selection of brush-based tools for focused colour and tonal adjustment.

In contrast to the adjustment layers, the retouch brushes apply modifications to a selected pixel layer, thereby affecting individual pixels on the layer.

The retouch brushes provide the opportunity for precision work in editing images and pixel layers. For example, the **Dodge Brush Tool** is ideal for lightening areas of shadow within a photo while leaving other areas unaffected.

The retouch brushes available include:



Dodge Brush Tool

Dodging adjusts the exposure under the brush stroke to lighten the painted area. This has the opposite effect to Burning.



Burn Brush Tool

Burning adjusts the exposure under the brush stroke to darken the painted area. This has the opposite effect to Dodging.



Sponge Brush Tool

Sponging lets you increase or decrease the colour saturation under the brush.



Blur Brush Tool

Blurring reduces the contrast between pixels under the brush stroke, thereby softening the edges of the painted area. This has the opposite effect to Sharpening. Blurring does not smear colour within the painted area like Smudging.



Sharpen Brush Tool

Sharpening increases the contrast between pixels under the brush stroke, thereby enhancing the edges of the painted area. This has the opposite effect to Blurring.



Smudge Tool

Smudging is a technique which allows you to blend pixels within an image. The brush 'picks up' colour from the tap point and 'drags' it in the brush stroke direction.



Don't forget other retouching tools such as Cloning and Healing Brush tools, Blemish Removal Tool, and Inpainting Brush Tool. You'll also be able to use the Patch Tool and Red Eye Removal Tool.

To use a retouch brush:

1. Use the **Layers** Studio to select the pixel layer that you want to work on.
2. Select a **retouch brush tool** from the **Photo** Persona.
3. The tool uses a soft-round brush by default. To use a different brush style, choose one from the **Brushes** Studio.
4. On the context toolbar, change the brush values as desired.
5. Drag on the image to apply the effect under the brush stroke.

SEE ALSO:

[Paint Brush Tool](#)
[Blur Brush Tool](#)
[Burn Brush Tool](#)
[Dodge Brush Tool](#)
[Sponge Brush Tool](#)
[Sharpen Brush Tool](#)
[Smudge Brush Tool](#)
[Painting brush strokes](#)
[Cloning and healing](#)
[Inpainting](#)
[Removing blemishes](#)

Removing blemishes

Use the **Blemish Removal Tool** to remove small imperfections such as pimples, with a single tap.

The Blemish Removal Tool works by blending a target area with a sample area to remove (or reduce) the undesired discolouration.



Before and after cloning to fix skin imperfections



To remove blemishes:

1. Use the **Layers** Studio to select a layer to work on.
2. From the **Photo Persona**, choose the **Blemish Removal Tool**.
3. Adjust Width the context toolbar settings if needed.
4. Do one of the following:
 - Tap on the target area.
 - Drag from the target area to the sample area.

SEE ALSO:

[Blemish Removal Tool](#)
[Cloning and healing](#)
[Patching](#)

Cloning and healing

Cloning is the process of duplicating samples from one part of an image to introduce replicated content for creative effect or to repair the original.

About Cloning

The Clone source

The [Clone Brush Tool](#) copies pixels from one part of an image (or layer) to another. The tool uses a source (shown as a '+' Cursor) to clone from; this moves in relation to where the tool is applied with its position being able to be redefined as you clone from different areas.



Before and after cloning.

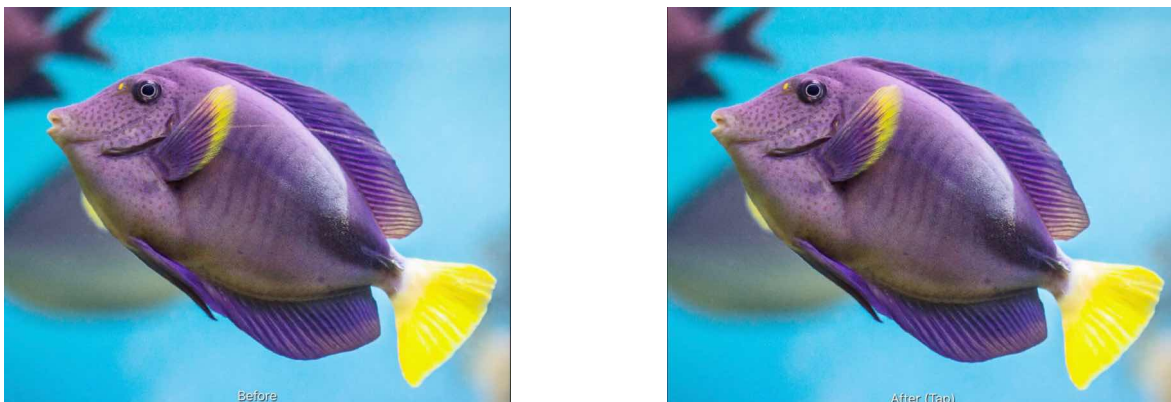
Introducing a cloned object to your image.

The clone source can be one of the following context toolbar options:

- **Current Layer**-pixels on the selected layer only.
- **Current Layer & Below**-pixels on the currently selected layer and any visible layers beneath (including vector objects and the effects produced by adjustment layers).
- **Layers Beneath**-pixels on any visible layer beneath the currently selected layer (including those from any vector objects and the effects produced by any visible adjustment layers).

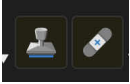
About healing

The **Healing Brush** Tool paints samples from one part of an image onto another. It's useful for removing defects and for general photo retouching. In many respects it works like cloning; however, it blends the target pixels with the sample pixels by matching the texture, tone, and transparency of the sample pixels with the target pixels.



Before and after healing of an unwanted line crossing an image.

Using the Clone or Healing Brush Tools



To clone/heal a sample from the current image:

1. Use the **Layers** Studio to either select an existing pixel layer to copy to, or to create a new pixel layer.
2. From the **Photo** Persona, select the **Clone Brush Tool** or **Healing Brush Tool**.
3. The tool uses a soft-round brush by default. To use a different brush style, choose one from the **Brushes** Studio.
4. Adjust the context toolbar settings.
5. To define (or re-define) the cloning source, tap-hold (long press) on the area you wish to begin sampling from.
6. (Optional) Rotate the sample by using the **Rotation** control on the context toolbar.
7. (Optional) Set the scale of the sample by using the Scale control on the context toolbar.
8. (Optional) **Transform** the sample by using the Flip pop-up menu on the context toolbar.
9. Drag on the image to paint the sample.



It is best practice to temporarily hide adjustment layers during the above procedure. This allows you to copy the original image. If the adjustment layers are visible, the adjusted pixels will be permanently applied.

SEE ALSO:

[Clone Brush Tool](#)
[Healing Brush Tool](#)
[Removing Blemishes](#)
[Patching](#)

Inpainting

Inpainting (image interpolation) is the process by which lost or deteriorated image data is reconstructed, but within the context of digital photography can also refer to replacing or removing unwanted areas of an image.

For example, you can remove or replace:

- Power lines and other obstructions
- People and animals
- Vignetting
- Lens flares
- Background details
- Dust spots and scratches
- Stuck or "hot" pixels



Removing objects from a landscape image.

About inpainting

The [Inpainting Brush Tool](#) is used to paint over (and identify) damaged or unwanted areas. Complex algorithms then take over to harvest information from the surrounding areas of the image in order to reconstruct the missing data.



Inpainting is particularly useful for repairing physically damaged printed photos which have been subsequently digitised.



To restore image data using the inpainting Brush Tool:

1. Use the **Layers** Studio to select a layer to work on.
2. From the **Photo Persona**, choose the **Inpainting Brush Tool**.
3. The tool uses a soft-round brush by default. To use a different brush style, choose one from the **Brushes** Studio.
4. Adjust the context toolbar settings.
5. Drag across the image to identify the area of lost or damaged data.

Best Practices:

- Zoom in close to the area you wish to inpaint.
- Set a suitable brush size from the context toolbar.
- If you are painting out people or complex shapes, try painting over gaps (e.g, in-between legs and arms) as well for better consistency.
- Remember you can always do multiple passes if the result of the inpainting does not look authentic or seamless enough. Simply paint over the areas again.



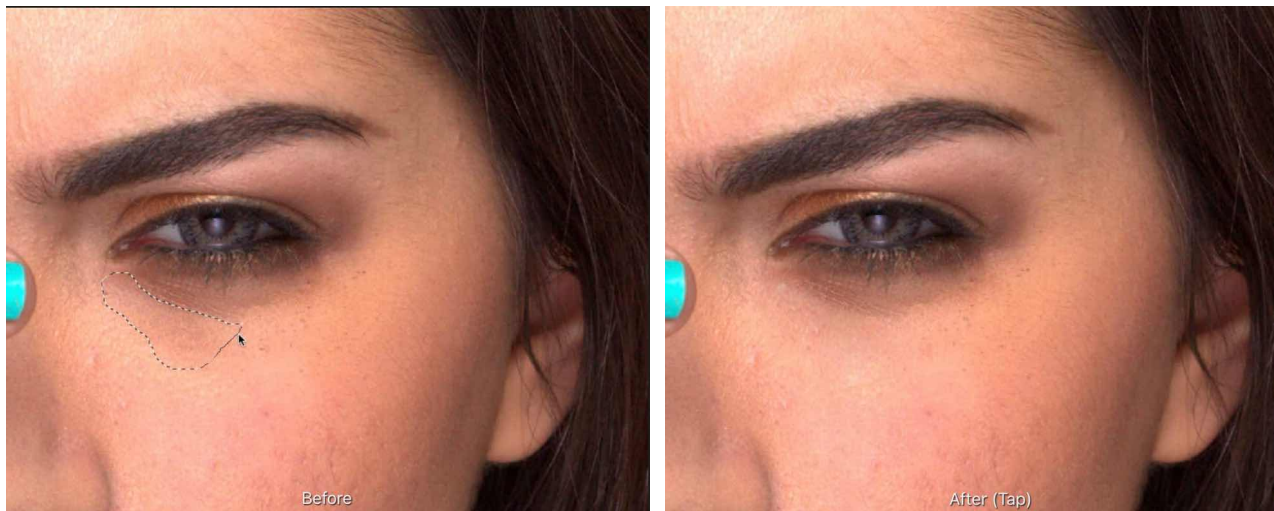
As a supplementary method to brush-based inpainting, you can inpaint areas selected in advance by using the [Fill](#) filter.

SEE ALSO:

[Inpainting Brush Tool](#)
[Cloning and healing](#)

Patching

Patching is a retouching technique which involves replacing an undesirable pixel region with a patch (a drawn freehand selection area) made up of pixels sourced from another, more suitable, part of your image or another document.



Patching out an extensive mascara smudge enclosed within the patch's freehand selection area.

About patching

Patching, like [healing](#), blends the target pixels with the sample pixels by matching the texture, tone, and transparency of the sample pixels with the target pixels. For effective results, colours in the source and target areas should vary slowly to help create a seamless boundary that blends into the target's surroundings.

Take care to avoid including in your source sharp edges where colour changes dramatically, which can introduce unwanted colour tinges at the target.

When patching, the context toolbar offers options to apply only the texture of the source to the target, and to apply a level of transparency so the target and source pixels are blended together.

Selection

The selection can act as any of the following:

- **As Target**-pixels are modified based on the properties of the source pixels. These pixels are sourced from under the cursor anywhere outside the selected area.
- **As Source**-pixels are used to modify the target area(s) selected.

For both, the sample can be scaled or rotated before or after it has been applied.



To patch when selection is target:

1. Use the **Layers** Studio to either select an existing pixel layer to copy to, or to create a new pixel layer.
2. From the **Photo** Persona, select the **Patch Tool**.
3. Drag on the image to draw a freehand selection area. This will be the target area.
4. Adjust the context toolbar settings. Repeat the above step if necessary.
5. Drag (starting within the selection) to define the source area.
6. (Optional) Drag the nodes of the applied area to modify the scale and rotation. Alternatively, use the Scale and Rotation controls on the context toolbar, or use the up and down arrow keys to control scale and the left and right arrow keys to control rotation.
7. Tap anywhere on the image to confirm placement and remove the selection.



It is generally best practice to temporarily hide adjustment layers during the above procedure. This allows you to copy the original image. If the adjustment layers are visible, the adjusted pixels will be permanently applied.



To patch when selection is source:

1. Use the **Layers** Studio to either select an existing pixel layer to copy to, or to create a new pixel layer.
2. From the **Photo** Persona, select the **Patch Tool**.
3. On the context toolbar, select **Source Mode**.
4. Drag on the image to define a selection. This will be the source area.
5. Adjust the context toolbar settings. Repeat the above step if necessary.
6. Tap on the image to place pixels from the source area.
7. (Optional) Drag the nodes of the applied area to modify the scale and rotation. Alternatively, use the **Scale** and **Rotation** controls on the context toolbar.



You can patch repeatedly with the same source by tapping on different areas of your image.

SEE ALSO:

[Patch Tool](#)
[Cloning and Healing](#)
[Removing Blemishes](#)

Frequency separation

Frequency separation allows you to retouch texture and tone/colour independently for powerful portrait retouching.



Before and after retouch on high and low frequency layers.

Frequency separation

Although the term frequency separation is initially intimidating, the concept is straightforward. By automatically separating your image colour tone and texture into separate low and high frequency layers, respectively, you'll be able to retouch colour tone and texture independently.

- Skin tone and colour (shadows, blotches, etc.) are made smoother by blurring with the Dodge or Blur Brush Tool. The Healing Brush Tool also works well here.
- Unwanted textures (spots, stray hair, blemishes, dimples, and wrinkles) can be removed with the **Clone Brush Tool** or **Blemish Removal Tool**.



In frequency separation, a Gaussian Blur and High Pass filter are applied to created low and high frequency layers.

To apply frequency separation:

1. From the **Filters** Studio, choose **Frequency Separation**.
2. Drag on either high or low pass preview panes to set the **Radius** (or use the slider in the dialog); this sets the balance between texture and tone. Set the value so the image's Low Frequency preview blends image colour and tone but without losing major features within it.
3. (Optional) From the dialog, enable **Protect**. This preserves major facial features when applying subsequent brush strokes.



Use selection tools and masking on both frequency layers just as with other layers.

To retouch colour or tone:

1. From the **Layers** Studio, select the **Low Frequency layer**.
2. Apply retouch tools to the layer as appropriate.

To retouch textures:

1. From the **Layers** Studio, select the **High Frequency layer**.
2. Apply retouch tools to the layer as appropriate.

SEE ALSO:

[Retouching](#)

Adjustments

Applying adjustments

There are a range of adjustments which can be applied to your image as a new layer for corrective or creative purposes.

Available Adjustments:

[Black and White](#)
[Brightness and Contrast](#)
[Channel Mixer](#)
[Colour Balance](#)
[Curves](#)
[Exposure](#)
[Gradient Map](#)
[HSL](#)
[Invert](#)
[LUT](#)
[Lens Filter](#)
[Levels](#)
[OCIO](#)
[Posterise](#)
[Recolour](#)
[Selective Colour](#)
[Shadows/Highlights](#)
[Soft Proof](#)
[Split Toning](#)
[Threshold](#)
[Vibrance](#)
[White Balance](#)

Adjustments are applied to your image from the **Adjustments** Studio and most include customisable settings alongside general adjustment options

Adjustment layers only affect layers which are below them. Alternatively, you can make an adjustment a child of a layer (or layer group), thereby affecting that layer (or layer group) only.

Some adjustments (ie, Curves, Levels, or Channel Mixer) can be made in any colour space independently of the document colour space.



*There are additional adjustments available in the **Develop Persona**. For more information, see [Developing a raw image](#).*



For specific targeting of adjustments, [create a pixel selection](#) before applying an adjustment layer. Only those pixels included in the selection are affected by the adjustment layer. (A [layer mask](#) is applied.) For more information, see the [Using adjustment layers](#) topic.

Settings

The following general settings are available from all adjustment dialogs:

- **Delete**-closes the dialog and deletes the adjustment layer, removing the adjustment from the image.
- **Merge**-merges the current adjustment layer with the layer immediately below it in the layer order.
- **Add Preset**-adds the current adjustment settings as a preset for use with later images and projects.
- **Reset**-reverts all dialog settings to default.
- **Opacity**-how see through the adjustment layer is.



Not all adjustments have a dedicated dialog or customisable settings.



You can set an adjustment's blend mode on its layer entry in the Layers Studio.

To apply an adjustment:

1. On the **Adjustments** Studio, do one of the following:
 - Select **Adjustments** from the top dropdown menu, and then select an adjustment by name to apply the adjustment with default settings.
 - Select an adjustment by name from the top dropdown menu, and then choose a preset to apply the adjustment with the preset's settings.

The adjustment is added directly above the selected layer or at the top of the stack if no layer was selected.

2. If a context toolbar appears for the adjustment, follow the steps below:
 - i. Adjust the settings on the context toolbar.
 - ii. (Optional) Select **Add Preset** to make your custom settings available in step 2 for future sessions.

To rename or delete a saved adjustment:

- Long-press on the adjustment thumbnail, then select an option from the pop-up menu.

To view an applied adjustment's settings:

- On the **Layers** Studio, double-tap the adjustment layer's text to bring up its settings dialog.

SEE ALSO:

[Using adjustment layers](#)
[Developing a raw image](#)

Black and White adjustment

Convert a colour image to monochrome while maintaining full control over how individual colours are converted.



This adjustment is also available in the [Develop Persona](#) on the **Tones Studio**.



You may wish to apply a colour tone, such as sepia, to the resulting greyscale image. To do this, you could use a [Recolour](#) adjustment or add a fill layer above with a blend mode and/or reduced opacity applied.



You can also create black and white images using the **HSL**, **Gradient Map**, and **Threshold** adjustments.

Settings

The following settings can be adjusted:

- The sliders control the lightness value of the named colour areas of the image. Drag the slider to the left to darken areas of the named colour, drag the slider to the right to lighten them.
- You can also drag on the canvas to target and modify a colour tone. The initial pressure on the canvas will identify the predominant colour; dragging left will darken areas of the identified colour while dragging right will lighten them. The corresponding slider will be updated.

SEE ALSO:

[Applying adjustments](#)

[Recolour adjustment](#)

[HSL adjustment](#)

[Gradient Map adjustment](#)

[Threshold adjustment](#)

[Fill layers](#)

Brightness and Contrast adjustment

Adjust the values in the shadows and highlights, and the overall tonal range, of images.



You can also adjust the tonal range of images using the [Levels](#) and [Curves](#) adjustments.

Settings

The following settings can be adjusted:

- **Brightness**-controls the lightness/darkness of the image. Drag the slider to the left to decrease brightness, drag to the right to increase it.
- **Contrast**-controls the tonal range of the image. Drag the slider to the left to decrease the contrast between dark and light areas, drag to the right to increase it.
- **Linear**-by default, the adjustment provides a smooth, logarithmic adjustment by modifying pixels relative to their original lightness value. When selected, this option modifies pixels using absolute values, resulting in a stronger effect.

SEE ALSO:

[Applying adjustments](#)

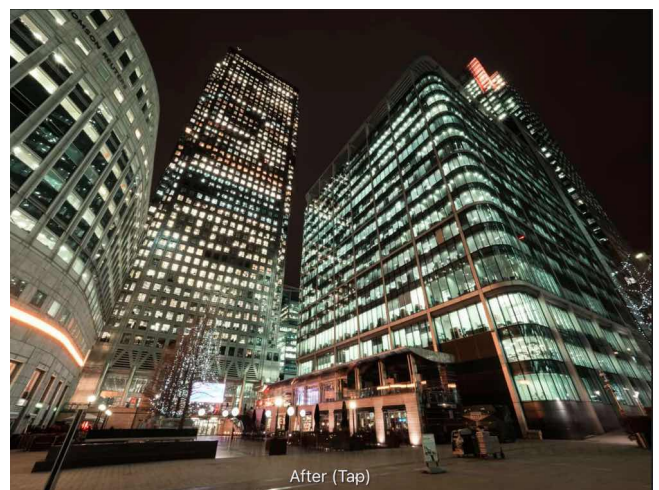
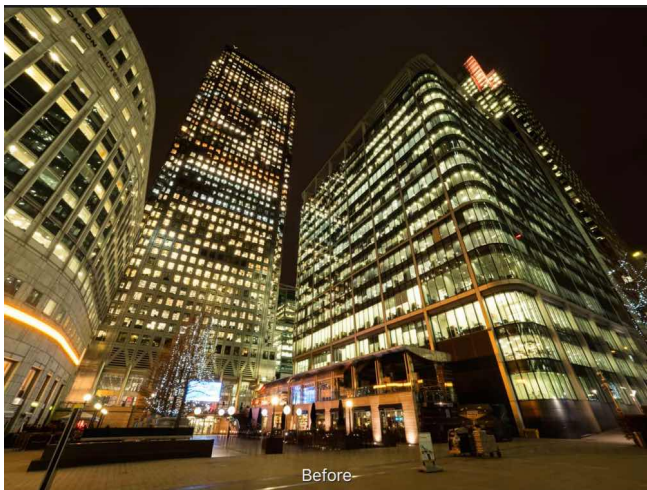
[Levels adjustment](#)

[Curves adjustment](#)

[Shadows/Highlights adjustment](#)

Channel Mixer adjustment

Adjust the colour of individual channels to produce effects not easily achieved with other colour adjustment tools.



Adjustments can be made in any colour mode, regardless of the document's current colour mode.

Settings

The following settings can be adjusted:

- **Output Channel:**
 - Select a colour mode from the first pop-up menu.
 - Specify a single colour channel to apply the adjustment to, including the layer's alpha channel. Select from the second pop-up menu.
- The sliders control the contribution of the named colour to the selected output channel. Drag the slider to the left to decrease the level of the named colour, drag the slider to the right to increase it.
- **Offset**-controls the overall influence the selected output channel has on the image as a whole. Drag the slider to the left to decrease the output channel's contribution, drag the slider to the right to increase it.



Modifying the alpha channel produces a keying/matting effect.

SEE ALSO:

[Applying adjustments](#)

Colour Balance adjustment

The Colour Balance adjustment provides a way to modify the contribution of particular colours to a set tonal range.



Settings

The following settings can be adjusted:

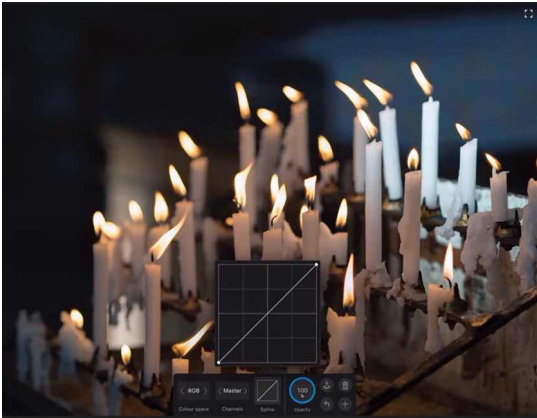
- **Range**-determines the tones to be adjusted. The sliders control the balance between the two named colours. Drag the slider toward the colour you wish to emphasise.
- **Preserve Lum.**-if this option is off (default), the adjustment ignores the original lightness value of pixels. When selected, the adjustment modifies pixel colours with respect to their original lightness value.

SEE ALSO:

[Applying adjustments](#)

Curves adjustment

Adjust the colour, tone and alpha channels with the curves adjustment, either on individual channels or by adjusting the master curve.



This adjustment is also available in the [Develop Persona](#) on the Tones Studio.



Adjustments can be made in any colour mode, regardless of the document's current colour mode (so you can edit LAB curves in an RGB document and vice versa).

Settings

The following settings can be adjusted:

- **Colour space**-select a colour mode (Grey/RGB/CMYK/LAB) from the first pop-up menu.
- **Channels**-specify a single colour channel to apply the adjustment to, including the layer's alpha channel. Master (the default choice) applies the adjustment to all channels. Select from the second pop-up menu.
- **Spline**-displays the curves spline chart which can be shaped to adjust the image's tonal range.



The colour mode and Alpha channel options are not available in Develop Persona.

To adjust a curves graph:

On the curves graph, do any of the following:

- Drag the curve to adjust the tonal range of the image.
- Tap on the curve to add additional nodes.
- Tap to select an existing node and drag to manipulate it.



In general:

- Drag the curve downwards to correct overexposure.
- Drag the curve upwards to correct underexposure.
- Create a gentle S-shape by adding nodes (see above) and dragging the curve in opposite directions to correct washed out images.

SEE ALSO:

[Applying adjustments](#)

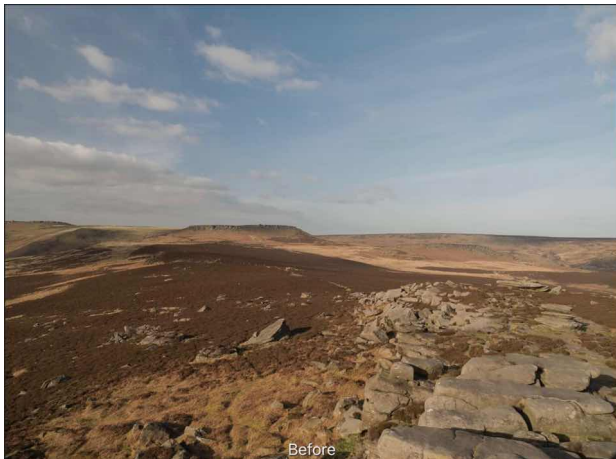
[Levels adjustment](#)

[Brightness and Contrast adjustment](#)

[Shadows/Highlights adjustment](#)

Exposure adjustment

Alters the overall exposure of the image: good for correcting overexposure/underexposure, or for giving an image a high key or low key look.



Settings (Photo Persona; as adjustment layer)

The following setting can be adjusted:

- **Exposure**-controls the exposure level of the image in stops. Drag the slider to the left to decrease exposure, drag to the right to increase.

Settings (Develop Persona; in Basic Studio)

The following settings can be adjusted:

- **Exposure**-controls the exposure level of the image in stops. Drag the slider to the left to decrease exposure, drag to the right to increase.
- **Blackpoint**-determines the range of pixels in the image considered to be pure black. Drag the slider to the right to include pixels in the range (making black tones darker), drag to the left to exclude pixels (making black tones lighter).
- **Brightness**-controls the lightness/darkness of the image. Drag the slider to the left to decrease brightness, drag to the right to increase it.

SEE ALSO:

[Applying adjustments](#)
[Curves adjustment](#)

Enhance adjustment

The adjustment groups together several settings for enhancing your image's tone and colour.

This adjustment grouping appears in **Develop Persona** on the **Basic Studio**.

Individual settings appear as their own adjustment layers or filters in Photo Persona.

Settings

The following settings can be adjusted:

- **Contrast**-controls the tonal range of the image. Drag the slider to the left to decrease the contrast between dark and light areas, drag to the right to increase it.
- **Clarity**-sharpens your image by controlling local contrast at image edges. Can be applied in negative or positive amounts.
- **Saturation**--increases or decreases colour saturation. Drag the slider to the left to increasingly desaturate.
- **Vibrance**-controls the intensity of colours in the image.

SEE ALSO:

[Developing a raw image in Develop Persona](#)

Gradient map adjustment

The Gradient Map adjustment maps the equivalent greyscale range of an image to a specified colour gradient. This provides an effective (and creative) way of recolouring an image.



A Gradient Map applied using a custom opacity and blend mode.

Settings

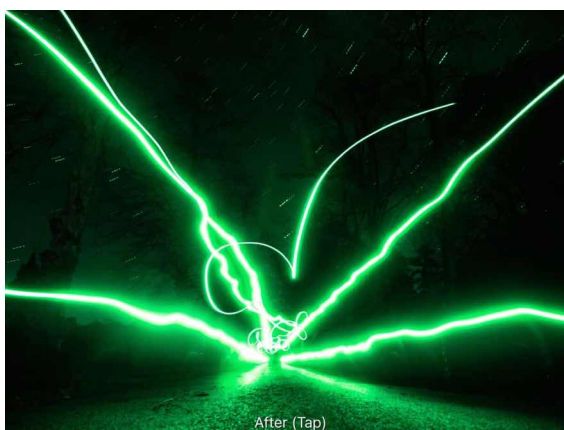
- For dialog settings, see the [Gradient editing](#) topic.
- To create a black and white image, ensure the gradient contains only greyscale values

SEE ALSO:

[Gradient editing](#)
[Applying adjustments](#)
[Recolour adjustment](#)
[Black and White adjustment](#)

HSL adjustment

Fine-tune the colours in your image, or even completely change them, by modifying the hue, saturation and luminosity (lightness).



Settings

The following settings can be adjusted:

- **Ranges**-alter all colours at once using the first node (Master; multi-coloured) or tap any of the other nodes to choose a specific colour set (eg, Yellows). When using individual colour sets, the colour wheel allows you to determine the range of colours affected by that channel using four nodes.
- **Hue**-controls the colour tint of pixels. Drag the option to shift the colours through the spectrum.
- **Saturation**-controls the intensity of colours. Drag to the left to decrease colour intensity, drag to the right to increase it.
- **Luminance**-controls the overall brightness. Drag to the left to decrease brightness, drag to the right to increase it.
- **HSV**-when enabled, uses the Hue Saturation Value (HSV) model instead of Hue Saturation Lightness (HSL). The Saturation



Shift and Luminosity Shift sliders behave differently between the two models.

Using the Channel nodes

- *After enabling a specific colour swatch under the wheel, you can adjust that colour's range in different ways:*
- *Drag on an individual node to reposition it around the colour circle.*
- *Drag the black line that connects the coloured nodes. The central line between inside nodes moves all four nodes simultaneously and in relation to each other. The black line between either outer node and its adjacent node moves just that pair of nodes independent of the other node pairing.*



*To create a desaturated (black and white) image, position the **Saturation Shift** slider to the far left.*

SEE ALSO:

[Applying adjustments](#)

[Recolour adjustment](#)

[Black and White adjustment](#)

Invert adjustment

Create a negative image by inverting all colour channels.



This adjustment has no customisable settings.



You can use Invert as part of the process of making edge masks and to apply sharpening and other adjustments to selected areas of an image.



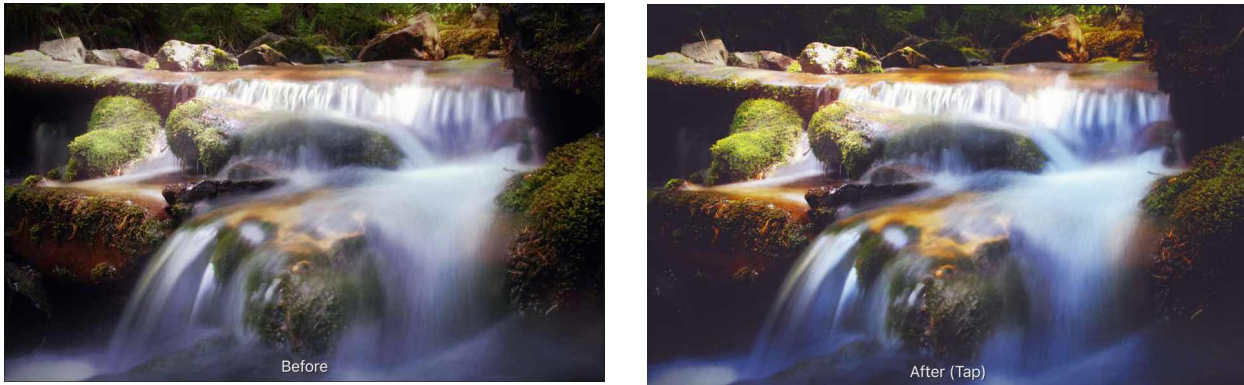
For more control in creating a negative-style (inverted) image, you can use a [Levels adjustment](#).

SEE ALSO:

[Applying adjustments](#)
[Levels adjustment](#)

LUT adjustment

The LUT adjustment allows you to emulate image colours used in a variety of media platforms.



A LUT (look-up table) remaps pixel colour values based on a defined XYZ matrix. This allows you to quickly replicate the appearance of various types of media, such as reproducing the cold, blue tone attributed to science fiction and horror movies.

The look up table is stored within a file previously exported from Affinity Photo or other applications (e.g, video packages).

Settings

The following settings can be adjusted:

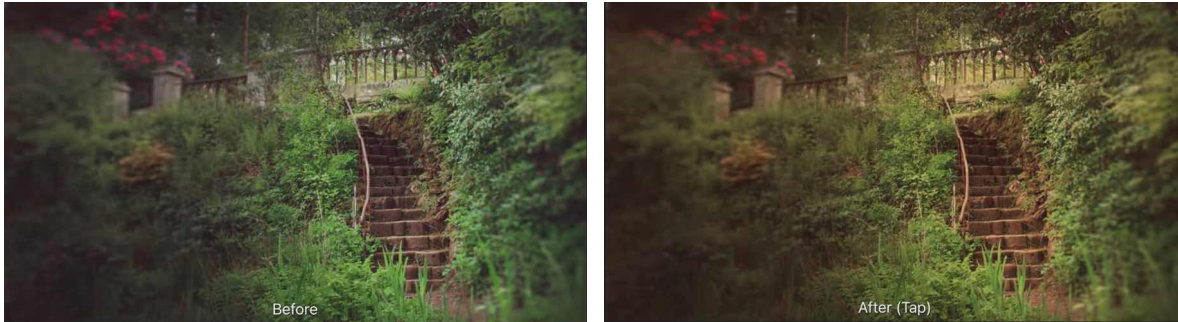
- **Load**-sets the LUT used in the adjustment. In the pop-up dialog, navigate to and select a file, and tap **Open**.
- **Infer**-applies a LUT adjustment without the need of a separate LUT file by comparing a 'source' image and its adjusted exported image. With a new target' image loaded, tap Infer, then in the pop-up dialog, navigate to and select both source and adjusted files in turn, and tap **Open**.



*The following types of LUT files are available: *.3dl, *.csp, *.cube, and *.look*

Lens Filter adjustment

Emulates the use of a lens filter to tint the colour of the image.



Before and after adjustment applied.

Settings

The following settings can be adjusted:

- **Filter Colour**-Choose the colour tint of your lens filter.
- **Optical Density**-Adjust the density (or strength) of the lens filter: this controls how much of the tint is blended into the image.
- **Preserve Lum**-When checked, prevents the change in colour from affecting the luminance channel of the image. If unchecked, increasing the optical density will typically reduce the luminosity of the image.

SEE ALSO:

[Applying adjustments](#)

[Recolour adjustment](#)

[Colour Balance adjustment](#)

Levels adjustment

Adjust the tonal values and colour balance of an image by setting the black point and white point. Adjusting the levels affects the pixel distribution within an image.



Before and after adjustment applied.

Settings

The following settings can be adjusted:

- **Colour space**-select a colour mode (Grey/RGB/CMYK/LAB) from the first pop-up menu.
- **Channels**-specify a single colour channel to apply the adjustment to, including the layer's alpha channel. **Master** (the default choice) applies the adjustment to all channels. Select from the second pop-up menu.
- **Black**-determines the range of pixels in the image considered to be pure black. Drag to the right to include pixels in the range (thereby increasing shadows), drag to the left to exclude pixels (thereby reducing shadows).
- **White**-determines the range of pixels in the image considered to be pure white. Drag to the left to include pixels in the range (thereby increasing highlights), drag to the right to exclude pixels (thereby reducing highlights).
- **Gamma**-determines the distribution of mid-tone pixels in the image. Drag to the left to redistribute pixels towards the black point, drag to the right to redistribute towards the white point.
- **Output Black**-determines the range of pixels in the output considered to be pure black. Drag to the right to include pixels in the range (thereby increasing shadows), drag to the left to exclude pixels (thereby reducing shadows).
- **Output White**-determines the range of pixels in the output considered to be pure white. Drag to the left to include pixels in the range (thereby increasing highlights), drag to the right to exclude pixels (thereby reducing highlights).



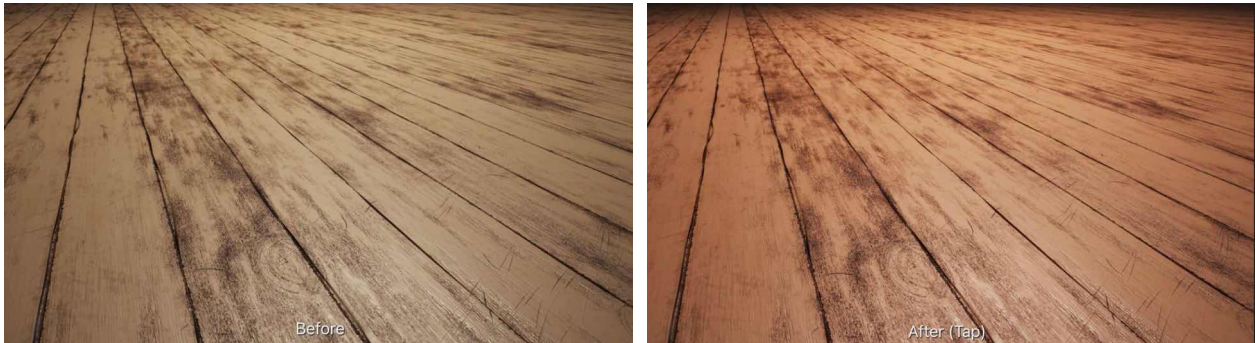
To create a negative-style (inverted) image, ensure that the Black value is greater than the White value.

SEE ALSO:

[Applying adjustments](#)
[Curves adjustment](#)
[Brightness and Contrast adjustment](#)
[Shadows/Highlights adjustment](#)
[Invert adjustment](#)

OpenColorIO adjustment

The OpenColorIO adjustment is designed to help with OpenColorIO colour-managed workflows by allowing colour transforms between source and destination colour spaces. See [Using OpenColorIO](#) for more information.



Before (ACEScG) and after (Linear sRGB) adjustment applied.

Settings

The following settings can be adjusted:

- **Source Colour Space**-sets the input colour space to use for transforming.
- **Destination Colour Space**-sets the output colour space.



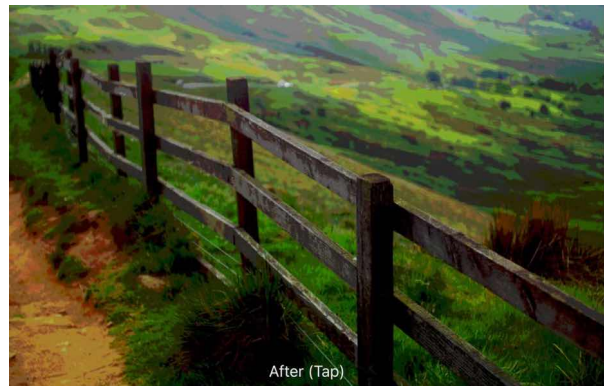
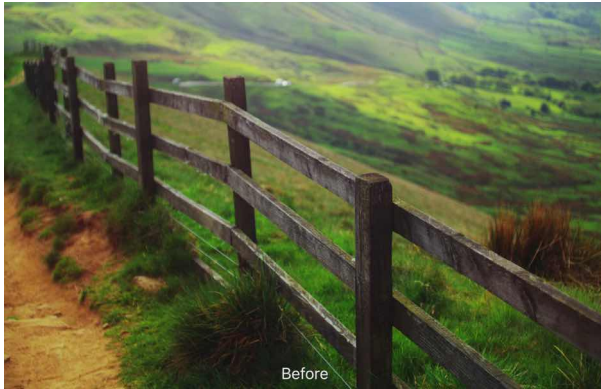
This adjustment requires a valid OpenColorIO configuration in order to be usable. See [Using OpenColorIO](#) for instructions on setting up a configuration.

SEE ALSO:

[Applying adjustments](#)
[Using OpenColorIO](#)

Posterise adjustment

Creates large, flat areas of colour or tone in your images.



Settings

The following settings can be adjusted:

- **Levels**-controls the number of coloured areas produced and the complexity of the resulting image. Drag the slider to the left to decrease the number of coloured areas (thereby simplifying image layout), drag to the right to increase coloured areas (thereby giving a more complex image layout).



The number displayed in the dialog represents the level of complexity rather than the number of resulting colours.

SEE ALSO:

[Applying adjustments](#)

Recolour adjustment

Create a monochrome image using the full spectrum of colours.



Before and after adjustment applied.

Settings

The following settings can be adjusted:

- **Hue-controls** the colour tint applied to the image. Drag the slider to shift the tint through the spectrum.
- **Saturation**-controls the intensity of the image's colour. Drag the slider to the left to decrease colour intensity, drag to the right to increase it.
- **Lightness**-controls the overall brightness of the image. Drag the slider to the left to decrease brightness, drag to the right to increase brightness.



Creating black and white and sepia images:

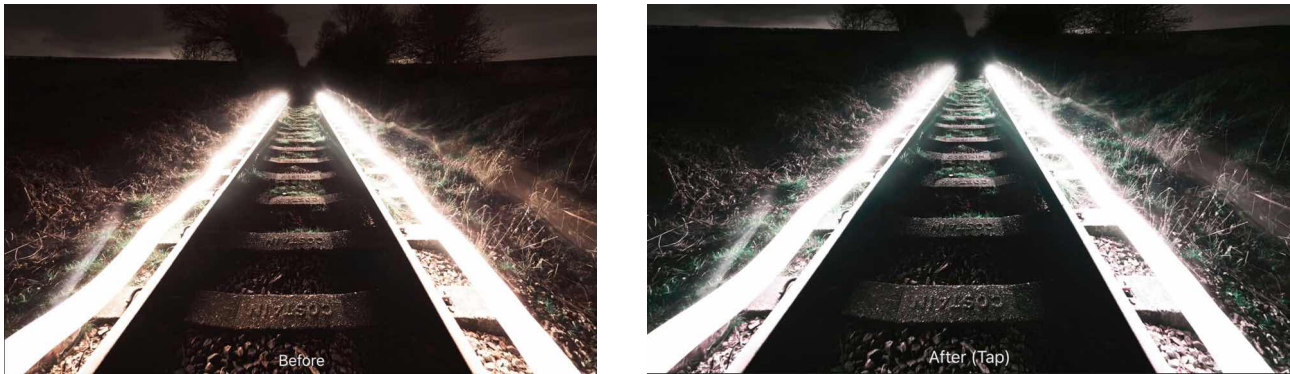
- To create a desaturated (black and white) image, position the **Saturation** slider to the far left.
- To create a sepia image, position the **Hue** slider anywhere around the orange section of the spectrum and position the **Saturation** slider anywhere left of the centre.

SEE ALSO:

[Applying adjustments](#)
[Black and White adjustment](#)
[HSL adjustment](#)

Selective Colour adjustment

The Selective Colour adjustment provides a way to subtly adjust and enhance colours in your image on an individual channel basis. It makes a useful tool for colour balance corrections.



Before and after adjustment applied

This adjustment produces subtle effects. Even at the extreme ends of the adjustment, you shouldn't see many artefacts or saturated pixels. If you intend to make extreme adjustments, such as completely recolouring pixels, then the HSL adjustment will be more suitable.

Settings

The following settings can be adjusted:

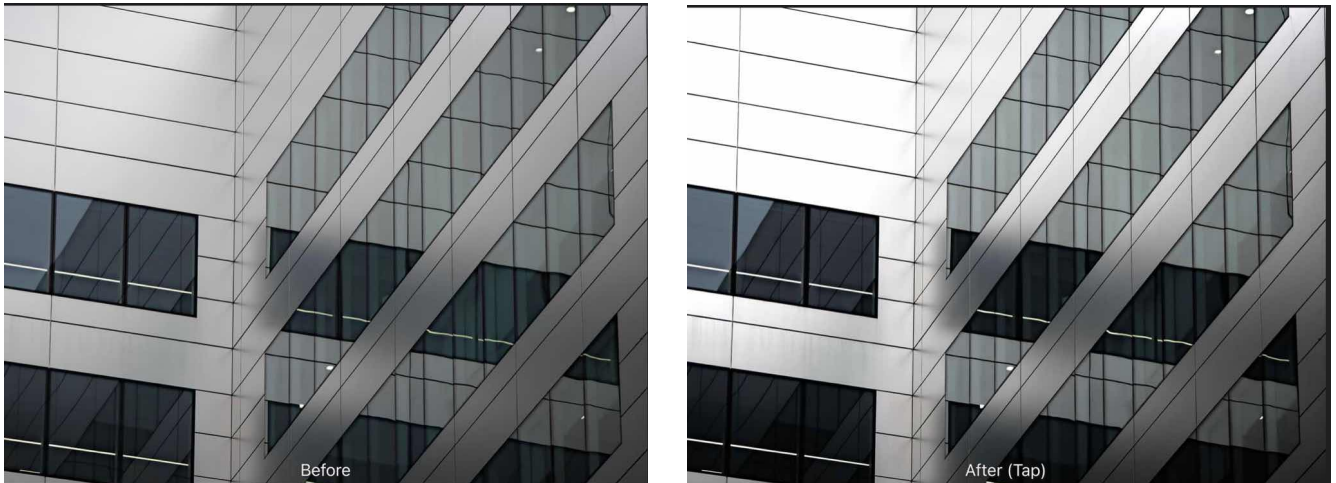
- **Range**-determines the range of colour to be adjusted. Select from the menu.
- **Relative**-when selected (default), colour is added or subtracted in proportion to the amount of that colour present in the source pixels, giving a more natural effect. If this option is off, colours are added or subtracted based on the absolute percentage specified, regardless of the how much of that colour is present in the image.
- The sliders control the levels of the named colour in the selected **Colour**. Drag the slider to the left to decrease the level of the named colour, drag the slider to the right to increase it.

SEE ALSO:

[Applying adjustments](#)
[HSL adjustment](#)

Shadows/Highlights adjustment

Adjust the lightness of the shadows and highlights in your image.



Before and after adjustment applied.

Rather than applying a lighting adjustment to your entire image, making it lighter or darker, this adjustment affects the image's shadow and highlight areas and surrounding pixels.



*This adjustment is available in [Develop Persona](#) on the **Basic** studio.*

Settings

The following settings can be adjusted:

- **Shadows**-controls the lightness of image shadows. Drag the slider to the left to darken shadow areas, drag to the right to lighten them.
- **Highlights**-controls the lightness of image highlights. Drag the slider to the left to darken highlight areas, drag to the right to lighten them.

SEE ALSO:

[Applying adjustments](#)

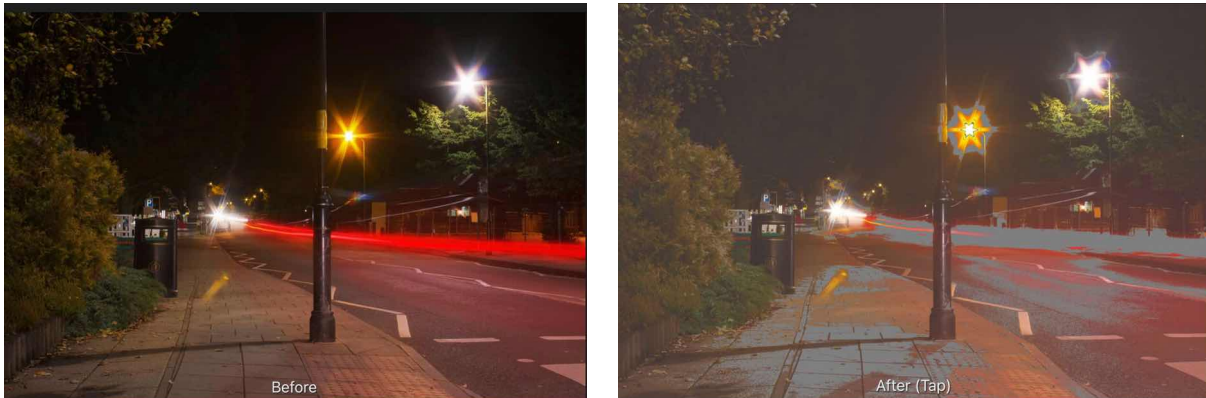
[Brightness and Contrast adjustment](#)

[Levels adjustment](#)

[Curves adjustment](#)

Soft Proof adjustment

Preview the effect of creating an output for a specific colour space or device.



Soft Proofing with a custom paper profile and Gamut Check enabled.

This adjustment allows you to preview different output options for your photo or design. It can also be used creatively for tonal effects. As it behaves like a standard adjustment layer, it must be hidden or removed before exporting or sending to print, otherwise its effect will be included in the output.

Settings

The following settings can be adjusted:

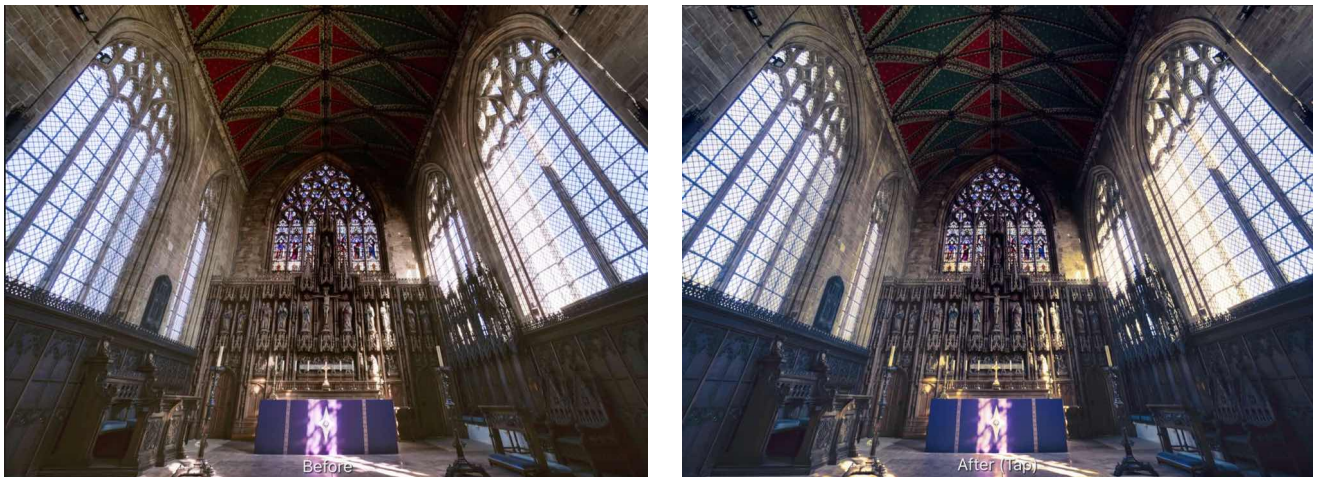
- **Profile**-determines the colour profile used. Select from the menu or use the up/down arrow keys to cycle through options.
- **Intent**-specifies how the adjustment converts 'source' colours to the destination colour space using different intents. Select from the following:
 - **Absolute colourimetric**-adjusted colours are scaled to the white point of the source colour space.
 - **Perceptual**-for out of gamut colours, the visual relationship between colours is preserved so they are perceived as natural to the human eye, even though the colour values may change.
 - **Relative colourimetric**-shifts colours after making comparison between the highlights of a source colour space and the destination colour space, while minimising desaturation.
- **Black point compensation**-when selected (default), the photo's black point is adjusted to honour the current contrast within the current proof profile. If this option is off, the photo's black point is not adjusted and image contrast may not be honoured.
- **Gamut check**-when selected, RGB colours without a CMYK equivalent will display as grey.

SEE ALSO:

[Applying adjustments](#)
[Export](#)
[Print](#)

Split Toning adjustment

Tints and recolours highlights and shadows.



Before and after adjustment applied.

Settings

The following settings can be adjusted:

- **Hue**-controls the colour tint of highlights/shadows. Drag the slider to set the value.
- **Saturation**-controls the intensity of the highlight/shadow colours. Drag the slider to the left to decrease colour intensity, drag to the right to increase it.
- **Balance**-controls the emphasis of the adjustment. Drag the slider to the left to emphasise highlight colour, drag to the right to emphasise shadow colour.

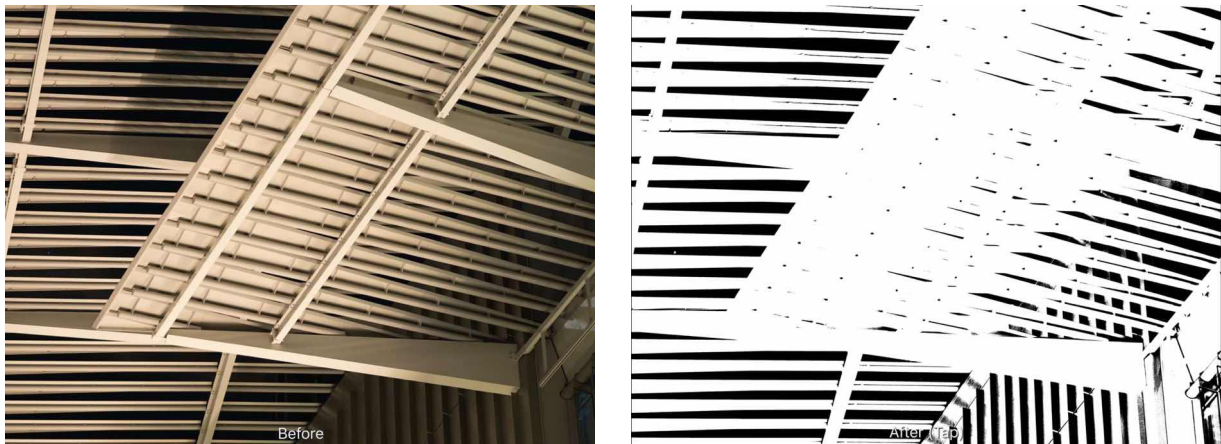
The first set of Hue/Saturation sliders adjusts highlight areas, while the second set adjusts shadow areas.

SEE ALSO:

[Developing a raw image](#)

Threshold adjustment

Create a two-tone, black and white image from greyscale or colour images based on a pixel intensity threshold.



Before and after adjustment applied.

Any pixels lighter than the threshold are converted to white; any pixels darker than the threshold are converted to black.

Settings

The following settings can be adjusted:

- **Threshold**-controls the transition point between pixels being converted to black or white. Drag the slider to the left to convert more pixels to white, drag the slider to the right to convert more pixels to black.

SEE ALSO:

[Applying adjustments](#)

[Black and White adjustment](#)

Vibrance adjustment

Adjust the intensity of subtle colours in your images while minimising the over-saturation (clipping) of more intense colours.

Skin tones are also preserved to retain a natural appearance.



Before and after adjustment applied



This adjustment is also available in [Develop Persona](#) on the **Basic Studio (Enhance)**.

Settings

The following settings can be adjusted:

- **Vibrance**-controls the intensity of colours in the image without clipping them. Drag the slider to the left to reduce colour intensity, drag the slider to the right to boost subtle colour intensity while minimising the over-saturation (clipping) of more intense colours. Skin tones are also preserved to retain a natural appearance.
- **Saturation**-controls the intensity of colours in the image equally, allowing for possible clipping. Drag the slider to the left to reduce colour intensity, drag the slider to the right to boost colour intensity without regard to clipping, allowing for much more intense results.

SEE ALSO:

[Applying adjustments](#)

White Balance adjustment

Remove unwanted colour casts or give an image a warmer or cooler feel.



Before and after adjustment applied.

The adjustment lets you control white balance using:

- the dialog's sliders
- dragging on the canvas to sample a white point (Photo Persona only)



*In Photo Persona, white balance is available as an adjustment layer. In Develop Persona, it appears on the **Basic** Studio and also as a dedicated White Balance Tool.*

Settings

The following settings can be adjusted:

- **Balance**-controls the emphasis of the adjustment. Drag to the left to cool the image, or drag to the right to warm the image.
- **Tint**-tints the image either towards magenta or green. This is useful for removing colour casts, especially if the image was taken under artificial lighting (eg, tungsten or fluorescent).



In Develop Persona, the camera's "As Shot" White Balance values are detected and reported initially. By changing Temperature or Tint you override these settings.

SEE ALSO:

[Applying adjustments](#)
[Developing a raw image](#)

Tonal adjustments

Tonal adjustments are used to correct and modify the lightness values within photos.

Available tonal adjustments include:

- [Brightness and Contrast](#)-uses two settings to adjust the lightness of all pixels within a photo and the tonal differences between them, respectively.
- [Curves](#)-uses graph manipulation to precisely adjust the lightness and contrast of a photo.
- [Exposure](#)-retrieves lost detail in highlights or shadows caused by poor exposure.
- [Levels](#)-reassigns the black, white and gamma points within a photo to redistribute pixel lightness.
- [Shadows/Highlights](#)-applies tonal adjustment to the darkest and/or lightest areas in a photo.

SEE ALSO:

[Applying adjustments](#)

[Colour adjustments](#)

[Other adjustments](#)

Colour adjustments

Colour adjustments are used to modify the colour of all, or a range of, pixels within a photo. Depending on the adjustment, the modification can be subtle or extreme.

Available colour adjustments include:

- [Black and White](#)-converts a colour photo to greyscale.
- [Channel Mixer](#)-adjusts the colour of a photo by modifying individual RGB channels
- [Colour Balance](#)-adjusts the contribution of particular colours to a set tonal range.
- [Gradient Map](#)-uses the lightness value of pixels in a photo to recolour it using a specified gradient.
- [HSL](#)-shifts the hue, saturation and luminosity values of pixels in a photo.
- [Lens Filter](#)-emulates the use of a lens filter to tint the colour of the image.
- [OCIO](#)-(OpenColorIO only) provides source and destination colour space transforms.
- [Recolour](#)-converts a colour photo to monochrome using a specified tint.
- [Selective Colour](#)-subtly adjusts the colour of a photo by modifying individual RGB, CMYK and lightness channels
- [Split Toning](#)-tints and recolours highlights and shadows.
- [Threshold](#)-converts any photo into a two-tone, black and white image based on pixel lightness.
- [Vibrance](#)-adjusts the intensity of subtle colours within a photo.
- [White Balance](#)-removes undesirable colour casts from a photo by adjusting the 'temperature' of the light.

SEE ALSO:

[Applying adjustments](#)

[Tonal adjustments](#)

[Other adjustments](#)

Other adjustments

As well as [tonal](#) and [colour](#) adjustments, there are a range of other adjustments which can be applied to your photo for corrective, creative or proofing purposes.

Available adjustments include:

[LUT](#)-adjusts the colour values of a photo based on a defined matrix.

[Invert](#)-reverses the colour values of a photo to create a negative image.

[Posterise](#)-expresses a photo as blocks of solid colour.

[Soft Proof](#)-provides a preview of a photo when output for a specific colour space or device.

SEE ALSO:

[Applying adjustments](#)

[Colour adjustments](#)

[Tonal adjustments](#)

Export LUT

Exporting custom adjustments as LUTs

You can create your own LUTs based on the adjustments applied to a project.



You can create custom LUTs from custom adjustments for future use or distribution.

Settings

The following settings can be adjusted:

- **Filename**-the file name for the exported adjustment.
- **Description**-sets the descriptive name of the adjustment.
- **Format**-sets the exported filetype. Select from the pop-up menu.
- **Quality**-sets the complexity of the exported adjustment. Drag the slider to set the value.

The following types of LUT files are available: *.3dl, csp, *.cube, and *.look.

To export as a LUT:

1. [Apply one or more adjustments](#) to your project.
2. From the **Document** Menu, tap **Export LUT**.
3. Adjust the settings in the dialog.
4. Tap **Export**.
5. Navigate to and select storage folder, and then tap **Add**.

SEE ALSO:

[Applying adjustments](#)

Filters and effects

Applying filters

Filters can be applied to layers within your document for corrective or creative purposes.

About filters

In Affinity Photo, filters are available in both non-destructive and destructive forms. A variety of filters are available as [Live Filters](#) which are non-destructive.

As well as to pixel layers, you can apply destructive filters to mask layers, adjustment layers, live filter layers and masked fill layers; spare channels can also take destructive filters too.

For destructive filters, it's a great idea to make a duplicate layer of the layer you planned to work on. By applying a filter to the duplicated layer, you preserve the original layers contents, with the option to hide the 'filter' layer as needed.

If a selection is in place before the filter is applied, the filter will only affect pixels within the selection.

Available filters

Filters are organised into the following categories. Tap a category to explore its contents.

- **Blur filters**

	Regular filter (destructive)	Live filter (non-destructive)
Average	✓	
Bilateral Blur	✓	✓
Box Blur	✓	✓
Depth of Field Blur	✓	✓
Diffuse Glow	✓	✓
Field Blur	✓	✓
Gaussian Blur	✓	✓
Lens Blur	✓	✓
Maximum Blur	✓	✓
Median Blur	✓	✓
Minimum Blur	✓	✓
Motion Blur	✓	✓
Radial Blur	✓	✓
Zoom Blur	✓	

• Distortions

[Affine](#)
[Apply Image](#)
[Deform](#)
[Displace](#)
[Equations](#)
[Lens Correction](#)
[Lens Distortion](#)
[Mesh Warp](#)
[Mirror](#)
[Perspective](#)
[Pinch / Punch](#)
[Pixelate](#)
[Polar to Rectangular](#)
[Rectangular to Polar](#)
[Ripple](#)
[Shear](#)
[Sphere](#)
[Twirl](#)

	Regular filter (destructive)	Live filter (non-destructive)
Affine	✓	
Apply Image	✓	
Deform	✓	
Displace	✓	✓
Equations	✓	
Lens Correction	✓	
Lens Distortion	✓	✓
Mesh Warp	✓	
Mirror	✓	
Perspective	✓	✓
Pinch / Punch	✓	✓
Pixelate	✓	
Polar to Rectangular	✓	
Rectangular to Polar	✓	
Ripple	✓	✓
Shear	✓	
Sphere	✓	✓
Twirl	✓	✓

• Sharpen

[Clarity](#)
[Frequency Separation](#)
[High Pass](#)
[Unsharp Mask](#)

	Regular filter (destructive)	Live filter (non-destructive)
Clarity	✓	✓
Frequency Separation	✓	
High Pass	✓	✓
Unsharp Mask	✓	✓

• Noise

	Regular filter (destructive)	Live filter (non-destructive)
Add Noise	✓	✓
Deinterlace (Even)	✓	
Deinterlace (Odd)	✓	
Diffuse	✓	✓
Dust & Scratches	✓	✓
Noise Reduction	✓	✓
Perlin Noise	✓	

• Colours

	Regular filter (destructive)	Live filter (non-destructive)
Auto Colour	✓	
Auto contrast	✓	
Auto Levels	✓	
Auto white Balance	✓	
Defringe	✓	✓
Detect Edges	✓	
Detect Horizontal Edges	✓	
Detect Vertical Edges	✓	
Divide by Alpha	✓	
Emboss	✓	
Erase White Paper	✓	
Fill	✓	
Halftone	✓	✓
Haze Removal	✓	
Lighting	✓	✓
Matte	✓	
Multiply by alpha	✓	
Procedural Texture	✓	✓

[Remove Black Matte](#)

[Remove white Matte](#)

[Shadows Highlights](#)

[Solarise](#)

[Vignette](#)

[Voronoi](#)

	Regular filter (destructive)	Live filter (non-destructive)
Remove Black Matte	✓	
Remove white Matte	✓	
Shadows Highlights	✓	✓
Solarise	✓	
Vignette	✓	✓
Voronoi	✓	✓

Settings

The following general settings are available from the filter's context toolbar:

- **Split**-when tapped, a dividing line is displayed over the document to show a before and after preview. Tapping again will mirror the image for both before and after previews. Tapping a third time will remove the comparison.
- **Apply**-exits the dialog and applies the filter settings to the layer.
- **Cancel**-exits the dialog without applying the changes to the filter.

Live filters have these additional settings:

- **Opacity**-how see through the filter layer is.
- **Merge**-merges the current filter layer with the layer immediately below it in the layer order.
- **Reset**-reverts all dialog settings to default.
- **Delete**-closes the dialog and deletes the filter layer, removing the filter from the image.
- **Preserve Alpha**-filters alpha information rather than leaving it transparent (applies mainly to blur filters).

You can set any live filter's blend mode on its layer entry in the **Layers** Studio.

To apply a filter

1. On the **Layers** Studio, select a layer (we recommend that this is a duplicate layer).
2. Select the filter from the **Filters** Studio.
3. If a dialog appears for the filter, follow the steps below
 - i. Adjust the settings in the dialog
 - ii. Choose **Apply**.



Not all filters have a dedicated dialog or customisable settings.

SEE ALSO:

[Blur filters](#)

[Sharpen filters](#)

[Distortion filters](#)

[Noise filters](#)

[Colour filters](#)

[Assistant](#)

Average

The Average filter calculates the average colour in the current layer (or selection) and then applies it throughout that area.

About the Average filter

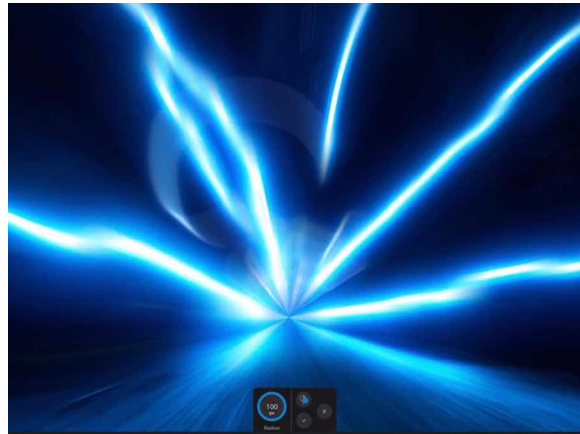
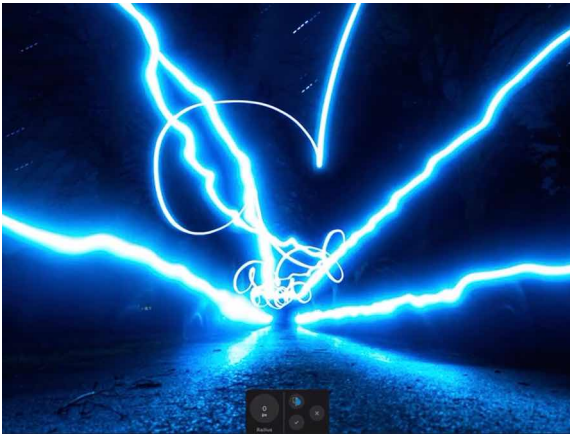
- This filter can be found in the **Filters** studio, in the **Blur** category.
- This filter has no customisable settings.

SEE ALSO:

[Applying filters](#)
[Median Blur](#)
[Pixelate](#)

Zoom Blur

The Zoom Blur filter applies converging streaks from an origin point. This gives the impression of movement, similar to the effect of using a long exposure while zooming in to a subject.



About the Zoom Blur filter

This filter can be found in the **Filters** Studio, in the **Blurs** category.



Drag on the image to set the origin.

Settings

The following settings can be adjusted on the context toolbar:
Radius-controls the amount of 'zoom'!

SEE ALSO:

[Applying filters](#)
[Motion Blur](#)
[Radial Blur](#)
[Lens Blur](#)

Affine

The Affine filter allows you to move, scale and rotate either a selection or the entire document by percentage amounts.

About the Affine filter

This filter can be found in the **Filters** Studio.

Settings

The following settings can be adjusted on the context toolbar:

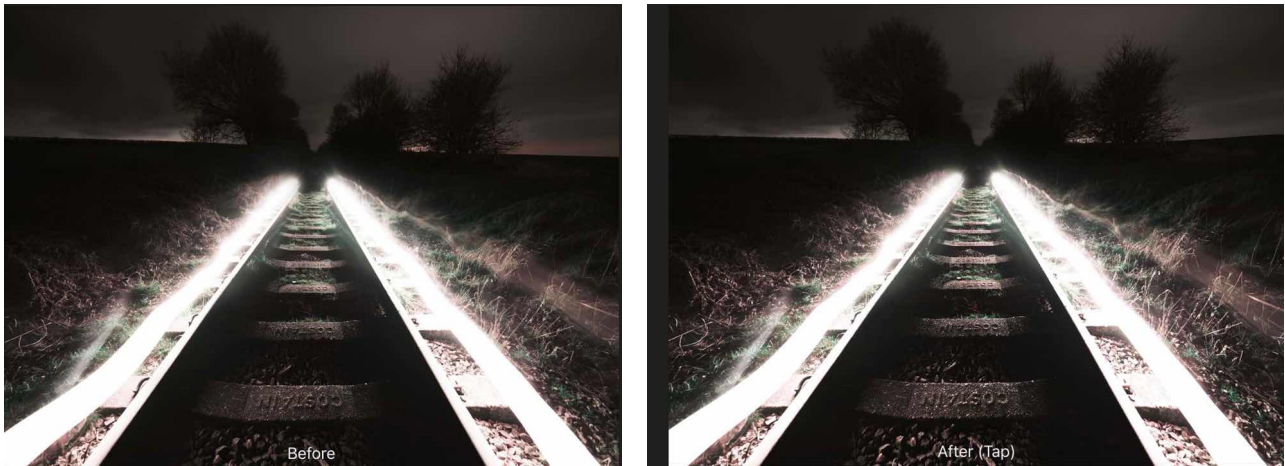
- **Scale Y**-independent controls for horizontal and vertical scaling.
- **Offset X/Y**-controls the horizontal and vertical offset of the document or selection.
- **Rotation**-controls the rotation of the document or selection.
- **Extend Mode**-specifies how to handle the blank area created by the filter
 - **Zero**: Does not fill the blank space.
 - **Full**: Fills the blank space with pure white.
 - **Repeat**: Repeats the last edge of pixels continuously to fill the blank space.
 - **Wrap**: Wraps the selection back around; useful for seamless texture work.
 - **Mirror**: Produces a mirror image of the selection.

SEE ALSO:

[Applying filters](#)
[Shear](#)

Deform

The Deform filter allows you to warp areas of your image from one or more placed anchor points. It can be useful for making subtle corrections or targeted distortions!



About the Deform filter

This filter can be found in the **Filters** Studio.



Tap on an image to set the anchor point and then tap again to set a second point; the image deforms by dragging placed points by varying amounts.



Dragging to create a marquee selection allows multiple anchor points to be selected and manipulated simultaneously.

Settings

The following settings can be adjusted on the context toolbar:

- **Mode**-choose from the pop-up menu. Rigid only allows the pixels directly related to the anchor point to change. The pixels can rotate and move, but not stretch. Similarity affects surrounding pixels and allows them to stretch as well as rotate.
- **Global**-controls intensity of the warp when dragging points.

SEE ALSO:

[Applying filters](#)
[Lens Distortion](#)

Equations

The Equations filter allows you to apply transform filters through mathematical expressions.



Before and after a transform equation.

About the Equations filter

This filter allows you to apply a transform to a pixel layer using mathematical expression. You can achieve a number of distortion-type effects through the use of predetermined variables, trigonometry, exponentiation, etc. Additionally, you can use custom variables a, b and c in the equations and control their values through sliders on the filter dialog.

Settings

The following settings can be adjusted on the context toolbar:

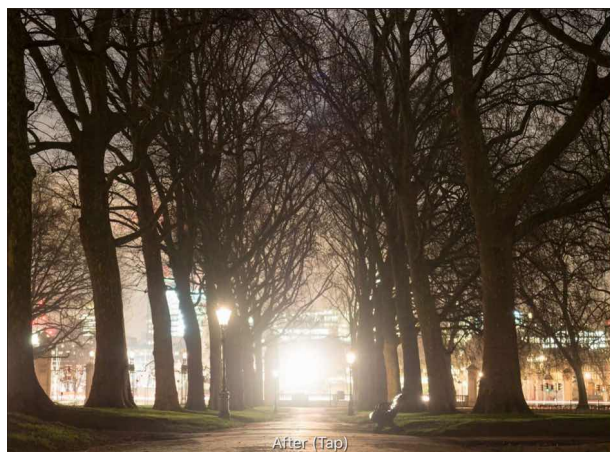
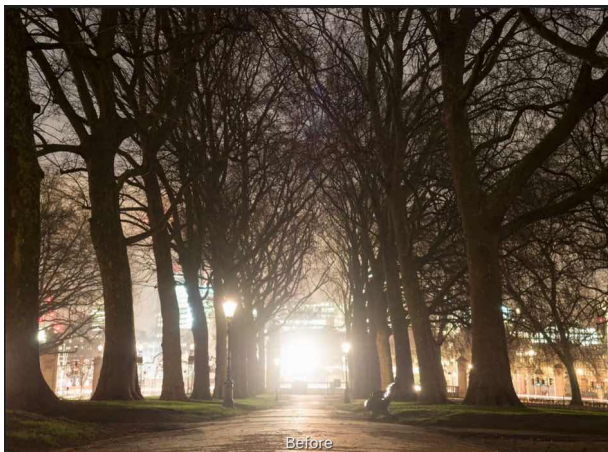
- **Coordinates**-choose from Cartesian or Polar coordinates.
 - **Cartesian**
 - **X Equation**-enter expressions for the X-axis.
 - **Y Equation**-enter expressions for the -axis.
 - **Polar**
 - **r Equation**-enter expressions for the radius.
 - **θ Equation**-enter expressions for the polar angle (theta).
- **Extend Mode**-chooses how to treat pixels outside of the image bounds:
 - **Zero**-fill pixels outside the image bounds with zeros (alpha values).
 - **Full**-fills pixels outside the image bounds with constant values (pure white).
 - **Repeat**-fills pixels outside the image bounds with repetitions of the image's edge pixels.
 - **Wrap**-fills pixels outside the image bounds with copies of the image; useful for positional offset filters and seamless texture authoring.
- **Mirror**-fills pixels outside the image bounds with mirrored (reflected) copies of the image.
- **Parameter A (a)**-controls the value of custom variable a.
- **Parameter B (b)**-controls the value of custom variable b.
- **Parameter C (c)**-controls the value of custom variable c.

SEE ALSO:

[Applying filters](#)

Lens correction

Fixes various types of lens distortion by straightening and aligning lines in an image.



Types of problems which can be fixed include:

- Barrel or pincushion distortion
- Incorrect horizontal and/or vertical perspective
- Angled horizons



This adjustment is available in [Develop Persona](#) where the appropriate lens profile for your camera is applied automatically. In Photo Persona, you also have the option to apply a Lens Correction filter that lets you manually select your camera and installed lens profile.

Settings

The following settings can be adjusted:

- **Distortion**-controls the strength (and type) of distortion. Drag the slider to the left to remove barrel distortion (where straight edges are bowed outwards). Drag to the right to remove pincushion distortion (where straight edges are bowed inwards).
- **Horizontal**-controls an image's horizontal perspective. Drag the slider until horizontal lines become parallel.
- **Vertical**-controls an image's vertical perspective. Drag the slider until vertical lines become parallel.
- **Rotation**-sets the angle of the image. Drag the slider to the left to rotate anti-clockwise. Drag to the right to rotate clockwise.
- **Scale**-sets the size of the image from the centre. This is useful for removing unwanted transparent areas which appear after applying the settings above.

The following settings can be adjusted in Photo Persona from Filters studio, by choosing Lens Correction in the Distortions category:

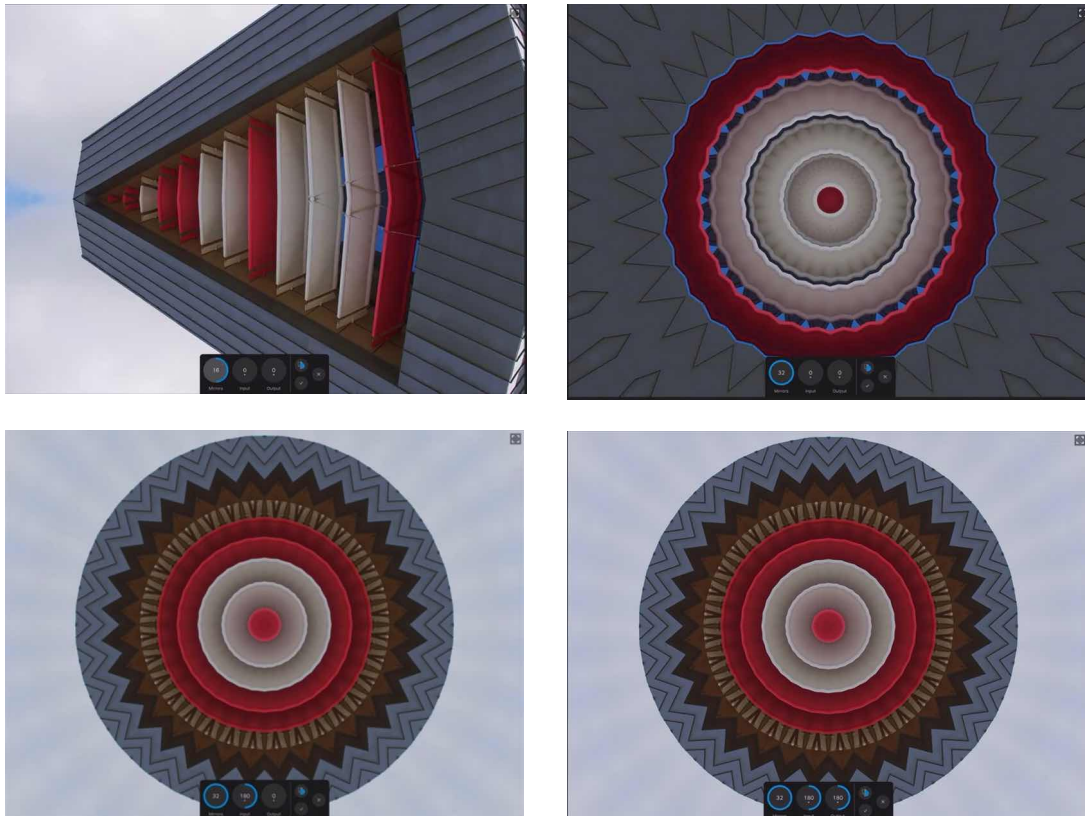
- **Camera**-select the camera you want to correct for.
- **Lens**-choose a lens profile to manually apply the lens correction. The list will change depending on the lenses supported for each camera.
- **Focal Length**-sets the focal length for the correction, e.g. 50mm.

SEE ALSO:

[Developing a raw image](#)

Mirror

The Mirror filter produces mirror effects ranging from horizontal single-mirror reflections to multi-mirror kaleidoscopes.



About the Mirror filter

This filter can be found in the [Filters](#) Studio.



Drag on the image to move the reflection point from its default position.

Settings

The following settings can be adjusted on the context toolbar

- **Mirrors**-Sets the number of mirror for image reflections.
- **Input**-Rotates the original image and reflection about a rotation point in opposite directions.
- **Output**-Further rotates the mirrored image by a chosen degree.

SEE ALSO:

[Applying filters](#)

Pixelate

The Pixelate filter creates blocks of uniform colour. The filter is especially useful when confined within a selection area to obscure subject matter.



About the Pixelate filter

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted on the context toolbar:

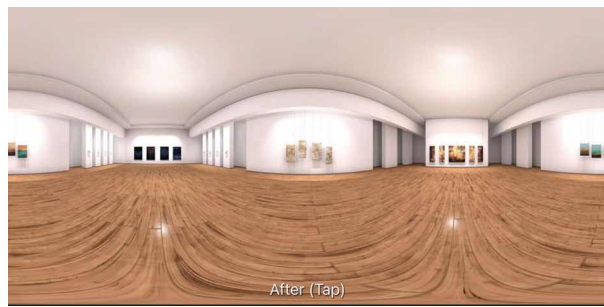
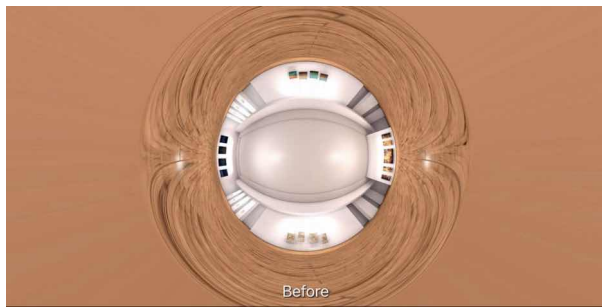
- **Quantisation**-controls the size of the generated blocks.

SEE ALSO:

[Applying filters](#)

Polar to Rectangular

The Polar to Rectangular filter converts an image from polar coordinates to rectangular coordinates. This means that a circle can be turned into a straight line.



About the Polar to Rectangular filter

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted on the context toolbar

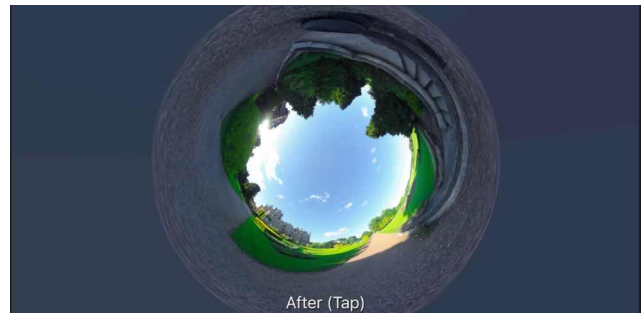
- **Scale X/Y**-independent controls for horizontal and vertical scaling.
- **Offset XY**-controls the horizontal and vertical offset of the document or selection.
- **Rotation**-controls the rotation of the document or selection.
- **Extend Mode**-specifies how to handle the blank area created by the filter:
 - **Wrap**: Wraps the selection back around; useful for seamless texture work.
 - **Mirror**: Produces a mirror image of the selection.
 - **Zero**: Does not fill the blank space.
 - **Full**: Fills the blank space with pure white.
 - **Repeat**: Repeats the last edge of pixels continuously to fill the blank space.

SEE ALSO:

[Applying filters](#)
[Rectangular to Polar](#)

Rectangular to Polar

The Rectangular to Polar filter converts your image from rectangular coordinates to polar coordinates. This means that horizontal lines can be turned into circles, sunburst effects can be created, and various other effects. It's a handy effect if you want to create a circular frame from a rectangular border.



About the Rectangular to Polar filter

This filter can be found in the [Filters](#) Studio.



This filter can also be used to create a cylinder anamorphosis-an art form popular in the 18th century. When viewed in a mirrored cylinder, the distorted image appears completely normal!

Settings

The following settings can be adjusted on the context toolbar:

- **Scale X/Y**-independent controls for horizontal and vertical scaling.
- **Offset X/Y**-controls the horizontal and vertical offset of the document or selection.
- **Rotation**-controls the rotation of the document or selection.
- **Extend Mode**-specifies how to handle the blank area created by the filter
 - **Wrap**: Wraps the selection back around; useful for seamless texture work
 - **Mirror**: Produces a mirror image of the selection.
- **Zero**: Does not fill the blank space.
- **Full**: Fills the blank space with pure white.
- **Repeat**: Repeats the last edge of pixels continuously to fill the blank space.

SEE ALSO:

[Applying filters](#)
[Polar to Rectangular](#)

Shear

The Shear filter applies distortion according to customisable linear or curved graphs. Horizontal and/or vertical shearing is possible via separate graphs.



About the Shear filter

The graphs are set and modified on the context toolbar. They can apply linear shearing by moving end nodes in the graph only. Shearing to a curve is possible by reshaping the line.

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted on the context toolbar:

- **Horizontal/Vertical shear graph (left/right):** Move end nodes horizontally or vertical (for linear shearing), or tap along the graph's line and move the added node to reshape the curve (for curve shearing). For the latter, add more nodes if needed for more complex curved shearing

SEE ALSO:

[Applying filters](#)
[Displace](#)

Deinterlace

The Deinterlace (Even) and Deinterlace (Odd) filters remove the line "combing" effect found in images taken from interlaced video streams. The filters take either the even (top) or odd (bottom) set of fields, respectively, and interpolates the other set to produce a whole, progressive image.



Before and after deinterlacing of an interlaced video frame.

About the Deinterlace filters

The **Deinterlace (Even)** and **Deinterlace (Odd)** filters can be found in the **Noise** category. Neither filter has any configurable options

- **For Deinterlace (Even):** The odd (bottom) row fields will be discarded and the image will be interpolated from the even (top) row fields. Use typically if your source is in the NTSC format or in 1080150/1080160 (HD).
- **For Deinterlace (Odd):** The even (top) row fields will be discarded and the image will be interpolated from the odd (bottom) row fields. Use typically if your source is in PAL DV (tape-based camcorders).

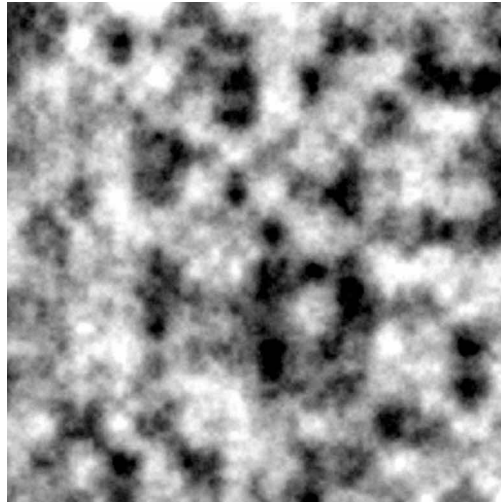
SEE ALSO:

[Applying filters](#)

Perlin Noise

Perlin noise generates pixels with values that vary between the foreground and background colours, resulting in a cloud pattern.

Sometimes known as Clouds or Difference Clouds. It can be used to create realistic looking scaleable textures, including cloud, smoke, and rock or earth-like effects, and is a great way of adding realism to textured areas.



About the Perlin Noise filter

This filter can be found in the [Filters](#) Studio.

When the filter is applied, the clouds are generated using the currently selected background and foreground colours. The image data on the active layer is replaced.



If the layer is fully transparent, the filter will not be applied. The layer must have some pixel data.

Settings

The following settings can be adjusted on the context toolbar:

Octaves-controls the cloud complexity.

Zoom-controls the zoom level of the clouds and the complexity of the noise.

Persistence-controls how blurred or grainy the effect is.

Blend mode-changes how the applied pixels (noise) interact with existing pixels on a layer.



You can create marble textures and other interesting patterns by applying the filter several times using a Difference blend mode.

SEE ALSO:

[Applying filters](#)
[Noise Reduction](#)
[Add Noise](#)
[Diffuse](#)

Auto filters

Auto filters are useful automatic filters that affect tone, colour and white balance in your image. Results may vary according to the type of Image, so it's worth experimenting with different images a little.

About the Auto filters

The filters can be found in the **Filters** Studio, in the **Colours** category.

They include:

- **Auto Colour**-applies a cross-channel colour shift that subtly boosts saturation.
- **Auto Contrast**-applies a contrast adjustment automatically which stretches or clips the tonal range on all channels
- **Auto Levels**-A simplified versions of the Levels function that assigns a new "top" and "bottom" to the tonal range, making the darkest image pixel black and the lightest one white, and spreading out the in-between pixels over a wide tonal range. Auto Levels performs this adjustment separately for each of the Red, Green, and Blue channels, while Auto Contrast operates on the image as a whole.
- **Auto White Balance**-infers a white point calculated from the whole of the image, and adjusts the white balance accordingly.

Settings

There are no configurable settings available with these filters.

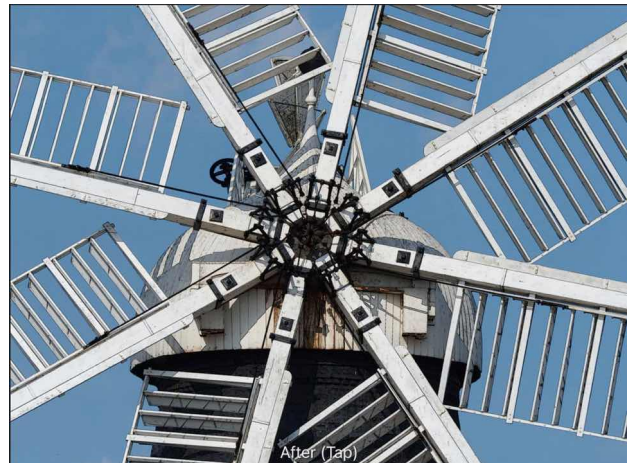
SEE ALSO:

[Using Live Filters](#)

[Applying filters](#)

Detect Edges

The Detect Edges filter isolates and strengthens both horizontal and vertical edges while darkening the rest of the image. It is useful for creating stylised effects and edge masks.



Detect Edges used on a duplicate layer whose blending mode is then set to "Subtract, giving a cell shaded look.

About the Detect Edges filter

This filter can be found in the [Filters](#) Studio.

This filter has no customisable settings.



This filter works by detecting changes in RGB values. It is most useful when used in conjunction with blending modes and masks for other filters and adjustments.

SEE ALSO:

[Applying filters](#)
[Detect Horizontal Edges](#)
[Detect Vertical Edges](#)

Detect Horizontal Edges

The Detect Horizontal Edges filter isolates and strengthens horizontal edges while darkening the rest of the image. It is useful for creating stylised effects and edge masks.



Detect Horizontal Edges filter with Subtract blend mode applied.

About the Detect Horizontal Edges filter

This filter can be found in the [Filters](#) Studio.

This filter has no customisable settings.



This filter works by detecting changes in RGB values. This means that some images will work better than others.

SEE ALSO:

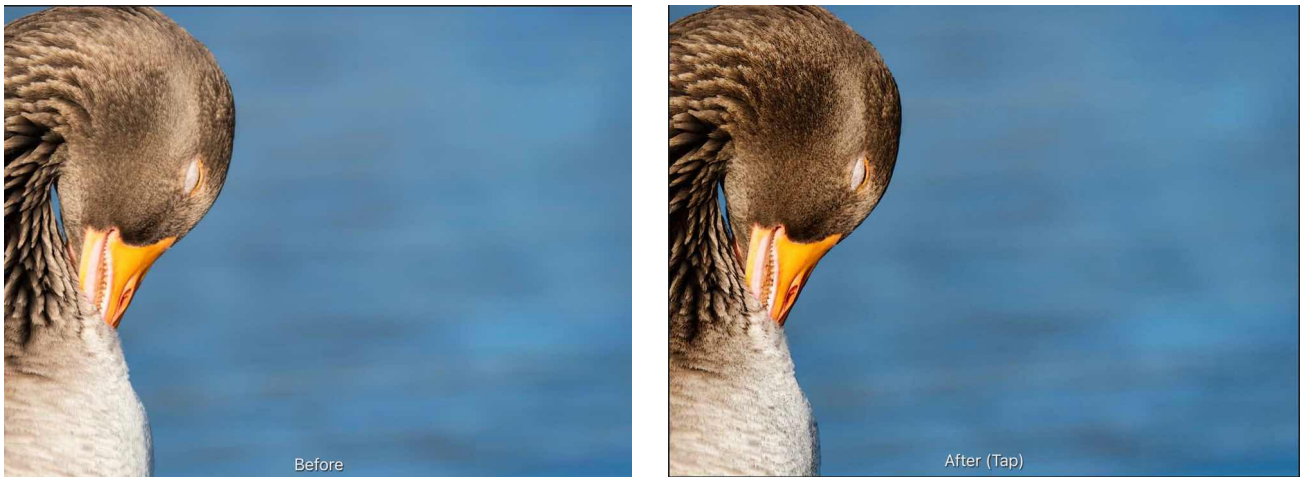
[Applying filters](#)

[Detect Edges](#)

[Detect Vertical Edges](#)

Detect Vertical Edges

The Detect Vertical Edges filter isolates and strengthens vertical edges while darkening the rest of the image. It is useful for creating stylised effects and edge masks.



Detect Vertical Edges filter with Subtract blend mode applied.

About the Detect Vertical Edges filter

This filter can be found in the [Filters](#) Studio.

This filter has no customisable settings.



This filter works by detecting changes in RGB values. This means that some images will work better than others

SEE ALSO:

[Applying filters](#)

[Detect Edges](#)

[Detect Horizontal Edges](#)

Divide by Alpha

The Divide by Alpha filter ensures the transparency in an image is stored using a non-premultiplied alpha representation.

If an image containing premultiplied alpha data (for use in other applications, such as compositing software and game engines) needs to be edited in Affinity Photo, first apply the filter to convert the data to a non-premultiplied representation. Not doing so may result in outline/halo effects or edges being too dark.

After performing your editing tasks, apply the complementary Multiply by Alpha filter to convert back to a premultiplied alpha representation.



Non-premultiplied alpha is sometimes called straight alpha or unassociated alpha. Conversely, premultiplied alpha is sometimes referred to as associated alpha.

About the Divide by Alpha filter

This filter can be found in the **Colours** category. It has no customisable settings.

SEE ALSO:

[Applying filters](#)
[Multiply by Alpha](#)

Emboss

The Emboss filter uses the contrast of an image to remap contours to create a 3D effect, similar to bas-relief. Like many of the other filters, it's very versatile and most useful when combined with other techniques.



Using Emboss on a duplicate layer with its blend mode set to "Linear Light"

About the Emboss filter

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted in the effects dialog:

- **Radius**-controls the number of pixels affected.
- **Angle**-controls the angle of the lighting. Drag the dial to set the value.
- **Amount**-controls the intensity of the filter.
- **Monochrome**-when selected, the final effect only contains greyscale values.



This filter can effectively sharpen images suffering from small amounts of motion blur.

SEE ALSO:

[Applying filters](#)

Erase White Paper

The Erase White Paper filter applies transparency to white areas of an image to remove them. All other colours remain unaffected.



Using the filter to remove white paper from a scanned document.

About the Erase White Paper filter

The filter is really useful if you want to use line art previously drawn on physical media (paper). After scanning, the areas of scanned white paper can be stripped away by using the filter, allowing colouring and texture to be added to complete the design.

This filter can be found in the [Filters](#) Studio.

This filter has no customisable settings.

SEE ALSO:

[Applying filters](#)

Fill

The Fill filter fills the selected layer with a solid colour, history state or inpainting.

About the Fill filter

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted on the context toolbar.

- **Mode**-choose from a solid colour (Colour, Primary, Secondary), Inpainting or History.
- **Blend** mode-controls the blend mode to use when blending the fill with the layer contents.
- **Colour**-sets the fill colour when Mode is set to Colour.

SEE ALSO:

[Applying filters](#)

Matte

The Matte filter replaces transparent areas of an image with a solid colour of your choice. This is particularly useful when repurposing transparent PNG files.



Before and after matting applied. Colour sampled from the cat's eye.

About the Matte filter

This filter can be found in the [Filters](#) Studio.

Settings

The following settings can be adjusted on the context toolbar:

- **Mode**-choose a colour from the toolbar (Colour) or from an active swatch (Primary/Secondary).
- **Colour**-sets the fill colour when Mode is set to Colour.

SEE ALSO:

[Applying filters](#)

Multiply by Alpha

The Multiply by Alpha filter ensures the transparency in an image is stored using a premultiplied alpha representation.

Some applications, such as compositing software and game engines, expect premultiplied alpha even though an image file format may store a non-premultiplied alpha representation by default.

When an image containing non-premultiplied alpha data is composited using a system that expects premultiplied alpha data, a halo effect may be noticeable along semi-transparent edges, for example.

The filter addresses this by converting to premultiplied alpha, enabling improved antialiasing along the edges.



Non-premultiplied alpha is sometimes called straight alpha or unassociated alpha. Conversely, premultiplied alpha is sometimes referred to as associated alpha.

About the Multiply by Alpha filter

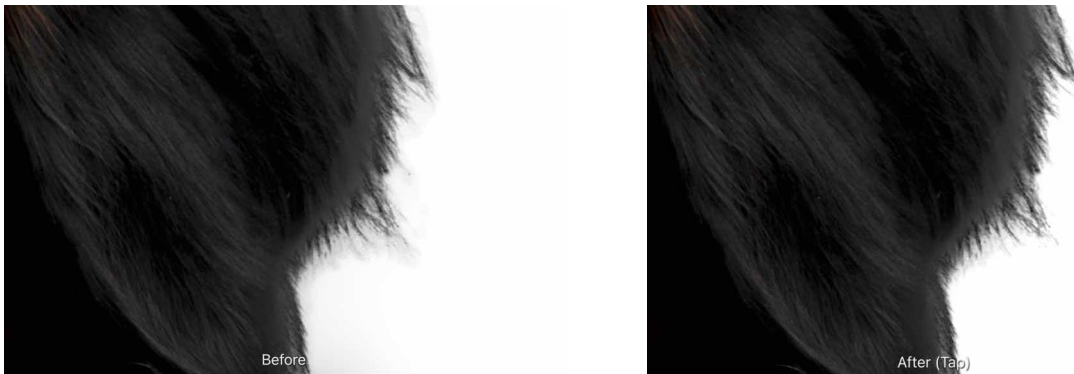
This filter can be found in the **Colours** category. It has no customisable settings.

SEE ALSO:

[Applying filters](#)
[Divide by Alpha](#)

Remove Black Matte

The Remove Black Matte filter identifies semi-transparent pixels around a subject that has been cut out and placed on a new background. The subject may have noticeable traces of black or grey where its edge meets its new background.



Remove Black Matte applied to produce a more refined cut-out of an animal's fur.

About the Remove Black Matte filter

This filter can be found in the [Filters](#) Studio, in the **Colours** category.

Settings

This filter has no customisable settings.

SEE ALSO:

[Applying filters](#)
[Remove White Matte](#)

Remove White Matte

The Remove White Matte filter identifies semi-transparent pixels around a subject that has been cut out and placed on a new background. The subject may have noticeable traces of white where its edge meets its new background.



Remove White Matte applied to remove the halo around a composited butterfly.

About the Remove White Matte filter

This filter can be found in the [Filters](#) Studio, in the **Colours** category.

Settings

This filter has no customisable settings.

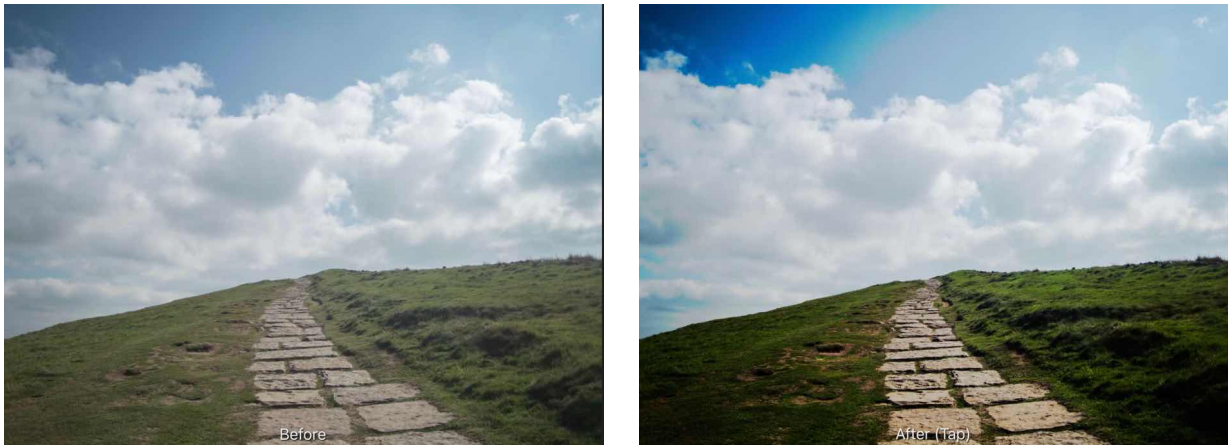
SEE ALSO:

[Applying filters](#)

[Remove Black Matte](#)

Solarise

The Solarise filter lets you set a lightness value above which image colours are inverted.



Solarise used with a blend mode of Reflect to create a stark contrast between shadows and highlights.

About the Solarise filter

This filter is used to imitate the darkroom technique of re-exposing a partially developed image to light to produce dramatic changes in mid-tone regions in the image.

This filter can be found in the [Filters](#) Studio.

This filter has no customisable settings.

SEE ALSO:

[Applying filters](#)

Liquify

The Liquify filter can be used to apply non-destructive liquify distortions to the entire image or masked regions of it.



Switching off/on the Liquify Live filter layer whose mask was painted to remove unwanted leftover distortion.

About the Liquify filter

This filter can be applied as a destructive or [non-destructive, live filter](#) from the **Filters Studio's** Distortion category. For the latter, enable **Add Live filters** from the Studio before applying it.

When a warp is applied to an image, the overlaid mesh will update to describe the warp on a grid. Furthermore, modifying the grid will update the warped image below.

When warping images using this filter, the active Persona will switch to the [Liquify Persona](#) and this Persona's [Liquify Tools](#) will become available.

These tools can be divided into three types:

- **Direct**-these affect the image by painting over image pixels. These include the **Push Forward**, **Push Left**, **Twirl**, **Pinch**, **Punch**, **Turbulence**, and **Reconstruct** tools.
- **Indirect**-these affect the mesh. These include the **Mesh Clone** Liquify tool.
- [Masking](#)-these apply or remove masked areas. These include the **Freeze** and **Thaw** Liquify tools.

These [Liquify Tools](#) are supported by a dedicated context toolbar for setting warp brush width, hardness, opacity, and more.

Warping can be further modified and controlled using the dedicated [Liquify Studio](#).

You can reset the warp you have applied at any time by selecting **Reset Mesh** from the **Liquify Studio**.

Tapping **Done** will commit your warping and create a Liquify filter layer; to undo your changes before committing, scroll back the history steps in the Persona's **History Studio**.

When applied non-destructively, this filter layer behaves like any other Live Filter layer in that it is has inherent masking properties, is non-destructive, and can be temporarily hidden or deleted from the Layers Studio, and even moved up or down the layer stack for different results.

SEE ALSO:

[Live Filters](#)

[Warping using Liquify Persona](#)

Blur filters

Use blur filters to apply creative blurring effects to your photo.

Available filters include:

		Regular filter (destructive)	Live filter (non-destructive)
Average	Applies a uniform colour averaged across your image.	✓	
Bilateral Blur	Blurs while retaining high contrast.	✓	✓
Box Blur	Blurs based on a boxed region.	✓	✓
Depth Of Field Blur	Applies elliptical or Tilt-shift blur gradients.	✓	✓
Diffuse Glow	Blurs with a soft glow effect.	✓	✓
Field Blur	Adds focal points to a blurred image.	✓	✓
Gaussian Blur	A smoothing blur for noise reduction.	✓	✓
Lens Blur	Simulates blurring from wide aperture lens usage.	✓	✓
Maximum Blur	Broadens highlights, reduce shadows.	✓	✓
Median Blur	Blurs while affecting colour regions.	✓	✓
Minimum Blur	Shrinks highlights, increase shadows.	✓	✓
Motion Blur	Blurs to simulate directional movement.	✓	✓
Radial Blur	Gives a circular blur at a chosen position.	✓	✓
Zoom Blur	Blurs to simulate zooming-in motion effect.	✓	

SEE ALSO:

[Colour filters](#)
[Distortion filters](#)
[Noise filters](#)
[Sharpen filters](#)

Colour filters

Filter name:

[Auto Colour](#)

[Auto contrast](#)

[Auto Levels](#)

[Auto white Balance](#)

[Defringe](#)

[Detect Edges](#)

[Detect Horizontal Edges](#)

[Detect Vertical Edges](#)

[Divide by Alpha](#)

[Emboss](#)

[Erase White Paper](#)

[Fill](#)

[Halftone](#)

[Haze Removal](#)

[Lighting](#)

[Matte](#)

[Multiply by alpha](#)

[Procedural Texture](#)

[Remove Black Matte](#)

[Remove white Matte](#)

[Shadows Highlights](#)

[Solarise](#)

[Vignette](#)

[Voronoi](#)

Regular filter (destructive) Live filter (non-destructive)

Automatically applies a colour adjustment to the image.	✓	
Automatically applies a contrast adjustment to the image.	✓	
Automatically applies a levels adjustment to the image.	✓	
Automatically applies a white balance adjustment to the image.	✓	
Removes colour fringing by sampling.	✓	✓
Isolates all edges in your image.	✓	
Isolates horizontal edges in your image.	✓	
Isolates vertical edges in your image.	✓	
Ensures transparency in an image is stored using a non-premultiplied alpha representation.	✓	
Creates a convex rounded-edge effect.	✓	
Intelligently removes white and replaces with transparency.	✓	
Fills the layer with a solid colour, history state or inpainting.	✓	
Simulates continuous tone reproduction.	✓	✓
Removes unwanted haze in landscape photos.	✓	
Apply spot and point lighting using multiple light sources.	✓	✓
Fills transparent areas with a solid colour.	✓	
Ensures transparency in an image is stored using a premultiplied alpha representation.	✓	
Allows you to perform a number of pixel manipulations using predetermined functions and user defined variables.	✓	✓
Removes black colour fringing around a cut-out automatically.	✓	
Removes white colour fringing around a cut-out automatically.	✓	
Manipulate the shadow and highlight regions of your image.	✓	✓
Sets lightness above which image colours are inverted.	✓	
Adds an elliptical surround to your image.	✓	✓
Creates a Voronoi diagram (also known as a Dirichlet tessellation) from a pixel layer.	✓	✓

SEE ALSO:

[Blur filters](#)

[Distortion filters](#)

[Noise filters](#)

[Sharpen filters](#)

Distortion filters

Distortion filters move pixels in your image to produce various distortion effects.

Available filters include:

Filter name		Regular filter (destructive)	Live filter (non-destructive)
Affine	Moves, scales, or rotates by percentage amounts.	✓	
Apply Image	Composite images together.	✓	
Deform	Distorts from one or more anchor point positions.	✓	
Displace	Distorts using a displacement map.	✓	✓
Equations	Apply custom transform filter based on mathematical expressions.	✓	
Lens Correction	Fix various kinds of distortion by selecting a camera model and lens profile.	✓	
Lens Distortion	Fixes barrel and pincushion lens distortions.	✓	✓
Liquify	Apply liquify distortions to the entire image or masked regions of it.	✓	✓
Mesh Warp	Distort your image using a movable mesh grid.	✓	
Mirror	Provides a reflection using one or more mirrors.	✓	
Perspective	A filter based on the Perspective Tool.	✓	✓
Pinch / Punch	Bulges or squeezes an image area.	✓	✓
Pixelate	Creates blocks of colour to obscure image areas.	✓	
Polar to Rectangular	Distorts by changing polar to rectilinear X/Y coordinates.	✓	
Rectangular to Polar	Distorts by changing rectilinear X/Y to polar coordinates.	✓	
Ripple	Produces a radial rippling effect.	✓	✓
Shear	Apply a linear or curved shear to an image horizontally and/or vertically.	✓	
Sphere	Creates a convex or concave sphere distortion.	✓	✓
Twirl	Creates a clockwise or anti-clockwise twirl effect.	✓	✓

SEE ALSO:

[Blur filters](#)
[Colour filters](#)
[Noise filters](#)
[Sharpen filters](#)
[Equations](#)

Edge detection filters

Edge detection filters isolates and strengthens vertical edges, horizontal edges, or both, while darkening the rest of the image.

Available filters include:

[Detect Edges](#)-isolates all edges in your image.

[Detect Horizontal Edges](#)-isolates horizontal edges in your image.

[Detect Vertical Edges](#)-isolates vertical edges in your image.

SEE ALSO:

[Blur filters](#)

[Colour filters](#)

[Distortion filters](#)

[Noise filters](#)

[Sharpen filters](#)

Noise Filters

Noise filters can be used to reduce or add noise (graininess) to your photo.

Available filters include:

Filter name		Regular filter (destructive)	Live filter (non-destructive)
Add Noise	Introduces noise to recreate natural texture.	✓	✓
Deinterlace (Even)	Converts field based video images to progressive images using even field set.	✓	
Deinterlace (Odd)	Converts field based video images to progressive images using odd field set.	✓	
Diffuse	Adds noise to image edges.	✓	✓
Dust & Scratches	Removes dust and scratch artefacts.	✓	✓
Noise Reduction	Reduces luminance and colour noise.	✓	✓
Perlin Noise	Creates noise with a cloud-like appearance.	✓	

SEE ALSO:

[Blur filters](#)
[Colour filters](#)
[Distortion filters](#)
[Sharpen filters](#)

Sharpen filters

Sharpen filters can be used to bring into focus photos that appear slightly blurred.

Available filters include:

Filter name

- [Clarity](#)
- [Frequency Separation](#)
- [High Pass](#)
- [Unsharp Mask](#)

	Regular filter (destructive)	Live filter (non-destructive)
Sharpens the image by affecting local contrast.	✓	✓
Splits image into high and low frequency layers for independent retouching.	✓	
Sharpens image edges.	✓	✓
Sharpens image edges as an alternative to High Pass.	✓	✓

SEE ALSO:

- [Blur filters](#)
- [Colour filters](#)
- [Distortion filters](#)
- [Noise filters](#)

Blending Images

Apply image

Apply Image lets you composite images together on the same layer and use a number of expressions for advanced channel blending.



Blending a fashion model's photo with a transparent overlay.

About Apply Image

Apply Image lets you blend a layer from a source image into a target image's layer. The images are composited into a single layer. Channel expressions and blend modes are available to composite the layers.

The source image can be scaled automatically to the target image horizontally, vertically or both, avoiding having to size the images equally first.

To blend two images:

1. Open your target image.
2. From the **Layers** Studio, select the layer that you want to blend the source image with.
3. From the **Filters** Studio, select **Apply Image**.
4. Tap **Image** and navigate to, then select the source image to import.
5. Select a **Blend Mode** to alter how the source image's colours blends with the target image
6. (Optional) Set the Opacity level to control how transparent the imported image appears.
7. (Optional) Tap **Scale Horizontal To Fit** to disable scaling to fit, ie. the imported image's native width is used. When enabled, the image is stretched/shrunk to the main image. The Scale **Vertical To Fit** operates the same but in relation to height.
8. Tap the check mark to apply.

To use channel expressions:

1. With the **Apply Image** context toolbar open, either load an image or change **Mode** to **Current Layer** to blend the image with itself.
2. Navigate to further options on the context toolbar and enable **Equations** in order to enable channel blending.
3. Choose a **Colour Space** to blend.
4. Now use the available expressions to blend channel information. Some expressions include:
 - Use **D+Channel** to specify a destination image channel (the original layer), eg, DB for Destination Blue channel.
 - Use **S+Channel** to specify a source image channel (the image you have loaded in), e.g, SR for Source Red channel.
 - Use **+,/,** to add, subtract, multiply or divide respectively, e.g, SR/SC"SB to divide Source Red by Source Green and then multiply by Source Blue.



Removing a yellow colour cast using channel expressions.

SEE ALSO:

[Layer blending](#)

Lighting effects

The Lighting feature simulates lighting from one or more light sources.



About lighting

Lighting effects simulate ambient, point, directional, and spot lighting in your design. You can supplement the single light source with additional light sources for more advanced lighting control; different light source types can be used in combination, each being independently configured and positioned using on-screen handles.

Affinity Photo also lets you create lighting effects from 3D bump maps made from texture inherent in any image.

Source types

Different source types give dramatically different results. The types are best imagined with a few examples:

- **Spot:** Casts a elliptical beam of light focusing on a specific subject of interest, like a torch.
- **Point:** Casts omnidirectional light, like a light bulb.
- **Directional:** Casts light directionally from infinity, eg. from the sun.

Lighting effects can also be applied as a non-destructive, live filter.

Settings

The following settings can be adjusted on the context toolbar:

- **Ambient**-Sets the level of uniform 'background' lighting. An adjacent Colour option sets the ambient light colour.
- **Specular**-sets the level of light reflected from the surface that reflects in a single outgoing direction (rather than being diffused), to form a highlight (hotspot). An adjacent Colour option sets the specular reflection colour.
- **Shininess**-controls the spread of the specular reflection above. Set the value lower for larger and more widespread highlights; higher for smaller, sharper highlights.
- **Diffuse**-sets the level of diffused 'scattered' light reflected from the surface. Higher values reflect more light.
- **Light**-Tap to select a point light source. You can Add, Delete or Duplicate additional ight sources.
- **Light Type**-selects the light source type (see above).
- **Colour**-selects the light source colour.
- **Distance**-selects the light source distance from the page.
- **Texture**-Creates texture from the image itself.

For 3D Bump Maps:

- **Load Texture**-tap to load an image that you want to convert to a 3D bump map.
- **Opacity**-alters the transparency of the texture.
- **Clear**-removes any applied map.
- **Fit Width**-When enabled, the texture image is stretched/shrunk horizontally to the main image. When disabled, the texture image retains its native width.
- **Fit Height**-as for Fit Width but for the texture image's height.

To apply a spot light:

1. From the **Filters** Studio, select **Lighting**.
2. Navigate the context toolbar, and choose a Light Type of '**Spot**'.
3. Drag the on-screen handle at the apex of the 'fan' shape to adjust the distance and direction of the light.
4. (Optional) Drag the Elevation handle situated along the centre line to set the height of the spot light above the page.
5. (Optional) Drag the outer and inner handles at the end of the fan to set the outer and inner cone, respectively.

To apply a point light

1. From the **Filters** Studio, select **Lighting**.
2. Navigate the context toolbar, and choose a Light Type of '**Point**'.
3. Reposition the default point light by dragging the centre handle over a subject of interest.
4. Drag the circle's edge inwards or outwards to set the light's distance from the light position.

To apply a directional light:

1. From the **Filters** Studio, select **Lighting**.
2. Navigate the context toolbar, and choose a Light Type of '**Directional**'.
3. On the context toolbar, drag the cross-hair within the Direction dial.

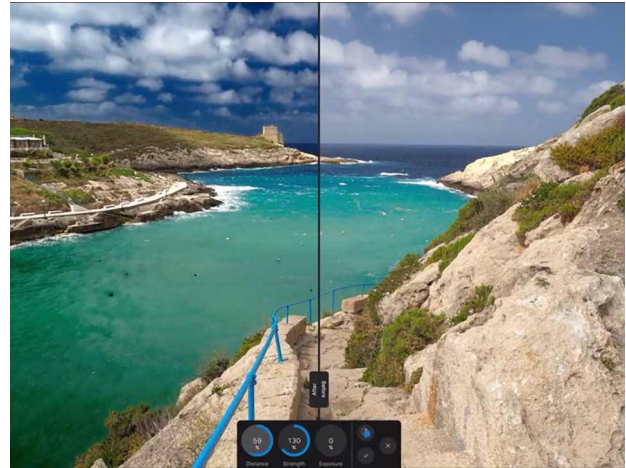
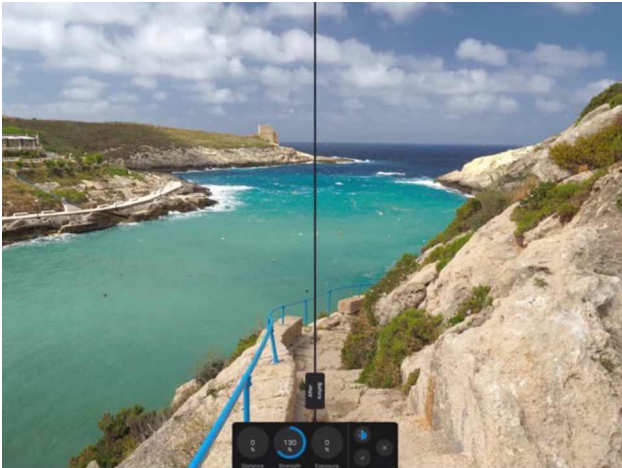
To load a 3D bump map:

1. On the context toolbar, tap **Load Texture**, navigate to, then select your image.
2. Adjust Texture to set the amount of texture displayed.

SEE ALSO:

[Using Live Filters](#)
[Applying filters](#)

Haze Removal



About the Haze Removal filter

This filter can be found in the [Filters](#) Studio.

Haze Removal can remove slight to extreme cases of haze affecting an image. Its most typical use is for landscape photography where the haze causes low contrast and low saturation, but it can also be used to improve images taken during rainy and foggy conditions.

Settings

The following settings can be adjusted on the context toolbar:

- **Distance**-controls the depth of the haze removal: moving the slider to the right removes haze towards the background of the image.
- **Strength**-specifies how strong the haze removal effect should be. More strength results in more extreme haze removal.
- **Exposure**-allows for correction of the image's exposure: use if haze removal causes underexposure or overexposure.

SEE ALSO:

[Applying filters](#)

Panoramas

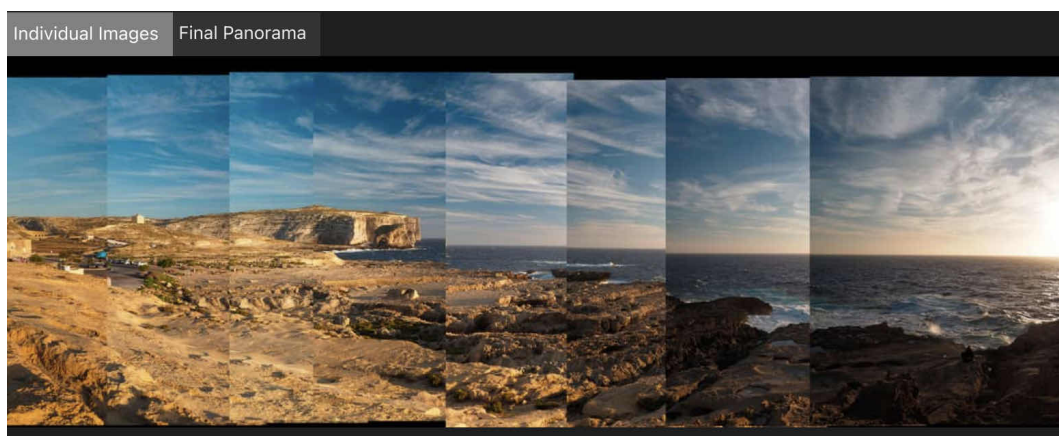
Stitching panoramas

Multiple images can be stitched together to create a wider and taller scene, referred to as a panorama. A basic requirement is that the series of images overlap horizontally or vertically.

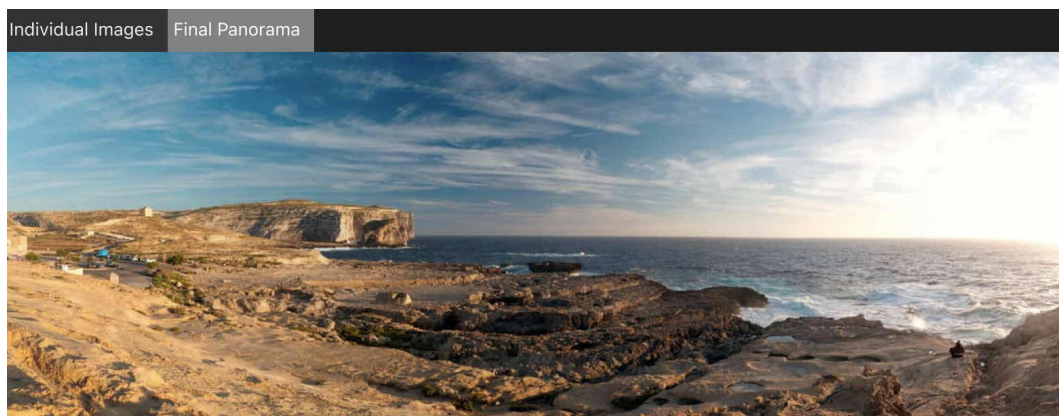
The benefits of creating a panorama are:

- Capturing a much wider view of a scene.
- Producing higher resolution images than can be achieved with just one exposure; useful for printing large images and other large size applications.

You can create multiple panoramas simultaneously from your image collection. Each detected panorama is stitched and previewed, before you create your panorama(s) by preview selection. A new document is created per panorama.



Individual Images

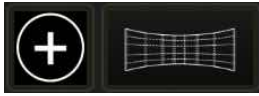


Final Panorama

Shooting tips

- Always shoot from the same vantage point for best results.
- When shooting, use visual reference points to ensure each shot will nicely overlap horizontally or vertically.

- If using an SLR camera, where possible:
 - Use either a tripod or fast shutter speeds to avoid motion blur; blurry subjects will produce poor results when stitching.
 - Keep your exposure settings (shutter speed, aperture, ISO, white balance) identical between shots to produce a consistent result.
 - Try to avoid shooting at extreme wide angles as this will introduce lens distortion. If you are using a typical zoom kit lens (eg, 18-55mm), try Zooming in to its maximum focal length.



To stitch one or more panoramas:

1. From Affinity Photo's Home screen, tap the **plus** icon.
2. Choose **New Panorama**.
3. From the dialog, tap either the **Cloud** or **Photos** icon to locate your images.
4. (Optional) If you are using **Photos** to import images, tap **Select** at the top right to enable multiple selections. This means you can quickly select multiple images and add them all at once.
5. (Optional) If you have images you do not wish to include, you can disable them from the image list.
6. Select **Stitch** to stitch images together. One or more previews are generated in the adjacent Panoramas window.
7. (Optional) For multiple panoramas, select the panorama you want to create by selecting its preview thumbnail.
8. Tap **OK** (this may take time depending on number of images and their complexity).

You may need to fine-tune your panorama using masking and transforming techniques (see [Editing panoramas](#)) before removing unwanted transparent regions using cropping or inpainting.

Alternatively to steps 1 through to 4, you can share two or more images from your library in Apple's Photos app to Affinity Photo's New Panorama dialog. The first time you do this, tap **More** at the far right of the Share sheet's available actions, turn on the switch next to Stitch Panorama and tap **Done** to make this action available for use. Tap the action and follow from step 5 above.



To finish your panorama:

Do one of the following:

- Select the **Crop Tool**, and from the **Commands** Menu, select **Crop to opaque**.

SEE ALSO:

[Editing panoramas](#)
[Image stacks](#)

Editing panoramas

If panorama stitching yields alignment errors or you simply require more control over how each image is stitched, you can further edit the panorama between the initial stitching and the final result.

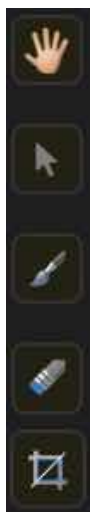
To edit a panorama:

1. Create a new panorama following the instructions listed in [Stitching panoramas](#).
2. When the initial stitching is complete, the panorama will be opened with a selection of tools available



3. To correct alignment, use the **Transform** Tool and drag the corner handle of any image to transform it. You can also drag from the image centre to alter the image's position.
4. For more detailed editing, use the **Brush** Tool to paint in areas that you want to use from the stack's surrounding images. Use the **Erase** Tool to remove areas.
5. Make your edits accordingly, then select **Apply** and the final panorama will be rendered.

Panorama editing tools:



View Tool-move across the panorama by tap-dragging.

Transform Tool-manipulate the corners of each stitched image to manually align them

Brush Tool-add an area to the current image mask that will reference the surrounding stacks.

Erase Tool-erase an area from the current image mask; this will use the original image's data rather than referencing from the surrounding stacks.

Crop Tool-crop the panorama to remove transparent areas.

On the **Commands** Menu, use **Crop to bounds** or **Crop to opaque** to crop to the panorama's bounding box or remove any unwanted transparent regions at the image edge, respectively.

When using Brush and Erase tools, tap on the correct stack image first to select it. Unused areas of a stack image are covered in a transparent overlay.

SEE ALSO:

[Stitching panoramas](#)

HDR

32-bit HDR editing

Affinity Photo has full support for 32-bit float editing, including import/export for OpenEXR and Radiance formats. Compared to 8-bit or 16-bit, 32-bit presents an unbounded colour space that can contain a vast amount of tonal information. This means the information can be modified to extremes without losing fidelity or accuracy. For example, highlight detail blown out by an adjustment or filter can be recovered even after successive operations.

Uses for 32-bit HDR

Popular uses for 32-bit editing include:

- HDR merging from several exposures to produce an image with greatly increased dynamic range. The result typically has to be tone mapped in order to be viewed properly on most displays.
- 3D render editing. Full renders and buffer passes from 3D software and 3D engines can be professionally colour managed and edited losslessly.

General image editing and design work with increased precision. Useful for fine gradient work, heavy tonal manipulations and Composite work.



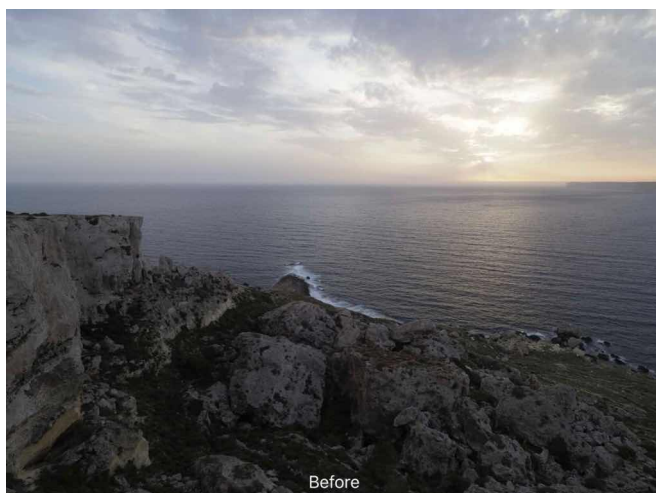
*If you are using 32-bit editing for lossless workflows (e.g, 3D compositing/rendering) where you are not compressing or modifying the tonal range, the 32-bit preview options present when the **Move** Tool is selected allow you to preview different areas of the large 32-bit tonal range. The added functionality of [OpenColorIO](#) can be accessed as part of these options.*



Photo supports multi-layered (multichannel) OpenEXR documents. For more information, see [32-bit OpenEXR support](#).

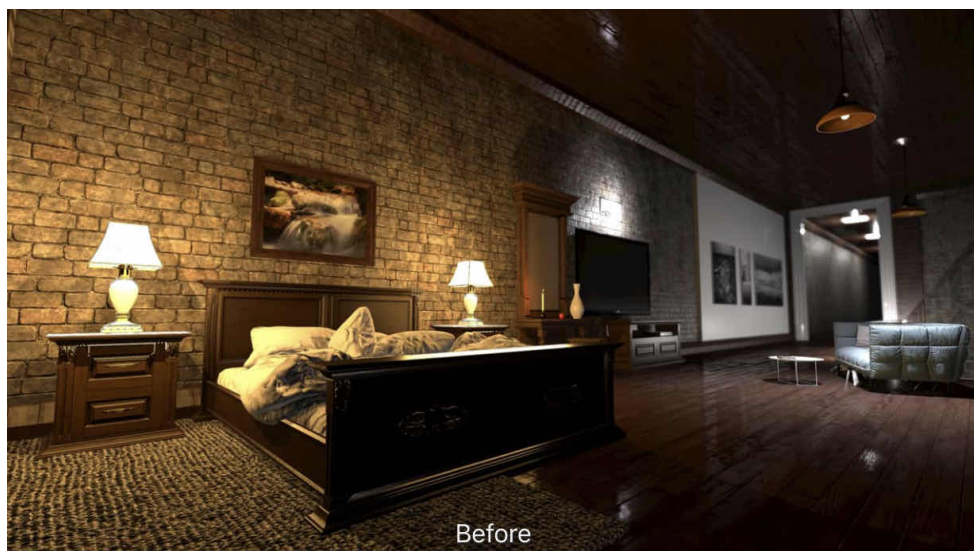
Examples

Exposure merging for greater dynamic range:

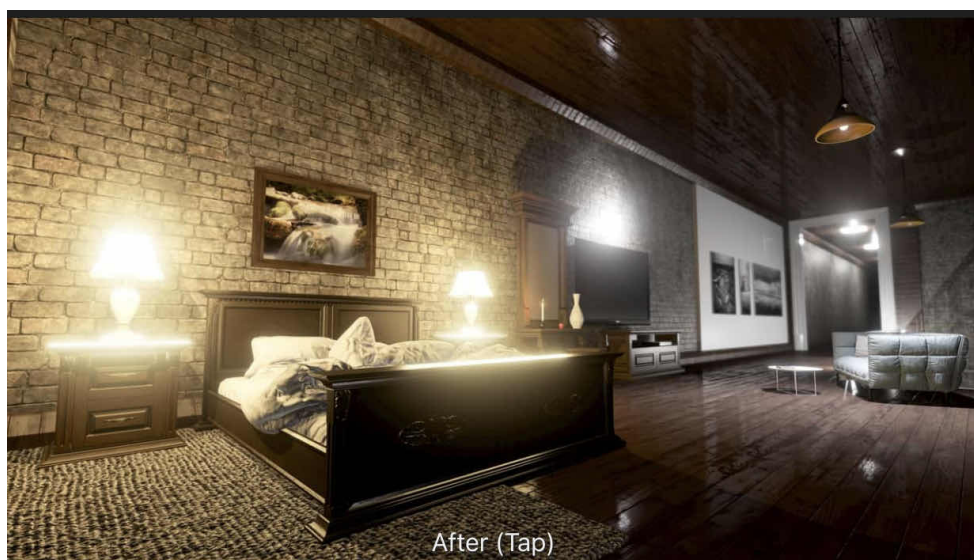


Before: Single exposure from camera. After: 7 bracketed exposures merged and lightly tone mapped.

3D render passes:



Before: Base HDR colour render pass of a 3D scene.



After: Base HDR colour tone mapped and blended with scene colour pass.

SEE ALSO:

[Merging to 32-bit HDR](#)
[Tone Mapping HDR images](#)

Merging to 32-bit HDR

Multiple exposures of the same subject can be merged to produce an unbounded 32-bit document, which contains a significant amount of tonal range-more, in fact, than most displays outside of specialised equipment can reproduce. The resulting 32-bit image can then be edited with Photo's extensive set of tools, adjustments and filters, or it can be tone mapped in order to map the extensive 32-bit tonal range to a result that looks suitable for most displays.



To HDR merge several images:

1. From Affinity Photo's Home screen, tap the **plus** icon.
2. Choose **New HDR Merge**.
3. From the dialog, tap either the **Cloud** or **Photos** icon to locate your images.
4. (Optional) If you are using **Photos** to import images, tap **Select** at the top right to enable multiple selections. This means you can quickly select multiple images and add them all at once.
5. (Optional) Toggle **Align source images** if your bracketed images were shot handheld.
6. (Optional) Additionally, toggle **Perspective alignment** for less destructive alignment (more image resolution will be retained). This method of alignment may not work if the images are too far apart positionally.
7. Toggle **Noise reduction** to prevent reduction and removal of random luminance and/or colour pixels on merging.
8. Keep **Tone map HDR image** enabled to tone map the merge results in the **Tone Mapping Persona** as a subsequent step.
9. Choose **OK** to begin merging the images. The HDR merging is previewed in stages: first, the image alignment, then the HDR merge itself.

With **Tone map HDR image** disabled you will be in the **Photo Persona** once the merge is complete to make further edits. If you want to go tone mapping at a later date, you can move to the Tone Mapping Persona. See [Tone Mapping HDR images](#) for more information.

Alternatively to steps 1 through to 4, you can share two or more images from your library in Apple's Photos app to Affinity Photo's New HDR Merge dialog. The first time you do this, tap **More** at the far right of the Share sheet's available actions, turn on the switch next to HDR Merge and tap **Done** to make this action available for use. Tap the action and follow from step 5 above.

Below you will see a 32-bit image being displayed as 8-bit with no tone mapping or further tonal adjustments applied. 32-bit simply contains too much tonal range to display, so we typically apply a procedure called Tone Mapping to map that tonal information to a range that can be displayed accurately. See the topic [Tone Mapping HDR images](#) for more information.



Before: A 32-bit image with no tone mapping-the range of 32-bit is too great to display. Instead we see an image with extreme contrast.



After: A 32-bit image after being tone mapped. The vast range of tonal information has been "mapped" to a range that can be reproduced by most displays.

Once work on a 32-bit image is completed, you may need to convert its colour format and, crucial, its colour profile if you intend to distribute or share it. For example, you might want to export as an 8-bit JPEG with an sRGB colour profile.

Alternatively, if you are maintaining a lossless workflow, you can stay in 32-bit and export to a linear unbounded format.



To convert the colour format and profile before export:

1. From the **Document** Menu, select **Convert Document** and choose your desired format; for example, RGB 8-bit.
2. A colour profile will be automatically assigned: for RGB8-bit/16-bit documents, this will be sRGB IEC61966-2.1.



To maintain a 32-bit workflow for importing into other software:

1. From the **Document** Menu, select **Export**.
2. Choose the **EXR** format, then specify a filename before exporting.

SEE ALSO:

[Tone Mapping HDR images](#)
[32-bit HDR editing](#)

Tone Mapping HDR images

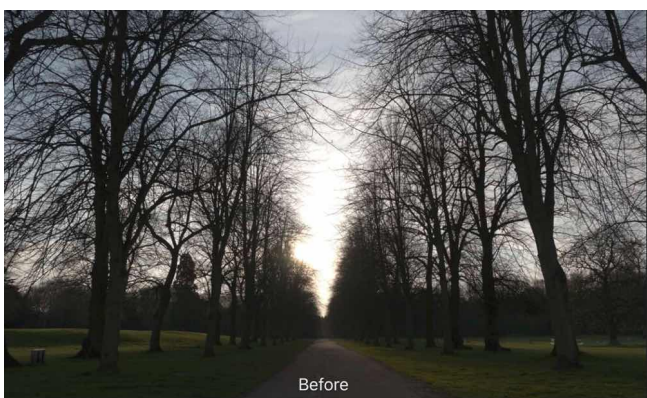
Tone Mapping is the process of taking a range of tones and remapping them to a smaller range that most displays and other devices can accurately reproduce



A tone mapped 32-bit image.

To tone map an HDR image:

1. With an HDR document open, select a **pixel layer** and then choose the **Tone Mapping Persona**.
2. Once in the Tone Mapping Persona, your image will have a default tone map applied to it.
3. Experiment with the adjustments in the **Basics** Studio. See below for a list of options.
4. On the bottom toolbar, choose **Apply**.



Before/after of a tone mapped image.



Presets

The Tone Mapping Persona contains a number of presets that appear in the Presets Studio. Simply tap one to apply it. You can also create your own presets

Settings

The following settings are available in the Basics Studio:

- **Local Contrast**-adds or removes local contrast. Increasing local contrast helps to boost clarity in the image.
- **Tone Compression**-controls how much of the unbounded tonal range to map. Increasing the slider results in more tone compression.
- **Exposure**-raises or lowers the overall exposure.
- **Black Point**-sets the black clipping level. increase to further clip black tones.
- **Brightness**-controls mid tone levels. Increase to raise mid tones
- **Contrast**-controls global contrast. Use in conjunction with Clarity to significantly change the tone mapped look.
- **Saturation**-adds or decreases overall colour intensity.
- **Vibrance**-adds or decreases colour intensity without clipping colour tones.
- **White Balance**-changes the balance of colour tones. Tones can be made cooler or warmer by dragging the Temperature slider, and colour casts can be corrected using the Tint slider.
- **Shadows & Highlights**-controls compression of shadow and highlight tones. Useful for fine tuning tones.
- **Detail Refinement**-controls additional sharpening to the image. Its effects are more subtle compared to the Detail Refinement found in the Develop Persona. For a "gritty", over-sharpened effect, try a large Radius value and small Amount value.
- **Curves**-allows adjustment of tonal range using a curves graph.



Tone Mapping non-HDR images

The Tone Mapping Persona can also be entered from non 32-bit documents, which means you can achieve a tone mapped look from any 8 or 16-bit imagery.

SEE ALSO:

[Merging to 32-bit HDR](#)
[32-bit HDR editing](#)

Using OpenColorIO

In addition to 32-bit editing support, Affinity Photo also implements OpenColorIO; a colour management system that provides a full colour-managed workflow. It is predominantly used for motion picture production but can be used for any situation where accurate end-to-end colour management is required.

Setting up OpenColorIO

By default, Photo's OpenColorIO features are not immediately usable. An .ocio configuration file is required alongside a number of supporting files such as lookup tables.

The OpenColorIO website (<http://www.opencolorio.org>) contains some sample configurations that provide a number of suitable input and output profiles, including several Academy Colour (ACES) configurations.

To configure OpenColorIO in Photo:

1. On a desktop operating system, download and extract your chosen OpenColorIO configuration to a cloud storage folder, typically your connected iCloud Drive.
2. Rename the OCIO folder on your cloud storage and add an ".ocio" extension - on macOS this will convert the folder to a package. For example, a sample configuration with the new extension might be "**aces_1.0.3.ocio**".
3. Within **Affinity Photo**, access the **Preferences** from the welcome screen and navigate to **Colour**.
4. Select **Choose OCIO Package**, then navigate to the ocio file on your cloud storage and select it.
5. The package will then download. Once the download is completed, quit Affinity Photo and restart it.
6. OpenColorIO will now be configured. Open any 32-bit document to see additional viewing options.



Please note that the nominated OCIO folder must be on cloud storage before adding the "ocio" extension; this ensures it will be converted to a package file.

Using OpenColorIO

OpenColorIO is exposed in Affinity Photo through two methods:

- The **View Tool** will contain additional preview options that only become available with a valid OpenColorIO configuration. These can be used to achieve a non-destructive, colour managed workflow.
- An **OCIO** adjustment layer (see [OCIO Adjustment](#)) can be added to losslessly convert between colour spaces. You can have multiple OCIO adjustment layers within a document, which allows you to accommodate composite layers from different colour spaces. An example layer stack might be (in hierarchical order):
 - **OCIO Adjustment**-from **Utility- Linear- sRGB** back to **Role -scene_linear**
 - **sRGB Pixel Layer-composite element**
 - **OCIO Adjustment**-from **Role -scene_linear** to **Utility- Linear - sRGB**
 - **Pixel Layer**-original layer

SEE ALSO:

[OCIO Adjustment](#)

32-bit OpenEXR Support

Affinity Photo has full OpenEXR 32-bit document support, including multichannel (or "multilayer") import and export.

OpenColorIO Integration

With an OpenColorIO configuration (see [OpenColorIO](#) for more information), OpenEXR documents with a valid colour space affix (eg filename_acescg.exr) will be converted from that colour space to scene_linear upon import.

Additional configuration

Additional OpenEXR options are available from the Colour options on the Preferences menu:

- **Associate OpenEXR alpha channels**-when enabled, alpha channel information is merged to its associated RG8 pixel layer's alpha channel. By default (disabled), imported alpha channels are imported as separate layers with an **.A** affix.
- **Post divide EXR colours by alpha**-when enabled, divides colour channels by the alpha channel.
- **Perturb zero EXR alpha**-when enabled, alters zero alpha information so post-division with colour channel information can be achieved if **Post divide EXR colours by alpha** is enabled. By default (disabled), zero alpha information is left untouched.

Multichannel import/export

Photo supports multichannel OpenEXR documents for both import and export.

Multichannel import:

- Each channel is imported to a discrete layer in the Layers Studio.
- Each layer retains its affix (e.g, **.RGBA**, **.XYZ**).
- Layers can be hidden or shown and edited individually.

Multichannel export:

- Each discrete layer with its channel affix (e.g, **.RGBA**) is exported to its own channel.
- All layers are exported to channels regardless of whether they are hidden or shown at the time of export.
- In order to export as multichannel OpenEXR, either the correct preset must be chosen, or the multichannel setting must be enabled on the OpenEXR export dialog. See below for more information.



To export a multichannel OpenEXR document:

1. From the **Document** Menu, choose **Export**.
2. Select the **EXR export format**.
3. From the **Preset** dropdown, select **OpenEXR 32-bit linear** (layered).
4. (Optional) Configure additional settings:
 - **Compression**-determine a compression format to use for a reduced file size. Compression may also be disabled entirely.
 - **Spatial Pixels**-choose whether to encode Spatial channels (XYZ etc) as 16-bit (half float) or 32-bit (full float).
 - **Other Pixels**-choose whether to encode other/undetermined channels as 16-bit (half float) or 32-bit (full float).
 - **Multichannel**-enables multi-channel (layered) export.

- **Image Pixels**-choose whether to encode Image channels (RGCBA etc) as 16-bit (half float) or 32-bit (full float).
 - **Colour profile from name**-converts to the given colourspace name on export (eg filename **aces.exr**). Requires a valid [OpenColorIO](#) configuration.
 - **Include unknown channels**-channels whose type cannot be determined will still be exported as a single luminance-based channel.
5. Choose **Export** to export the document to a chosen filename and directory.

SEE ALSO:

[32-bit HDR editing](#)

Stacking and Focus Merging

Image stacks

Non-destructive image stacks blend together a series of images based on the same scene or almost identical subject matter.

Visual differences between images in the series can then be removed, composited together, or used for creative effects.

Stacking of raw images is possible.

About image stacks

Use image stacks for:

- **Exposure merging:** Merging images of varying exposures.
- **Object Removal:** Use a series of images to blend out unwanted subject matter from a specific image in an image set.
- **Noise reduction:** Blend together multiple shots of the same subject and average out the noise.
- **Creative effects:** Simulate long exposure imagery and combine bright subjects (e.g, fireworks) for a composite effect.

About stack operators

A choice of operators can be applied to your stack depending on what you want to achieve.

Median can be used for most blending operations such as object removal, exposure merging (exposure blending) and noise reduction.



Stack operators include:

- **Mean**-averages pixel content across the stack of images. Good for long exposure simulation and noise reduction.
- **Median**-removes pixel content that is not consistent in each image. Suitable for object removal and noise reduction.
- **Maximum**-uses the maximum pixel values from each image. Can be used for creative exposure blending where the subject is lighter than the background.
- **Minimum**-uses the minimum pixel values from each image. Suitable for exposure blending where the subject is darker than the background.
- **Range**-indicates areas that change across the image stack. Good for analysing what has changed between each image.
- **Mid-Range**-uses the middle pixel values from each image. Can be used to increase tonal range if used with bracketed exposures.
- **Total**-produces the total value of pixels from each image. Usually results in overexposure, but can be used to lighten very underexposed imagery.
- **Standard Deviation**-analytical: measures the distribution of information between the images. Useful for object removal as it clearly indicates areas that will be averaged out with a Median operator.
- **Variance**-analytical: as Standard Deviation, indicates how pixel values are spread between images. More intense distributions are shown very clearly.
- **Skewness**-analytical: highlights edge detail and indicates the intensity of pixel value distribution.
- **Kurtosis**-analytical: detects the peakedness of an image. A brighter result represents low noise levels and a tonal uniformity (most pixels at dominant grey level). Darker results represent greater noise and less tonal uniformity (more pixels further away from dominant grey level).
- **Entropy**-analytical: represents the number of bits required to encode information in the stack. Could be used with stacked video frames (within the same scene or shot).



To create a stack:

1. From Affinity Photo's Home screen, tap the **plus** icon.
2. Choose **New Stack**.
3. From the dialog, tap either the **Cloud** or **Photos** icon to locate your images (raw images can be used).
4. (Optional) If you are using **Photos** to import images, tap **Select** at the top right to enable multiple selections. This means you can quickly select multiple images and add them all at once.
5. Check **Align source images** if your images were shot handheld, or if there is a slight variance in positioning between images.
6. Toggle **Perspective alignment** to align images using perspective operations instead of rotation, translation and scaling. Perspective alignment may result in slightly more edge detail.
7. Toggle **Live alignment** to allow the above alignment to be made non-destructively (this may affect performance depending on size and number of images to be stacked).
8. Choose **OK**.

Your images are blended and presented in a **Live Stack Group** in the **Layers** Studio. You can manually align layers if auto-alignment isn't 100% accurate.



Once stacked, you may notice 'checkerboard' transparency at the very edge of your stack group. This is an intentional result of auto-alignment and can be either cropped away or, if you're merging the stack image layers together, inpainted out instead.



To change stack operator:

1. On the **Layers** Studio, you can find the stack operator on the layer properties dialog. The default operator is **Median**.
2. From the pop-up menu, select a stack operator suited to the type of photos you are stacking (see above). The icon will change depending on the operator selected.



Once you've applied a stack operator, the image layers in the stack shouldn't require manipulation (of opacity, blend modes, blend ranges, etc.) except for possible re-alignment (if auto alignment was not satisfactory). However, depending on image content you may need to apply additional adjustments to the stack or mask some areas for best results.

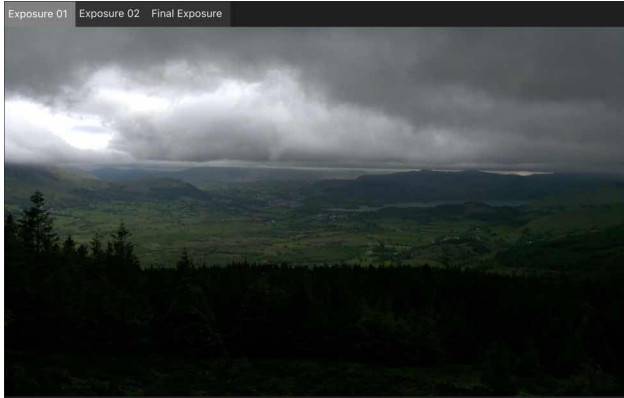
SEE ALSO:

[Object removal using stacks](#)
[Exposure merging using stacks](#)
[Noise reduction using stacks](#)
[Creative effects using stacks](#)

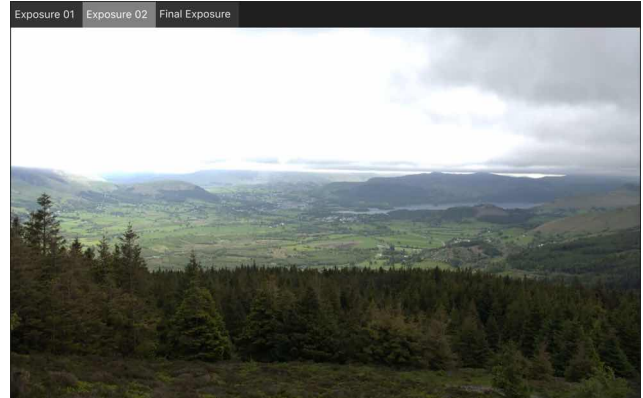
Exposure merging using stacks

Exposure merging brings together images deliberately shot at different exposure levels to produce an image of a higher dynamic range. Such an approach is likely when areas in your shot are in high contrast and you'd like to bring together differently exposed areas as a solution.

Not to be confused with HDR merge, exposure merging composites images without creating an HDR image or applying HDR tone mapping, producing quicker and often more natural results.

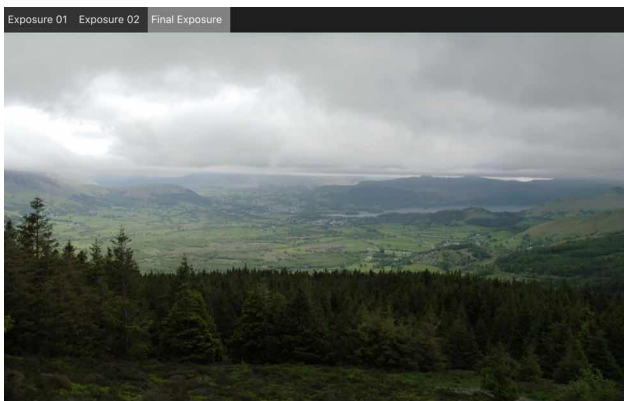


Exposure 01



Exposure 02

Final Exposure



Shooting tips

Here are a few things to consider when shooting:

- To allow for perfect image alignment, use a tripod or ensure your camera is in a fixed position.
- Ensure enough photos have been taken to cover the full dynamic range required from the scene.
- If available, you can take advantage of your camera's auto bracketing feature to obtain photos at multiple exposure levels.
- Take advantage of continuous shooting modes to automatically capture your images.
- Avoid flash

To create an exposure merging stack:

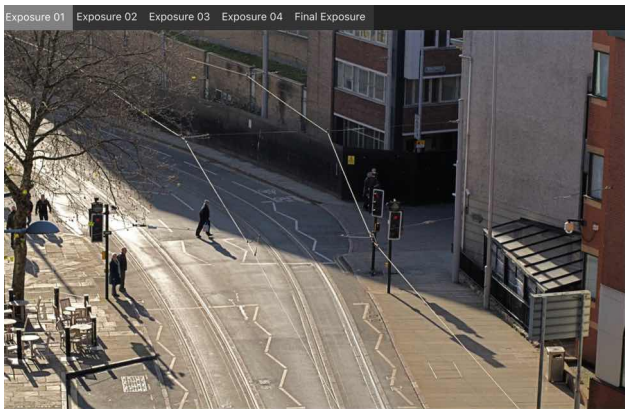
1. When creating a new document, select **New Stack**.
2. From the dialog, choose **Add** to locate and select your images (raw images can be used).
3. Choose **OK** to begin stacking the images.
4. On the **Layers** Studio, select the **Mean** or **Mid-Range** stack operator from the Stack Operator pop-up menu on the Live Stack Group layer.

SEE ALSO:

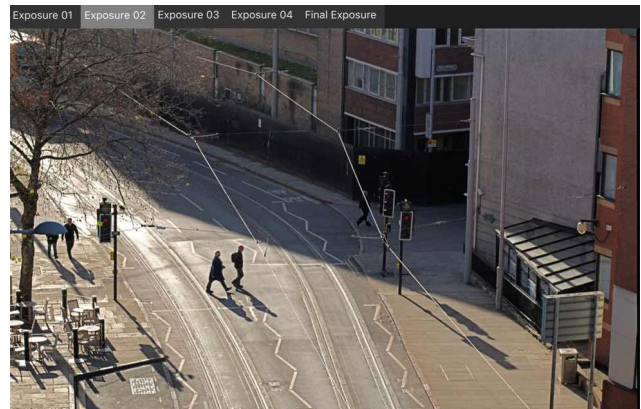
[Image stacks](#)
[Object removal using stacks](#)
[Noise reduction using stacks](#)
[Creative effects using stacks](#)
[Layer masking](#)

Object removal using stacks

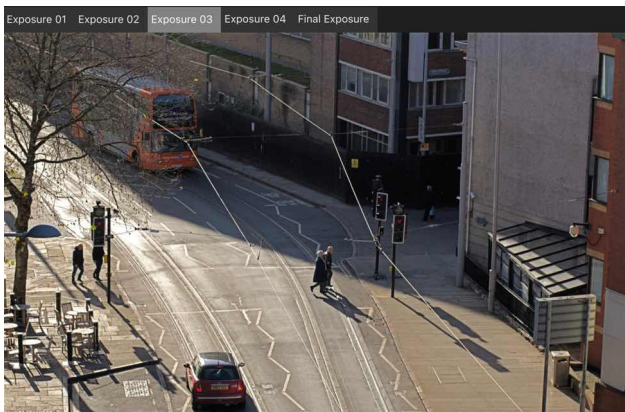
Object removal solves the problem of moving subject matter being included in your images-think of passing crowds, vehicles, birds flying, or other annoying distractions. Obviously, a single shot taken at a specific time may be the perfect solution but it may not be practical or possible to wait for this.



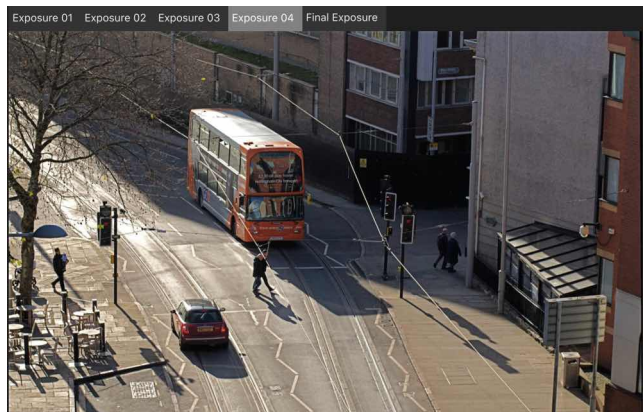
Exposure 01



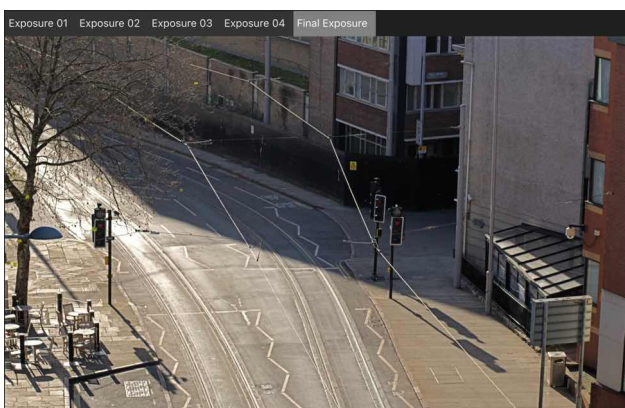
Exposure 02



Exposure 03



Exposure 04



Final Exposure

Shooting tips

- To allow for perfect image alignment, use a tripod or ensure your camera is in a fixed position.
- Take a pragmatic approach and be realistic. Scenes full of moving objects cannot be completely emptied, nor will stationary objects magically disappear (but can be made to using the Inpainting Brush tool later!).



To create an object removal stack:

1. When creating a new document, select **New Stack**.
2. From the dialog, choose **Add** to locate and select your images (raw images can be used).
3. Choose **OK** to begin stacking the images
4. On the **Layers** Studio, select the **Median** stack operator from the Stack operator pop-up menu on the Live Stack Group layer.

Be prepared to selectively retouch images in your stack if ghosting occurs. This may be due to the same or different objects overlapping in more than one image. To resolve, add a mask to your problem image in the stack (hide/show each image layer to locate the ghosting effect).

SEE ALSO:

[Image stacks](#)

[Exposure merging using stacks](#)

[Noise reduction using stacks](#)

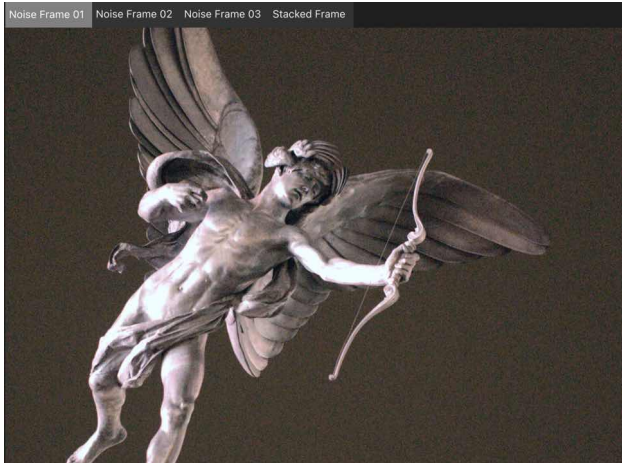
[Creative effects using stacks](#)

[Layer masking](#)

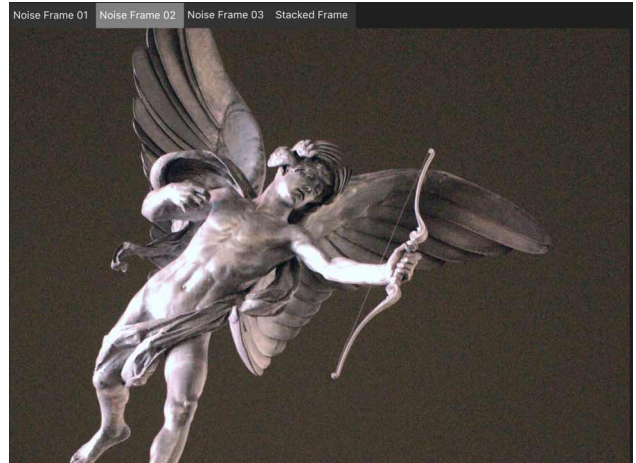
Noise reduction using stacks

Noise Reduction with stacking allows you to improve the SNR (Signal to Noise ratio) of your imagery by stacking together multiple shots of the same subject and "averaging" out the noise. Since the subject remains consistent from shot to shot but noise is random, it can be removed efficiently without compromising the clarity of the subject.

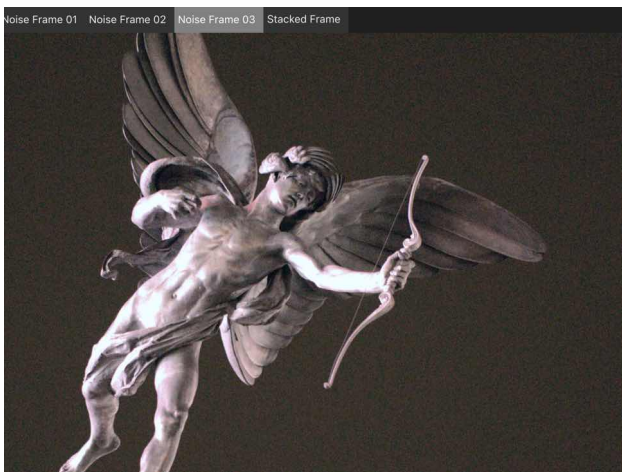
This technique is beneficial for static scenes, especially in low light photography where noise is often unavoidable, either due to high ISO values or long exposures.



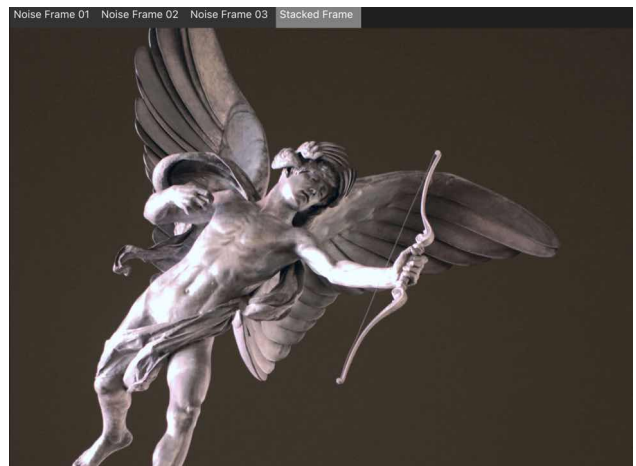
Noise Frame 01



Noise Frame 02



Noise Frame 03



Stacked Frame

Shooting tips

Here are a few things to consider when shooting.

- To help image alignment, use a tripod or ensure your camera is in a fixed position.
- The higher the ISO value you shoot at, the greater the number of shots you will need to effectively reduce the noise.
- If shooting handheld, use a high speed burst mode if available for the best framing consistency between shots.
- Try and use a fixed white balance to avoid large differences in tone between the shots.



To create a noise reduction stack:

1. When creating a new document, select **New Stack**.
2. From the dialog, choose **Add** to locate and select your images (raw images can be used).
3. Choose **OK** to begin stacking the images.
4. On the **Layers** Studio, select either the **Median** or **Mean** stack operator from the Stack Operator pop-up menu on the Live Stack Group layer. Results between each mode may vary: try both and see which you prefer.

SEE ALSO:

[Image stacks](#)

[Object removal using stacks](#)

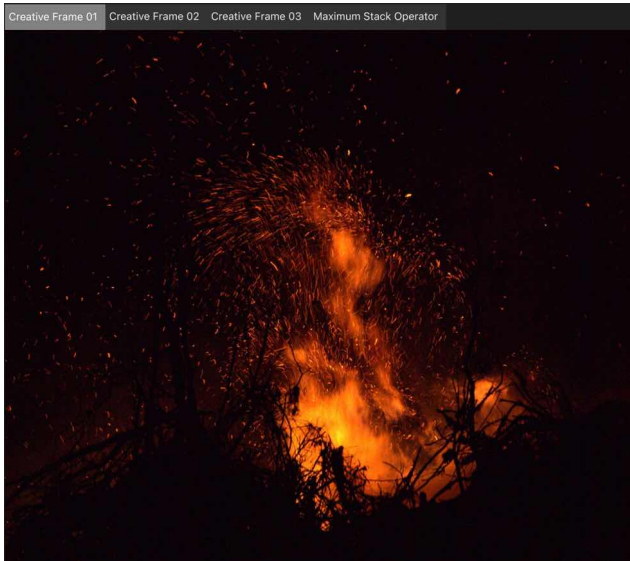
[Exposure merging using stacks](#)

[Creative effects using stacks](#)

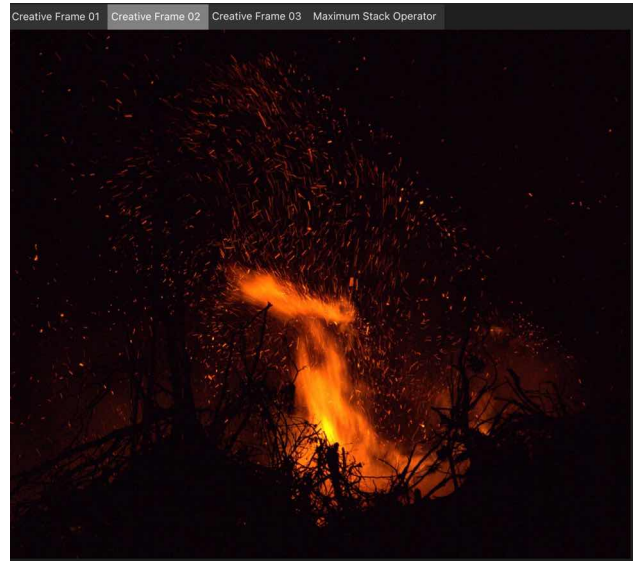
[Layer masking](#)

Creative effects using stacks

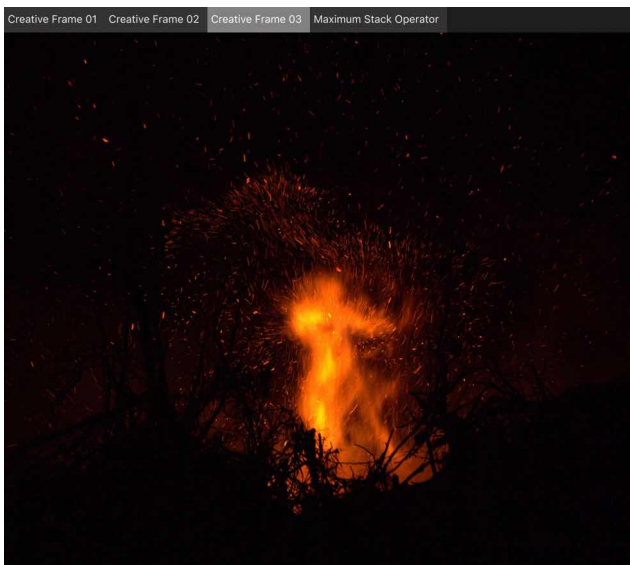
Stacking can be used for more individual, creative effects that require specific image content to achieve.



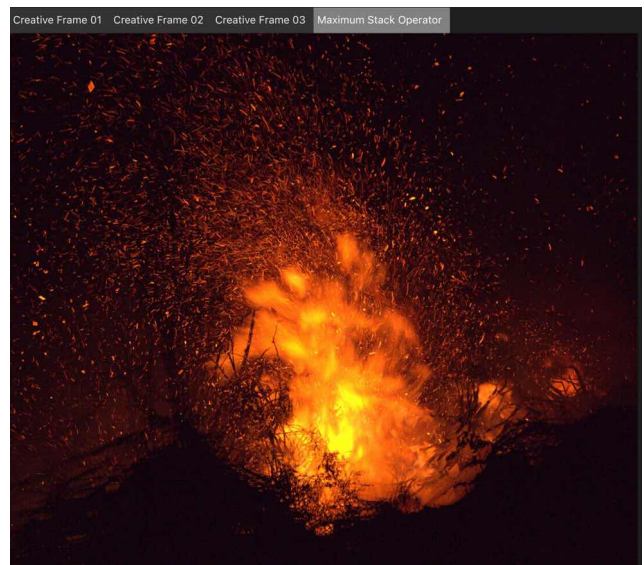
Creative Frame 01



Creative Frame 02



Creative Frame 03



Maximum Stack Operator

Shooting tips

- Here are a few things to consider when shooting
- To help image alignment (if you are using i), use a tripod or ensure your camera is in a fixed position.
- Try and use a fixed white balance to avoid large differences in tone between the shots.

To create a stack:

1. When creating a new document, select **New Stack**.
2. From the dialog, choose **Add** to locate and select your images (raw images can be used).
3. Choose **OK** to begin stacking the images.
4. On the **Layers** Studio, experiment with the Stack Operator. **Median** is selected by default, but try **Maximum** and **Range** in particular for more creative effects.

SEE ALSO:

[Image stacks](#)

[Object removal using stacks](#)

[Exposure merging using stacks](#)

[Noise Reduction using stacks](#)

[Layer masking](#)

Focus merging images

Multiple images of the same subject that have different focus distances can be merged together to create an image that has a greater depth of field. Focus merging will take the most detailed areas from each image (e.g, the areas in focus) and blend them together for the final output.



Before: One image with shallow depth of field. After: 50 images focus merged to produce image with greater depth of field.

Shooting tips

- For best alignment, the images will want to be acquired with the camera on a tripod or some form of stabilisation.
- Keep your exposure settings (shutter speed, aperture, ISO, white balance) identical between shots to produce a consistent result.
- Some cameras have a focus bracketing feature, which takes a burst of shots, changing the focus distance for each shot.
- Your focus differential (how much the focus changes between each shot) should depend on the type of photography. Macro photography will typically need a narrower differential, and more shots, to ensure front-to-back sharpness. Landscape or wide-angle photography can have a wider differential and fewer shots (e.g, shots focused at foreground, hyper-focal and infinity distances).

Benefits of focus merging

The benefits are:

- Increased depth of field for macro photography whilst being able to use larger apertures. This avoids having to use smaller apertures (eg, f/16) where diffraction may become an issue and produce a soft image.
- Ensuring front-to-back sharpness with landscape photography. While hyper-focal distances typically result in a large area of the scene being in focus, focus merging can be used for more difficult scenarios, such as elements close to the lens that may not be covered by the hyper-focal distance.



To focus merge several images:

1. From Affinity Photo's **Home** screen, tap the **plus** icon.
2. Choose **New Focus Merge**.
3. From the dialog, tap either the **Cloud** or **Photos** icon to locate your images (includes raw images)
4. (Optional) If you are using Photos to import images, tap **Select** at the top right to enable multiple selections. This means you can quickly select multiple images and add them all at once.
5. Tap **OK** to begin merging the images.

The focus merging is previewed in its three stages: initial alignment, image blending, and final merging. Once focus merging is complete, the final result can be seen as a new document, ready to edit.

Alternatively to steps 1 through to 4, you can share two or more images from your library in Apple's Photos app to Affinity Photo's New Focus Merge dialog. The first time you do this, tap **More** at the far right of the Share sheet's available actions, turn on the switch next to Focus Merge and tap **Done** to make this action available for use. Tap the action and follow from step 5 above.

SEE ALSO:

[Image stacks](#)

Live Projection

Equirectangular projection



Before: Unmapped equirectangular image (360x180). After: Projected image.

Equirectangular images, typically 360x180 panoramas, can be mapped to a live projection in Affinity Photo and edited whilst they are being projected. This allows for instant feedback of detailed retouching, brush work and masking-all operations that would be difficult on an unmapped equirectangular image.



360x180 imagery is often obtained either from dedicated 360 cameras, or by stitching a series of shots together using dedicated 360 stitching software.



To edit an equirectangular image in live projection:

1. With an equirectangular image layer selected, from the **Commands** Menu, choose **Projections>Equirectangular Projection**.
2. The image layer will then enter live projection.
3. Tap and drag to navigate around the image until you settle on an area you wish to edit.
4. Using the appropriate tools, make your edits.



To pan around an image in live projection

1. If you choose another tool when panning in live projection, you will temporarily leave live projection.
2. To pan around the image again:
 - From the **Commands** Menu, choose **Projections>Equirectangular Projection**.



To add additional layers in live projection view:

1. Whilst in live projection view, you can add content to the projected image such as text, images and brush work on new layers.
2. Add your new layer content. For example, you could add some Text at the Nadir (bottom pole) with a copyright notice.
3. Position and rotate the layer as you wish using the **Move Tool**. You can also match perspective by using the **Perspective Tool**.
4. With the new layer selected, from the **Commands** Menu, choose **Merge>Merge Down**. This will merge and rasterise the layer into the main equirectangular image layer.

5. Once the content is merged, you can pan around the live projection by moving to the **Commands** Menu, choose **Projections>Equirectangular Projection**.



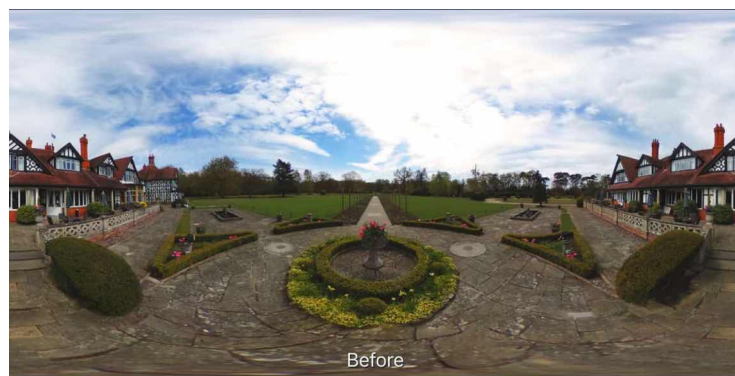
To exit live projection and convert the image back to equirectangular mapping:

1. Converting your image layer back to its original equirectangular mapping will allow you to export and share it-some image hosts support 360 image projection, or alternatively you can implement a **Javascript/WebGL**-based viewer on your own web pages if you wish.
2. To clear the live projection, select your image layer, then from the **Commands** Menu, choose **Projections>Clear Projection**.

Examples



Removing the tripod at the Nadir (bottom pole) using the Inpainting Brush.



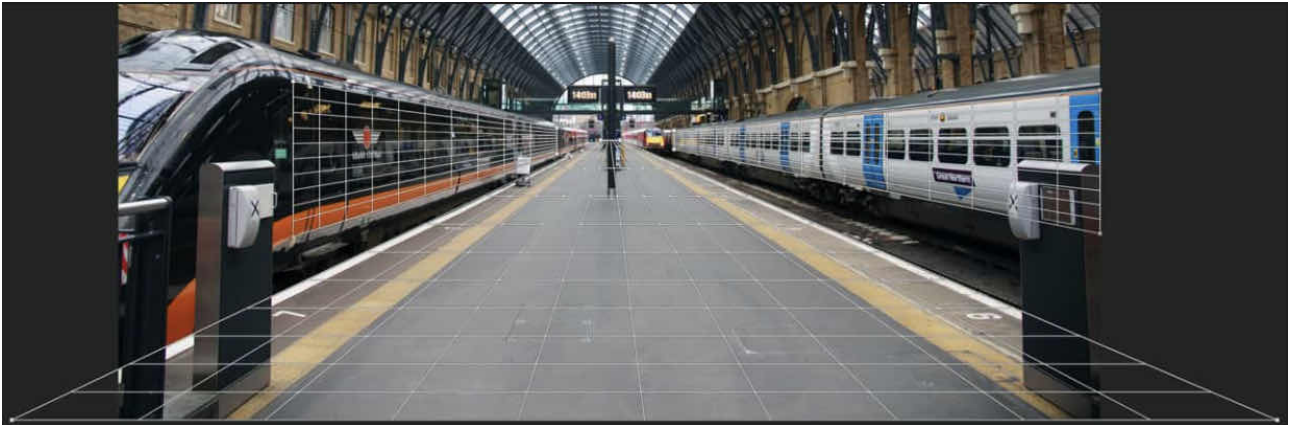
Before: The original equirectangular image.



After: Using live projection to compose a scene from a certain area of the 360 image.

Perspective projection

Perspective projection allows you to project (or map) perspective planes to flat 2D representations and edit them.



Editing multiple planes in Perspective projection.

After adding a perspective plane, you can temporarily remove perspective. This lets you apply texture, text, and brush strokes in 2D without having to manually transform the content to maintain perspective. Once edited, and the projection is removed, the added edits are transformed automatically ensuring that perspective is kept realistic.

Multiple planes can be defined-each one can be edited individually.



To use Perspective projection:

1. With an image open, from the **Commands** Menu, choose **Projections>Perspective Projection**.
2. An initial perspective plane will be added covering the image. Drag the four corner nodes to align the plane to a particular area within the image (e.g, vanishing point).
3. Select any tool, adjustment or filter to automatically project the plane to a flat 2D canvas.
4. Using the appropriate tools, make your edits.
5. Once finished with the chosen perspective plane, from the **Commands** Menu, choose **Projections> Perspective Projection**.

To add additional perspective planes:

1. Whilst in the **Edit Live Projection** mode, from the context toolbar, choose **Add Plane**.
2. Transform the second plane using its corner nodes.
3. Select between multiple planes by tapping anywhere on them.

To remove perspective planes:

1. Whilst in the **Edit Live Projection** mode, tap on a plane to select it.
2. From the context toolbar, choose **Remove Plane**.



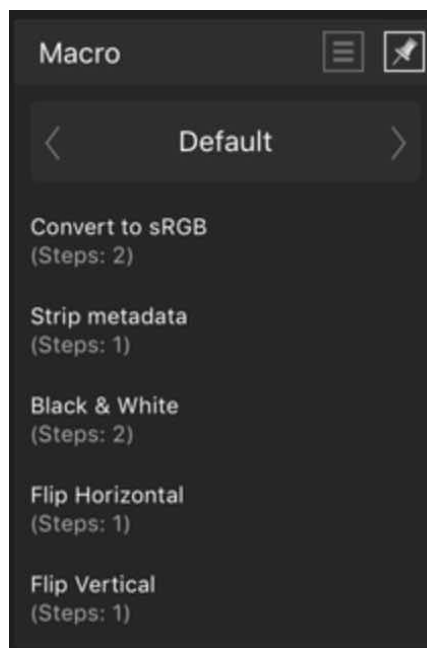
To exit Live Perspective projection:

- At any time during Perspective projection editing, from the **Commands** Menu, choose **Projections> Clear Projection**.

Macros

Macros

Affinity Photo supports an intuitive macro playback feature available from the Macro Studio. Multiple operations can be played back sequentially as one action. You can download and import the free Force Macro Pack, containing light effects, image styles and distortions, from affin.co/macropack. These are perfect for both Affinity Photo Desktop and iPad versions.



The Macro Studio.

To playback a macro:

1. Display the **Macro** Studio.
2. (Optional) Navigate to a category from the top of the Studio (e.g, if you've imported macros previously).
3. Select a macro name from the list to playback.
4. Set the scale and alignment for playback.



To import a macro:

1. From the Studio's **Preferences** menu, select **Import Macros**.
2. A file import dialog will appear. Navigate to the macro file, and tap the file to apply the macro.



Individual macros have an .afmacro file extension, while a macro set (multiple macros) has an afmacros extension. The latter, when imported creates its own category.

SEE ALSO:

[Macro studio](#)

Liquify Persona



Warping using Liquify Persona

Liquify Persona provides the perfect environment for the highly accurate warping of images.

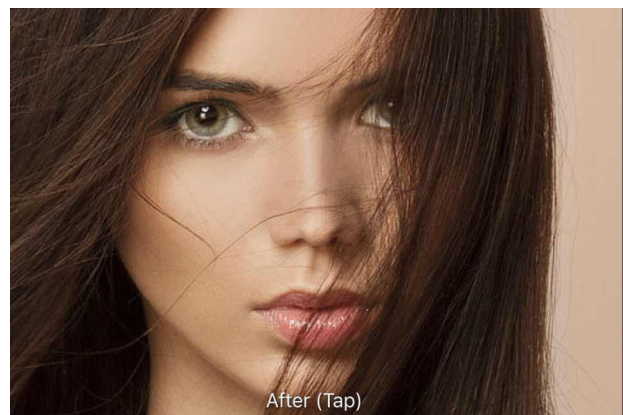
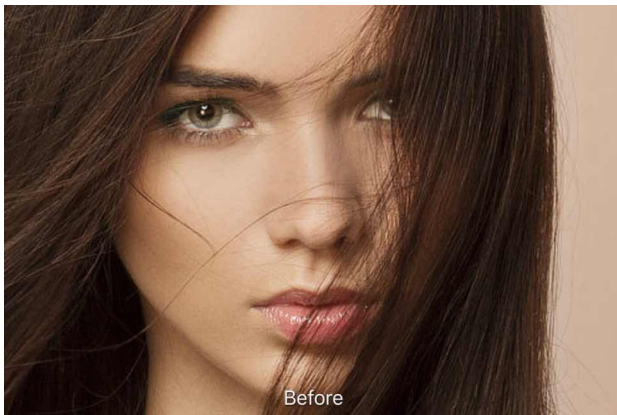


Image warping is controlled using a combination of [Liquify Tools](#). These can be divided into three types:

- Direct-these affect the image by painting over image pixels. These include the **Push Forward**, **Push Left**, **Twirl**, **Pinch**, **Punch**, **Turbulence** and **Reconstruct Tool**.
- Indirect-these affect the mesh. The **Mesh Clone tool** is used exclusively.
- [Masking](#)-the Freeze and Thaw tools apply or remove masked areas, respectively.

The mesh is an overlay which is used as a visual aid to help identify any previous warp operations. The mesh can also be reconstructed to uniformly strengthen or weaken the overall warping effect.

All Liquify tools are supported by a dedicated [Liquify Studio](#), which hosts mesh display and reconstruction settings.



To warp using the Liquify tools:

1. Select a **Liquify tool**.
2. Adjust brush settings on the context toolbar.
3. Drag, tap or drag on the image to apply the warp effect-this depends on the liquify tool chosen. The effect of the tool is Cumulative. If the result is not strong enough, repeat the process.



To warp using Clone Mesh:

1. Select the **Mesh Clone Tool**.
2. Adjust brush settings on the context toolbar.
3. Hold down secondary finger (or thumb) on the screen and tap your primary finger on the area of the mesh you wish to copy.
4. Tap on the area of the mesh to 'paste' the copied effect.
5. Repeat the step above to apply the copied effect elsewhere on the image.



To remove a warp effect:

For individual pixels:

1. Select the **Reconstruct Tool**.
2. Tap or drag on the image to remove the warp effect.

For the entire image:

- On the **Commands Menu**, select **Reset Mesh**.



To strengthen or subdue the current warp effect:

In **Liquify Studio**, set the **Reconstruct Mesh** value:

- Above 100% to strengthen the effect.
- Below 100% to subdue the effect.



Mesh controls

The Commands Menu provides access to various mesh controls:

- **Save Mesh**-saves the current mesh for future use.
- **Load Mesh**-applies a previously saved mesh.
- **Reset Mesh**-applies a new mesh and removes all currently applied effects from the underlying image.
- **Last Mesh**-applies the last used mesh.

View modes in Liquify Persona

There are a variety of view modes available in Liquify Persona which give you the opportunity of seeing how your warped image compares to the original.



To activate view modes:

With **View tool** active, on the context toolbar, tap **Split** to cycle between the warped image in isolation, **split** view ('Before' and 'After' single image with sliding divider), and **Mirror** view ('Before' and 'After' images side-by-side).

SEE ALSO:

[Liquify Tools](#)
[Liquify Studio](#)



Masking in Liquify Persona

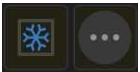
Protect parts of an image from warp effects applied in Liquify Persona by applying a mask.



Before and after liquify effect applied, with mask in place (shown in red).

Freezing areas to make a mask

There may be areas of your image which you want to protect from being warped by the Liquify tools. You can do this by 'freezing' those areas using the Freeze Tool. Frozen areas can be thawed using the Thaw Tool, if you wish them to be subject to warps once more.



To apply a mask:

Do one of the following:

With the **Freeze Tool** selected, drag on the page to select areas to be masked.

On the **Commands** Menu, select **Mask All** to apply a mask to the entire image.



To remove areas of a mask:

Do one of the following:

With the **Thaw Tool** selected, drag on the page to remove areas from a mask.

On the **Commands** Menu, select **Clear Mask** to remove a mask entirely from the image.



To invert masked areas:

On the **Commands** Menu, select **Invert Mask**.

SEE ALSO:

[Warping using Liquify Persona](#)
[Liquify Studio](#)



Liquify Studio (Liquify Persona only)

The Liquify Studio lets you adjust mesh display and mesh reconstruction settings while using the Liquify Persona.

Mesh Display settings

The following settings are available:

- **Spacing**-sets the size of squares in the mesh.
- **Opacity**-the transparency of the mesh.
- **Colour**-sets the colour of the mesh lines. Tap the colour swatch to display a pop-up panel.

Reconstruct Mesh settings

The following settings are available:

Reconstruct Mesh-sets the strength of the overall warp effect across the entire grid. 0% will remove any currently applied effect from the image; 100% is as drawn; 200% will double the warping effect.

Merge Mesh-applies the current Reconstruct Mesh setting to the image and resets it to 100%. Its application is cumulative.

SEE ALSO:

[Warping using Liquify Persona](#)

[Masking in Liquify Persona](#)

[Liquify Tools](#)

Painting and Erasing

Painting brush strokes

The Paint Brush Tool and other brush-based tools can be used to add brush strokes to your image for creative or corrective reasons.



Painting

Irrespective of brush tool, an impressive selection of categorised brushes is available for use from the **Brushes Studio**. Each category in the Studio contains brushes of varying styles, properties and characteristics.

Your last used brush will be remembered the next time you use the Paint Brush Tool. Any alterations to brush settings made via the context toolbar for a specific brush will be remembered the next time that brush is used, ie. every brush can have its own customised context toolbar settings. If altered, you can [reset](#) any brush's context toolbar settings back to brush defaults at any time. Recently used brushes are stored in the **Brushes Studio's Recent Brushes** category.

If you want to create your own custom brush, these can be stored in the Studio for future use. You can also import brushes (.abr and .afbrushes formats) via drag-drop from your Files app onto the Brushes panel.



The [Undo Brush Tool](#) can be used to undo modifications made to a pixel layer by other painting tools.

Mirror painting

Using the **Symmetry** and **Mirror** options found on the context toolbar, you can create variable repeating patterns with radial or Mandala-style symmetry.



To paint brush strokes:

1. Use the **Layers Studio** to select the layer that you want to work on, or create a new pixel layer.
2. From the **Photo Persona**, select the **Paint Brush Tool** or other brush-based tool. (See tip below)
3. From the **Brushes Studio**, select a brush thumbnail of your choice. (See tip below)
4. Adjust the context toolbar settings.
5. Select a brush stroke colour from the context toolbar or the **Colour Studio**.
6. Drag on the page in the direction that you want the brush stroke to follow.



Use your keyboard's left or right arrow keys to manually rotate your brush nozzle(s) before and during stroke application.



If the selected brush tool does not paint anything, check for a **Protect alpha** option on the context toolbar. When that is enabled, the brush will not paint on the current layer's transparent regions, only those that are opaque.



If you wish to maintain the brush type when switching between brush tools, you can set this preference using the **Assistant**. Alternatively, you can set Affinity Photo to automatically select a particular brush tool when a brush type is selected. See the [Modifying brushes](#) topic for more information.



Modifiers

In Affinity Photo's **Preferences**, select the **Interface** tab and ensure **On-screen modifier** keys is enabled to extend the tool's functionality. With a brush tool selected, go to the context toolbar page that contains modifiers and:

- Hold **Continue Last** or **Continue/Constrain** before you draw a new brush stroke to continue painting from the last drawn brush stroke, instead of adding a new one.
- Hold **Continue Last** or **Continue Constrain** immediately after you touch the screen to begin a new brush stroke that is constrained along the x-or y-axis based on your finger/Apple Pencil's direction of movement.
- Hold **Pick Colour** to temporarily jump to the Colour Picker to sample a new colour for the next brush stroke.

To smooth brush strokes as you paint:

On the context toolbar, navigate to the **Stabiliser** option and choose one of the following:

- **Rope stabiliser**-drag the stroke end by a 'rope' that smooths the stroke but lets you introduce sharp corners at increasing Length (radius) values by redirecting the slackened rope.
- **Window stabiliser**-smooths the stroke by averaging the stroke's position over a Window whose size is configurable.



To undo painted modifications:

1. From the **Photo** Persona, select the **Undo Brush Tool**.
2. On the **History** Studio, scroll the list and select the **camera** icon that corresponds with the history entry that you want to paint back to.
3. Paint over pixels which you want to return to their original value.



To erase brush strokes after you paint:

1. From the **Photo** Persona, select the **Erase Brush** from the Brushes flyout.
2. (Optional) From the **Brushes** Studio, choose a brush thumbnail that you painted with.
3. Adjust the context toolbar settings.
4. Drag on the page in the direction that you want the erase brush stroke to follow.



This tool works best if you've added brush strokes non-destructively to a separate layer instead of your main image layer.

To mirror brush strokes for symmetrical effects:

1. From the context toolbar, tap **Symmetry** to enable it.
2. Then, tap the **Lines** option on the context toolbar and change the numerical value to reflect the number of times you wish to **mirror** the brush stroke.
3. If required, reposition the centre axis point by holding and dragging it.
4. If the direction needs to be mirrored, tap the **Mirror** option on the context toolbar.

To rotate the brush nozzle as you paint using a keyboard:

- While painting, tap the left or right arrow keys to adjust the rotation of the nozzle.

SEE ALSO:

[Paint Brush Tool](#)

[Brushes Studio](#)

[Modifying brush settings](#)

Modifying brush settings

Brushes can be modified before you paint on your design. Basic modifications can be made directly on the context toolbar, while advanced settings can be accessed from the context toolbar's **More** button. You can edit the brush in the **Brushes** Studio itself, but this edits your brush permanently unless you duplicate it.

Settings via More button

The following settings are available:

General

- **Size**-sets the default width of the stroke. This can still be overwritten for individual brush strokes using **Width** on the context toolbar.
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **Flow**-controls how fast colour is built up under your brush.
- **Accumulation**--sets the opacity or visibility of the brush.
- **Spacing**-sets the distance between each nozzle point. A lower percentage results in the nozzles blending together to give a flowing stroke. A higher percentage pushes nozzles away from each other creating a spray-style stroke.
- **Rotation**-sets the angle at which the brush nozzles are drawn. Great for non-round brushes.
- **Shape**-sets the diameter of the brush nozzles.
- **Blending Mode**-changes how the applied colour interacts with existing colours on a layer. Select from the pop-up menu.
- **Wet Edges**-sets the default 'wet edge' behaviour of the brush. The 'wet edge' behaviour builds paint up along the edges of your pixel brush stroke, producing a watercolour effect.
- **Custom Wet Edges**-When enabled, you can apply a custom ramp (profile), which subtly changes how watery the stroke appears when Wet Edges is enabled.
- **Associated Tool**-sets the tool which is automatically selected. The associated tool's icon will appear next to the brush on the [Brushes](#) Studio.

Dynamics

- These settings determine the extent to which a chosen controller (Pressure, Velocity, Rotation, etc.) will effect the above General settings. Pick a Controller from the pop-up menu and tap the adjacent Ramp profile icon to create your own custom profile using the ramp chart. Move circular nodes to reshape the non-linear ramp, add nodes to the ramp by tapping on the line, or select a node to remove it using the delete button. Enable the Linear button for straight lines between all nodes; If disabled (non-linear), nodes are connected using smooth curves.
- **Scatter X**-sets the deviation in the horizontal position of the stroke as it is painted.
- **Scatter Y**-sets the deviation in the vertical position of the stroke as it is painted.



Hue, Saturation, and Luminosity Jitter settings affect the brush colour, which is set via the Colour Studio.

Texture

For nozzle control:

- **Brush Nozzles**-displays the nozzles currently used in the current brush.
- **Add**-adds an additional nozzle to the preset.
- **Remove**-deletes the selected nozzle from the preset.
- **Controller**-changes how the nozzle interacts with additional nozzles used in the current brush. Select from the pop-up menu.
- **Spline**-displays the spline chart which can be shaped to adjust the nozzles range.



Nozzles can only be added to Intensity or Image brushes.

For base texture control:

- **Base Texture**-displays the underlying texture or pattern for the current brush.
- **Set Texture**-launches a dialog to add a base texture, as an image, to the brush. For example, to simulate a textured surface like paper or canvas.
- **Remove**-deletes the base texture from the current brush.
- **Invert**-creates a negative version of the texture.
- **Mode**-controls how the base texture contributes to the current brush. Select from the pop-up menu.
 - **None**-the base texture is ignored, so only the brush nozzles are used.
 - **Nozzle**-allows nozzles to build up brush colour onto the base texture depending on flow and opacity response.
- **Final**-the density of the base texture is kept constant, with no nozzle flow or opacity response.
- **Scale**-sets the size at which the texture is displayed. A lower percentage will display the texture at a larger size. A higher percentage will display the texture tiled at a smaller size.



Images for base textures should be JPG or PNG. Any reasonably sized image will be acceptable as the base texture can be scaled (above).



To modify brush settings:

1. Choose one of the following:
 - With Paint Brush selected, on the context toolbar, adjust Width, Opacity, Flow, etc.
 - With Paint Brush selected, on the context toolbar, tap **More** to access more advanced settings, adjust settings, then tap **OK**.

To reset context toolbar brush settings back to brush defaults:

On the **Brushes** Studio, long-press a chosen brush and tap **Reset** from the pop-up menu.

SEE ALSO:

[Painting brush strokes](#)

[Creating custom brushes](#)

Creating custom brushes

You can create a custom brush from scratch using a raster image, from a copied preset or from a pixel selection.

To create a custom brush from a preset:

1. On the **Brushes** Studio, long-press a chosen brush and tap **Edit** from the pop-up menu. Alternatively, to create a copy of the brush to modify instead of editing the original, long-press a chosen brush and tap **Duplicate**, then locate your duplicated brush at the bottom of the same brush category and Edit that brush instead.
2. Adjust the settings in the **Properties** or **Controller** section.

To create a new pixel brush on the fly:

1. On the **Brushes** Studio, select a brush.
2. Adjust the settings as you paint on the context toolbar, accessing additional settings via the **More** button.
3. Tap **Save** from the **More** section to save your edited brush as a new brush which can be found at the bottom of the same category as the brush you initially selected.



To create a custom brush from scratch:

On the **Brushes** Studio, select **Preferences** and then select:

- **New Intensity Brush**-creates a brush stroke based on the opacity values of a raster image as its nozzle. In the pop-up dialog, navigate to and select a file.
- **New Round Brush**-creates a brush stroke based on a circular shape.
- **New Square Brush**-creates a brush stroke based on a rectangular shape.
- **New Image Brush**-creates a brush stroke based on the colour values of a raster image as its nozzle. In the pop-up dialog, navigate to and select a file.

The new brush is added to the selected category using default settings, which can be altered.



To create a custom image brush from a pixel selection:

1. Make a selection using a pixel selection tool.
2. On the **Brushes** Studio, choose a category to save your brush to.
3. Tap Studio Preferences and then select **New Brush From Selection**.

The image brush is added to the end of the current brush category. Custom intensity brushes can also be created from a pixel selection on a mask by using the same process.



If you are creating a brush from a selection on a placed image, its image layer needs to be rasterised first.

Additional options from Studio Preferences allow you to create, rename, and delete brush categories.

Move brushes to any created category by long pressing the brush and selecting the Move to option from the pop-up menu. Previously created custom categories adopt the naming convention 'Brushes, Brushes 2, 'Brushes 3, etc.

SEE ALSO:

[Brushes Studio](#)

[Modifying brush settings](#)

[Rasterising](#)

Erasing

Affinity Photo lets you erase areas of a layer using a combination of the [Erase Brush](#), the **Brushes Studio** and the tool's context toolbar. Alternatively, you can use [Background Erase](#) to remove pixels from a layer.



Use of Erase Brush and Background Erase tools.

Erasing on a layer

You can use the Erase Brush to erase unwanted pixels directly on the layer using the same principles as the Paint Brush Tool.

Background Erase takes a sample of the colour under the cursor when you begin to erase, and will remove all closely matching colours directly under the brush stroke.

Erasing on a vector layer

As pixels don't exist on a vector layer, a pixel mask is created and applied over the vector layer instead; both vector and pixel layers can be edited using the respective vector tools and [Layer masking](#).



To erase on a pixel layer:

1. From the **Layers Studio**, select a pixel layer.
2. From the **Photo Persona**, select the **Erase Brush**.
3. From the **Brushes Studio**, select a brush of your choice.
4. Adjust the context toolbar settings.
5. Drag on the page in the direction that you want the erase brush stroke to follow.



To use Background Erase:

As for Erase Brush but instead choose the **Background Erase**. Tap on the page over the colour you want to erase in the image and drag within the image to erase that targeted colour directly under the brush cursor.



To use the Flood Erase Tool:

As for Erase Brush but instead choose the **Background Erase**. Tap on the page over the colour you want to erase in the

1. From the **Layers** Studio, select a pixel layer.
2. Select the **Flood Fill Tool** and change the **Mode** to **Erase**.
3. Adjust the context toolbar's **Tolerance** setting to control the extent of flood erasing across pixels. Experimenting will produce labour saving results.
4. Tap on the image to select the target pixel.



To erase on a vector layer:

1. From the **Layers** Studio, select the **vector** layer.
2. From the **Photo Persona**, select the **Erase Brush** from the **Brushes** flyout.
3. Paint over the vector layer content to erase.

In the **Layers** Studio, you'll notice a white triangular tab appear in the top right corner of the layer entry. Tap this tab to reveal the mask for the layer.

A layer mask is added by default, however, using the [Assistant](#) you can control how pixel erasing works on vector layers. You can optionally rasterise the layer completely or take no action (preventing erasing from occurring).

SEE ALSO

[Painting brush strokes](#)

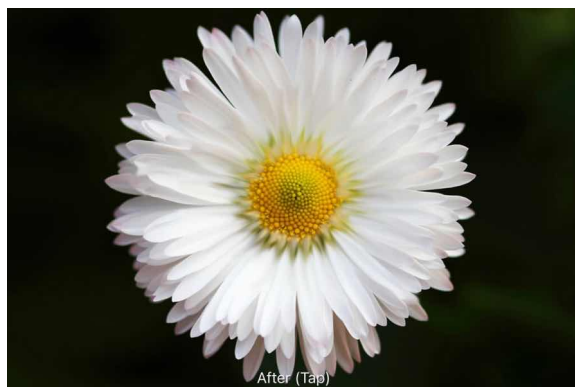
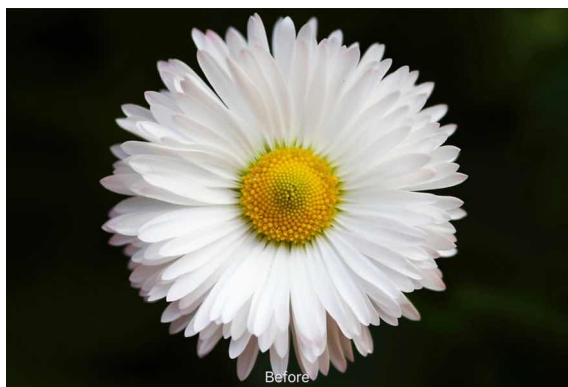
[Erase Brush](#)

[Brushes Studio](#)

[Background Erase](#)

Mixing paint colours

Affinity Photo gives you the opportunity to digitally simulate the mixing of wet paint applied to a canvas.



Using the Paint Mixer Brush

The Paint Mixer Brush is pre-loaded with the Foreground colour selected on the **Colour** Studio. As you drag on the page, this colour blends with the colour of pixels underneath the stroke, giving a smudged appearance to the image.

By default, the mixed colour remains on the Paint Mixer Brush. However, the brush can be manually 'cleaned' at any time. As soon as you drag on the page with a clean brush, the brush will pick up the colour directly underneath it.

Alternatively, the mixed colour can be manually removed from the brush at any time and reloaded with the Foreground colour. You can also set this to occur automatically every time you begin a new stroke.



To mix paints:

1. From the **Photo Persona**, select **Paint Mixer Brush**.
2. On the **Colour** Studio, set the Foreground colour.
3. On the **Brushes** Studio, select a brush type.
4. Adjust the context toolbar settings.



To clean a brush (with no paint on it):

- On the context toolbar, select **Clean Brush**.

To remove mixed paint and reload the Paint Mixer Brush:

- On the context toolbar, select **Load Brush**. The brush is cleaned and loaded with the foreground colour in the **Colour** Studio. To do this automatically, you can enable **Auto Load Brush** which always loads the currently selected colour on every stroke.

SEE ALSO:

[Paint Mixer Brush](#)
[Colour Studio](#)
[Brushes Studio](#)

Replacing colours by brush

You can recolour areas of an image using the Colour Replacement Brush Tool.



Foreground colour set to blue.

Using the Colour Replacement Brush Tool

The Colour Replacement Brush Tool takes a sample of the colour under the cursor when you begin to paint, and will replace all closely matching colours along the stroke with the current Foreground colour. The targeted colour's hue will be replaced with the current Foreground colour's hue, while retaining lightness values of the original pixels.



To replace colours by brush:

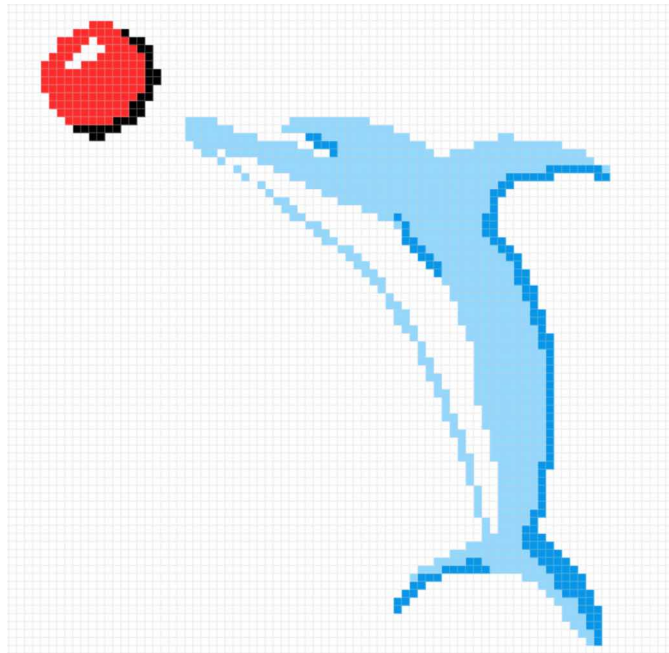
1. From the Layers Studio, select a layer. (If you select a vector layer, it will be automatically rasterised when the tool is used.)
2. From the **Photo Persona**, select the **Colour Replacement Brush Tool**.
3. From the **Brushes Studio**, select a brush of your choice.
4. Adjust the context toolbar settings.
5. From the **Colour Studio**, choose a Foreground colour to replace the colour you want to change.
6. Drag the brush cursor over the targeted colour.

SEE ALSO:

[Colour Replacement Brush Tool](#)
[Brushes Studio](#)
[Colour Studio](#)

Pixel-aligned painting

To achieve hard-edged painted strokes, which align to individual pixels, you can use the Pixel Tool.



The **Pixel Tool** adds pixels directly to the layer using the same principles as using the [Paint Brush Tool](#). You can select from any of the brushes from the Brushes Studio to use with the Pixel Tool.



To apply pixel brush strokes:

1. Use the **Layers** Studio to select the layer that you want to work on, or create a new pixel layer.
2. From the **Photo Persona**, select the **Pixel Tool**.
3. From the **Brushes** Studio, select a brush thumbnail of your choice. Use hard-edged brushes from the Basic category for best results.
4. Adjust the context toolbar settings.
5. Select a brush stroke colour from the **Colour** Studio.
6. Drag on the page in the direction that you want the brush stroke to follow.

SEE ALSO:

[Pixel Tool](#)
[Painting brush strokes](#)
[Grids](#)

Layer Effects

Using layer effects

Layer effects can be applied to any layer to add more creativity to your design.

Available layer effects:

Layer effects can be applied to any layer from the Layer FX Studio.

Using layer effects

Layer effects can be applied to any layer to add more creativity to your design.

Available layer effects:

- [Gaussian Blur](#)
- [Outer Glow](#)
- [Inner Glow](#)
- [Outer Shadow](#)
- [Inner Shadow](#)
- [Outline](#)
- [3D](#)
- [Bevel/Emboss](#)
- [Colour Overlay](#)
- [Gradient Overlay](#)

Layer effects can be applied to any layer from the [Layer FX Studio](#).

To apply layer effects:

1. In the **Layers** Studio, select the layer(s) that you want to apply the effect to.
2. In the **Layer Fx** Studio, enable the effect you want to apply.
3. Tap the effect and adjust the settings as desired (increase **Radius** initially).
4. If required, select other effects and adjust the settings.



When a layer has one or more effects applied, an fx icon appears to the right of the layer's name in the Layers Studio.

To edit layer effects:

1. Select the layer that you want to edit.
Repeat the steps above.



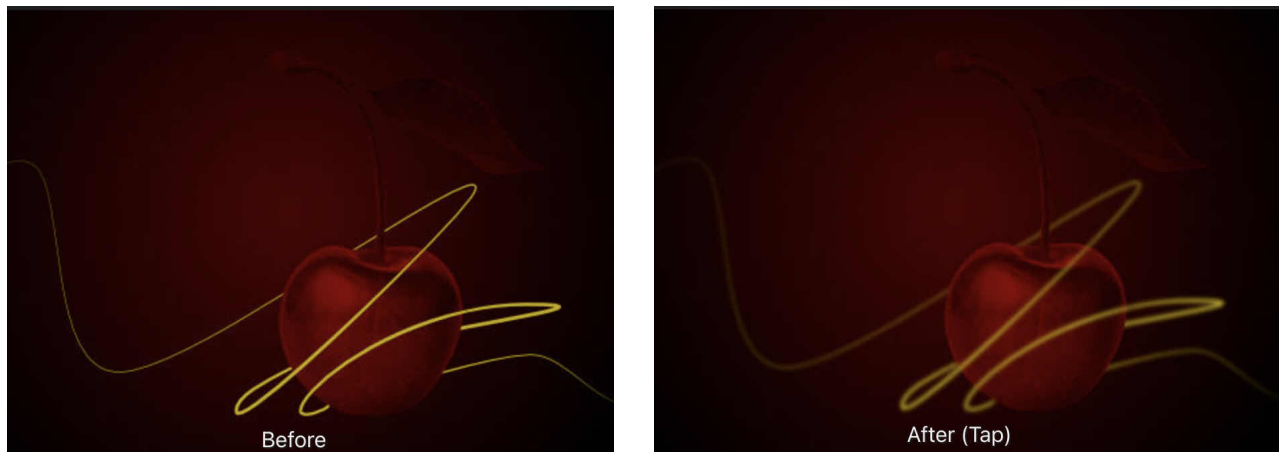
If you create a set of layer effects that you want to use again you can save time and effort by saving them as a style to the Layer FX Studio. This way they can be applied to any new layer with a single tap.

SEE ALSO:

[Layers Studio](#)
[Styles](#)
[Layer blending](#)

Gaussian Blur

The Gaussian Blur effect is used to create a pleasing, smooth blur using a weighted average.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

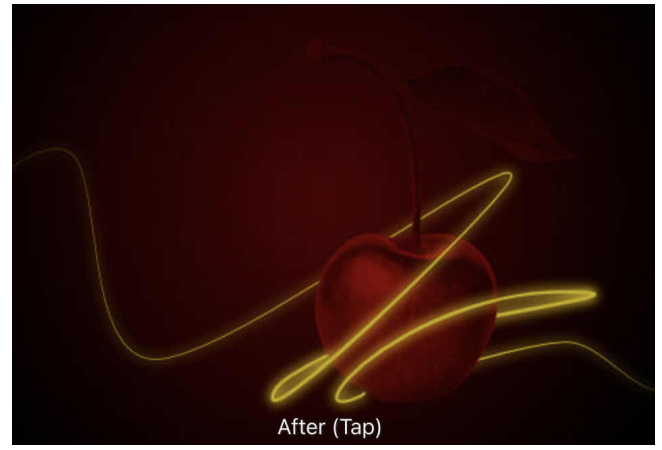
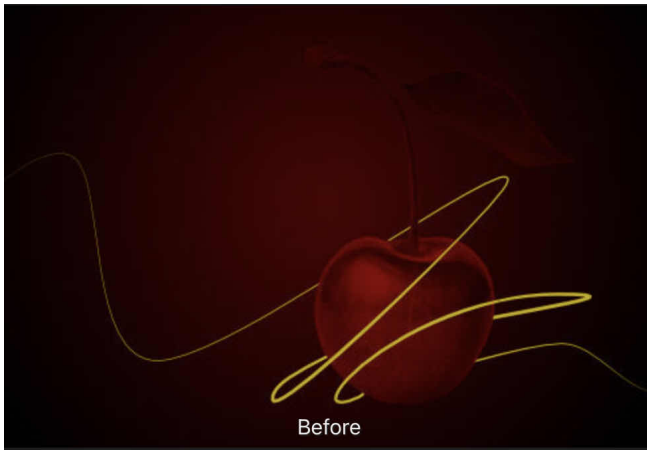
- **Radius**-controls the extent of the effect.
- **Preserve Alpha**-when enabled, object edges are not subject to blurring.

SEE ALSO:

[Using layer effects](#)

Outer Glow

The Outer Glow effect is used to add a colour border to edges.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

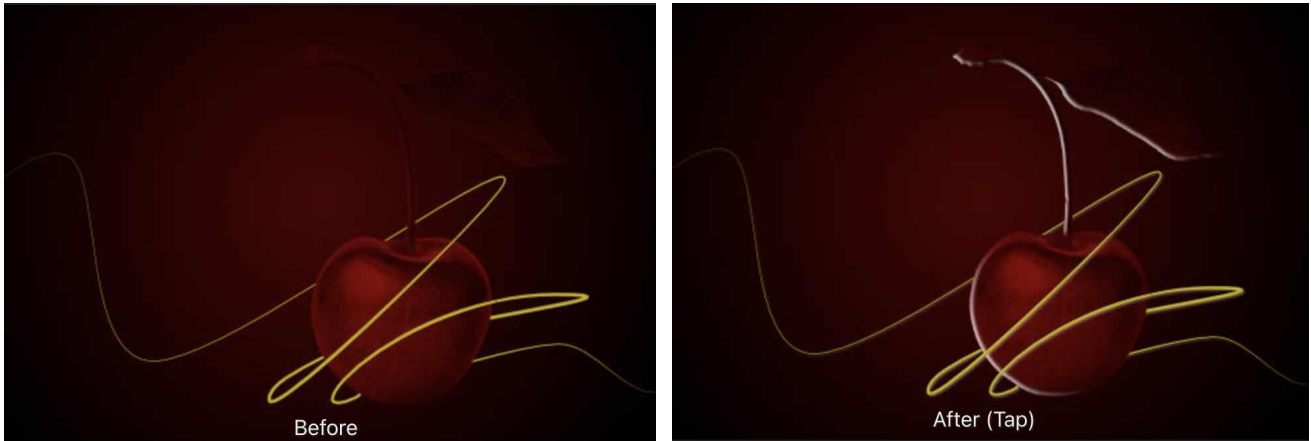
- **Blend Mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Intensity**-determines how much the radius of the effect is blurred.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.

SEE ALSO:

[Using layer effects](#)
[Inner Glow](#)

Bevel/Emboss

The Bevel Emboss effect is used to add rounded edges and shadows to give a 3D impression.



Depending on the type of bevel or emboss set, the rounded edge might be inside or outside layer content, convex or concave, and may include a shadow.

For all bevel/emboss effects you can adopt a preset or custom profile that defines the bevel/emboss edge.

Settings

The following settings are shown when the effect is selected in the Layer FX Studio.

- **Type**-sets a Pillow (emboss), Emboss, Inner (bevel), or Outer (bevel) effect.
- **Radius**-controls the extent of the effect.
- **Depth**-sets the depth of the effect. This can be linked to Radius or set independently (by tapping the lock symbol).
- **Soften**-blurs the shadows and highlights.
- **Azimuth**-defines the direction of the light source, shadow or gradient.
- **Elevation**-defines the 'height' of the light source, shadow or gradient.
- **Profile**-defines how the light is applied and sculpts the ridges, valleys, and bumps that are shaded in the process. Tap on the curve to add a node, drag a node or portion of the curve to shape it.
- **Enable**-switches the effect on or off for before-and-after comparison.
- **Invert**-reverses the effect of the lighting profile.
- **Linear**-when enabled, the graduation between two nodes in the profile is linear (ie. uses straight lines). If this option is off, profile nodes are connected using smooth curves.
- **Highlight**-sets the blend mode, colour and opacity for the highlight. Blend mode defaults to screen.
- **Shadow**-sets the blend mode, colour and opacity for the shadow. Blend mode defaults to multiply.

To apply a preset or custom profile:

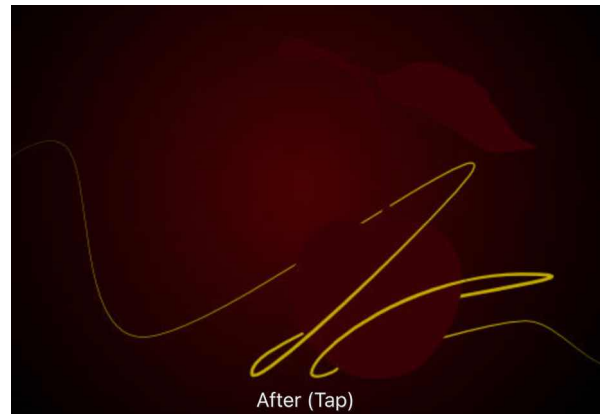
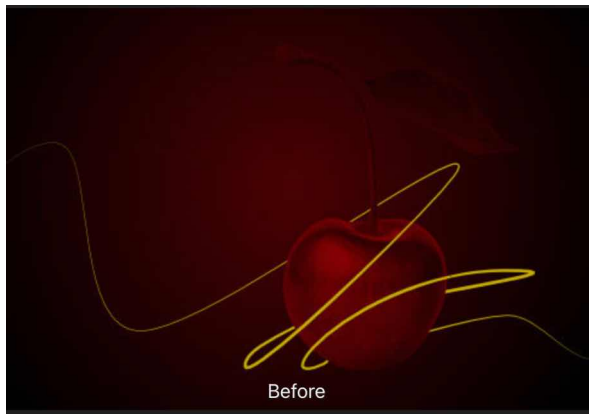
1. Tap the **Profile** option.
2. On the pop-up panel, tap on the curve to add a node, drag a node or portion of the curve to shape it.
3. (Optional) Select the Linear option to create a sharp curve or deselect to create a smooth curve.
4. Tap away from the pop-up panel to apply the profile.

SEE ALSO:

[Using layer effects](#)

Colour Overlay

The Colour Overlay effect is used to apply a solid colour on top of any existing colours.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

- **Blend Mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Colour**-sets the colour of the effect. Tap the colour swatch to choose the colour from the pop-up panel.

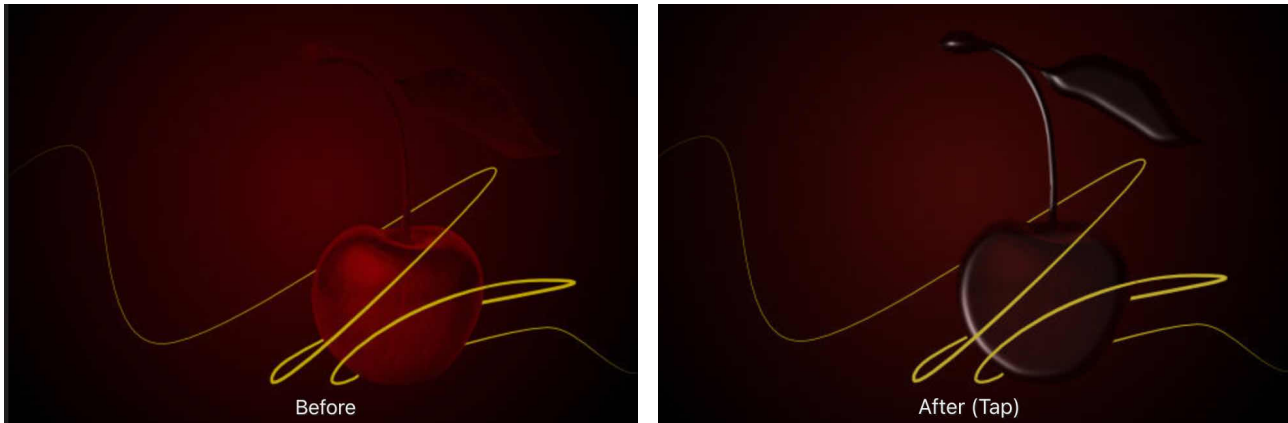
SEE ALSO:

[Using layer effects](#)

[Gradient Overlay](#)

3D Effect

The 3D effect is used to create the impression of a textured surface.



Settings

The following settings are shown when the effect is selected in the **Layer FX** Studio.

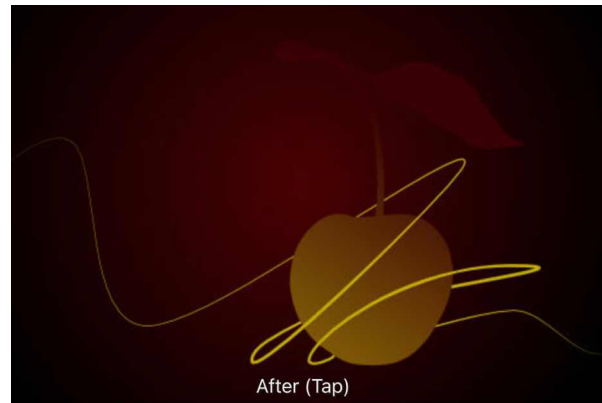
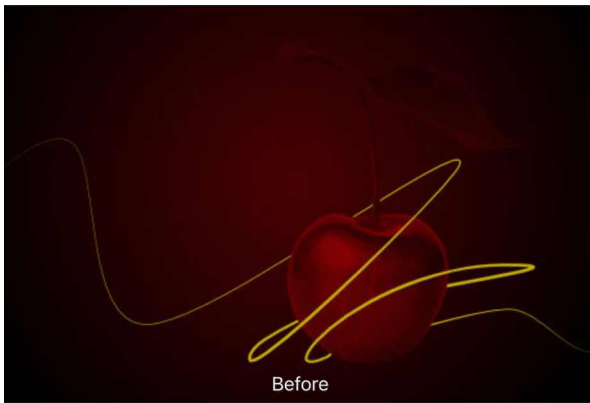
- **Radius**-controls the extent of the effect.
- **Depth**-sets the depth of the effect. This can be linked to Radius or set independently (on the lock symbol).
- **Soften**-blurs the shadows and highlights.
- **Opacity**-controls the transparency of the effect.
- **Profile**-defines how the light is applied and sculpts the ridges, valleys, and bumps that are shaded in the process. Tap on the curve to add a node, drag a node or portion of the curve to shape it.
- **Enable**-switches the effect on or off for before-and-after comparison.
- **Linear**-when enabled, the graduation between two nodes in the profile is linear (i.e. uses straight lines). If this option is off, profile nodes are connected using smooth curves.
- **Ambient**-sets the intensity of ambient light. Colour sets the ambient light colour.
- **Specular**-sets the intensity of specular colour reflected from the surface when lit by the Light source. A high setting will give a gloss appearance, while a low setting will give a matt appearance. Colour sets the specular light colour.
- **Shininess**-sets the amount of specular colour reflected from the surface when lit by the Light Source. A high setting gives sharper highlights, while a low setting will give widespread highlights.

SEE ALSO:

[Using layer effects](#)

Gradient Overlay

The Gradient Overlay effect is used to apply a greyscale or colour gradient on top of any existing colours.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

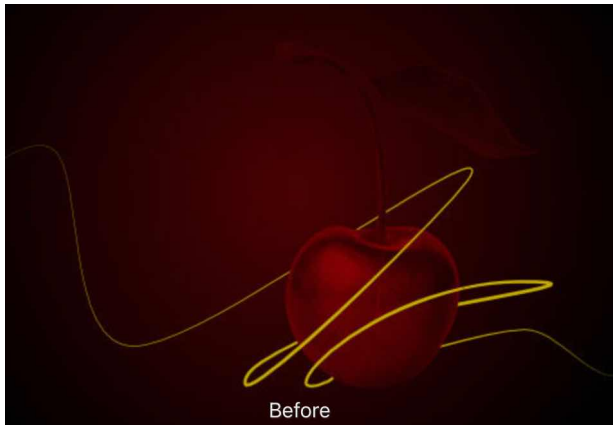
- **Blend Mode**-changes how the effect interacts with content below the current layer
- **Opacity**-controls the transparency of the effect.
- **Type**-determines the gradient type used. Choose from Linear, Elliptical, or Radial.
- **Gradient**-sets the greyscale or colour gradient. Tap the gradient thumbnail to edit.
- **Scale X**-defines the spread of the gradient separately for the X (horizontal) axis.
- **Scale Y**-defines the spread of the gradient separately for the Y (vertical) axis.
- **Offset X**-defines the start and end stops of the gradient. This is set separately for the X (horizontal) axis.
- **Offset Y**-defines the start and end stops of the gradient. This is set separately for the Y (vertical) axis.
- **Angle**-defines the direction of the light source, shadow or gradient.

SEE ALSO:

[Using layer effects](#)
[Colour Overlay](#)

Inner Glow

The Inner Glow effect is used to add a colour border to the inside of an edge. It can be set to the edge or centre of the edge.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

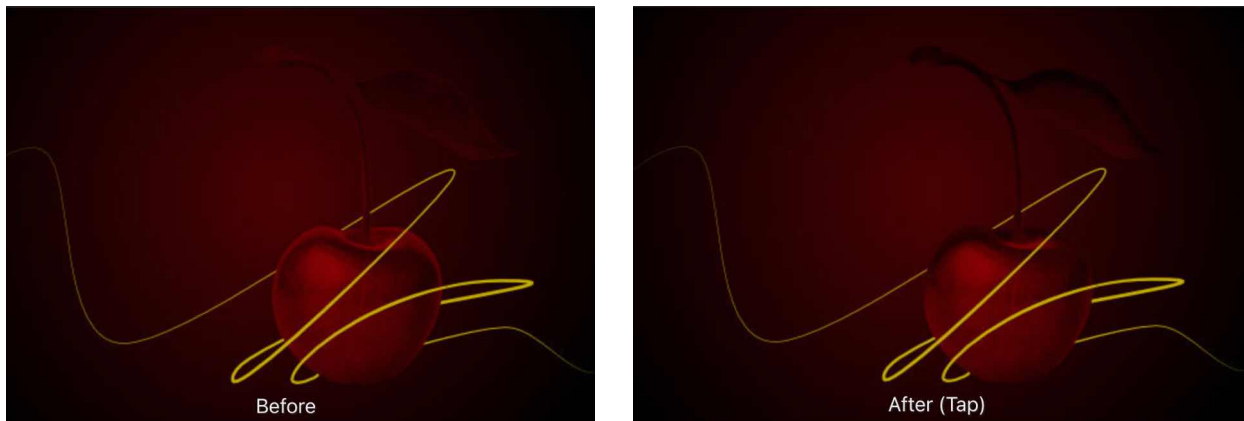
- **Blend mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Intensity**-determines how much the radius of the effect is blurred.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.
- **Origin**-determines the origin of the effect; either from the Edge or the Centre.

SEE ALSO:

[Using layer effects](#)
[Outer Glow](#)

Inner Shadow

The Inner Shadow effect is used to add a diffused shadow to the inside of an edge.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

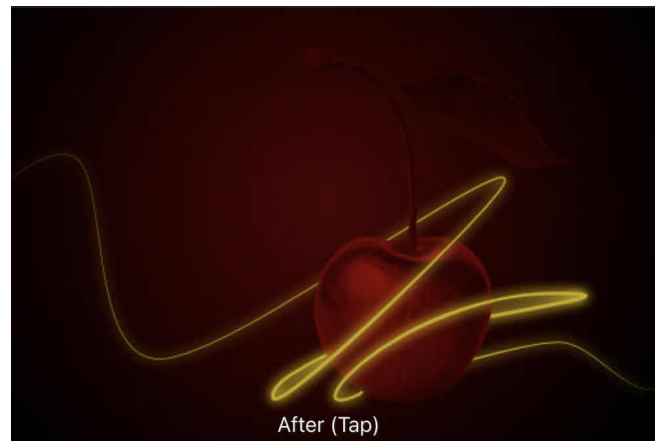
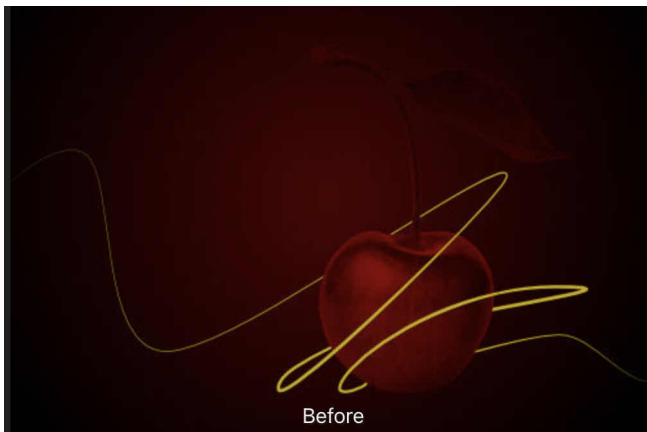
- **Blend mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Offset**-changes the distance between the layer content and the effect.
- **Intensity**-determines how much the radius of the effect is blurred.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.
- **Angle**-defines the direction of the light source, shadow or gradient.

SEE ALSO:

[Using layer effects](#)
[Outer Shadow](#)

Outer Glow

The Outer Glow effect is used to add a colour border to edges.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

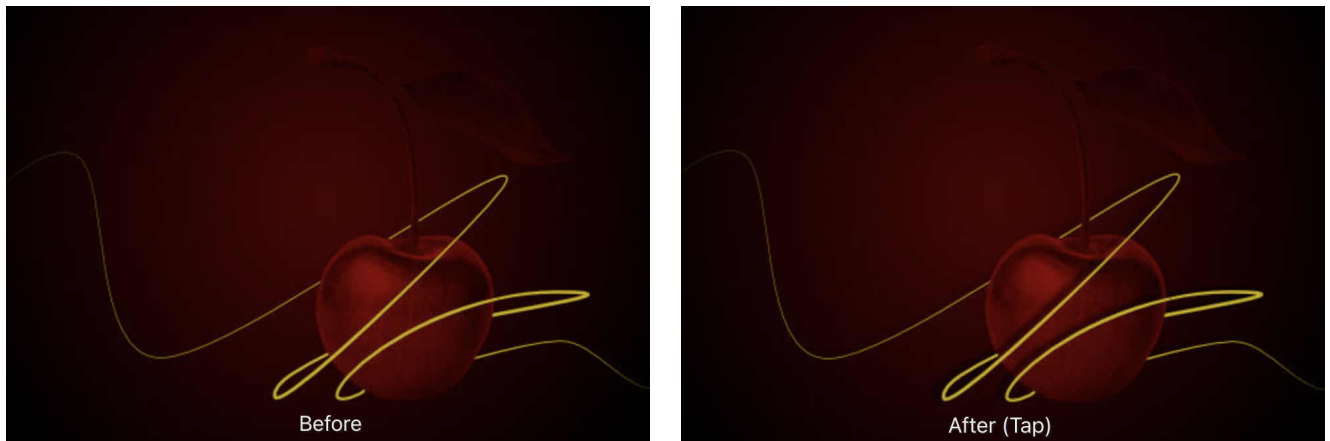
- **Blend Mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Intensity**-determines how much the radius of the effect is blurred.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.

SEE ALSO:

[Using layer effects](#)
[Inner Glow](#)

Outer Shadow

The Outer Shadow effect is used to add a shadow to edges.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

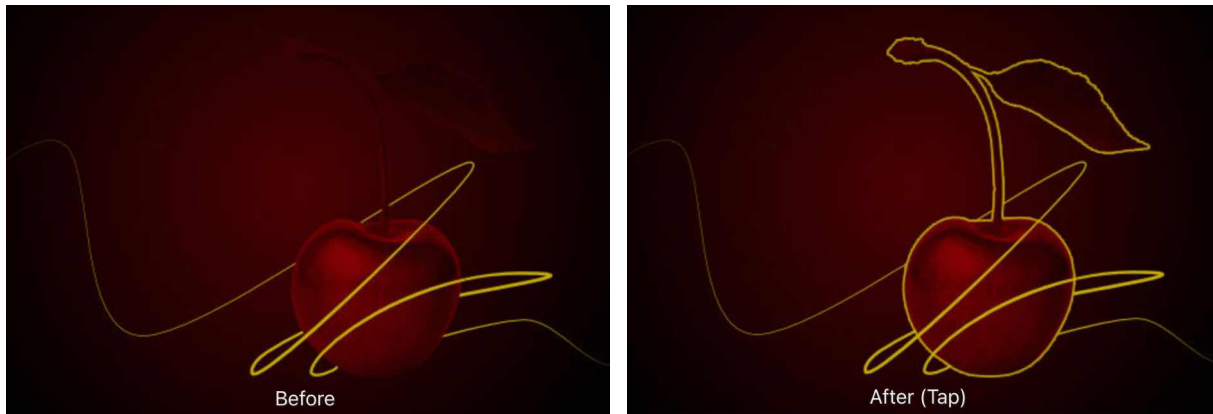
- **Blend Mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Offset**-changes the distance between the layer content and the effect.
- **Intensity**-determines how much the radius of the effect is blurred.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.
- **Angle**-defines the direction of the light source, shadow or gradient.
- **Knockout**-when enabled (default), if the fill is semi-transparent, the option prevents the effect from showing through the fill and contributing negatively.

SEE ALSO:

[Using layer effects](#)

Outline

The Outline effect is used to add a coloured outline to layer content.



Settings

The following settings are shown when the effect is selected in the Layer FX Studio:

- **Blend Mode**-changes how the effect interacts with content below the current layer.
- **Opacity**-controls the transparency of the effect.
- **Radius**-controls the extent of the effect.
- **Alignment**-sets the position of the outline; Inside, Outside or Centre.
- **Fill Style**-sets the type of fill applied to the outline.
- **Colour**-sets the colour of the effect. Tap the colour box to choose the colour from the pop-up panel.



The **Fill Style** includes *Contour*, which applies a gradient fill which runs from the inner to the outer edge of the outline width.

SEE ALSO:

[Using layer effects](#)

Colour

About colour

Affinity Photo can use different colour models to represent different ways of describing colour.

A model (RGB, CMYK, LAB, or Grey) can be selected as you create your new document. Colour definitions are described comprehensively on the internet, so in this chapter we'll just focus on how to set a colour model, the model's colour space, and how a colour profile represents that colour space.

In terms of selecting colour as you design, Affinity Photo offers the Colour Studio, which shows an HSL colour wheel by default but offers RGB, CMYK, HSL or LAB sliders instead. Within the Studio, a Swatches section offers easy access to preset swatches for single-tap application.

If you're happy to leave colour management until output is required, you can create new documents with the suggested default colour format RGB/8 with sRGB IEC61966-2.1 colour profile.

SEE ALSO:

[Colour models](#)
[About colour spaces](#)
[Colour management](#)
[Selecting colours](#)
[Colour Studio](#)

Colour models

A screen uses varying amounts of light to create the colours that you see. In the physical world, inks are used to create the colour on the page. Colour is stored by turning colours into numbers. A colour model is used to describe the numerical system used.

As not all devices have the same ability to display colour, a colour space is used to define the gamut (available range) of colour. By working within a colour space suitable for the intended output device, you can be confident that your colours will be able to be displayed as intended.

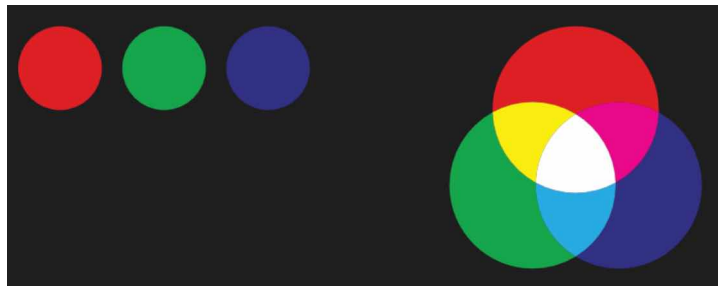
In Affinity Photo, you can use an RGB workflow as default or take advantage of an end-to-end CMYK or Lab colour-managed workflow as you create a new document instead.

About colour models

Different colour models represent colour as numbers in different ways. When working in Affinity Photo, you can choose one of four colour models.

RGB model

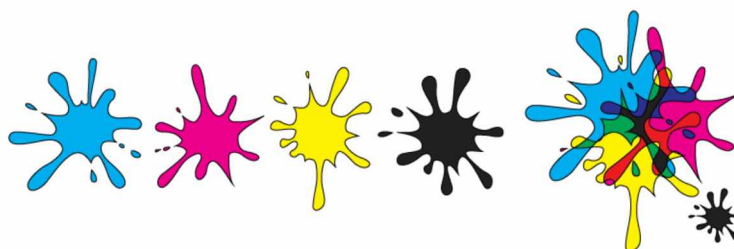
The RGB model is an additive colour model. The primary colours of light, Red, Green and Blue, are combined in various degrees to make other colours in the spectrum.



A representation of the RGB colour model. This model is universal within digital cameras and electronic displays.

CMYK model

The CMYK model is a subtractive model. Cyan, Magenta and Yellow are combined to make each colour. A fourth ink, Black, is also used for extra control and can be used either on its own for a true black, or combined with the other inks for a rich black.



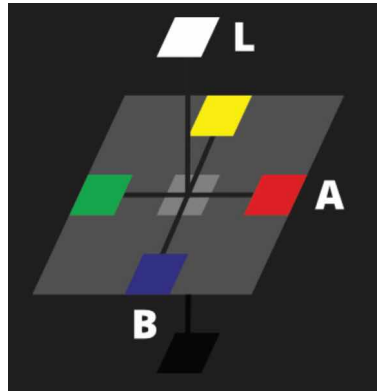
A representation of the CMYK colour model. When the three colours are combined they make black. Black is also added as a separate colour for extra tonal control.



The way that the colour model is implemented is defined by the colour space that is chosen; this is possible by selecting a colour profile.

Lab

Lab colour represents the theoretical range of human vision using three channels: Lightness (L), and two colour channels of opposing values of 'red - green' (a) and 'yellow- blue' (b). It can be very useful when used creatively, especially as Lightness can be adjusted without any change to hue or saturation.



A representation of the Lab colour opposition model. Lightness (L) is controlled separately to the two colour channels (a, b).

To select a new document's colour model:

As you create a [new document](#), select an option from the **Colour Format** pop-up menu.



The **Colour Format** of a document is a combination of a colour model and a bit depth setting (8 or 16).

To change your document's colour model at any time:

- From the **Document** Menu, tap **Convert Document** and choose an alternative **Colour space**.

SEE ALSO:

[About colour spaces](#)
[Colour management](#)

Colour spaces

Your colour space dictates the range of colours that are available to your screen or other output device.

About colour space

Each output device, for example, your display or printer, is only capable of producing a certain range of colours. A colour space is a specific implementation of the colour model used to define the colour gamut (ie., the range of available colour). For example, Adobe RGB, SRGB, Apple RGB, and so on, are all unique colour spaces for the RGB colour model. Different colour spaces are also available for CMYK and Lab colour models.

In order for a device to know which colour space to use, it looks at the assigned colour profile. You can choose your colour space by assigning a [colour profile](#) to your document.

Which colour space should I use?

Which colour space you choose depends on what you're doing and the colour model you're choosing to operate in.

If you're unsure of what colour space to operate, it's advisable to stick with the default sRGB IECG1966-21 profile if using the RGB colour model.



If you need to use a colour space that is not available in Affinity Photo, it will have to be installed on your system. Devices can install colour profiles for you. Consult your system's colour management documentation for instructions.

SEE ALSO:

[About colour models](#)
[Colour management](#)

Colour management

The colour and tonal information in a digital document is stored as numbers. When we share these documents between devices, the device has to work out how to display the colour. As not all devices can display the same colour gamut it can lead to colours looking different on each device.



Images without colour profiles (or with unsupported colour profiles) may not look the same across each device.

To ensure that the colour looks the same on each device, we use colour profiles to tell the device how to display or render the colour information.

Images with the correct profile for a calibrated device should closely match.



In Affinity Photo, an opened file's colour profile is honoured by default. You have the option to convert it to the current working colour space. When placing images into an existing document, the image's embedded colour profile will always be converted to the document's current working space.

On export, you can choose to embed the document's or a named colour profile to ensure accurate colour management. Alternatively, the exported file can be unprofiled by not embedding the document or named profile.

Assigning colour profiles

Affinity Photo lets you choose global default colour profiles, assign a colour profile as you create a document, or at any point during your session.



Most commercial printers will accept sRGB as they'll be able to do their own profiling at the print stage to get the best results for your work.

For the CMYK model, it's best to consult your print partner for an appropriate CMYK profile recommendation.



To select default global colour profiles:

1. From Affinity Photo's Home screen, select **Preferences**.
2. Select the **Colour** tab, then select an RGE, RGB32 (HDR), Greyscale, CMYK, or LAB colour profile from the pop-up menus.
3. Choose a **Rendering intent** option and enable **Black Point compensation**.



The chosen profile will be used as the current working space and will be offered when creating new documents, or will be used if you choose to convert an opened file's colour space (discarding its own colour profile).



To select a new document's colour profile:

- As you create a [new document](#), select an option from the Colour Profile pop-up menu.



To convert the colour space of file to be opened to the current working space:

- Prior to opening the file, go to Affinity Photo's Home screen and open the app's **Preferences**.
- Select the **Colour** tab, then check the **Convert opened files to working space** option.

To change your document's colour profile at any time:

1. From the **Document** Menu, select **Convert Document**.
2. Select a **Profile** from the context toolbar.
3. Tap the tick button to apply.

To embed a colour profile on file export:

1. From the **Document** Menu, select **Export**.
2. In the Export dialog, choose your file format and settings for export.
3. (Optional) Select a different **ICC Profile** from the pop-up menu. Otherwise, the document's colour profile will be embedded.
4. Enable **Embed profile**.



By default, exported files will have their colour profiles embedded within them, although you have the option to make the image unprofiled during export (for smaller file sizes when creating web graphics).

About soft proofing

Soft proofing simulates output as you edit and design with respect to the colour profile and the paper medium you intend to print on.

In Affinity Photo, this can be done by applying a Soft Proof adjustment to your project. You can then preview how your output will appear, preventing any nasty surprises at print time.

Because soft proofing is applied as an adjustment you can apply multiple adjustments, and therefore produce soft proofs for multiple output devices.

As an example, if you want to create several different output types, you might want to start with a colour profile on document creation with a wide gamut (eg, Adobe RGB 1998), and then change the profile to match the output destination. However, colour information may be thrown away if changing to a smaller colour gamut—simply changing back to a profile with a wider gamut will not restore the additional colour information. By applying a soft proof adjustment you prevent this, allowing you to work in a wider gamut until you are ready to change to your chosen output profile.

SEE ALSO:

[Create new documents](#)

[Export](#)

[Soft proof adjustment](#)

[Colour models](#)

Using OpenColorIO

In addition to 32-bit editing support, Affinity Photo also implements OpenColorIO; a colour management system that provides a full colour-managed workflow. It is predominantly used for motion picture production but can be used for any situation where accurate end-to-end colour management is required.

Setting up OpenColorIO

By default, Photo's OpenColorIO features are not immediately usable. An.ocio configuration file is required alongside a number of supporting files such as lookup tables.

The OpenColorIO website (<http://www.opencolorio.org>) contains some sample configurations that provide a number of suitable input and output profiles, including several Academy Colour (ACES) configurations.

To configure OpenColorIO in Photo:

1. On a desktop operating system, download and extract your chosen OpenColorIO configuration to a cloud storage folder, typically your connected iCloud Drive.
2. Rename the OCIO folder on your cloud storage and add an ".ocio" extension - on macOS this will convert the folder to a package. For example, a sample configuration with the new extension might be "aces_1.0.3.0.ocio"
3. Within Affinity Photo, access the **Preferences** from the welcome screen and navigate to **Colour**.
4. Select **Choose OCIO Package**, then navigate to the ocio file on your cloud storage and select it.
5. The package will then download. Once the download is completed, quit Affinity Photo and restart it.
6. OpenColorIO will now be configured. Open any 32-bit document to see additional viewing options.



Please note that the nominated OCIO folder must be on cloud storage before adding the "ocio" extension; this ensures it will be converted to a package file.

Using OpenColorIO

OpenColorIO is exposed in Affinity Photo through two methods:

- The View Tool will contain additional preview options that only become available with a valid OpenColorIO configuration. These can be used to achieve a non-destructive, colour managed workflow.
- An OCIO adjustment layer (see [OCIO Adjustment](#)) can be added to losslessly convert between colour spaces. You can have multiple OCIO adjustment layers within a document, which allows you to accommodate composite layers from different colour spaces. An example layer stack might be (in hierarchical order):
 - **OCIO Adjustment**-from Utility - Linear sRGB back to Role- scene_linear.
 - **SRGB Pixel Layer**-composite element
 - **OCIO Adjustment**-from Role scene_linear to Utility - Linear- SRGB
 - **Pixel Layer**-original layer

SEE ALSO:

[OCIO Adjustment](#)

Selecting colours

Affinity Photo offers several ways of choosing colours for your photo edits and design.

About selecting colours

An essential requirement for efficient editing and design is the ability to access colours easily and intuitively. You may have a preferred method for colour selection, so Affinity Photo provides a choice:

- **Colour Studio**-for selection from colour wheel or sliders using different colour models. A Swatches section in the Studio lets you select swatches from different preset or custom categories, including PANTONE® Colours.
- **Colour Picker**-for sampling colours anywhere on your screen; great for complementary colour work.
- **Context toolbar**-for selection of brush colour when using various painting tools.

Using the Colour Studio

With the Colour Studio, colours can be adopted by tools (or applied to vector content) in just a few taps. Opacity and noise are further colour attributes which can be applied. Colours can be saved to a palette in the Swatches section.

To select a colour (using default HSL Colour Wheel):

1. Select the **Foreground** or **Background** swatch at the top left of the **Colour Studio**.
 2. Tap-drag for a hue colour on the outer ring.
 3. Tap-drag in the inner triangle to set the combined Saturation and Lightness.
 4. (Optional) Set **Opacity** and **Noise** values using the lower sliders.
- The active swatch updates to the selected colour.

To switch colours between the swatch selectors:

Tap the **Foreground** or **Background** swatch to make it active-the frontmost swatch is considered to be active.

To use a different colour model:

To save a colour or gradient to a palette:

1. Choose the colour from the HSL wheel or equivalent.
2. Open the Swatches section, and select a palette from the category list.
3. From the Studio Preferences, select Add current fill to palette. The swatch is added to the palette.



To save a colour or gradient to a palette:

1. Choose the colour from the HSL wheel or equivalent.
2. Open the Swatches section, and select a palette from the category list.
3. From the **Studio Preferences**, select **Add current fill to palette**. The swatch is added to the palette.

Using swatches

The Swatches section of the Colour Studio provides colour swatch presets that are selectable from various categories (Colours, Gradients, PANTONE colours).

To use a colour swatch:

Do one of the following:

- Choose a palette category from the Swatches category pop-up menu and tap a colour swatch in the palette.
- Tap a swatch from the **Quick Colours** swatches
- Tap a **No fill** swatch from the **Quick Colours** swatches to make the colour completely transparent.

Using the Colour Picker

The Studio's Colour Picker lets you sample colours in your document and then use them for complementary design.



To use the Colour Picker:

1. Drag the Colour Picker icon to the colour you want to sample. The swatch next to the Colour Picker updates to the picked up colour.
2. Tap the **swatch selector** you want to apply the picked up colour to.
3. Tap the picked up **colour swatch** to apply the colour.

For more advanced colour picking, you can use the [Colour Picker Tool](#) instead of the Studio's Colour Picker.

Using context toolbar (Painting tools only):

For quick access, you can choose a brush stroke colour in advance of painting from the brush tool's context toolbar.

To apply a colour to brush strokes:

1. From the **Photo Persona**, select the **Paint Brush** or **Pixel Brush** tool.
2. From the context toolbar, tap the **Colour swatch** and set the colour from the pop-up panel.



Using the Colour pop-up panel, you have the option of selecting colour using an HSL Colour Wheel by default; HSL, RGB, CMYK, LAB, and Grey sliders.

Accessing PANTONE Colours

A wide selection of PANTONE colours are available in Affinity Photo. You can choose from Goe, GoeBridge and Colour Bridge palettes as both coated and uncoated.

To access PANTONE Colours:

From the Swatches section of the **Colour** Studio, navigate the category list (or double-tap), and select your preferred PANTONE palette.

SEE ALSO:

[Sampling colours](#)

[Colour models](#)

[Colour Studio](#)

[Gradient editing](#)

Sampling (or picking) colours

The act of colour picking lets you sample colours within Affinity Photo, then use them throughout your design.



About sampling colours

Colour sampling appears in two slightly different forms within Affinity Photo. It exists as a Studio 'component' as well as a standalone tool.

Both versions function in slightly different ways:

- A colour picker appears in the **Colour Studio** (and other colour-related pop-up panels).
- A standalone **Colour Picker Tool** appears in the **Photo Persona** only.

Regardless of which you use, a sampled colour is stored and applied from the swatch next to the colour picker's icon in the **Colour Studio**.



To use the Colour Picker Tool:

1. From the **Photo Persona**, select **Colour Picker Tool**.
2. Adjust the settings on the context toolbar. **Radius** lets you sample from a single point or from a colour-averaging area.
3. Do one of the following:
 - Tap to pick up any colour on the page.
 - Drag to select any colour under a magnifier.



To use the Studio's colour picker:

- From the **Colour Studio** or any pop-up panels, drag from the colour picker icon to select any pixel on your page.

To apply a sampled colour to an object:

1. Select one or more objects.
2. On the **Colour** Studio, tap a colour selector to set where you want to apply colour.
3. Tap the swatch next to the colour picker icon.



To automatically apply a sampled colour to an object:

1. Select one or more objects.
2. On the **Colour** Studio, tap a colour selector to set where you want to apply colour.
3. From the Photo Persona, select the **Colour Picker Tool**.
4. On the context toolbar, ensure **Auto-apply** is enabled.
5. Do one of the following, to apply to selected objects:
 - Tap on a colour on the page.
 - Drag to select any colour under a magnifier anywhere within or outside the app.

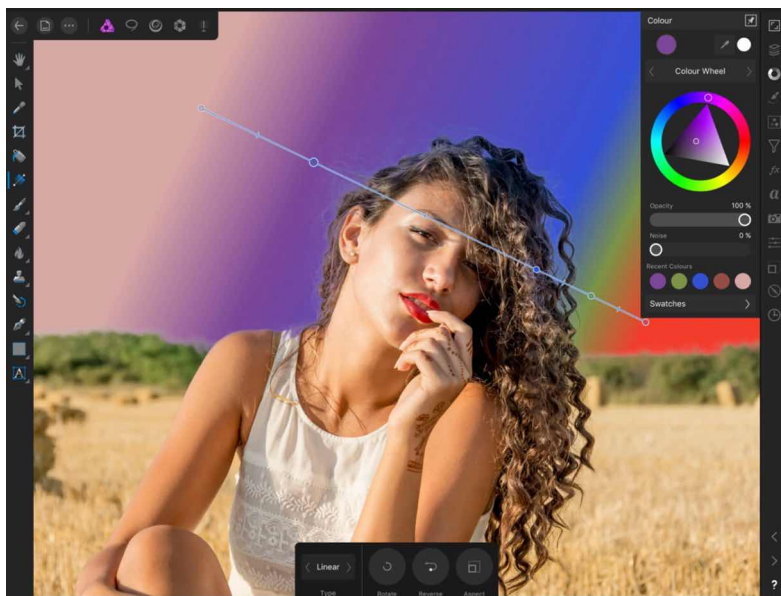
SEE ALSO:

[Colour Picker Tool](#)
[Selecting colours](#)

Gradient editing

The [Gradient](#) tool does a great job in drawing a simple colour gradient across layers (pixel layers, fill layers, adjustment layers, live filter layers, layer masks) as well as vector and text content. However, you might want to apply a more complex fill, introducing more than two colours along the gradient path, adjust where each colour is positioned and/or control colour transitions. You can do this directly on the page using the tool's gradient path.

If you apply a gradient directly to your image's layer you'll destroy the layer content. Instead, apply gradients to a separate pixel, fill, adjustment, filter, mask or vector layer. With Fill layers, your gradient path will additionally remain editable.



Complex linear gradient on underlying Fill layer showing added recoloured stops.

Gradient settings

The following settings can be adjusted via the tool's context toolbar

- **Type**-determines the gradient type (Linear, Elliptical, Bitmap, etc.) via a pop-up menu. When you choose Bitmap you'll be asked for an image to act as your bitmap fill.
- **Rotate**-the gradient is rotated anti-clockwise by 90° about its initially drawn stop.
- **Reverse**-the end stops swap places. (All intermediate stops are also repositioned accordingly)
- **Aspect**-if this option is off (default), the end stops can be resized separately which changes aspect ratio. When selected, the end stops are locked to keep the aspect ratio (ie., changing one will automatically update the other). This setting affects only Elliptical and Bitmap fill.



To use the Gradient tool

1. Select a pixel or vector layer.
2. From the **Photo Persona**, select the **Gradient tool**.
3. From the context toolbar, select a fill type from the **Type** menu.
4. Drag the cursor across the content.
5. Hold down a secondary finger (or thumb) to constrain the angle of the gradient path to 45°.



Each gradient is made up of two or more stops; tapping a stop selects it. The properties of any selected stop-including colour and opacity-can be changed individually to create the desired gradient. Assign colour and/or opacity by using the Colour Studio.

To modify a gradient:

With the **Gradient Tool** selected, select the layer content with a gradient fill applied and then do any of the following:

- Tap on the gradient path to add a stop.
- Tap a stop to select it. Selected stops display larger than other stops.
- Drag a stop to reposition it along the gradient path. End stops can be repositioned (by dragging) to extend or contract the gradient's length; the angle of the gradient can also be changed by dragging.
- Drag a mid point marker to adjust the spread of colours between two colour stops.
- Apply a colour (or opacity or noise value) to a selected stop from the Colour Studio.

SEE ALSO:

[Gradient Tool](#)

[Selecting colours](#)

Global colours

Global colours can be created and applied to different objects in your design. If you want to change the colour across your design at a later time, you can simply edit the global colour in the Swatches section of the [Colour Studio](#) and all objects update with the new colour automatically and simultaneously.



About global colours

The global colour could be applied as a solid fill, stroke, or a colour used in a gradient fill. Gradients cannot be saved as global colours as they are made up of more than one colour. Global colours can be made while in RGB, CMYK, LAB or Greyscale colour modes.

Global colours are added to the currently selected document palette in the Swatches section of the Colour Studio. If a document palette does not exist when your document's first global colour is created, a new document palette is automatically created for you in which the colour will be stored. Once created, you can apply the global colour to your design.



A global colour is indicated by a white tab in the bottom-right corner of its colour swatch.

To create a global colour from scratch:

1. On the Swatches section of the **Colour Studio**, select a document palette from the palette menu. If no document palette exists you can create one from the **Studio Preferences** menu.
2. From **Studio Preferences**, select **Add Global Colour**.
3. Choose a colour.
4. Tap **Add Global Colour**.

To edit a global colour:

1. From the Swatches section of the **Colour Studio**, long press the chosen colour swatch and select **Edit**.
 2. From the dialog, select a new colour.
- All objects using the global colour will be updated automatically.

To rename or delete a global colour:

- From the **Swatches** section of the **Colour Studio**, long press the chosen colour swatch and select **Rename** or **Delete**.

SEE ALSO:

[Overprinting](#)
[Spot colours](#)

Spot colours

When you create global colours from scratch, you can set these to be spot colours.

About spot colours

In professional printing, spot colours can be used instead of CMYK process colours when your artwork contains a very limited colour set. By setting these colours to be spot colours, print costs can be reduced significantly. You may also be able to accurately reproduce colours otherwise impossible with process colours.

As well as setting a global colour to be a spot colour, you can use pre-supplied PANTONE Colours, which will automatically become a global spot colour in the **Colour Studio's** Swatches section's document palette when applied.



A spot colour swatch is indicated by a small white dot on its colour swatch.



*When exporting to PDF, the **Honour spot colours** option lets you include spot colours in your output.*



In advance of using this feature, consult your print provider for advice on their use.

To create a spot colour:

1. From the **Swatches** section of the **Colour Studio**, select a document palette from the palette pop-up menu. If no Document palette exists you can create one from the **Studio Preferences** menu.
2. From **Studio Preferences**, select **Add Global Colour**.
3. Adjust the settings in the dialog.
4. Enable the **Spot** option.
5. Tap **Add Global Colour**.

SEE ALSO:

[Global colours](#)

[Overprinting](#)

[Selecting colours](#)

Overprinting

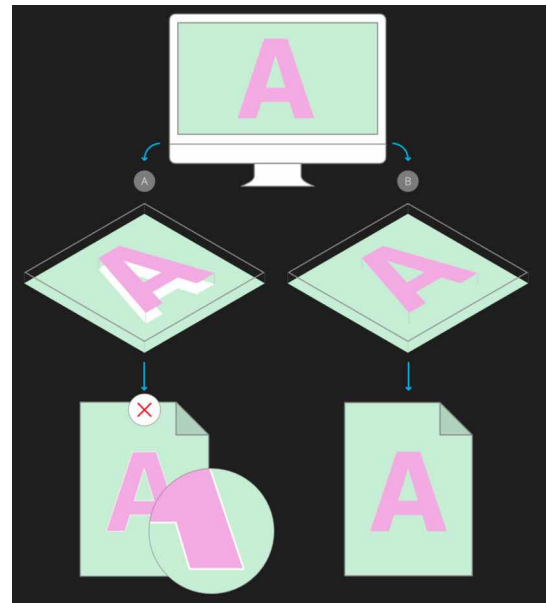
For professional printing, global colours can be made to overprint. By applying an overprint colour to objects selectively you can control overprinting.

About overprinting

Overprinting means that you can print one ink colour on top of another instead of, by default, the underlying colour being "knocked out" (removed). This prevents unwanted fringing being left around objects, e.g. text.

As a professional printing feature, overprint works when publishing PDFs using a CMYK colour space and PDFX compatibility.

You don't need to explicitly make an overprint for black, for black text or black graphics, as this is set by default. On PDF publishing, you can control black overprinting using the Overprint black option on export (for any PDF export options).



(A) Unwanted knockout behaviour (default) showing white fringing vs. (B) overprinting.



An overprint colour swatch is indicated by a dark grey dot on its colour swatch.



In advance of using this feature, consult your print provider for advice on its use

To create an overprint colour from scratch:

1. From the Swatches section of the **Colour Studio**, select a **document palette** from the palette pop-up menu. If no Document palette exists you can create one from the Studio Preferences menu.
2. From **Studio Preferences**, select **Add Global Colour**.
3. Adjust the settings in the dialog.
4. Enable the **Overprint** option.
5. Tap **Add Global Colour**.

SEE ALSO:

[Global colours](#)

Using channels

The image or document's colour mode determines the number and type of colour channels available to you. Each channel stores colour information specific to it, which, when combined with other channels, brings about the full colour image. For example, a red channel would store only red colour information in RGB colour mode.

Channel information is displayed in the [Channels Studio](#).



The colour channels of a CMYK image separated out.



The composite of the above image's colour channels.

Colour modes and channels

For each colour mode, the following channels are available:

- **RGB:** Red, Green, Blue channels
- **CMYK:** Cyan, Magenta, Yellow, Black channels
- **Greyscale:** Intensity channel
- **Lab:** Lightness, AOpponent, BOpponent channels



On new documents, the **Colour Format** option presents Colour mode and bit depth options in combination.

Image and layer channels

The **Channels** Studio always displays an image's channels when loaded. From an image channel you can:

- Protect the channel from editing.
- Hide the channel.
- Create a spare channel (i.e., a saved selection) from any channel's information.
- Store a new selection based on the channel information.
- Add, subtract, or intersect a channel's selection to/from/with a previously made selection, respectively.

For any currently selected layer (pixel, mask, adjustment or Live filter), the layer's channel(s) are displayed below the image channels.

From each layer's channel you can:

- Invert, clear, and fill the channel information.
- Create a new greyscale layer.
- Create a new mask layer.
- Create a Spare Channel (ie, a saved selection) from the channel information.

Alpha channels

The Channels Studio also displays the alpha channel for the whole image or currently selected pixel, mask, adjustment, or Live filter layer. These channels store transparency information, so it's a great place for more advanced masking control.

Pixel selections

Another great use of alpha channels is the ability to store more complex selections that would otherwise be difficult or time consuming to recreate again. The Channels Studio reports your current pixel selection as a channel entry, so by creating a 'new' Spare Channel from that pixel selection you've stored the selection for future use.

Pixel selections and masks

Because alpha channels store both selection and masks, the Channels Studio acts as a great central point for working between masks and selections.

Blend ranges

You can control how specific colour channels of the current layer blend with the underlying layer(s). For more information, see [Layer blend ranges](#).

Editing spare channels

The spare channel that stores your mask can be isolated for editing. This lets you paint and erase directly on the spare channel, as well as apply filters such as Gaussian Blur for softer mask edge!



To hide/show image channels:

- From the **Channels** Studio, tap the **eye icon** on the channel entry.



To protect image channels from editing:

- From the **Channels** Studio, tap the **pencil icon** on the channel entry. A greyed out icon means the channel is no longer editable.



To create a mask or greyscale layer from a current layer's channel:

- From the **More** button, select **Create Mask Layer** or **Create Greyscale Layer**. The new layer is added to the Layers Studio.



To invert, clear or fill a layer's channel:

From the **More** button, tap one of **Invert**, **Clear** or **Fill**.



To save a selection as an alpha channel:

- With a pixel selection in place, tap the **More** button on the **Pixel Selection (Alpha)** entry. Select **Create Spare Channel** from the flyout.

The selection is stored at the bottom of the **Channels** Studio as a new 'Spare Channel' entry.



Tap the invert icon to reverse the pixel selection (selected becomes unselected, and vice versa) and save as a second spare channel if needed.



To edit a spare channel and apply to a mask:

1. From the **Layers** Studio, select a mask layer.
2. From the **Channels** Studio, tap the **More** button on the Mask Alpha layer, and choose **Create Spare Channel**.
3. Tap the **More** button on the newly created 'Spare Channel' entry and tap **Edit** to isolate it.
4. Edit the spare channel.
5. Reselect the mask layer in the **Layers** Studio to exit isolation mode.
6. Tap the **More** button on the 'Spare Channel' entry and choose **Load to Mask Alpha** to apply the edited spare channel to your mask.

Before editing a spare channel, you have the option of duplicating the initial spare channel. This procedure is often used to preserve an unedited backup copy of a spare channel before editing the original.



To duplicate a spare channel:

- Tap the **More** button on the '**Spare Channel**' entry and select **Duplicate**.
- The duplicate is stored below the original as a new 'Spare Channel' entry.



To rename a spare channel:

- Tap the **More** button on the '**Spare Channel**' entry and select **Rename**.
- Enter a new name for the channel, then tap **OK**.

SEE ALSO:

[Channels Studio](#)

[Colour models](#)

[Saving and loading selections](#)

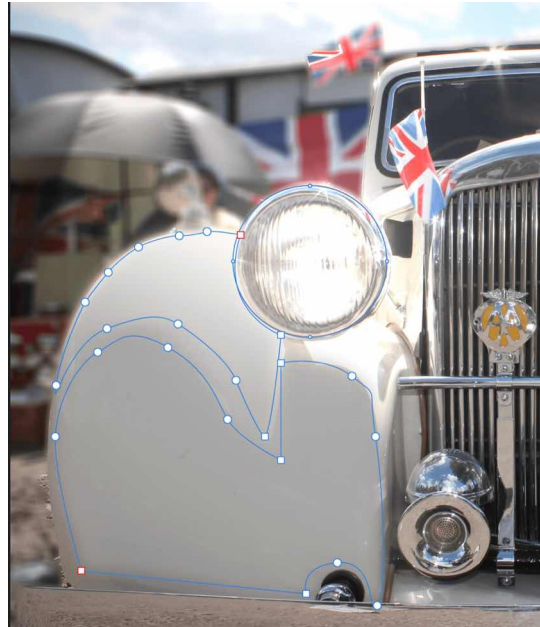
[Layer masking](#)

[Pixel selections from channels](#)

Lines and Shapes

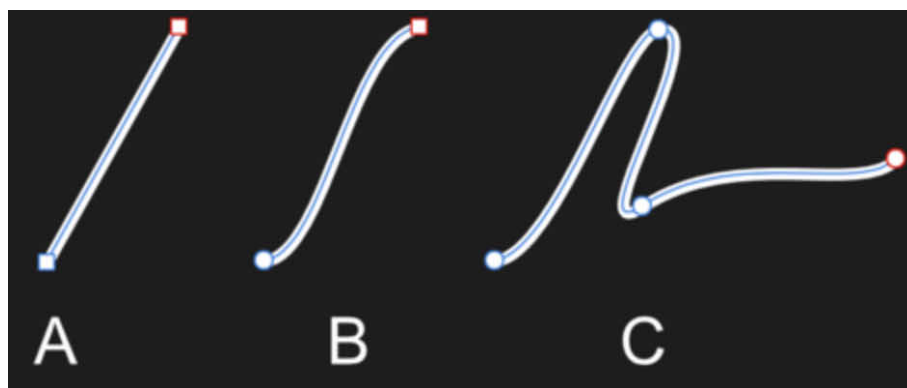
About lines and shapes

When you want to draw vector lines and shapes you'll need to use the [Pen](#) and [Shape](#) tools. Editing lines and curves is done with the [Node](#) tool, while shapes can be morphed into a myriad of shape variants using the originally used shape tool.



Lines

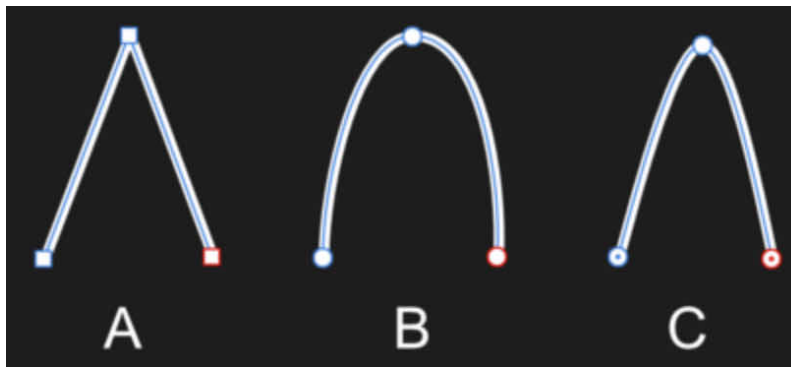
A line has distinct start and end stops, called nodes, with one or more nodes placed along the line's length which delimit each line segment and the segment's shape.



Segments between nodes can be straight (A) or curved (B). Multiple segments make up more complex curves (C).

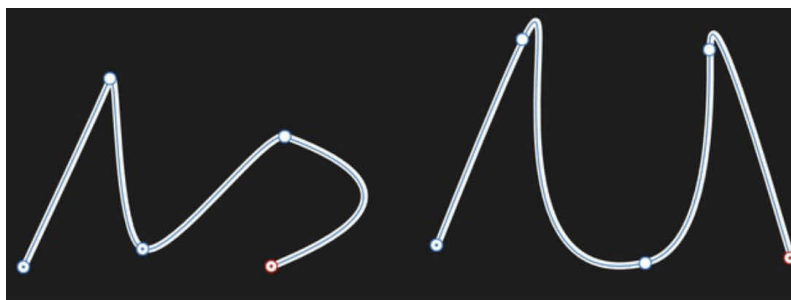
The type of node controls how the curve is shaped between segments. There are three basic types of node:

- **Sharp (A)**-Curve abruptly changes direction at the node creating a sharp non-symmetrical corner.
- **Bézier (B)**-curve is smooth at the node (controllable by control handles; not shown).
- **Smart (C)**-curve is symmetrical using a line of best fit at the node.



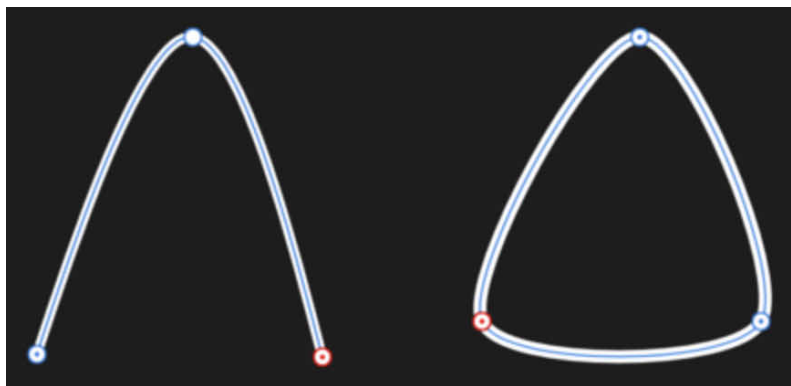
When drawing curves, any combination of nodes can be used to create the desired curve.

For Smart and Bézier curves, each node has one or two control handles when drawn. For Bézier curves, the length and slope of the control handles determine the shape of the line segment; Smart curves automatically set the control handle position to form a best fitting curve through the node.



Shapes

A shape is a **closed** curve-it has no discernible start or end-made up of multiple curves.



You can also easily create geometric type shapes using the [Shape](#) tools. These have special properties that enable you to quickly create otherwise difficult to draw shapes, such as circles, rectangles and polygons.



Curves and closed shapes can be given stroke and fill properties

SEE ALSO:

[Edit vector lines and shapes](#)
[Draw and edit shapes](#)



Draw lines and shapes

Vector curves (lines and shapes) are easily created using the Pen Tool. The tool has several modes that change the way the Curve is drawn.



To draw precise curves with the Pen Tool:

1. From the **Photo Persona**, select the **Pen Tool**.
2. On the context toolbar, select one of the modes:
 - **Pen**-tap-drag on the page to create repeated nodes; off-curve control handles at each node defines the shape of the next segment as you lay down nodes.
 - **Smart**-tap repeatedly on the page to lay down each node; a best fitting curve between nodes is created without the need for control handle adjustment.
 - **Polygon**-tap repeatedly on the page to lay down each node; a line is created with sharp nodes made up of straight segments.
 - **Line**-tap and drag on the page to create a simple single-segment straight line.
3. To complete the curve without closing it, double-tap on the last drawn node. To close the curve, tap on the starting node.



Once drawn, you can edit the curve or shape with the **Node Tool**.

To continue an existing curve:

1. Tap once on the final node on the path that you want to continue editing.
2. Continue to place new nodes as needed.



To close curves to create a custom shape:

Do one of the following:

- With the line selected with the **Pen Tool**, tap **Close** on the context toolbar.
- Tap on the starting node to join the curves and create the shape.



Gesture(s)

- A single-finger hold converts a node to a cusp (sharp corner).
- While drawing, a two-finger hold constrains control handles to 45 degree intervals.
- While editing, a two-finger hold lets you reposition nodes (control handles are locked).
- A three-finger hold repositions the last placed active node (this will snap).



Modifiers

The following modifiers can be used to speed up your workflow:

- Create sharp corners (cusp node): Hold down a secondary finger (or thumb) as you create a new node.

SEE ALSO:

[Draw and edit shapes](#)

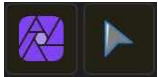
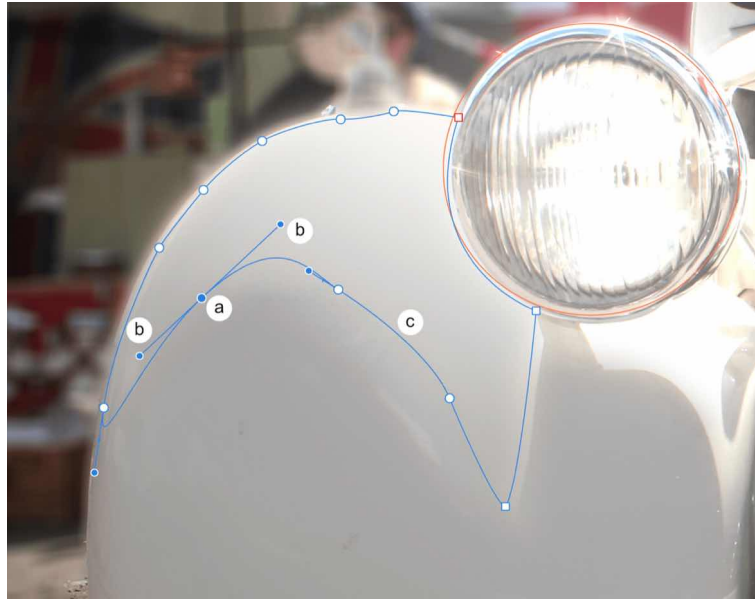
[Edit vector lines and shapes](#)

[Pen Tool](#)

[Node Tool](#)

Edit vector lines and shapes

Vector lines, curves and shapes are easily edited using the Node Tool.



To edit lines, curves and shapes:

- From the **Photo Persona**, select the **Node Tool**.
- Tap to select the line, curve or shape.
- Do one of the following to change the curvature of segments:
 - Tap a node (a) and drag to reposition.
 - Drag a control handle (b) to accentuate or lessen curvature.
 - Tap anywhere on a line segment (c) and drag



*The Node Tool can be used in conjunction with the **Transform Studio** to position or scale selected nodes precisely.*

To copy control handle length/direction from another curve's node:

- Drag a node from one curve directly over another curve's node and release. After a long press, the node's control handles will match that of the 'target' node.



To convert nodes to a different type:

- Select the node(s) you want to change and select one of the node types on the context toolbar; choose from **Sharp**, **Smooth** or **Smart**.

To add nodes:

With the curve selected, tap at the point where you want the node to be added.

To delete a selected node:

- From the context toolbar, tap **Delete**.

To close curves:

Do one of the following:

- Select the curve and then **Close** on the context toolbar.
- Drag the end node and drop on top of the start node when the pointer changes.

To break (split) curves:

- Select the node at the point at which you want the curve to break and then **Break** on the context toolbar.

To smooth curves:

- Select **Smooth** on the context toolbar. This modifies a line or shape, by adding and removing nodes automatically around inflection points.

To join curves:

1. With the Node Tool enabled, hold down a secondary finger and tap two separate curves.
2. Tap **Join** on the context toolbar. A straight line segment connects between the two curves.

To reverse curves:

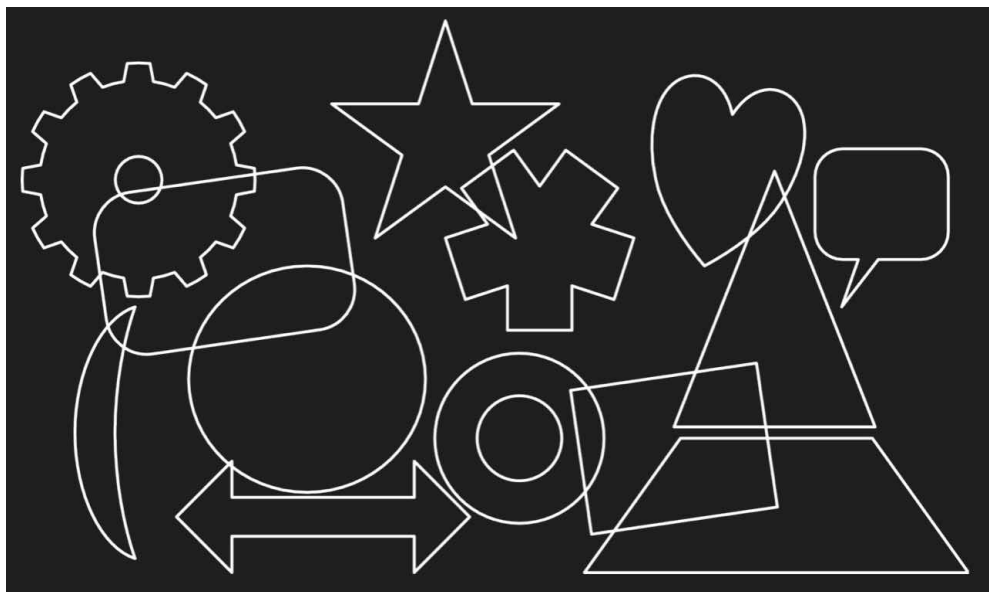
- Select **Reverse** on the context toolbar. The start node becomes active, ready for further drawing from the opposite end of the curve.

SEE ALSO:

[Draw lines and shapes](#)
[Draw and edit shapes](#)
[Node Tool](#)

About geometric shapes

Most geometric shapes, such as squares, circles and polygons, are difficult to draw accurately freehand. We've provided a selection of useful shapes to help you solve this problem. The shapes are fully geometrically correct, customisable, and can even be [converted to curves](#) for additional editing.



Once created, the shapes are easy to modify by changing the properties on the context toolbar or by dragging the special red handles.

Available shapes:

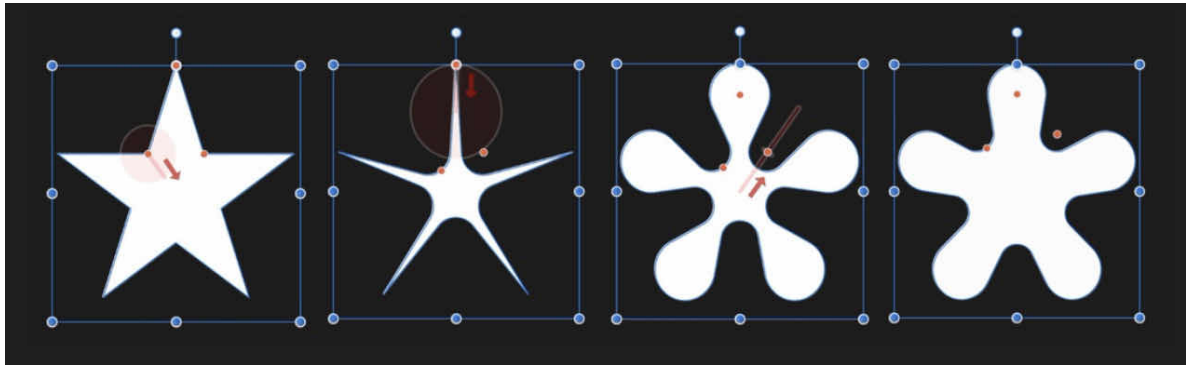
- [Rectangle Tool](#)
- [Ellipse Tool](#)
- [Square Star Tool](#)
- [Triangle Tool](#)
- [Tear Tool](#)
- [Trapezoid Tool](#)
- [Cog Tool](#)
- [Cloud Tool](#)
- [Diamond Tool](#)
- [Crescent Tool](#)
- [Arrow Tool](#)
- [Star Tool](#)
- [Heart Tool](#)
- [Pie Tool](#)
- [Callout Ellipse Tool](#)
- [Doughnut Tool](#)
- [Polygon Tool](#)

SEE ALSO:

[Draw and edit shapes](#)
[Converting to curves](#)

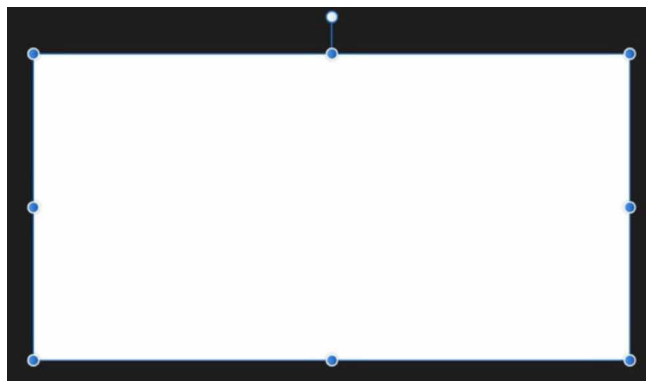
Draw and edit shapes

Geometric and other special shapes that would be otherwise hard to draw can be easily created using one of the corresponding shape tools. Once drawn, both the shape and its stroke can be made into curves for more freeform design.

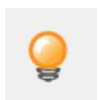
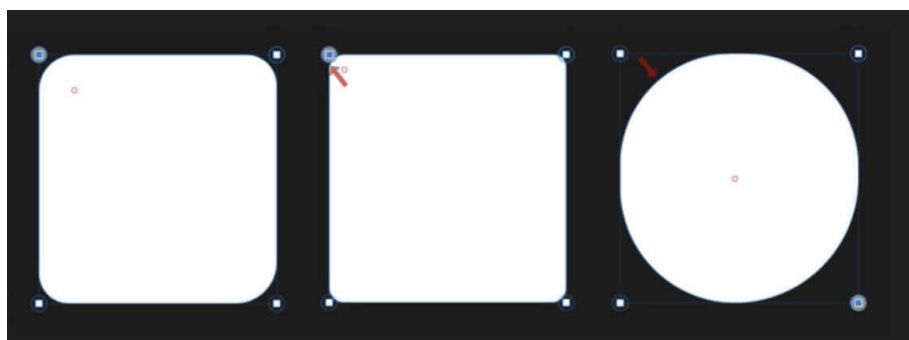


To draw a new shape:

1. With the **Photo Persona** enabled, choose one of the shape tools, eg., **Rectangle Tool**.
2. Drag on the page to create the shape. If needed, constrain the shape's proportions to a square by pressing a secondary finger (or thumb) on the screen as you drag. The same applies for ellipse and circle shapes



3. Modify options as required, either by changing the values on the context toolbar or by dragging the red handles) (if available).



When you pass your finger over a handle, a straight red guide line will appear to suggest the direction of drag needed to modify your shape.

To reset a shape handle to its initial position:

- Double-tap the red handle that has been previously moved. Any other repositioned handles on the shape will not be affected.

To edit an existing shape:

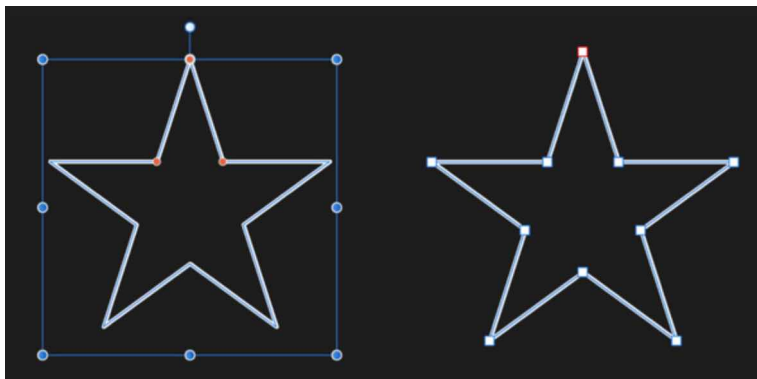
1. Select the shape, either by tapping the shape or by double-tapping the layer entry in the **Layers** Studio.
2. Edit the shape as required by either by directly dragging the red handle(s), or by changing the values on the context toolbar.



Shapes have special snapping properties which allow lines to snap to various angles within the shape.

To convert a shape to curves:

- Select the shape using its associated shape tool.
- Tap **To Curves** on the context toolbar.



The shape is now made from curves. Segments and nodes can be modified with the Node Tool.



Modifiers

As you create shapes, the following modifiers can be used while the shape is being drawn:

SEE ALSO:

[About geometric shapes](#)
[About lines and shapes](#)
[Edit lines and shapes](#)
[Frame text](#)

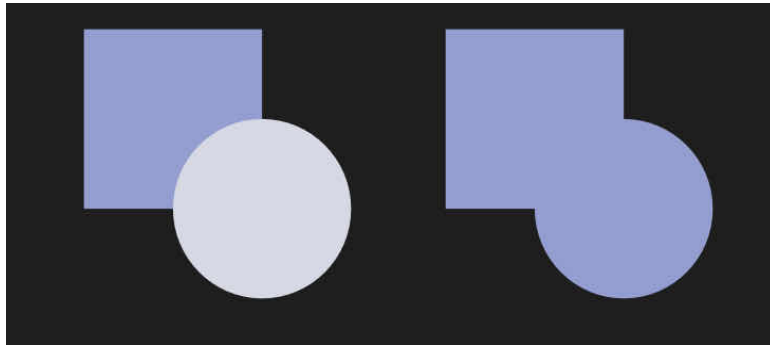
Joining vector shapes

Vector shapes can be joined together to create composite shape variations which can be fully edited as curves.

Joining operations

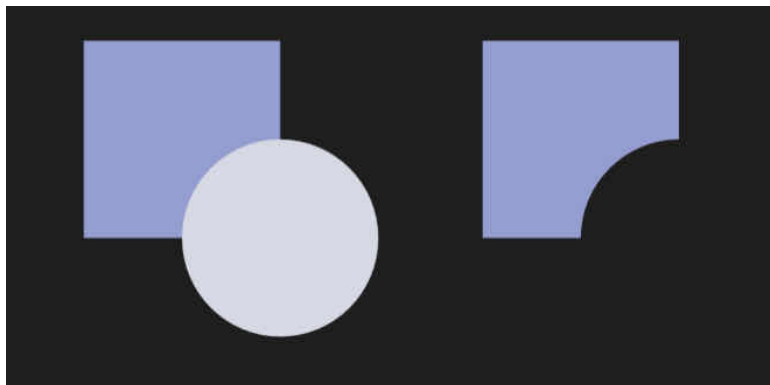
There are various Boolean operations available:

- **Add**-creates a new curve layer from the sum of the selected shape layers.



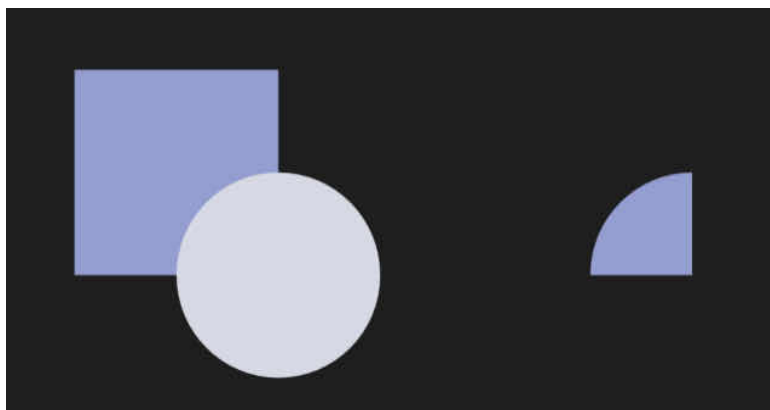
Before and after operation.

- **Subtract**-removes overlapped areas of the lowest shape layer. All other selected shape layers are discarded.



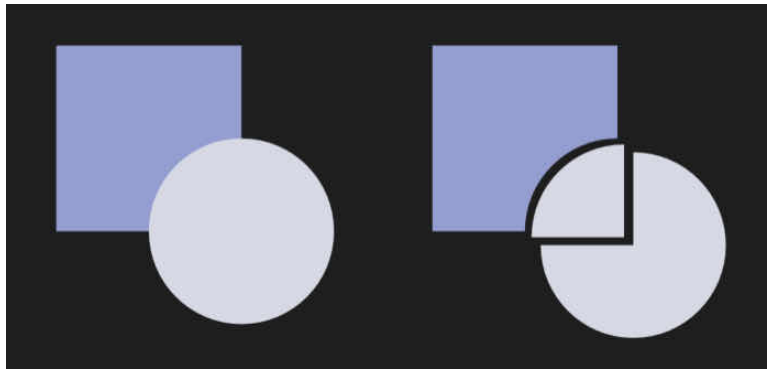
Before and after operation.

- **Intersect**-creates a new curve layer from the overlapping areas of selected shape layer



Before and after operation.

- **Divide**-splits shape layer areas into separate curve layers; the curve layer from the intersecting area retains the colour of the upper shape layer.



Before and after operation.

- **Combine**-merges selected shape layers into a curve layer with transparent area where filled regions overlap.



Before and after operation.



New curve layers adopt the properties of the lowest shape layer in the selection.

To implement join operations:

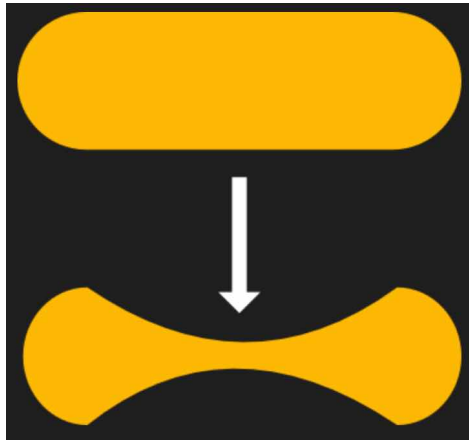
1. From the **Photo Persona**, select the **Move Tool**, then select multiple shape layers.
2. On the **Commands** Menu, select an option from the **Geometry** sub-menu.

SEE ALSO:

[Draw and edit shapes](#)

Converting to curves

You can create new shapes by converting geometric shapes (created using the Shape tools) into curves and then adjust the curve's nodes to make new shape variations.



The shape is converted to curves to allow the horizontal edges to be modified.

The **Convert to Curves** operation is not limited to geometric shapes. You can also convert text to curves too.



Text converted to curves and then nodes removed to modify bow, counter, and aperture of the letters.



Once a shape or text has been converted to curves, it can no longer be edited in its conventional way. For example, you would not be able to change the font of text once it has been converted to curves.

To convert to curves:

- For **shapes**, tap **To Curves** on the context toolbar.
 - For **text**, choose **Convert to curves** from the **Commands** Menu.
- Segments and nodes can be modified by using the **Node Tool**.

SEE ALSO:

[Draw and edit shapes](#)
[Edit vector lines and shapes](#)
[Artistic text](#)

Styles

Instead of having to create layer effects from scratch, the Layer FX Studio can be used to apply a pre-designed style to your layer content. If you want to save combinations of layer effects for future use, these can be stored in the Studio as a custom style.

For vector shapes and text, the fill, colour and transparent properties of the shape/text can be saved as a style along with any applied layer effects. You can reuse the style on vector shapes later.

A style can be any combination of layer effects, fill, and line/text attributes.



To apply a style:

1. Select a layer from the **Layers** Studio.
2. From the **Layer FX** Studio (Styles section), select a category from the pop-up menu.
3. Tap a style thumbnail.



To create a custom category:

- Tap **Studio Preferences** and choose **Add Category** from the menu.



To rename a styles category:

1. Choose the category you want to rename from the category pop-up menu.
2. Tap **Studio Preferences** and choose **Rename Category** from the menu.
3. Type a new name for the category in the dialog and select **OK**.



To save a style:

1. Choose a **Styles** category to save the style into.
2. Select the object whose style you want to save, tap **Preferences** on the **Layer FX** Studio, then choose **Add Style from Selection** from the menu.



If you plan to save some styles, create a custom category in the Studio first.

SEE ALSO:

[Layer FX Studio](#)



Paste Style and Layer Effects

The Paste Style feature allows you to copy layer styles (ie, fills and strokes or combinations of layer effects) from one layer and apply them directly to another layer.

To copy and paste layer attributes and effects:

1. From the **Photo Persona**, select the layer (in Layers Studio) with the style to be copied.
2. From the **Commands** Menu, select **Pasteboard->Cut** or **Pasteboard>Copy**.
3. Select the layer which will receive the copied effects or style.
4. Do any of the following:
 - From the **Commands** Menu, select **Paste FX** to paste just the layer effect(s) without stroke/fill attributes.
 - From the **Commands** Menu, select **Paste Style** to paste the layer effect(s) and stroke/fill attributes.

SEE ALSO

[Using layer effects](#)
[Styles](#)
[Layer FX Studio](#)

Text

Working with text

There are two varieties of text, Artistic and Frame, to give you flexibility when working with typography.

Text objects contain both character and paragraph elements, making it easy to modify standard text attributes such as font, size, format, and alignment. Both text tools have quick access settings on the built-in keyboard; you can also use the supporting Text Studio for more advanced options.

When performing text editing, Affinity Photo supports all standard text selection and formatting techniques.



To move the insertion point:

1. Place the input focus within a text frame or artistic text.
2. Hold one finger on the spacebar or two fingers anywhere on the on-screen keyboard.
3. When the key labels disappear, drag your finger around the keyboard.



To select text for formatting:

- With the **Move Tool** selected, tap a text object to make formatting changes to all text; use the **Text Studio** to edit.
- Double-tap a word to make formatting changes to just that word within the text object; use built-in keyboard or Text Studio to edit.
- With either of the text tools selected, drag over text to make a selection that can be formatted; use built-in keyboard or Text Studio to edit.
- Use the method described above to move the insertion point to the start of the text:
 - Lift your fingers off the screen.
 - Repeat the gesture. When the key labels disappear, hold your finger in place for a moment longer.
 - Drag your finger around the keyboard.

SEE ALSO:

[Artistic text](#)

[Frame text](#)

[Character formatting](#)

[Paragraph formatting](#)

[Artistic Text Tool](#)

[Frame Text Tool](#)

Artistic text

Artistic text, as the name suggests, is best suited to decorative or artistic typographical design.



To create artistic text:

With the **Artistic Text Tool** selected:

1. Drag across and down the page to set the size of the text
2. Do one of the following:
 - Type your text.
 - Paste previously copied text

*For more design freedom, you can convert any selected artistic text to curves via the **Commands Menu**.*



To resize artistic text:



With the artistic text selected with the Move tool, do one of the following:

- To resize height and width simultaneously (constraining the aspect ratio), drag the object's corner handles.
- To resize height and width independently (unconstrained), drag the object's edge handles.

Modifiers

*When using the **Artistic Text Tool**, the following modifiers can be used:*

Hold down a secondary finger (or thumb) to reverse the default resize conventions (as described above).



SEE ALSO:

[Working with text](#)

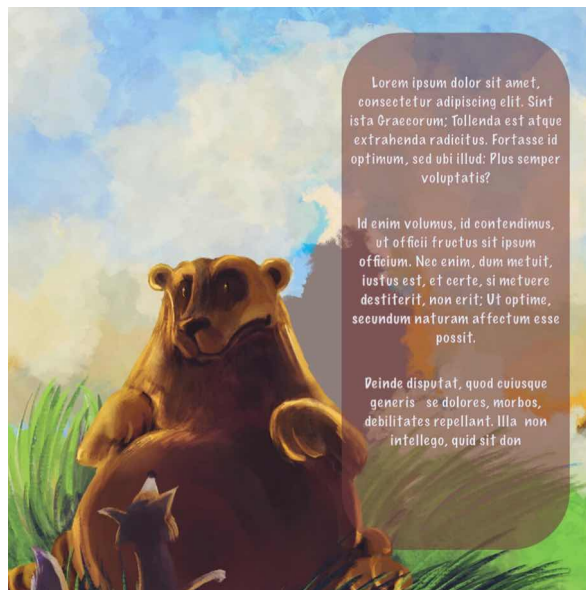
[Artistic Text Tool](#)

[Frame text](#)

[Converting to curves](#)

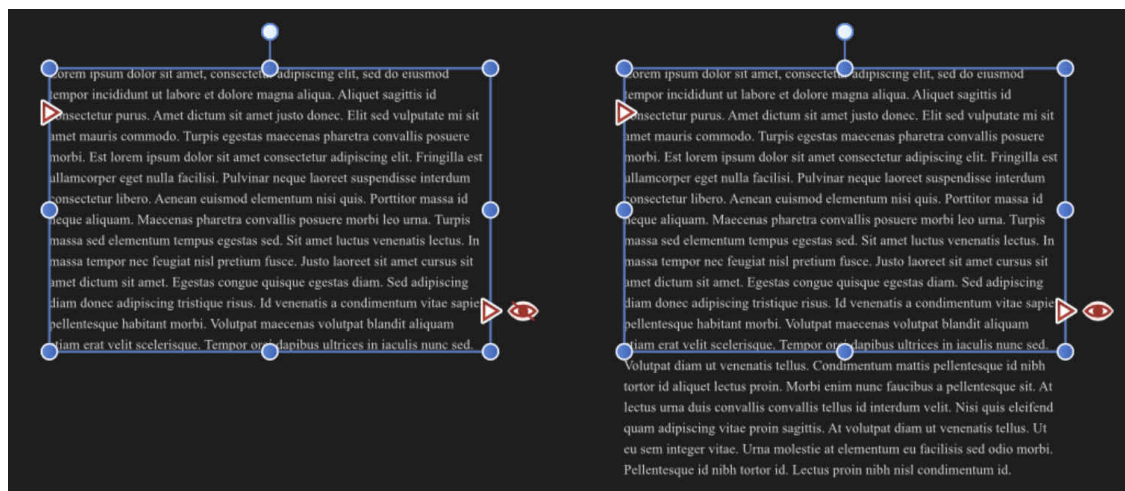
Frame text

Frame text is perfect for presenting paragraphs with a formalised structure and layout.



By tapping in the drawn frame then typing, you're able to fill the frame with frame text. If excess text overflows the bottom of the frame, you can either reduce the text's font size or make the text frame larger; both methods will make the text fit the frame.

If there's too much text to fit in a frame, any overflowing text will be stored in an invisible overflow area. To indicate overflowing text, an adjacent eye icon appears, allowing you to show or hide the overflowing text.



To create frame text:

With the **Frame Text Tool** selected:

1. Drag on the page. This sets the initial size of the text frame.
2. Do one of the following:
 - Type your text.
 - Paste previously copied text.

Resizing text frames

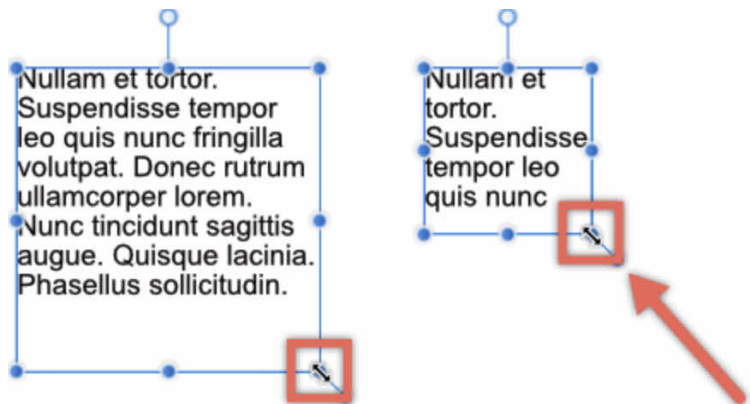
When resizing a frame you can control whether:

- Text remains at its set size and reflows through the frame.
- Text scales as the frame is resized.

To reflow text with frame resize:

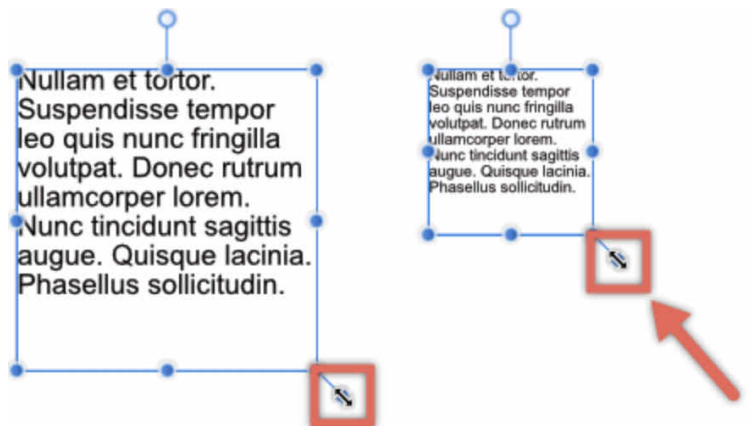
With the text frame selected, do one of the following:

- To resize height and width simultaneously, drag the object's corner handles.
- To resize height and width independently, drag the object's edge handles.



To scale text with frame resize:

- With the text frame selected, drag the object's scale handle (extends from the bottom-right corner of the selection).



By default, the scaling maintains the aspect ratio of frame text and text frame.



Modifiers

When using the Frame Text Tool, the following modifiers can be used:

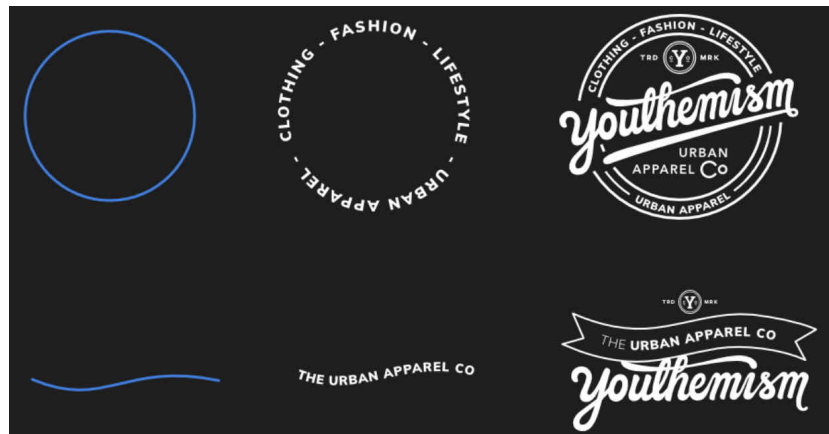
- Hold down a secondary finger (or thumb) to either
 - Constrain frame's proportions at the time of creation (to a square) or when reflowing text with frame resize.
 - Unconstrain frame text and frame's proportions when scaling text with frame resize.

SEE ALSO:

[Working with text](#)
[Frame Text Tool](#)
[Artistic text](#)

Text on a path

Path text is a variation of Artistic text which follows a line, curve or outline of a shape.



Before and after conversion to path text (and final design example).

Applying text to a path allows you to explore a whole range of diverse typographical designs. The path can be created from any line, curve or shape drawn using any of the line or shape tools. These include, but are not limited to, the [Pen Tool](#) and [Ellipse Tool](#). The only criterion is that a line, curve or shape must exist on the page before path text can be implemented.

When a line, curve or shape is converted to a path to accommodate text, the original object is discarded. If you wish to retain the original object, we recommend [duplicating](#) it first.

Modifying path text

Once the path has been created, you can adjust the start and end handles on the path to expand or restrict the portion on which text will flow.

The start and end handles are indicated by light green and orange triangles, respectively.



If path text extends beyond the start and end handles it will flow onto a second path (below) or wrap around to follow the path in the opposite direction.

If this occurs, an additional pair of start and end handles (coloured dark green and red, respectively) will become available so this new path can be adjusted separately. Both paths and pairs of handles work identically.



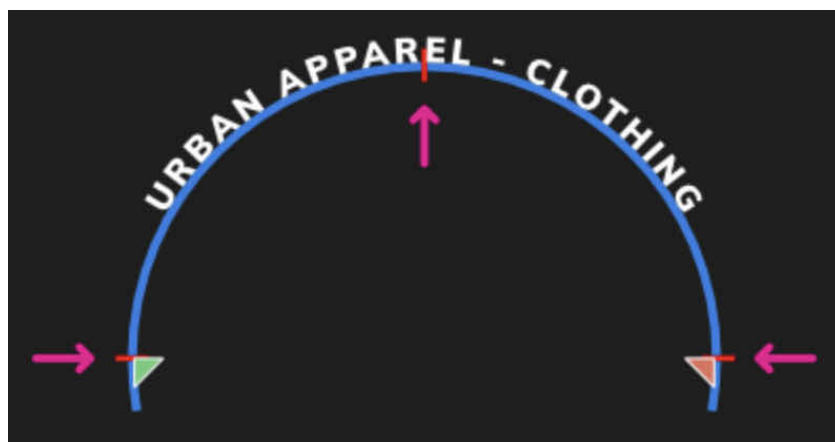
Reshaping the path object

You can reshape the path object at any point using the **Node Tool**. If your text path object originated from one of the **Shape** tools, you can modify it as if it was still the original geometric shape. Text already present on the path will reflow along the changing path when the object is reshaped.

For more information on reshaping a path object, see the [Edit vector lines and shapes](#) and [Draw and edit shapes](#) topics.

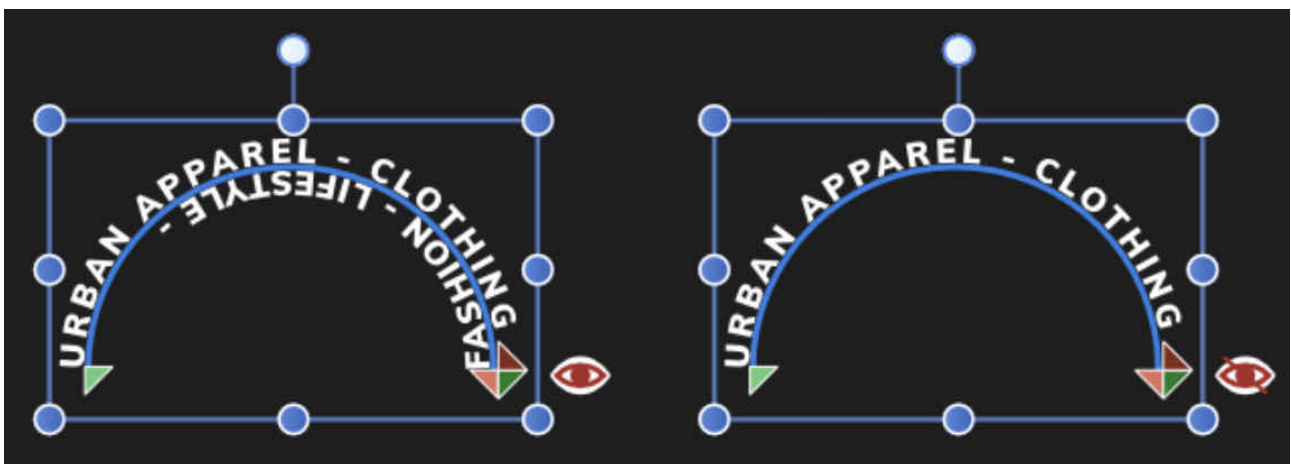
Path text and snapping

Along the path you'll encounter red perpendicular snapping lines as you drag path text handles. For example, on path text around an ellipse, you can snap to 90° intervals on its circumference, then use text alignment options to precisely position text centrally.



Hiding overflowing path text

Any path text extending beyond the end handle of a secondary path will be hidden by default, but you can expose this for editing, by tapping the strikethrough red eye icon.





To create path text:

1. Select a previously drawn line, curve or shape.
2. From the **Photo Persona**, select **Artistic Text Tool**.
3. Tap on the line, curve or shape where you would like your text to begin.
4. The line, curve or shape is converted to a path ready for accommodating text.
5. Do one of the following:
 - Type your text.
 - Paste previously copied text.

To modify the flow of path text:

- With the path text selected, drag one or more path text handles.

Resizing path object

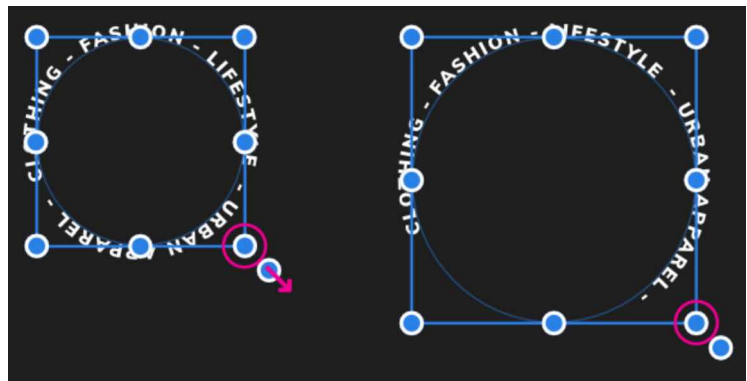
When resizing a path object you can control whether:

- Text remains at its set size and reflows across the path.
- Text scales as the path is resized.

To reflow text:

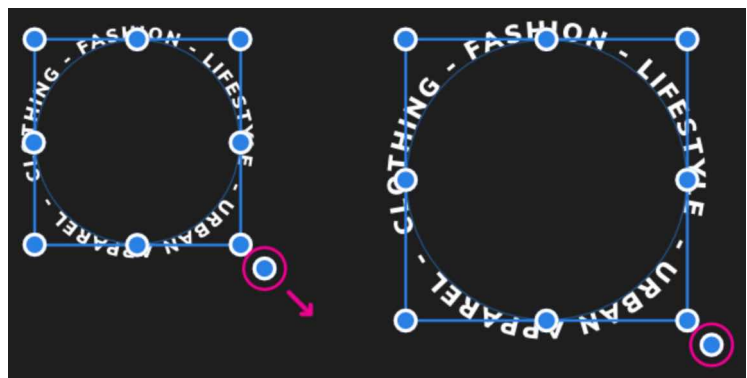
With the path object selected, do one of the following:

- To resize height and width simultaneously, drag the object's corner handles
- To resize height and width independently, drag the object's side handles.



To scale text:

With the path object selected, drag the object's scale handle (extends from the bottom-right corner of the selection).

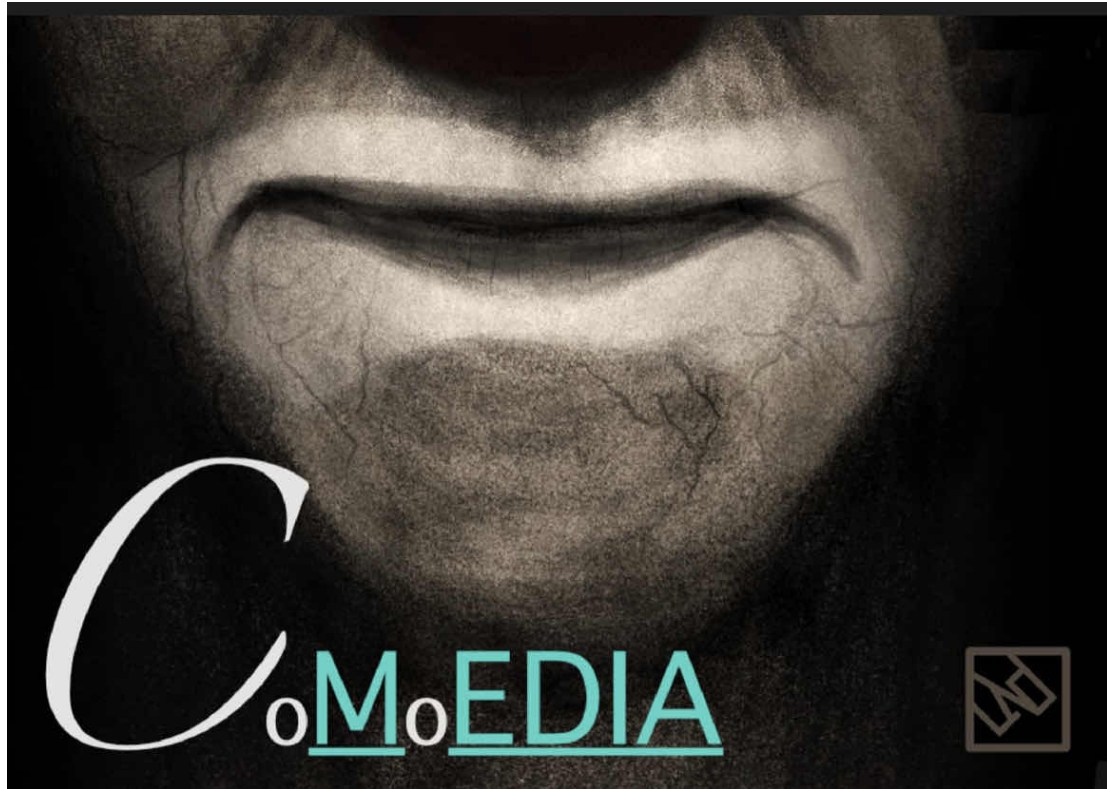


SEE ALSO:

[Working with text](#)
[Artistic Text Tool](#)

Character formatting

Character formatting describes text attributes which are applied at a character level.



Formatting includes attributes such as font and size and may be applied to a single letter, single word, spans of text or full paragraphs. This type of formatting is useful for both art and frame text. You'll also be able to set character attributes such as bold and italic, and more advanced character positioning and typographic control (including OpenType font features).

a

To apply character formatting:

1. Do one of the following, with either text tool selected:
 - Drag over the character, word or span of text you want to edit.
 - Place the text cursor within a word.
2. Display the Text Studio, and do one of:
 - Change font, font size, or bold/italic/underline attributes accordingly.
 - In the **Character** section, tap **Positioning** or **Typography** and adjust settings.

SEE ALSO:

[Text Studio](#)
[Working with text](#)
[Artistic text](#)
[Frame text](#)
[Paragraph formatting](#)
[OpenType font features](#)

Paragraph formatting

Paragraph formatting describes text attributes which are applied at a paragraph level. Attributes associated with paragraph formatting such as alignment, leading, and indents can only be applied to full paragraphs.

This type of formatting can be applied to artistic text, but is more appropriate for frame text.

To apply paragraph formatting:

1. Do one of the following:
 - For individual paragraphs: With either text tool enabled, place the text cursor within a word.
 - For all paragraphs: Select the **Move tool**, then select the **text frame**.
2. Display the **Text Studio**, and do one of the following:
 - Change **Alignment** and **Justification** options accordingly.
 - In the **Paragraph** section, tap **Spacing** or **Justification** and adjust settings.

To add tab stops:

On the **Text Studio**, in the **Tab Stop** section:

Set the tab stop **Position**, then tap the **Add** button.

New tab stops are listed under the input box and button. As you add multiple tab stops, the tab stop space is calculated from the position of the previously added tab stop.



Remember that you have to insert tabs into the paragraph using the in-built keyboard's tab key.

To modify and delete tab stops:

In the Tab Stop section, do one of the following:

- Expand a listed tab stop entry (using the right arrow) and set the **Alignment** and/or **Leader**.
- Select a listed tab stop and tap **Delete** to remove a tab stop.

SEE ALSO:

[Text Studio](#)
[Working with text](#)
[Frame text](#)
[Character formatting](#)

OpenType font features

Affinity Photo provides support for OpenType font features. These extend the font's character set which lets you present text with a greater degree of typographical control.



Text example of an OpenType stylistic set using the font Gabriola.

Font features supported include ligatures, alternates, swash variants, stylistic sets, and figure positions.

For fonts that support OpenType font features, additional typographic options will be displayed in the Typography section of the Text Studio.

To apply OpenType font features:

1. Assign a font to your text that supports OpenType font features.
2. From the **Text** Studio, go to **Character>Typography**, then **Open Type**.
3. Enable/disable settings in the flyout to get the look you like.



The available font features differ between fonts. This is dependent on how the font was designed by the font designer.

SEE ALSO:

[Working with text](#)
[Artistic text](#)
[Character formatting](#)

Importing custom fonts

You can import and manage custom fonts via [Preferences](#). The easiest way to make fonts available for import is to download them on a desktop machine, then copy them to cloud storage.



To import custom fonts from Preferences:

1. Tap the **Fonts** heading.
2. Tap the **Import** button to open the **Files** app.
3. Navigate to where your fonts are located (typically on Cloud Storage).
4. To import one font simply tap it, and it will then appear in the fonts list.
5. To import multiple fonts, tap **Select** from the top right, then tap multiple fonts. Tap **Open** to confirm your choice.



*You can also tap-drag fonts from the **Files** app and drop them into the fonts list.*

To remove custom fonts:

1. Tap the font you wish to remove on the **Fonts** list.
2. Tap the **Remove Font** button.

When downloading custom fonts, you may typically find they are in a compressed archive (e.g. ZIP).

To extract fonts from an archive using just an iPad:

1. The font download link will typically open in the web browser and prompt you with several options.
2. To save the archive locally, choose On My iPad. Alternatively, you can save it to cloud storage.
3. Locate the downloaded archive using the **Files** app, then tap it. Choose **Preview Content**.
4. You are now previewing content in the archive. Find the font file you wish to extract, then tap **Share** in the top right corner and choose **Save to Files**.
5. As before, you can save the font file locally (On My iPad) or to cloud storage.

The font file is now ready to be imported.

SEE ALSO:

[Working with text Preferences](#)

Sharing

Export

The Export dialog provides a streamlined approach to exporting your document to a common file format. You can make use of pre-supplied or your own saved presets, or have the flexibility of adjusting settings individually.



To export an image:

1. From the **Document** Menu, select **Export**.
2. Choose an export file format and settings.
3. Do one of the following:
 - Tap **OK**.
 - Drag the file format icon and drop onto the **Files** app, **Facebook** post window, or **email** app's New Message window.

To preview your export:

1. From the **Document** menu, select **Export**.
2. Select a raster file format and tap **Preview**.
3. When you are done previewing your export, tap **Close**.

General settings

The following general settings can be adjusted:

- **Format**-select the format for your exported file. Export formats include PNG, JPEG, GIF, TIF, EXR, PSD, and PDF.
- **Preset**-sets predefined export options for the selected file format. As well as the default application presets, this pop-up menu may report 'custom if any preset has been modified.
- **Filename**-Tap and edit to define a new file name for the exported file.
- **Pixel format**-the colour space of the exported file; this can either inherit the document's colour format or choose a different format at export time.
- **Area**-instead of exporting the whole page, you can export the currently selected layer content, with or without its background using the 'Selection with background' or 'Selection without background' options.
- **Embed metadata**-when selected, any raster image's original metadata is preserved in the exported file. If this option is off, all original metadata is removed.
- **Preview**-raster file formats only) when tapped, displays a preview of the file to be exported. A two-finger pinch will zoom in and out of your preview. Double tapping will zoom your preview to 100%.



'Selection' means selected layer content, not selection areas created with selection tools.

Additional settings

For PNG, JPEG, GIF, TIFF and EXR file formats:

- **Dimensions**-by default, displays the native dimensions of your image. Type value(s) to set an alternative width and/or height for your exported image.



- **Lock aspect ratio**-when enabled (default), the image's native aspect ratio is honoured. If this option is off, exported image width and height can be set independently.

- **ICC Profile**-by default, this is set to the ICC profile of the project (document). However, the project's ICC profile can be overwritten for this export area.

- **Embed ICC profile**-when selected, the ICC profile is included within the exported image's data, allowing the image to be viewed using the correct profile on any device. If this option is off, the viewing device must possess the ICC profile otherwise a substitute profile is used.

*You can set a Matte colour for any otherwise transparent regions in your image using the Matte filter (**Filters Studio**).*

For PNG, JPEG, GIF, TIFE, EXR and PSD file formats:

- **Resample**-select which resampling method to use if the image is to be upsampled or downsampled on export.
 - **Nearest neighbour**-simple resampling which has the fastest processing time. Use for hard-edge images.
 - **Bilinear**-algorithmic resampling for use when shrinking images.
 - **Bicubic**-algorithmic resampling for use when enlarging images. Resampling is smoother than Bilinear but has a slower processing time.
 - **Lanczos (separable)**-complex Lanczos 3 algorithmic resampling gives the best results but a longer processing time than the above.
 - **Lanczos (non-separable)** -As for separable but gives marginally better results, albeit slower, than separable.

For TIFF and EXR file formats:

- **Compression**-determine a compression format to use for a reduced file size. Compression may also be disabled entirely.

For JPEG file format:

- **Quality**-sets the resulting quality of the exported image. Higher quality may result in significantly larger file sizes
- **Progressive**-when selected, the exported image is progressively compressed for optimised viewing when downloading.

For SVG file formats:

- **Text as curves**- when selected, the text in the resulting file will be drawn as curves (therefore displaying precisely as intended, even if viewed on a device without the used fonts installed). If this option is off (default), text will be exported as text and the viewing device will need the used fonts installed for it to be viewed correctly.

For EPS file formats:

- **Postscript Level**-sets the version of the exported postscript file.

For TIFF file format:

- **Save Affinity layers**-Layers in the document are preserved in the exported TIFF image.
- **Compression**-by default, this is set to ZIP. Options to apply LZW compression or no compression are available.



For any image format, the export dialog will display the estimated file size for the exported image.

For PDF, SVG and EPS file formats:

- **Rasterise**-select an option for rasterising design elements which are unsupported by the fl format. Select from the pop-up menu:
- **Nothing**-elements within the design are rasterised on export, therefore unsupported elements are not included in the exported file.
- **Unsupported properties**-only unsupported elements are rasterised in the exported file.
- **Everything**-all elements within the design are rasterised for a resulting exported file which perfectly matches your original design.
- **Use document resolution**-when enabled, the export is the same DPI as the current document's setting. When disabled, you can set an independent resolution to override the document's resolution.

- **Allow JPEG compression**-when enabled, rasterised design elements will be compressed to decrease exported file size, according to the Quality setting. If this option is off, rasterised design elements will be exported as uncompressed.
- **Downsample images above**-when enabled, raster images greater than the accompanying DPI value are downsampled on export. If disabled, images are exported at their native resolution.

For PNG and GIF file formats:

- **Palletised**-when selected, encodes the exported image by mapping it to the Palette and Colours settings set below. (This option cannot be switched off for GIF images.)
- **Palette**-by default, this is set to be automatically determined. However, you can specify an encoding palette yourself.
- **Colours**-selects the number of colours available in the palette.

For SVG and EPS file formats:

- **Relative coordinates**-when selected, objects in the exported file have relative positions for maximum editability. If this option is off, object positions are fixed to create a file which is optimised for viewing.

For PSD file format:

- **Rasterise all layers**-when selected, layer content is rasterised in the exported file (the layer structure is retained). If this option is off, no rasterisation takes place on export.
- **Compatibility mode**-when selected, the exported file will be compatible with other applications which do not support some features (file size may also increase). If this option is off, the exported file may not be readable by other applications (depending on the features used in the image).
- **Smallest file sizes**-when selected, the exported file will be compressed where possible but may not be readable by other applications. If this option is off, no compression will take place for the exported file.
- **Gradients, Adjustments, Layer effects, Lines, Adv blending**-set the way to export specific project attributes. Select from the pop-up menu.
- **Preserve accuracy**-the listed attribute will be rasterised to preserve its intended design.
- **Preserve editability**-the listed attribute will be exported with its original settings to allow for easy editing.

For PDF file format:

- **Colour Space**-choose whether to use the document's current colour space or export using a selected colour space.
- **ICC Profile**-choose whether to use the document's current colour profile or export using a specific colour profile.
- **Embed profiles**-when selected (default, the chosen (or document's) colour profile will be embedded in the exported file. If this option is off, the exported file will not have the colour profile embedded with it (the viewing device will need to have the appropriate colour profile installed to view the exported PDF accurately).
- **Compatibility**-sets the version and type of PDF to be exported.
- **Embed fonts**-select an option for handling fonts used in the document.
- **Text as Curves**-all text is converted to curves. This ensures the resulting exported file will display correctly regardless of the fonts installed on the viewing device.
- **All Fonts**-any fonts used in the document are embedded in the exported file. This ensures the resulting exported file will display correctly regardless of the fonts installed on the viewing device.
- **Uncommon Fonts**-fonts used are only embedded in the exported file if they are not part of the fonts traditionally installed on most devices. The viewing device must have the expected fonts installed to view any common fonts in the exported file.
- **No Fonts**-no fonts are embedded in the exported file. A viewing device must have all the used fonts installed to accurately view the exported file.
- **Subset fonts**-when selected, embedded fonts will only include the glyphs used in the document. If this option is off, all glyphs for the used fonts are embedded in the exported file, regardless of whether they appear in the document or not.
- **Allow advanced features**-when selected, all design features supported by the PDF file format are exported as vectors. If this option is off, depending on the nature of these features, they are rasterised or converted to curves on export. These features include:
 - Artistic text which has been horizontally or vertically stretched.

- Text which has an applied stroke.
- Linear and radial gradients.
- Non-solid transparencies.



If the **Allow advanced features** option is selected on export, the resulting PDF, when imported into other applications, may cause the above advanced features to be rasterised or rendered incorrectly. The third party's app may also display an error message on PDF import.

- **Honour spot colours**-when selected, spot colours within the design are exported as spot colours. If this option is off, spot colours are converted to an equivalent colour within the exported file's colour space (see above).
- **Overprint black**-when selected, design elements which use CMYK black are set to overprint. If this option is off, CMYK black elements are set to be indistinguishable to other colours during printing.
- **Include bleed**- when selected, the bleed area of your document if set, will be included in the PDF output. (Primarily used when working on Affinity Designer documents in Affinity Photo.)
- **Printers marks**-when selected, the PDF output will show printer marks around the page edge. All printer marks are added by default. However, particular types of printer marks can be switched of, depending on your preference. These include:
 - Crop marks
 - Registration marks
 - Colour and greyscale bars
 - Page information



Professional printing services often print on larger sheets and trim them to your page design's size. To ensure movement during printing does not result in white edges, make your design file the document's bleed area, turn on **Include bleed** to add this information in your PDF file, and turn on **Printers marks** to assist with trimming. To set an Affinity document's bleed area, open it in Affinity Designer and select **Bleed** from the **Document** menu.

For SVG file format:

Text as curves-when selected, the text in the resulting file will be drawn as curves (therefore displaying precisely as intended, even if viewed on a device without the used fonts installed). However, this option will increase file size, and text won't be editable as text or available to "text to speech" in other apps. If this option is off, text will be exported as text and the viewing device will need the used fonts installed for it to be viewed correctly.

Long text spans-when selected, text is placed relative to previous lines of text (therefore producing smaller file sizes and simpler file structures). If this option is off, text is placed with absolute coordinates.

Hex colours-when selected, colours in the exported file are expressed as RGB Hex values (therefore reducing file size but less human-readable). If this option is off, colours are exported as standard RGB values.

Flatten transforms-when selected, transformed objects are 'fixed' in the exported file. This allows for the file to be viewed more accurately across applications. If this option is off, objects remain dynamically transformed to allow for more flexible editing.

Use tile patterns-when selected, rasterised areas may be converted to a vector shape with a filled bitmap to give smoother, sharper edges. However, this might not be supported by some apps. If this option is off, objects will exist as singular elements within the exported file.

Set view box-when selected, the exported file includes coordinates and dimensions which define the view box of the image. If this option is off, no view box data is included in the exported file. The export area is used to define the view box.

Add line breaks-when selected, the code in the exported file will be optimised for human viewing and reading. If this option is off, the image will be exported with code on a single line which will make the file size significantly smaller.

For EPS file format:

- **Postscript Level**-sets the version of the exported postscript file.
- **Minimise size**-when selected (default), the exported file will be compressed to create the smallest file size possible.

SEE ALSO:

[Share](#)

[Print](#)

[File formats](#)

Print

You can print your document directly to a physical printer.

You'll be able to print directly to any printer that is on your wireless network that supports AirPrint; your iPad device should automatically detect the printer.



For hi-res professional PDF printing or web-ready PDF distribution, use the [Export](#) feature instead of Print.

Settings

Affinity Photo supports standard printing options available for the OS along with Options settings which may vary according to printer manufacturer.



To print:

1. From the **Document** Menu, select **Print**.
2. Choose number of copies and adjust printer specific Options.
3. Tap **Print**.

SEE ALSO:

[Export](#)
[Share](#)

Share

A Share option makes it easy to distribute your document to clients, friends, and family. When sharing, you have access to export settings for various file formats; these are the same options you use to export the image to a file.

Options

The following sharing options are available from a Share pop-up menu:

- **AirDrop**-image is made available for airdropping.
- **Message**-image is placed in a new message, ready for sending to friends.
- **Mail**-image is placed in the body of an email, ready for sending to contacts.
- **Add to Notes**-image and optional comments are added to Apple's Notes application.
- **Save PDF to iBooks**-the image is stored (as a PDF) to the Apple iBooks application.
- **iCloud**-the image is added to iCloud storage.

Once installed, other cloud storage such as Dropbox and Google Drive will be available in the above pop-up menu as well as social media apps such as Facebook and Twitter.



To share a design:

1. From the **Document** Menu, select **Export**.
2. Choose an export file format and settings.
3. Tap **Share** and choose a sharing option from the pop-up menu.

SEE ALSO:

[Export](#)
[Print](#)



Export Persona

Exporting using Export Persona

The **Export Persona** is a dedicated workspace for exporting regions of your image as drawn slices to different file formats. You can also export layer contents and groups as slices simultaneously and, if needed, continuously.

How it works

The **Export Persona** uses a combination of Studios and tools to create slices. Slices are export areas which you choose to output from your document.

The **Layers** Studio and **Slices** Studio are used in combination in **Export Persona**. A Slice Tool is a unique tool in Export Persona which is used to create custom slices.

Using the Layers Studio

The **Layers** Studio is different from the Layers Studio in **Photo Persona**. It is used exclusively as a precursor for selecting layer content and groups from which slices can be created, and manually added to the **Slices** Studio, ready for export.

When you export a Layers Studio item as a slice, the slice will automatically size to what is considered to be the extent of the selected item. A circle symbol at the top right of the slice indicates that it is auto-sized. If you choose to resize the slice, the symbol changes to a square, indicating that the slice has been modified. A resized slice created from a Layers Studio item can be reset to 'auto-sized' using an Undo gesture.

Using the Transform Studio

You can precisely size and position slices created in the **Export Persona** using the **Transform** Studio. The Transform Studio here works in the same way as the Transform Studio in **Photo Persona**.

Using the Slices Studio

The **Slices** Studio stores all your slices (from the Layers Studio or Slice Tool) ready for export directly from the Studio. Each created slice has a default export format (eg., PNG, JPG, or SVG) associated with it on creation, but you can change the default format or change a selected slice's export format to be different from the other slice's formats; each export format also lets you export at different size scaling.



*You can export the entire document's page using **Export** on the **Document** Menu or by selecting the "Page" slice on the **Slices** Studio.*

Using the Slice Tool

The **Slice** Tool gives you full freedom to create export areas of all sizes, over any part of your document.



*From **Document>Snapping**, enable **Force pixel alignment** to ensure your slices snap to full pixels when created, moved or modified.*



To set default export options:

1. On the **Slices** Studio, deselect any slices by swiping and then select **More**.
2. Tap the left/right navigation buttons to set the default graphic format.

The settings will be used when your next slice is created.



If you swipe to select a slice(s) you can change its export options to be different from that of other slices.



To set your export folder:

1. Do one of the following:
 - On the **Slices** Studio, go to Studio preferences and tap **Choose Export Folder**.
 - Tap **Export All** or tap the **Export** button at the end of the slice entry
2. Navigate to the parent level of your chosen export folder on On My iPad or cloud storage location.
3. Tap **Select** to target the chosen export folder. Circles on folders will indicate they can be selected; tap on a folder's circle to select that folder.
4. Tap the export folder itself.
5. Tap **Open**.



To export an area of the document as an image:

1. Do one of the following:
 - On the **Layers** Studio, select a layer or group and tap **Create Slice**.
 - With the **Slice Tool** selected, drag on your page to define your export area.
2. On the **Slices** Studio, tap **Export All** to export all checked slices or tap the **Export** button at the end of the slice entry for a slice-specific export.



*For precise sizing and positioning of slices created with the **Slice Tool**, use the supporting **Transform** Studio directly within **Export Persona** to export to exact slice dimensions.*



All checked slices are exported; you can uncheck them as needed.



To continuously export objects as they are edited:

From the **Studio preferences**, tap to enable **Continuous Export**.



To export Xcode and Spine JSON assets:

From the **Studio preferences**, tap to enable an **asset type**.

SEE ALSO:

[Layers Studio \(Export Persona\)](#)
[Slices Studio](#)
[Export](#)



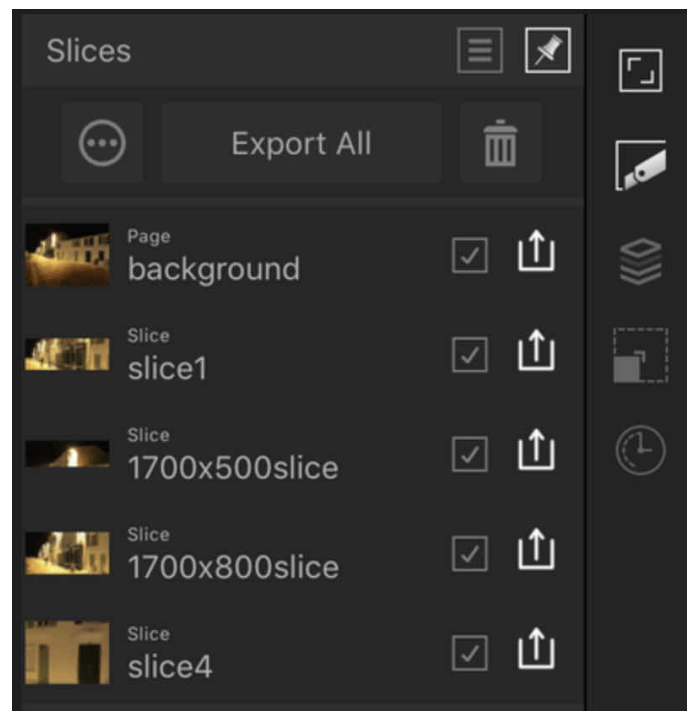
Slices Studio

The Slices Studio allows you to export defined areas of your design to universally recognised vector and raster image formats.

About the Slices Studio

Once an export area has been defined using the Layers Studio or a drawn slice with the Slice tool, the Slices Studio allows you to export the slices to various formats.

The Studio can be populated with one or more slices, which can all be exported simultaneously using the same default export format; individual slices can adopt their own export format if selected first.



The Slices Studio showing export areas in the document.

Options

The following options are available in the Studio:



- **Studio Preferences** menu which offers:
 - **No JSON output**-graphics are output standalone without any supplementary JSON files.
 - **Xcode JsON**-generates image sets consisting of supplementary Xcode JSON files along with the exported slices for Apple icons. For Xcode UI development only.
 - **Spine JSON**-creates a Spine image set.
 - **Continuous Export**-when selected, slices are re-exported automatically if the content within the slices is modified.
 - **Choose Export Folder**-sets up the export folder to which slices are to be exported to.



- Tap the **pin** icon in the top right of the Studio to hide the Studio automatically.



- **More** layer options include:
 - **Slice name**-displays the name for the slice area. Tap to rename the slice using your own slice name.
 - **File format**-select a file format to be exported using left/right navigation buttons.
 - **Size scaling**-select scaling options (eg, 1x, 2x, etc.) for the export format. For raster image formats only.
- **Export All**-exports all checked Studio items as slices.



- **Delete**-removes the slice area from the page. The object itself will not be deleted.
- **Thumbnail**-visually indicates the area to be exported.



- **Hide/Show slice**-Uncheck to exclude from export; check to make it exportable again.



- **Export**-exports the current slice independently of the other slices.

SEE ALSO:

[Exporting using Export Persona](#)
[Layers Studio \(Export Persona\)](#)
[Supported file formats](#)



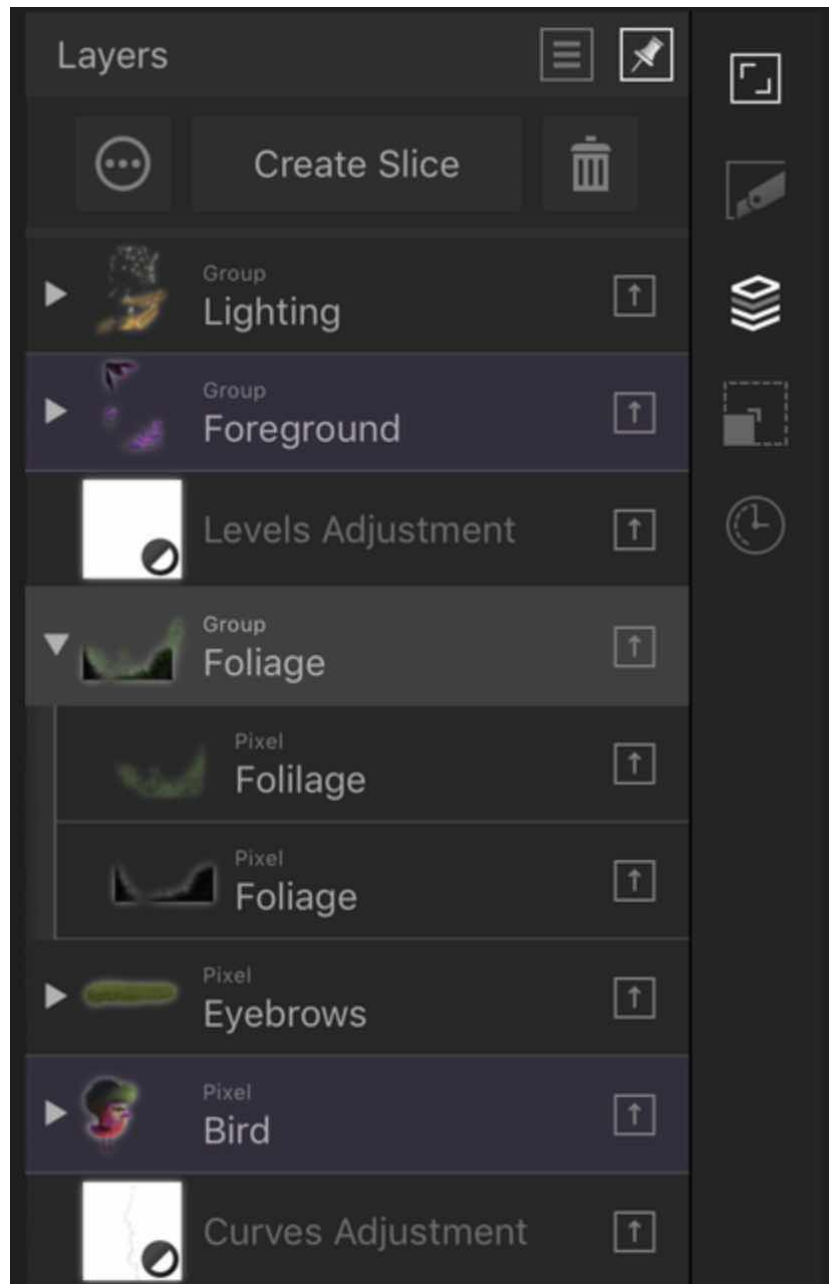
Layers Studio (Export Persona)

The Layers Studio in Export Persona lets you choose layer content or groups that you want to export as slices. Conversely, the Slice Tool in Export Persona can be draw rectangular/square regions over your image that you can export.

About the Layers Studio

The **Layers** Studio is different from the Layers Studio in **Photo Persona**. It is used exclusively as a precursor for selecting layers and groups from which slices can be created, and manually added to the **Slices** Studio, ready for export.

By selecting them, they can be made into slices from the same Studio; the Studio's **Create Slice** option generates slices for the Slices Studio from which vector or raster images can be exported.



The Layers Studio showing selected layers (greyed out) and layers from which slices have already been created (in magenta).

The Studio displays the following:



- **Studio Preferences** menu which offers **Select All, Hide, Show, Show All, Show Unlocked, Edit All Layers**, and optional **thumbnail checkerboarding** (to indicate transparency).



- Tap the pin icon in the top right of the Studio to hide the Studio automatically.

- **Create Slice**-creates a slice from the selected layer or group in readiness for export.



- **Remove**-removes the slice area for that layer from the page. The object itself will not be deleted.



- **Expand/Collapse**-Tap to expand/contract the layer, revealing child layers, or group layer to expand the group's Content.

- **Layer entry**-The created layer, showing a thumbnail of objects and the layer name.



- **Exportable**-Tap to disable, which prevents the object from exporting.

SEE ALSO:

[Exporting using Export Persona](#)
[Slices Studio](#)
[Layers Studio](#)

Design Aids

Using undo, redo and history

It's easy to revert changes to a file when you've either made a mistake or if you simply don't like the result.

Any edits you make to your document are stored in the [History Studio](#). You can then use this, or perform a gesture to undo. You can also redo an edit which you have recently undone again using a gesture.



To undo or redo a change:

Do one of the following:

- Two-finger tap on the document to undo your last change. Three-finger tap to redo the last change you undid.
- In the **History Studio**, tap one of the entries in the list to jump to that state.
- In the **History Studio**, drag the slider left to undo a change, right to redo a change.
- Swipe up on the **History Studio** icon to undo a change, swipe down to redo a change.

To return the document to its earliest possible state:

- In the **History Studio**, drag the slider to the farthest position to the left.



To reinstate your redo history:

- Tap **Cycle futures** at the history step where you want to reinstate your original redo history. This history is hidden 'within' the icon, and will be reinstated on tapping.

To set the History Studio preferences:

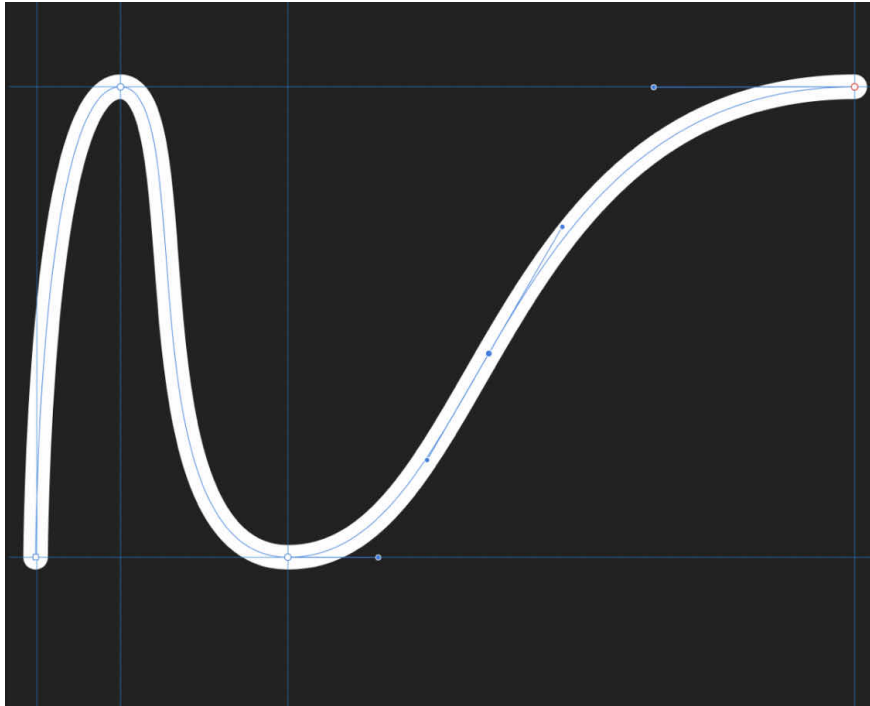
1. From Affinity Photo's Home screen, tap **Preferences**.
2. Select the **General** tab, then swipe the **Undo Limit** setting to the left to reduce the number of stored changes, right to increase the number of stored changes.

SEE ALSO:

[History Studio](#)
[Save](#)

Guides

Guides are non-printing, non-exporting lines that 'float' over your page and assist with the positioning of layer content, especially when snapping is enabled.



To add a guide:

1. From the **Document** Menu, select **Guides**.
2. On the context toolbar, tap **Add Horizontal** or **Add Vertical** to add a new guide at page centre, respectively.
3. Drag the guide into position by eye or position precisely using the toolbar's Position setting.



New (or active) guides have a dash-dot pattern, shown in red.



When creating or moving layer content, you can snap to guides via Document > [Snapping](#)

To move a placed guide:

1. Activate guides by tapping **Document > Guides**.
2. Tap the guide you want to move.
3. Drag the guide into position.



When you use other tools, the guides will remain locked until you access the above menu command again.

To remove guides:

- Activate guides by tapping **Document>Guides**.
- Tap the guide you want to remove.
- On the context toolbar, tap **Delete**.

To lock all guides:

- Activate guides by tapping **Document>Guides**.
- On the context toolbar, tap **Lock Guides**.

Column guides

Column guides allow you to specify a number of evenly spaced columns and rows and are perfect for designing layouts such as web mockups.

To add a column guide:

- Activate guides by tapping **Document>Guides**
- From the context toolbar, switch on **Show Column Guides**. The Column Guides section of the toolbar allows you to manage the following:
 - **Columns**-defines the number of vertical guides that will appear.
 - **Rows**-defines the number of horizontal guides that will appear.
 - **Gutter**-defines the size of the gutter.
 - **Style**-select from **Filled** or **Outline**.
 - **Colour**-tap the colour swatch to select a colour for your column guides.

To show or hide column guides:

- From the context toolbar, select **Show Column Guides**. The button will have a blue outline when the guides are visible.

To remove column guides:

- From the context toolbar, reduce the number of Columns and Rows in the Column Guides section to 1.

SEE ALSO:

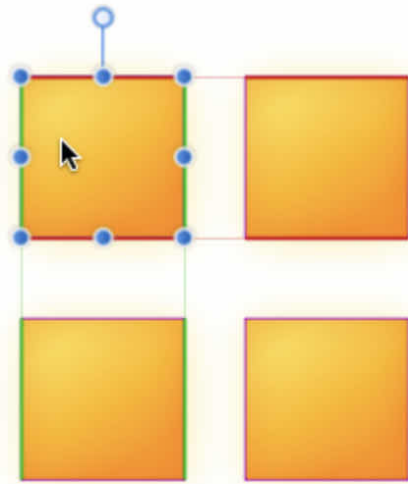
[Snapping](#)
[Dynamic guides](#)

Dynamic guides

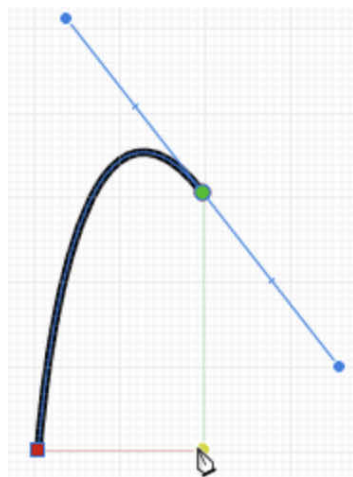
Dynamic guides are intelligent guide lines which automatically appear when moving and aligning vector shapes or a curve's nodes.

Dynamic guides appear automatically in two instances:

- As you drag vector layer content to help you align and resize to a shape's, line's or text's edges, centres, vertices, and page elements (e.g. page edge). These guides display in red when aligning horizontally and in green when aligning vertically



You'll only see them when **Snapping** is enabled (from **Document** Menu), and when your snapping preset has the **Snap to layer bounding boxes** option checked.



When drawing curves with the Pen Tool. If snapping options on the tool's context toolbar are enabled, nodes or control handles can be snapped to other nodes. To help this, dynamic guides show while dragging nodes or handles. Snapping and guide behaviour is completely independent of the 'global' Snapping option on the main toolbar.

SEE ALSO:

[Snapping](#)

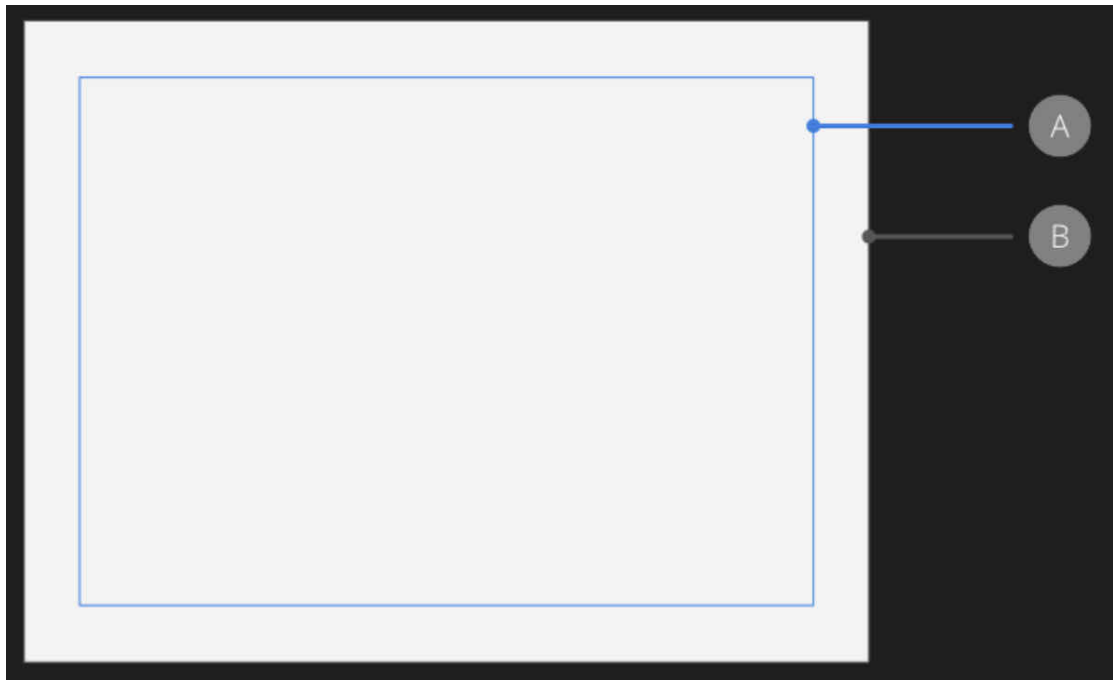
[Pen Tool](#)

[Draw and edit geometric shapes](#)

[Guides](#)

Margins

The margin is the area between the main content of the page and the page edges (or spread and spread edges). Margins are shown as a blue solid line.



Default margin (A) in relation to page edge (B).

Page margins give an indication of the extent of the page that will be printed when using a desktop printer. Design elements positioned outside the margins may not be printed.

Margin positions can be customised manually or using the settings of an installed printer. They are non-printing and non-exporting.



If you intend on exporting your design, rather than printing it directly, you can design with complete freedom from margins. If this is the case, you may wish to switch off the margins.

To use page margins:

1. Activate guides by tapping **Document>Guides**.
2. From the context toolbar, select **Show Margins**.
3. Set the **Left**, **Right**, **Top**, and **Bottom** margins.

To hide/show margins:

- From the context toolbar, deselect/select **Show Margins**. The button will have a blue outline when the margins are visible.

SEE ALSO:

[Snapping Guides](#)

Rotate canvas

Rather than rotating the document, you can rotate the canvas instead, which is akin to physically rotating your working space. This allows you to view your document from a different angle without manipulating its layout.

About canvas rotation

Being able to rotate the canvas is beneficial for a number of applications:

- Brush and fine detail work
- Product design (e.g, product box/packaging layouts with content at 90/180 degree angles)
- Drawing geometric designs



To activate canvas rotation:

- Open the **Navigator** Studio.
- Tap on the **padlock** icon next to the **Rotation** setting to lock/unlock canvas rotation.

To rotate the canvas:

You can rotate the canvas by using the following methods:

- Open the **Navigator** Studio. With **Rotation** unlocked, drag on the setting to alter the rotation of the canvas. Alternatively, tap on the setting and manually enter a number into the pop-up menu.
- Alternatively, you can place two fingers on the screen of your device and then rotate them in whichever direction you'd like the canvas to turn.



- You can lock your canvas in place again once you have finished rotating it by using the padlock icon in the **Navigator** Studio.



- You can also activate/deactivate canvas rotation. From Affinity Photo's Home screen, open the app's **Preferences**, select the **Tools** tab and turn on the **Allow canvas rotation in all tools** switch.

Gesture(s)

- A rotate gesture (twist) will rotate your canvas.

SEE ALSO:

[Grids](#)
[Rotating and shearing](#)
[Snapping](#)
[Navigator studio](#)

Snapping

Snapping simplifies the positioning of crop areas, selection areas, and layer content (pixel or vector) by 'magnetising' areas or content to other content or page elements (page edges, etc.).

Snapping for accurate crop and selection areas

To precisely create the above areas you can use snapping to position to previously placed guides or to the page edge itself.

Simply drag out your crop or selection area until its edge meets the positioned guide or page edge.

Snapping for vector lines, shapes, and text

Snapping causes images, brush strokes, lines, shapes, and selection areas to align to nearby grid lines, guides or spreads, or any combination of these. You can also snap to object bounding boxes, key points on shapes and to an object's geometry. Text can also snap to the baseline of other text (the first line only for text frames).



To activate/deactivate snapping:

- From the **Document** Menu, select **Snapping**.
- Switch on **Enable snapping**.

Snapping for vector layers

To help understand snapping behaviour, coloured dynamic guides and target nodes display when you snap to objects. The colours used are:

- **Red line:** Object snaps to target horizontally.
- **Green line:** Object snaps to target vertically.
- **Yellow node:** Object snaps to shape's key points horizontally and vertically.
- **Purple node:** A curve's node snaps to a shape's key points.



Dynamic guides work in conjunction with snapping to provide a visual aid when aligning. Dynamic guides also include labels which report the distance between the snapping objects (measured in the document's set units).



For web graphic development, you may wish to use Force Pixel Alignment. This complements any active snapping settings.

Snapping candidates

Snapping candidates are layer contents which are available for you to snap to. You can set how candidates are created using the following settings:

- **Candidate List**-limits the number of objects which are snapping candidates to the number you set (up to 18 candidates at any one time). Creating new layer content or hovering over existing content while dragging a selection marquee, designates the content as a snapping candidate. Only the active snapping candidates can be snapped to.
- **Immediate layers**-limits the number of candidates to the objects on the current layer.
- **Immediate layers and children**-limits the number of candidates to the objects on the current layer and any of the layer's subordinate child layers.
- **All layers**-does not limit the number of snapping candidates in the document.

Snapping presets for vector layers

A powerful and comprehensive set of snapping options are available to you. To make snapping setup quick and easy, one of several snapping presets can be chosen which group recommended snapping options according to how you plan to work.



To select a snapping preset:

1. From the **Document** Menu, select **Snapping**.
2. From the **Preset** pop-up menu, select a **preset**.

The remaining settings will change depending on the chosen preset. The options will be in effect immediately.

Customise any chosen snapping preset by changing any of its settings.

Snapping options

Individual snapping options can be switched on or off to suit your needs, drawing style, and the project you are working on. The preset that you initially adopted will be customised in the process.

The following options are available:

- **Enable snapping**-when enabled, objects will snap to specified criteria. This must be selected to change other options.
- **Preset**-Select a preset which is a grouping of snapping options for specific ways of working.
 - **Page layouts**-for designs to be printed, where snapping to placed guides and spreads is important.
 - **Page layouts with objects**-as above but with additional object-to-object alignment.
 - **Object creation**-perfect for simple object-to-object alignment to bounding boxes and their midpoints, plus for some shapes to key points. Key points are automatically added points on some objects, e.g. where a shape's corner is made rounded, key points are placed at the start and end of the rounded corner.
 - **Curve drawing**-the setup for non-geometric use (i.e., drawing with the pen or brush tools).
 - **UI design**-for UI/web design for pixel accuracy when using snapping to fixed guides and grid.
 - **Pixel work**-for pixel-only brush work where vector-based object snapping is not needed.

Candidates-sets how candidates are used. Select from the pop-up menu.

- **Show snapping candidates**-when enabled, highlights the active snapping candidates, i.e. objects that can be snapped to by prior selection.
- **Max Candidates**-sets the total number of layers and objects to be considered as candidates.
- **Tolerance**-controls the distance you have to be to an object before snapping occurs.
- **Force pixel alignment**-snaps layers, objects and pixel selection areas to full pixels when created, moved or modified. See [Force Pixel Alignment](#).
 - **Move by whole pixels**-constrain the movement of layers, objects and pixel selection areas to whole pixels.
- **Snap to pixel selection bounds**-when enabled, layer content can be snapped to the bounds of a pixel selection. For example, using the Flood Select Tool, a pixel selection drawn over image 'edges', which would otherwise not be snappable, will expose those edges for snapping
- **Only snap to visible layers**-when enabled, only visible layers are snapped to.
- **Snap to grid**-when enabled, content snaps to a line grid. Not available when using Force Pixel Alignment.
- **Snap to guides**-when enabled, content snaps to guides
- **Snap to spread**-when enabled, content snaps to the edge of the page.

- **Include spread midpoints**-when enabled, content snaps to vertical or horizontal centre of the page. This option is only available if the above option is selected.
- **Snap to shape key points**-when enabled, objects can be aligned to key points on shapes, such as the start and end of a rounded corner.
- **Snap to object geometry**-when enabled, objects can be snapped to object vertices and not simply to the bounding box or key points. Vertices are object corners or intersections, such as the points of a star, within a shape's bounding box.
- **Snap to layer bounding boxes**-when enabled, layer content or objects can be aligned based on its bounding box.
 - **Include box midpoints**-when enabled, objects snap to vertical or horizontal centre of a target object. This option is only available if the above option is selected.
 - **Snap to gaps and sizes**-when enabled, arrows represent matched gaps between snapping candidates and matched horizontal and/or vertical sizes.
- **Snap to pixel selection bounds**-when enabled, objects can be snapped to the bounds of a pixel selection.
- **Tolerance**-controls the distance you have to be to an object before snapping occurs.



*Snapping always snaps to the currently set measurement unit. You can set this using **Resize** on the **Document** Menu.*

SEE ALSO:

[Cropping and straightening](#)
[Creating pixel selections](#)
[Force Pixel Alignment](#)
[Dynamic guides](#)
[Grids](#)
[Guides](#)

Force Pixel Alignment

Force Pixel Alignment will snap vector objects, nodes and handles, and pixel selection areas to full pixels when created, moved or modified. If this option is off, objects and selections can occupy partial pixels.



Force Pixel Alignment is particularly useful for web graphic development.

Move By Whole Pixels

In addition to Force Pixel Alignment, the Move By Whole Pixels option allows you to constrain the movement of vector objects, nodes and handles to whole pixels.

Move By Whole Pixels is particularly useful for repositioning an object by a particular pixel distance while also maintaining the relevant partial pixels an object occupies.



*If you deactivate **Move By Whole Pixels** but have **Force Pixel Alignment** active, moving an object which occupies partial pixels will also transform it marginally.*



Force Pixel Alignment complements any active [Snapping](#) settings.

To activate/deactivate Force Pixel Alignment:

- From the **Document** Menu, select **Snapping**
- Switch on **Enable snapping** and then **Force Pixel Alignment**.

To activate/deactivate Move By Whole Pixels:

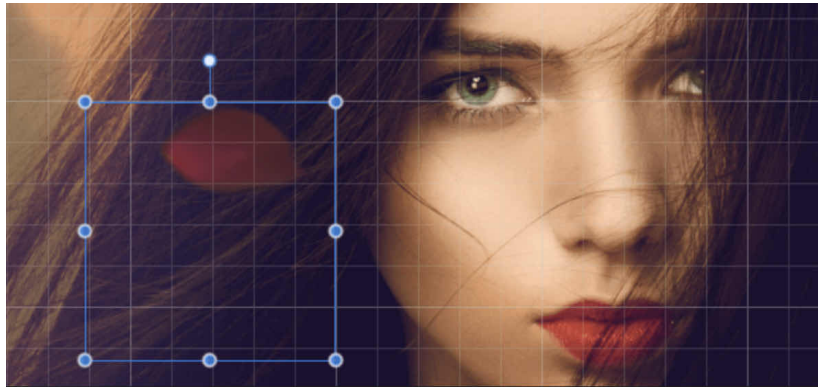
- With **Force Pixel Alignment** active, select **Move By Whole Pixels**.

SEE ALSO:

[Snapping](#)

Grids

A simple non-printing, non-exporting grid can be displayed on your page to help you lay out layer content more accurately.



Grid overlaid over image with layer content selected

The grey grid is overlaid over your page to help you align objects. It is **automatic**, i.e. its frequency of grid subdivisions changes as you zoom in/zoom out.

Grids work best when combined with snapping, in particular when the Snap to Grid option is enabled. They are based on the currently set document unit.



To show or hide the grid:

- From the **Document** Menu, select **Grid**.



To enable Snap to Grid:

- From the **Document** Menu, select **Snapping**, then enable **Snap to grid** in the dialog.

At all zoom levels the grid shows as grid 'blocks' further split into grid subdivisions.

SEE ALSO:

[Snapping](#)

Using snapshots

Snapshots are great for storing your current work at any point in time, much like a freeze frame. You might do this in advance of carrying out more complex operations where you might need to restore back to a previous point in time (if things don't go to plan!).

If you're experimenting with different approaches, you can also create different snapshots for each approach which lets you explore, compare and evaluate each in turn. You then have the option to choose a preferred snapshot to continue working from.

Compared to reverting edits step-by-step using the History Studio, snapshots let you define a stage in your session from which you can restore from.

About the Snapshots Studio

The **Snapshots** Studio can be found in the **History** Studio.



Snapshots are saved with your document and are available to be used in future sessions.



To create a snapshot:

From the **Snapshots** Studio, tap **Add Snapshot**.

By default, the snapshot's date and time is used to identify the snapshot.



To restore a snapshot:

1. From the **Snapshots** Studio, select a snapshot from the list.
2. Tap **Restore Snapshot**.



To delete a snapshot:

1. From the **Snapshots** Studio, select a snapshot from the list.
2. Tap **Delete**.

SEE ALSO:

[History Studio](#)

Assistant

The Assistant controls the painting, layer creation behaviour, brush sharing, and raw development options in your document. It also lets you choose whether or not to be alerted of layer operations as they occur.

Alert messages inform you that Affinity Photo has performed an action that you need to be aware of. This is as a result of the last operation you performed. The Assistant can decide the default type of action to take.

Settings

The following settings can be adjusted from the dialog:

- **Enable assistant:** When enabled, actions are carried out according to the dialog's current settings.
- **Notify on actions:** If Enable assistant is switched on, enable this to be notified by an on-page pop-up message each time an action occurs.
- **Painting with no layer selected:** Creates a new pixel layer for your brush strokes using 'Create pixel layer and paint' if there is no pixel or vector layer selected; 'Take no action' means that no pixel painting is allowed.
- **Erasing from vector layers:** Erases on a created layer mask applied to your vector layer, immediately rasterise the vector layer and erase directly on it, or take no action.
- **Other brushes on vector layers:** For retouching pixel brushes (eg, Burn Brush Tool, Smudge Brush Tool, etc.), any applied brush stroke rasterises the vector layer by default. You can change this behaviour by selecting 'Take no action' which doesn't convert the layer or apply the stroke.
- **Brush tool sharing:** Choose whether a selected brush tip is shared between tools of a similar nature (eg. Dodge, Burn and Sponge Brush Tools), shared across all tools, or the brush tip is independent.
- **Applying filters to vector layers:** For effect and retouch filters from the Filters Studio, applying a filter to a vector layer rasterises it by default. You can change this behaviour by selecting 'Take no action' which doesn't convert the layer or apply the filter.
- **Adding adjustment layers to selection:** If you've created a selection, any adjustment applied to the selection is added as a new adjustment layer above the currently selected layer (Take No Action) or made a child adjustment layer of the selected layer instead (Create nested adjustment layer). With no layer selected, a new adjustment layer is added to the top of the layer stack in both instances.
- **Adding mask layers to selection:** Analogous to 'Adding adjustment layers to selection' above, but for mask layers.
- **Adding filter layers to selection:** Analogous to 'Adding adjustment layers to selection' above, but for filter layers.

Settings specific to default behaviour during raw development are also hosted on the dialog:

- **RAW Output colour format:** Choose between RGB (16bit) or RGB (32bit) output when developing a raw image. Choosing the latter option allows you to maintain a full 32-bit float environment from initial raw development to export and take advantage of extra precision.
- **RAW tone curve:** If the default 'Apply tone curve' option is active, your raw image is adjusted using a suggested tone curve. The 'Take no action' option makes no tonal correction; the image can be altered within the Develop Persona's Basic Studio later.
- **RAW exposure bias:** Choose whether to apply exposure bias value if stored in the raw image's EXIF data. Like Histogram stretch, both 'default' and 'initial' give the same results but reports zeroed or actual values, respectively. The 'Take no action' option ignores the exposure bias value.
- **Default map region:** Sets the map that displays in the Develop Persona's Metadata Studio to a chosen region if the raw image contains no GPS location data in its EXIF data.



To change Assistant settings:

Do one of the following:

- From the **Document** Menu, select **Assistant** and select options from the relevant pop-up menu.
- From the Home screen's **Preferences** (General tab), tap **Assistant Options** and select options.

To switch off alerts or the Assistant completely:

1. From the **Assistant** dialog, disable **Notify on actions** or **Enable assistant**, respectively.

SEE ALSO:

[Painting brush strokes](#)

[Erasing](#)

[Retouch](#)

[Using adjustment layers](#)

[Creating pixel selections](#)

[Applying filters](#)

Vector content defaults

When you create vector content, its appearance is initially determined by the default settings for the particular content you are creating.

These defaults can be changed in the current document, saved globally for future documents or returned to factory settings at any time. Synchronising defaults lets you base a new default on currently selected content, with the option to save the defaults or revert to saved defaults if needed.



Vector content defaults are stored separately for stroke and fill attributes, art text attributes, and frame text attributes.



To synchronise defaults to current selection:

1. Select an object with the attributes you wish to save as default settings.
2. From the **Commands** Menu, select **Defaults**, then **Synchronise from selection**.

Synchronised defaults override saved defaults for this document only. This is a great way to work with a set of defaults temporarily for a single document without having to save them.

To save defaults:

- From the **Commands** Menu, select **Defaults**, then **Save**.

The defaults used for this document become the global defaults for all future documents.

To revert synchronised defaults back to saved defaults:

- From the **Commands** Menu, select **Defaults**, then **Revert**.

If vector content is currently selected it's attributes revert to the default settings.

To reset defaults to factory settings:

- From the **Commands** Menu, select **Defaults**, then **Factory Reset**.

If vector content is currently selected, its attributes revert to the default settings.



*The **Synchronise from selection** and **Revert** menu options apply to the current document only. The **Save** and **Factory Reset** menu options apply globally.*

SEE ALSO:

[Draw lines and shapes](#)
[Draw and edit geometric shapes](#)
[Artistic text](#)
[Frame text](#)

Workspace

Keyboard shortcuts

Operations shortcuts	
Action	Key
Copy	⌘C
Cut	⌘X
Deselect	⌘D
Duplicate Selection	⌘J
Export Document	⇧⌘S
Fade	⌘F
Grid	⌘'
Group	⌘G
Guides	⌘;
Invert Selection	⌘I
Live Stack Group	⇧⌘G
Merge Down	⌘E
Merge Selected	⇧⌘E
Merge Visible	⇧⌘E
Minimise App	⌘H
Minimise Document	⌘W
Move Back	⌘[
Move Forward	⌘]
Move To Back	⇧⌘[
Move To Front	⇧⌘]
New Pixel Layer	⇧⌘N
Nudge (Move Tool)	arrow keys
Paste	⌘V
Paste Filter Effect	⌘(ctrl)⇧⌘V
Paste Inside	⇧⌘V
Paste Style	⇧⌘V
Print Document	⌘P
Redo	⇧⌘Z
Refine Selection	⇧⌘R
Resize Document	⇧⌘I
Save Document	⌘S
Save Document as Copy	⇧⌘S
Select All	⌘A
Selection From Layer	⇧⌘O
Undo	⌘Z
Ungroup	⇧⌘G
Vector Select All	⇧⌘A

Tools shortcuts

General

	Key
Canvas Rotation Tool	R
Crop Tool	C
Move Tool	V
View Tool	H

Photo Persona only

Art Text Tool	T
Burn Brush Tool	O
Clone Brush Tool	S
Colour Picker Tool	I
Convert Document Tool	D
Erase Brush Tool	E
Frame Text Tool	F
Gradient Fill Tool	G
Inpainting Brush Tool	J
Node Tool	A
Paint Brush Tool	B
Pen Tool	P
Pixel Tool	X
Rectangle Tool	U

Selections Persona only

Column Marquee Tool	C
Elliptical Marquee Tool	E
Feather Selection Tool	F
Flood Selection Tool	W
Grow/Shrink Selection Tool	G
Polygon Marquee Tool	P
Rectangular Marquee Tool	M
Refine Selection Tool	R
Row Marquee Tool	O
Smart Selection Brush Tool	S

Liquify Persona

Freeze Tool	Z
Mesh Clone Tool	M
Pinch Tool	I
Punch Tool	P
Push Forward Tool	F
Push Left Tool	L
Reconstruct Tool	R
Thaw Tool	W
Turbulence Tool	U
Twirl Tool	T
View Tool	H

Develop Persona only	
Blemish Removal Tool	B
Crop Tool	C
Overlay Erase Tool	E
Overlay Gradient Tool	G
Overlay Paint Tool	P
Red Eye Tool	R
View Tool	H
White Balance Tool	W
Panoramas only	
Brush Tool	L
Crop Tool	C
Erase Tool	U
Transform Tool	A
View Tool	H

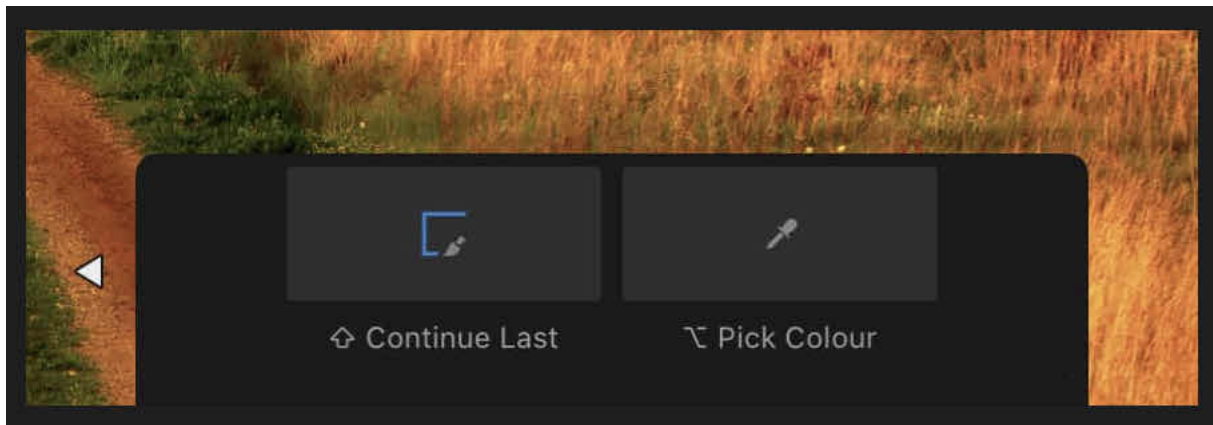
SEE ALSO:

[Preferences](#)

Using on-screen modifiers

When On-screen modifier keys is ticked in [Affinity Photo's Interface preferences](#), extra controls are available on the context toolbar when certain tools are selected.









Some modifier key behaviours, such as Ignore Snapping, take effect when the key is held after you begin using a tool.




























On-screen modifiers on the context toolbar when the Paint Brush Tool is selected.



With a hardware keyboard connected to your iPad, you can use its modifier keys for the same effects as the on-screen modifiers.

Photo Persona			
Tool		Key	Action
	Colour Picker Tool	⌘	To Palette
	Gradient Tool	⇧	Constrain
		⌘	Ignore Snapping
	Paint Brush Tool	⇧	Continue Last
		⌘	Pick Colour
	Pixel Tool	⇧	Continue / Constrain
		⌘(ctrl)	Alternate
		⌘	Pick Colour
	Paint Mixer Tool	⇧	Continue Last
		⌘	Pick Colour
	Colour Replacement Brush Tool	⇧	Continue Last
		⌘	Pick Colour
	Erase Brush Tool	⇧	Continue Last
	Background Erase Tool	⇧	Continue Last
		⌘	Pick Colour

	Burn Brush Tool	⇧ ⌘	Continue Last Dodge
	Dodge Brush Tool	⇧ ⌘	Continue Last Burn
	Sponge Brush Tool	⇧	Continue Last
	Smudge Brush Tool	⇧	Continue Last
	Blur Brush Tool	⇧ ⌘	Continue Last Sharpen
	Sharpen Brush Tool	⇧ ⌘	Continue Last Blur
	Median Brush Tool	⇧	Continue Last
	Clone Brush Tool	⇧ ⌘	Continue Last Set Source
	Healing Brush Tool	⇧ ⌘	Continue Last Set Source
	Undo Brush Tool	⇧	Continue Last
	Pen Tool	⇧ ⌘(ctrl) ⌘	Constrain Node Tool Ignore Snapping
	Node Tool	⇧ ⌘	Constrain Ignore Snapping
	Shape tools (Rectangle, Ellipse, Triangle, etc)	⇧ ⌘	Constrain Ignore Snapping
	Selections Persona		
Tool		Key	Action
	Smart Selection Brush Tool	⌘ ⌘(ctrl)	Subtract Toggle snapping
	Freehand Selection Tool	⇧ ⌘ ⌘ ⌘(ctrl)	Constrain Add Subtract Move
	Marquee selection tools (Rectangular, Elliptical, Row, Column)	⇧ ⌘ ⌘ ⌘(ctrl)	Constrain Add Subtract Move

<div>  Liquify Persona </div>			
Tool		Key	Action
	Push Left Tool	↶	Reverse Direction
	Twirl Tool	↺	Slowly
		↶	Anticlockwise
	Pinch Tool	↺	Slowly
		↶	Punch
	Punch Tool	↺	Slowly
		↶	Pinch
	Reconstruct Tool	↺	Slowly
	Freeze Tool	↺	Slowly
	Thaw Tool	↺	Slowly

SEE ALSO:

[Persona Toolbar](#)
[Preferences](#)

Preferences

Preferences comprise a series of miscellaneous options that are applied across your application. They can be used to set up your own way of working.

General

- **Undo Limit**-Set the number of steps to save as part of the document's undo history. Larger values may affect document file sizes and current memory use.
- **Autosave Interval**-In seconds, determines how often to save a backup version of the current document. An autosaved version may be restored in the event of a crash or sudden loss of power (depleted battery).
- **Automatically update help**-When enabled, automatically looks for an updated version of the help online and downloads it.
- **Automatically lock background layer on import**-When importing an image and creating a new document, locks the initial Background (Pixel) layer to prevent it from being accidentally transformed.
- **Import PSD text as text (not pixel layers)**-Attempts to import editable text from PSD documents instead of rasterising it.
- **Import PSD smart objects where possible**-Attempts to import Smart Objects in PSD documents as [embedded documents](#).
- **Show tutorials and samples**-Displays the three additional support categories below projects on the main menu.
- **Dither gradients**-Adds dithering to gradients to reduce banding. Only applies to the canvas view and not the exported file.
- **Show touches**-Displays a semi-transparent blue 'fingerprint' under your finger tips when touching the iPad screen. Useful for screen casting and screen recording (e.g. for video tutorials).
- **Retina rendering only**-When disabled, the document view is rendered at half resolution and then at full resolution. While interacting with a complex document, the full-resolution pass is deferred until interaction ends to provide a smoother experience, which may momentarily exhibit as 'low quality' during brush work. Enabling this setting causes the view to be rendered only at full resolution.
- **Present on external displays**-Determines whether Affinity Photo displays a second, independently controllable Document View on an [external screen](#).
- **Language**-Sets the UI language independently of the operating system. Select from the pop-up menu.
- **Default Save Location**-Allows you to specify where documents are saved to:
 - On My iPad stores them locally on your device.
 - iCloud Drive stores them on your iCloud Drive in a directory named "Affinity Photo", and they will automatically sync and backup.
- **Assistant Options**-Configure the feedback provided by the Assistant when painting, erasing, creating layers and developing raw photos. See [Assistant](#) for more information.

Interface

- **Background Grey Level**-controls the greyscale level of the page background.
- **Left handed mode**-reverses the layout so the Studios are on the left and the tools are on the right.
- **Automatically hide UI**-when enabled, automatically hides the interface when brushing on the canvas near the sides for a clearer view.
- **Show selection in layers studio**-updates the layer's thumbnail with the active selection.
- **On-screen modifier keys**-additional buttons are made available on context toolbars (for Brush, Gradient and Selection tools) to act as on-screen modifier keys. See [On-screen modifiers](#) reference for more information.
- **Text in points**-choose whether text is expressed in points or in the document's measurement units.
- **Lines in points**-choose whether line width (thickness) displays in points or in the document's measurement units.
- **Show Undo and Redo buttons**-choose whether to display Undo and Redo buttons in the bottom right corner of the screen.

- **Panning inertia**-When enabled, the document view will gradually come to a halt after it is scrolled. When disabled, scrolling stops abruptly.
- **Monochromatic iconography**-makes icons display in greyscale.

Colour

- **Import ICC Profile**-Import your own ICC profiles from cloud storage to use in Photo. You can set up your default RGB, RGB32 (HDR), Greyscale, CMYK and LAB colour profiles for use in future documents. Select from the pop-up menus.
- **Rendering intent**-Choose the rendering intent for your images. Select from the pop-up menu.
- Tap Choose OCIO Package to pick an OpenColorIO configuration file. See [Using OpenColorIO](#) for more information.
- **Perform OCIO conversions on filename**-Photo converts exr documents from source colour space to *scene_linear*. The colour space can be inferred by the ext filename's suffix when this option is enabled, eg. "*render_acescg.exr*"
- Configure additional OpenEXR document import options. See [32-bit OpenEXR support](#) for more information.
- Choose whether to apply black point compensation when opening an image.
- Choose whether to convert an opened file's colour space to the working colour space or retain the opened file's colour space.

Tools

- **Create Text with Blend Gamma**-Determines the gamma value for text objects.
- **Nudge Distance**-Spacing in pixels when nudging layers.
- **Modifier Nudge Distance**-Spacing in pixels when nudging layers with an active modifier.
- **Select object when intersects selection marquee**-Adds an object to the current selection if it is moved into the marquee area.
- **Synchronise tools between documents**-Makes tool settings persistent between different documents.
- **Allow canvas rotation in all tools**-When enabled, a two-finger-rotate gesture will rotate the canvas. This functions identically to the Rotation option on Navigator Studio Tools.
- **Touch for gestures only**-When enabled, only your connected Apple Pencil can use tools on the canvas but you can still use gestures. Useful for preventing accidental tool use when dragging your finger on the canvas. When disabled, you have full touch control plus gestures, with or without your Apple Pencil.
- **Move tool aspect constrain**-Toggle constraining behaviour when using the Move Tool to transform and scale layers:
 - Automatic (based on selection)
 - Always constrain
 - Never constrain

Pencil

- **Enable double tap**-Allows for the configuration of a double tap gesture when using an Apple Pencil (2nd-generation). When enabled, double tapping can result in a variety of actions depending on the way the Double tap action setting is configured for each tool.
- **Tool**-Select the tool to be affected by the double tap gesture.
- **Double tap action**-Determines what action is taken in response to a double tap when the tool selected in the Tool setting is active. Choose from the pop-up menu. All tools offer Undo, Zoom to fit and Previous tool actions. Some tools offer additional actions and tools that you are likely to need in conjunction with the selected tool.
- **Pressure**-Use the spline graph to control pencil input pressure.

Fonts

- **Installed Fonts**-a fonts list containing all imported fonts.
- **Remove Font**-tap-select a custom font from the Fonts list, then tap this to remove it.
- **Import Font**-launches a file browser window allowing you to import custom fonts from storage. You can also drag-drop fonts into the Fonts list from the Files Browser.

Shortcuts

- **Persona**-select the persona whose keyboard shortcuts you want to customise.
- **Apply to all personas if available**-while switched on, customising a keyboard shortcut for a Tool feature that is available in multiple personas sets it to be the same in all of them. While switched off, customising a shortcut affects only the persona selected from the pop-up menu above.
- **Shortcuts list**-a list of keyboard shortcuts for many Affinity Photo tools and features. Tap an entry to select and customise it.
- **Reset**-immediately resets the selected tool feature's keyboard shortcut back to its factory setting.
- **Clear**-removes the selected tool feature's keyboard shortcut.
- **Reset All**-after confirmation, resets all of the selected persona's keyboard shortcuts to their factory settings.

Reset

- Your Assets, Brushes, Object Styles, Fills and many more features can be reset to factory defaults. Set the switches as required, then select **Reset**.

Benchmark

- **Run Benchmark**-assesses the capability of your device's processors. See the [Benchmark](#) topic for more information.



To set preferences:

- From the **Main** menu, select **Preferences**.

To Customise a keyboard shortcut:

1. Connect a Smart Keyboard or another hardware keyboard to your iPad.
2. In Affinity Photo's **preferences**, select the **Shortcuts** tab.
3. Select a **Persona** and scroll the shortcuts list to the feature/tool whose shortcut you want to customise.
4. Tap the feature/tool's row.
5. Press the key or key combination you want to assign to the feature/tool.



If your chosen shortcut is assigned to something else already, it will be displayed in red. Press a different key or key combination.



Shortcuts for tools must be a key's main letter, number or symbol. Other features can be assigned either a single key press or a combination that includes your choice of

modifier keys .

^(ctrl), ⌘, ⇧ and ⌘

SEE ALSO:

[Colour management](#)

Tools

Photo Editing Tools



View tool

The View Tool is used to move the visible portion of your document in the Document view.

SEE ALSO:

[Panning](#)



Move Tool

The Move Tool allows you to select layer content. Once selected, the Move Tool allows you to move, rotate, and resize the selected content.



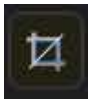
Use an additional finger on the canvas to toggle aspect constraint.



*Under **Preferences>Tools**, the **Move Tool Aspect Constrain** option can be used to specify whether or not to constrain the aspect ratio by default when resizing. The option can also be set to automatic, letting the software decide based on the selected content.*

SEE ALSO:

[Selecting content](#)



Crop Tool

The Crop Tool allows you to remove portions of your photo or image. Crops are non-destructive and can use specific aspect ratios as required.

Settings

The following settings can be adjusted from the context toolbar:

- **Mode**-sets the aspect ratio of the crop area.
- **X,Y, Width, Height**-for Custom Ratio and Absolute Dimension modes, sets the width and height, respectively.
- **DPI**-for Absolute Dimension modes, sets the DPI (resolution) value.
- **Units**-sets the units used by the crop area.
- **Overlay**-offers various overlays for better photo composition.
- **Orientation**-available only for the spiral overlay and flips it horizontally/vertically through four possible orientations.
- **Rotate**-rotates the crop area by 180.
- **Straighten**-switches to Straighten mode to align crooked photos horizontally or vertically.
- **Darken**-renders areas outside of the crop boundary darker for easier previewing.
- **Reveal**-reveals the whole canvas outside of the crop boundary.
- **Apply**-applies the crop to your image once you've defined the crop area (based on the positioned overlay).
- **Discard**-discards any changes made to the crop overlay.

SEE ALSO:

[Cropping](#)



Colour Picker Tool

The Colour Picker Tool allows you to [sample](#) colours from anywhere on your document or screen. Sampled (or picked) colours from the Colour Picker Tool are stored in the swatch next to the tool's icon on the [Colour Studio](#).

Settings

The following settings can be adjusted from the context toolbar

- **Auto-apply**-when selected (default), the picked colour will automatically apply to the selected object's Fill or Stroke, depending on which colour selector is active on the Colour Studio. If this option is off, the picked colour is not automatically applied.
- **Radius**-Choose to sample from directly under the cursor (Point txt) or from differently sized square areas where the colour is averaged.
- **Source**-determines from where the tool can pick colours-**Current Layer** restricts picking to the currently selected layer; **Global** picks from all layers.

SEE ALSO:

[Sampling colours](#)

Vector Line Tools



Pen Tool

The Pen Tool is used to precisely [draw lines and shapes](#).



It has four modes, **Pen mode**, **Smart mode**, **Polygon mode** and **Line mode**, which are available to select in the context toolbar. Each mode changes how the line is drawn.

Pen mode

- The most powerful and precise mode used to create bézier lines and shapes with smooth or sharp corners and nodes

Smart mode

- Easily create flowing lines and shapes by tapping and placing nodes.

Polygon mode

- Used to draw straight lines with sharp nodes and shapes with straight edges.

Line mode

- Used to draw single-segment straight lines.



Pen Mode, Smart Mode, Polygon Mode, Line Mode.

Settings

The following settings can be adjusted from the context toolbar:

- **Edit Mode**-enable to allow node editing without leaving the Pen Tool. This gives the same editing behaviour as when the Node Tool is active.
- **Mode**-switches between Pen, Smart, Polygon and Line mode (see above).
- **Width**-controls the width of the pen lines.
- **Colour**-tap to choose the stroke colour.
- **Use Fill**-when toggled, fill the shape created by the pen lines with the active colour (set on the Colour Studio).
- **To Mask**-when toggled, transforms the shape created by the pen lines into a mask.
- **To Selection**-when toggled, transforms the shape created by the pen lines into a selection.
- **Break** opens the shape at the selected node.
- **Close** joins the start and end nodes to create an enclosed shape.
- **Smooth** modifies a line or shape, by adding and removing nodes, to make it more aesthetic.
- **Join** connects two separate curves together to make one curve. Curves need to be both selected from the Layers Studio as you draw.
- **Reverse** lets you draw from the opposite end of the curve. The start node becomes active, ready for further drawing.



•**Snap To Nodes**-will snap any node you drag to any other node on the same or a different curve.



•**Snap To Geometry**-will snap dragged nodes to the same or different curve's path or node.



•**Snap All selected Nodes**-will snap multiple selected nodes, when dragging, to a "target" node on any selected curves.



•**Snap Handles**-will snap a control handle using any of the snapping criteria currently set in Global snapping, e.g. to grid, guide, object geometry, key points, spread, margin, etc.



- Construction Snapping**-allows control handle snapping:
- inline with adjacent node.
 - to 90° from inline.
 - to reflected angle with adjacent control handle.
 - parallel to adjacent control handle.
 - 90° to parallel control handle.
 - to logical triangle.

These options are independent of the global [snapping](#) options.

SEE ALSO:

[Draw lines and shapes](#)

[Edit vector lines and shapes](#)



Node Tool

The Node Tool is used to edit existing lines and shapes.

Settings

The following settings can be adjusted from the context toolbar

- **Sharp** converts the selected node from a smooth or smart corner into a cusp sharp corner.
- **Smooth** converts the selected node from a sharp or smart corner into a smooth corner.
- **Smart** converts the selected node from a sharp or smooth corner into a smart corner.
- **Break** opens the shape at the selected node.
- **Close** joins the start and end nodes to create an enclosed shape.
- **Smooth** modifies a line or shape, by adding and removing nodes, to make it more aesthetic.
- **Join** connects two separate curves together to make one curve. Both curves need to be selected by dragging a selection box over them.
- **Reverse** lets you draw from the opposite end of the curve. The start node becomes active, ready for further drawing.



- **Snap To Nodes**-will snap any node you drag to any other node on the same or a different curve.
- **Snap To Geometry**-will snap dragged nodes to the same or different curve's path or node.
- **Snap All selected Nodes**-will snap multiple selected nodes, when dragging, to a "target" node on any selected curves.



- **Snap Handles**-will snap a control handle using any of the snapping criteria currently set in Global snapping, e.g. to grid, guide, object geometry, key points, spread, margin, etc.



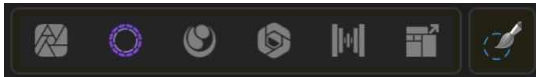
- **Construction Snapping**-allows control handle snapping:
 - inline with adjacent node.
 - to 90° from inline.
 - to reflected angle with adjacent control handle.
 - parallel to adjacent control handle.
 - 90° to parallel control handle.
 - to logical triangle.

SEE ALSO:

[Edit vector lines and shapes](#)

[Draw and edit shapes](#)

Selection Tools



Smart Selection Brush Tool

The **Smart Selection Brush Tool** allows you to select a region of your image by painting.

The Smart Selection Brush Tool functions in a similar way to the other brushes in Affinity Photo. By simply dragging on your image, you can add or remove regions from a selection. The selection will grow or shrink depending on the brush settings.

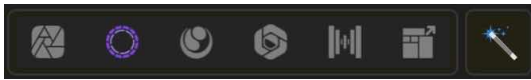
Settings

The following settings can be adjusted from the context toolbar:

- **Mode**-sets the way in which your selection develops as you paint
 - **Add**-the brush stroke adds areas to the current selection. If there is no selection in place, you will create a new selection by painting.
 - **Subtract**-the brush stroke removes areas from the current selection.
- **Width**-the brush (stroke) size in pixels. Type directly in the text box or drag the pop-up slider to set the value.
- **Snap to edges**-selection is expanded to the edges of content underneath the brush stroke.
- **All layers**-if this option is off (default), the selection is only applied to the current layer. When selected the selection applies to all layers in your image.
- **Soft edges**-if this option is off (default), edge pixels are fully opaque, which may result in a ragged appearance. When selected, edge pixels are anti-aliased for a softer appearance better suited to compositing against a new background.
- **Refine**-Switches to the Refine Selection Tool so you can more precisely set the edges of the selected region.
- **Subtract**-(on-screen modifier key) when pressed, switches from Add to Subtract selection mode.
- **Toggle snapping**-(on-screen modifier key) when pressed, toggles selection snapping to edges

SEE ALSO:

[Creating pixel selections](#)
[Marquee Selection Tools](#)



Flood Selection Tool

The Flood Selection Tool enables you to select pixels of a similar colour.

Pixels added to a selection are determined by the colour of pixels under the tool when you tap on the page. You can control the selection tolerance, i.e. how much the selection will grow to encompass pixels of similar colour values under the cursor.

Settings

The following settings can be adjusted from the context toolbar:

- **Mode**-select from **New**, **Add**, **Subtract**, and **Intersect**.
- **Source**-the source determines the layer(s) from which the pixels are sampled. Select from the pop-up menu.
- **Tolerance**-sets the range of pixels affected when a pixel is tapped. For lower tolerance settings, pixels must be very close in value to the tapped pixel. For higher tolerance settings, pixel colour can vary widely from the tapped pixel.
- **Contiguous**-when enabled, only selects a range of pixels within the same area. If disabled, similar pixel ranges will be selected even if they are separated and in different parts of the image.
- **Refine**-tap to display the [Refine Selection](#) dialog to access advanced selection settings.

About selection modes

- The four modes available from the context toolbar affect how your selection develops.
 - **New**-cancels all current selections and creates a new selection.
 - **Add**-adds areas to the current selection. If there is no selection in place, a new selection will be created.
 - **Subtract**-removes areas from the current selection.
 - **Intersect**-a new selection area is created from the overlap between the newly added selection area and the current selection.

SEE ALSO:

[Creating pixel selections](#)
[Smart Selection Brush Tool](#)
[Marquee Selection Tools](#)



Marquee Selection Tools

The Marquee Selection Tools provide various ways of applying selections to your image.

The **Marquee Selection Tools** are available in various shapes including **Rectangular**, **Elliptical**, **Row**, and **Column**. All marquees are applied by simply selecting the desired shape and then dragging on your image.

A **Polygon Marquee Tool** is also available for defining the selection area as a drawn **pencil line**, **polygonal straight line edges**, or **snapped magnetic nodes**.

Settings

The settings for each tool vary but may include some or all of the following settings, which can be adjusted from the context toolbar:

- **Mode**-select from **New**, **Add**, **Subtract**, and **Intersect**.
- **Feather**-reduces the sharpness of selection edges by partially selecting edge pixels.
- **From Centre**-when enabled, the selection will be drawn from its centre. This is enabled by default.



- **Antialias**-if this option is off (default), pixels at the edge of the selection are opaque. When selected, selection edges are smoothed by applying transparency to edge pixels.



- **Refine**-tap to display the [Refine Selection](#) dialog to access advanced selection settings.

- **Height**-sets the height of the **Row Marquee Tool**.
- **Width**-sets the width of the **Column Marquee Tool**.
- **Constrain**-(on-screen modifier key) constrains the selection creation either to an aspect ratio (eg square marquee) or to straight lines (polygon).
- **Add**-(on-screen modifier key) adds to the selection.
- **Subtract**-(on-screen modifier key) removes from the selection.
- **Move**-(on-screen modifier key) allows the selection so far to be transformed without changing its shape.

About selection modes

The four modes available from the context toolbar affect how your selection develops.

- **New**-cancels all current selections and creates a new selection.
- **Add**-adds areas to the current selection. If there is no selection in place, a new selection will be created.
- **Subtract**-removes areas from the current selection.
- **Intersect**-a new selection area is created from the overlap between the newly added selection area and the current selection.

Polygon marquee selection types

The **Polygon Marquee Tool** offers three distinct selection types:

- **Freehand**--creates a selection which follows the cursor's exact movements.
- **Polygonal**--creates a selection based on connected straight lines with a single tap defining each change in direction.
- **Magnetic**--creates a selection by creating automatic nodes that snap to distinct edges while following the cursor's movement. Tap to define custom node positions.

SEE ALSO:

[Creating pixel selections](#)
[Refining pixel selection edges](#)
[Smart Selection Brush Tool](#)

Refine Selection Tool

The **Refine Selection Tool** allows you to more precisely define selection edges in your image. A selection needs to be in place before refinement can be carried out.



Settings

The following settings can be adjusted from the context toolbar:

- **Preview**-sets the way your selection and page display. This helps you distinguish between selected and unselected image areas during refinement.
- **Adjustment**-determines the adjustment brush's refinement made.
 - **Foreground**-adds to the selection (revealing more of the foreground).
 - **Background**-deletes from the selection (revealing more of the background).
 - **Feather**-softens the alpha edge of the selection.
 - **Matte**-re-analyses the selection and attempts to separate foreground detail from the background. Great for selecting hair against a background.
- **Width**-sets the width of the brush tip.
- **Output**-determines how the selection is applied:
 - **Selection**-applies the refinement directly to the selection.
 - **Mask**-applies the refinement to the selection as a mask.
 - **New Layer**-applies the refinement to the selection in a new layer.
 - **New Layer With Mask**-applies the refinement to the selection as a mask in a new layer.
- **Border**-expands the selection by adjusting the width of its border.
- **Smooth**-determines the curvature of the selection's edge.
- **Feather**-determines the softness (opacity) of the transition at the edge of the selection.
- **Ramp**-changes the size of the selection. Negative values will shrink the selection while positive values enlarge it.



The **Output** setting's **Selection** and **Mask** options are ideal when applying adjustments and filters after refining the selection area. **New layer** and **New layer with mask** are suited to cutting out and compositing; colour 'decontamination' is also used for achieving high-quality cut-out results.

SEE ALSO:

[Refining pixel edge selections](#)
[Smart Selection Brush Tool](#)

Fill Tools



Flood Fill Tool

The **Flood Fill Tool** allows you to fill in areas of your page, selection, or object with a single tap.

The Flood Fill Tool works by replacing the colour of pixels on the current layer with the Fill colour set on the Colour Studio, or by erasing them.

The pixels affected are determined by the following:

- The colour of the pixel under the tool when you tap on your page.
- Whether the pixels are within the same selection area.
- The pixels are directly connected to the tapped pixel or any others that are affected.
- The tool's **Tolerance** settings (see below).
- The **Mode** selected (see below).

Settings

The following settings can be adjusted from the context toolbar:

- **Mode**-choose from **Fill** or **Erase**.
- **Tolerance**-sets the range of pixels affected (filled) when a pixel is tapped. For lower tolerance settings, pixels must be very close in value to the tapped pixel. For higher tolerance settings, pixel colour can vary widely from the tapped pixel.
- **Contiguous**-If enabled, the flood will only be applied to affected pixels that are in the same area of the image. If disabled, the flood will be applied to all the pixels that match the tolerance setting regardless of where they are in the image.
- **Source**-the source determines the layer(s) from which the pixels are sampled. Select from the pop-up menu.
- **Blend Mode**-changes how the applied pixels interact with existing pixels on a layer. Choose mode type from a pop-up menu.

SEE ALSO:

[Fill](#)



Gradient Tool

The **Gradient tool** allows you to apply and adjust gradient colours on allayers, including pixel layers, fill layers, adjustment layers, live filter layers, layer masks, as well as vector and text content

Settings

The following settings can be adjusted from the context toolbar:

- **Apply to Fill**-When enabled, the gradient is applied to the object's fill.
- **Apply to Stroke**-When enabled, the gradient is applied to the object's stroke.
- **Type**-converts the gradient's colour type. For example, from **Linear** to **Radial**.
- **Rotate**-the gradient is rotated anti-clockwise by 90° about its initially drawn stop.
- **Reverse**-the end stops swap places. (All intermediate stops are also repositioned accordingly).
- **Aspect**-If this option is off (default), the end stops can be resized separately which changes aspect ratio. When selected, the end stops are locked to keep the aspect ratio (ie., changing one will automatically update the other). This setting affects only **Elliptical** and **Bitmap** fill.
- **Constrain**-(on-screen modifier key) constrains elliptical and bitmap fills to maintain the fill's aspect ratio.
- **Move Fill**-(on-screen modifier key) repositions the whole gradient path rather than moving end stops.
- **Ignore Snapping**-(on-screen modifier key) temporarily prevents snapping of stops to object centre, corners or on outline.



*You can assign different colours to the end stops, or any added stops on the gradient path, by using the **Colour Studio**.*

SEE ALSO:

[Gradient editing](#)
[Selecting colours](#)
[Colour Studio](#)
[Fill layers](#)
[Using adjustment layers](#)
[Using Live Filters](#)
[Layer masking](#)



Paint Tools



Paint Brush Tool

The **Paint Brush Tool** lays down pixels on the page, creating strokes with antialiased edges. This creates a natural transition between the stroke and the surrounding pixels. Its variable width lines can be controlled either by velocity-most useful when drawing with touch-or by pressure-for use when drawing with a pressure-sensitive device like the Pencil.

Other brush-based tools use similar settings to control the appearance of the applied pixels, although there may be slight variations.

Most brushes use a soft, round brush as their default. Alternative styles can be selected from the Brushes Studio.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the pixel brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the pixel brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the Brushes dialog to access advanced brush settings.



- **Protect Alpha**-when enabled, you are not able to paint on the current layer's transparent regions.

- **Colour**-displays a pop-up menu for selection of a brush stroke colour.



- **Force Pressure**-Toggle to control brush size with pressure if using pressure-sensitive device. This overrides brush defaults.



- **Wet Edges**-builds paint up along the edges of your pixel brush stroke, producing a watercolour effect.

- **Stabiliser**-enables stroke stabilisation using either a Rope stabiliser or Window stabiliser mode; the former drags the stroke end by a 'rope' to smooth the stroke but lets you introduce sharp corners at increasing rope Length (radius) values by redirecting the slackened rope; the latter will smooth the stroke by averaging sampled input positions within a Window whose size is configurable.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y-axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This **Brush** Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#).*

SEE ALSO:

[Painting brush strokes](#)
[Pen Tool](#)
[Node Tool](#)
[Brushes Studio](#)

Colour Replacement Brush Tool

The **Colour Replacement Brush Tool** works by replacing the colour of pixels on the current layer with the Foreground colour selected on the Colour Studio.

The pixels affected by the the colour of the pixel under the tool when you tap on your page Colour Replacement Brush are determined by the following:

- Whether the pixels are within the same selection area.
- The pixels are included in the painted stroke.
- The tool's Tolerance settings (see below).

Settings

- The following settings can be adjusted from the context toolbar:
- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Colour**-displays a pop-up menu for selection of a brush stroke colour.
- **Tolerance**-sets the range of pixels affected when a pixel is tapped. For lower tolerance settings, pixels must be very close in value to the tapped pixel. For higher tolerance settings, pixel colour can vary widely from the tapped pixel
- **Continuous**-If this option is off (default), the initial tapped position determines the reference colour to be replaced. When selected, new reference colours are determined as the cursor moves.
- **Contiguous**-when selected (default), only adjacent qualifying pixels under the stroke are recoloured. If this option is off, all qualifying pixels under the stroke are recoloured, even if they are non-adjacent.



- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults



This Brush Tool can be associated with a particular brush in the Brushes Studio. For more information, see the [Modifying brushes](#) topic.

SEE ALSO:

[Paint Brush Tool](#)
[Pixel Tool](#)



Pixel tool

The **Pixel Tool** draws pixel-aligned, hard-edged lines. This is in contrast to the Paint Brush Tool which may have a slight pixel variance due to its antialiasing.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the line thickness in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Colour**-tap to choose the stroke colour.
- **Force Pressure**-Tap to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Alternate (setting)**-allows you to set the alternate brush mode behaviour to Undo from Snapshot, Erase, to Background colour.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Brush tools](#)

[Painting brush strokes](#)



Paint Mixer Brush

The **Paint Mixer Brush** is ideal for digitally simulating the mixing of wet paint applied to a canvas.

As you drag the Paint Mixer Brush across the page, the colour currently on the brush blends with the colour on the page, smudging and mixing them together.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Strength**-defines the extent to the smudging.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Mode**-selects a different colour model for use with the brush. RYB is a historical subtractive colour model based on red, yellow and blue as primary colours.



- **Force Pressure**-Tap to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.



- **Load Brush**-removes the mixed colour currently on the brush and replaces it with the Colour 1 swatch colour set in the Colour Studio.



- **Auto Load Brush**-when selected, each new stroke will automatically Load Brush as described above before pixels are applied to the page.



- **Clean Brush**-removes the mixed colour currently on the brush, leaving a brush with no initial colour applied to it.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Mixing paint colours](#)
[Smudge Brush Tool](#)

Erase Tools



Erase Brush Tool

You can erase from any area of your photo using the **Erase Brush Tool**. Erased pixels become transparent.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is. 100% opacity erases pixels completely on the first pass. A lower opacity only partially erases the pixels.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.



- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Stabiliser**-enables stroke stabilisation using either Rope stabiliser or Window stabiliser mode; the former drags the stroke end by a 'rope' to smooth the stroke but lets you introduce sharp corners at increasing rope Length (radius) values by redirecting the slackened rope; the latter will smooth the stroke by averaging sampled input positions within a Window whose size is configurable.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Erasing](#)
[Paint Brush Tool](#)



Background Erase Brush Tool

With the **Background Erase Brush Tool**, you can erase pixels of a similar colour. This makes it useful for tasks such as erasing the background while leaving the foreground intact.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is. 100% opacity erases pixels completely on the first pass. A lower opacity only partially erases the pixels.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Tolerance**-how dissimilar the pixels can be compared to the sampled pixel for the pixels to be erased. A low percentage affects only pixels very similar to the sampled pixel.
- **Continuous**-if this option is off (default), samples the colour only once on the first tap. When selected, samples colour continuously as you drag.
- **Contiguous**-when selected (default), affects neighbouring pixels as well as the sampled pixel colour. If this option is off, affects only the selected pixel colour.



- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.



This Brush Tool can be associated with a particular brush in the Brushes Studio. For more information, see the [Modifying brushes](#) topic.

SEE ALSO:

[Erasing
Erase Brush Tool](#)

Retouch Tools



Dodge Brush Tool

Dodging is a technique used in photography to control exposure and make areas of a photo lighter.

The **Dodge Brush Tool** allows you to precisely lighten areas of your image, and even limit the effect to just shadows, highlights or midtones. The effect is cumulative-the more you paint over an area, the more pronounced the lightening effect will be.



When using this brush you'll get the best results by using a low opacity setting and gradually building up the effect.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the pixel brush effect is applied (1 % is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Range**-limits the effect to a specific tonal range. Choose Shadows, Midtones or Highlights from the pop-up menu.



- **Protect Hue**-when selected, the colour tone remains faithful to the original hue.



- **Force Pressure**-toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Sponge Brush Tool](#)
[Burn Brush Tool](#)



Burn Brush Tool

Burning is a technique used in photography to control exposure and make areas of a photo darker.



The **Burn Brush Tool** allows you to precisely darken areas of your image, and even limit the effect to just shadows, highlights or midtones. The effect is cumulative-the more you paint over an area, the more pronounced the darkening effect will be.



When using this brush you'll get the best results by using a low opacity setting and gradually building up the effect.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the pixel brush effect is applied (1 % is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Tonal Range**-limits the effect to a specific tonal range. Choose Shadows, Midtones or Highlights from the pop-up menu.
-  **Protect Hue**-when selected, the colour tone remains faithful to the original hue.
-  **Force Pressure**-toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Sponge Brush Tool](#)
[Dodge Brush Tool](#)



Sponge Brush Tool

The **Sponge Brush Tool** can be used to selectively saturate or desaturate areas within an image.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Mode**-choose from one of the following modes:
 - **Saturate**-when selected, brush strokes increase the saturation of the existing pixels.
 - **Desaturate**-when selected, brush strokes decrease the saturation of the existing pixels.



- **Force pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.



- **Vibrance**-tap to toggle between HSL Saturation and Vibrance modes. The former adjusts the colour intensity of all pixels; the latter adjusts the intensity of subtle coloured pixels, while minimising clipping of highly saturated coloured pixels.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Dodge Brush Tool](#)
[Burn Brush Tool](#)




Clone Brush Tool

The **Clone Brush Tool** paints samples from one part of an image onto another. It's useful for removing defects, general photo retouching and duplicating parts of an image. Like all brush tools, it is pressure sensitive to create natural looking strokes when using a pressure-sensitive device.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Rotation**-sets the degree of rotation applied to the sample.
- **Scale**-sets the scale of the sample between 1% and 1000%.
-  **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Aligned**-when selected (default), the origin of the sample remains a fixed distance from the pointer. If this option is off, the origin of the sample always returns to the sample location defined initially.
- **Flip**-allows for horizontal and vertical flipping of the resulting clone relative to the sampled area. Choose horizontal, vertical
- **Blend Mode**-changes how the applied pixels interact with existing pixels on a layer. Choose mode type from a pop-up or both directions from a pop-up menu.
- **Source**-the source determines the layer(s) from which the pixels are sampled. Select from the pop-up menu.
- **Continue Last**-(on-screen modifier key) when pressed, laid-down cloned areas are conjoined.
- **Set Source**-(on-screen modifier key) sets the clone source as a key press as you continue cloning.



You can pick up the source for cloning by long pressing on the source area.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Cloning and Healing](#)



Undo Brush Tool

The **Undo Brush Tool** can be used to selectively undo modifications to individual pixels, restoring them to a previously targeted history state. After setting a brush source, you can blend the image's current state back to a previous state, like painting backwards in time.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (12% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Blend Mode**-changes how the applied pixels interact with existing pixels on a layer. Select from the pop-up menu.



- **Blend**-when enabled (default), pixels which do not overlap those in the selected history state are unaffected, allowing the blending of the current document state with the selected, previous state. If this option is off, all pixels are returned to the previous state when painted.



- **Protect Alpha**-when enabled, you are not able to paint on the current layer's transparent regions.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*



To paint from history:

1. Display the **History** Studio.
2. Tap the **Undo Brush Source** camera icon on the history state you want to paint back to.
3. Begin painting with the **Undo Brush Tool**.

SEE ALSO:

[History Studio](#)




Blur Brush Tool

You can use the **Blur Brush Tool** to blur hard edges within an image. The effect is cumulative so the more you paint over an area, the more pronounced the blur effect will be. The blur is only applied to pixels on the currently selected layer.

Settings

The following settings can be adjusted from the context toolbar

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
-  **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y-axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Brush tools](#)
[Painting brush strokes](#)
[Sharpen Brush Tool](#)



Sharpen Brush Tool

Sharpening increases the contrast of neighbouring pixels. The **Sharpen Brush Tool** gives you full control over the areas that are sharpened and has a cumulative affect. You can easily apply clarity and unsharp mask sharpening selectively with a few strokes of a brush!

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Mode**-allows you to set the brush mode behaviour to Clarity, Unsharp Mask, or Harsh.
- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Symmetry**-when the Lines setting is set to greater than 0, repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.

About the sharpening modes

- The three modes available from the context toolbar have slightly different effects on the underlying pixels.
 - **Clarity**-increases local contrast.
 - **Unsharp Mask**-increases contrast of edge pixels.
 - **Harsh**-increases contrast on all pixels.



When using this brush you'll get the best results by using either low opacity or flow settings and then gradually building up the effect.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Brush tools](#)
[Painting brush strokes](#)
[Blur Brush Tool](#)



Median Brush Tool

The **Median Brush Tool** can be used to selectively reduce noise by blending pixels under the stroke.



As with all brush tools, you can create natural looking strokes when using a pressure-sensitive device.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Symmetry**-when the Lines setting is set to greater than ,repeats the brush stroke around a number of axes (defined by the value). The centre axis point can be repositioned by dragging it.
- **Mirror**-with symmetry enabled, causes brush strokes to be mirrored along the X and Y axis.
- **Lines**-with symmetry enabled, defines the number of axes around which the brush stroke will be repeated.
- **Locked**-when enabled, prevents the symmetry line from being moved.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Blur Brush Tool](#)

[Sharpen Brush Tool](#)

[Smudge Brush Tool](#)



Smudge Brush Tool

The **Smudge Brush Tool** allows you to drag colour around an image, similar to dragging a brush or finger through wet paint. It can be used to blend colours and create interesting brush effects.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels. Type directly in the text box or drag the pop-up slider to set the value.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate). Type directly in the text box or drag the pop-up slider to set the value.
- **Strength**-defines the extent to the smudging. Type directly in the text box or drag the pop-up slider to set the value.
- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.



*This Brush Tool can be associated with a particular brush in the **Brushes Studio**. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Brush tools](#)

[Painting brush strokes](#)



Healing Brush Tool

The **Healing Brush Tool** enables you to repair and retouch unsightly areas of an image.

Settings

The following settings can be adjusted from the context toolbar

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how see through the brush is.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.
- **Rotation**-sets the degree of rotation applied to the sample.
- **Scale**-sets the scale of the sample between 1% and 1000%. Type directly in the text box or drag the pop-up slider to set the value. The result can be previewed inside the brush cursor.



- **Force Pressure**-Toggle to control brush size with pressure if using a pressure-sensitive device. This overrides brush defaults.
- **Aligned**-when selected (default), the origin of the sample remains a fixed distance from the pointer. If this option is off, the origin of the sample always returns to the sample location defined initially.
- **Flip**-allows for horizontal and vertical flipping of the resulting healing area relative to the sampled area. Choose horizontal, vertical or both directions from a pop-up menu.
- **Source**-the source determines the layer(s) from which the pixels are sampled. Select from the pop-up menu.
- **Continue Last**-(on-screen modifier key) when pressed, laid-down healed areas are conjoined.
- **Set Source**-(on-screen modifier key) sets the healing source as a key press as you continue healing.



You can pick up the source for healing by long pressing on the source area.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Cloning and healing](#)
[Patch Tool](#)
[Blemish Removal Tool](#)
[Inpainting Brush Tool](#)
[Clone Brush Tool](#)

Patch Tool

The **Patch Tool** allows you to repair a more extensive area of an image by selecting pixels and replacing them from another target area of your current or other document.

Settings

The following settings can be adjusted from the context toolbar

- **Mode**-select from **New**, **Add**, **Subtract**, and **Intersect**.
- **Source Mode**-If this option is off (default), the selection is the target area where pixels will be replaced. When selected, the selection is the source area from where pixels will be copied.
- **Texture Only**-if this option is off (default), hue information from the source area is preserved and the target area's hue will update accordingly. When selected, hue information from the source area is disregarded and the target area's hue will remain unchanged.
- **Transparent**-if this option is off (default), the source area is placed on the target area as fully opaque. When selected, the source area is placed on the target area with varying transparency depending on the colour value of individual pixels.
- **Source**-the source determines the layer(s) from which the pixels are sampled. Select from the pop-up menu. The "Global" option enables patching using pixels previously sampled in another document (pixel layer only).
- **Rotation**-sets the degree of rotation applied to the sample.
- **Scale**-sets the scale of the sample between 1% and 1000%. The result can be previewed inside the selection.



You can pick up the source for patching by long pressing on the source area.

About selection modes

The four modes available from the context toolbar affect how your selection develops.

- **New**-cancels all current selections and creates a new selection.
- **Add**-adds areas to the current selection. If there is no selection in place, a new selection will be created.
- **Subtract**-removes areas from the current selection.
- **Intersect**-a new selection area is created from the overlap between the newly added selection area and the current selection.

SEE ALSO:

[Patching](#)
[Healing Brush Tool](#)
[Blemish Removal Tool](#)
[Inpainting Brush Tool](#)



Blemish Removal Tool

The **Blemish Removal Tool** enables you to remove small imperfections from images with a single tap.

The tool is available in both Photo Persona and [Develop Persona](#).

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the area size in pixels.

SEE ALSO:

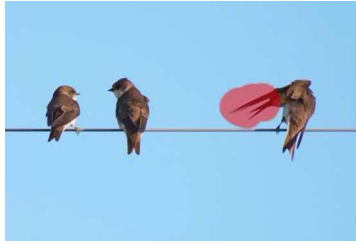
[Healing Brush Tool](#)

[Patch Tool](#)

[Inpainting Brush Tool](#)



Inpainting Brush Tool



The **Inpainting Brush Tool** restores damaged, lost, deteriorated or unwanted areas of an image.

Settings

The following settings can be adjusted from the context toolbar:

- **Width**-the brush (stroke) size in pixels.
- **Opacity**-how strongly to apply the inpainting.
- **Flow**-how fast the brush effect is applied (1% is very slow, 100% is immediate).
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **More**-tap to display the [Brushes](#) dialog to access advanced brush settings.



*This Brush Tool can be associated with a particular brush in the **Brushes** Studio. For more information, see the [Modifying brushes](#) topic.*

SEE ALSO:

[Inpainting](#)
[Healing Brush Tool](#)
[Patch Tool](#)
[Blemish Removal Tool](#)



Red Eye Tool

The **Red Eye Tool** quickly fixes the red eye effect in your photos and preserves the detail of the eye.

Settings

This tool has no customisable settings.

SEE ALSO:

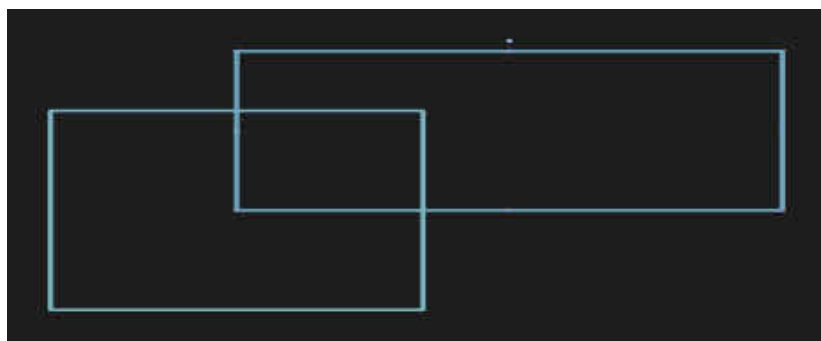
[Removing Red Eye](#)

Vector Shape Tools



Rectangle Tool

Rectangles are commonly used when drawing and are arguably one of the most used shapes in artwork and design. The **Rectangle Tool** makes it extremely quick and easy to draw rectangles and squares with a choice of corner types



Default shape before customisation.



You can convert a rectangle to a square by double-tapping any edge handle.

Settings

The following settings can be adjusted from the context toolbar:

- **Corner Type**-sets the style and radius of the rectangle's corners. You can choose a Round (fillet), Straight (chamfer), Round Inverse (scallop) or Cutout option. For all corner types, drag the single red node on the shape to customise all corner simultaneously (this adjusts the corner radius).
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To constrain to a square, hold down a secondary finger (or thumb) as you are dragging out the shape.



To reset any red handle to its default position, simply double-tap the handle.

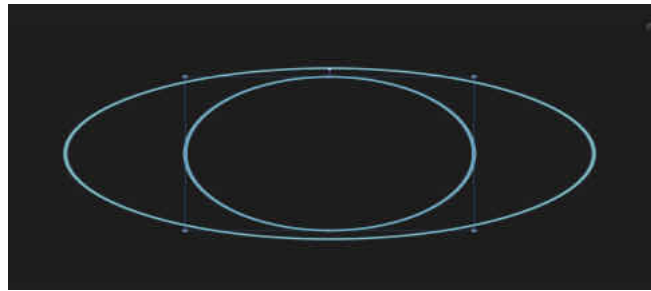
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Ellipse Tool

An ellipse is a useful object and one that is virtually impossible to create freehand. The **Ellipse Tool** takes the hassle out of creating circles and ellipses.



Default shape before customisation.



You can convert an ellipse to a circle by double-tapping any edge handle.

Settings

The following settings can be adjusted from the context toolbar:

- **Doughnut**-Swaps the ellipse for a doughnut shape.
- **Pie**-Swaps the ellipse for a pie shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To constrain to a circle, hold down a secondary finger (or thumb) as you are dragging out the shape.



To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)

[Draw and edit shapes](#)

[Crescent Tool](#)

[Doughnut Tool](#)

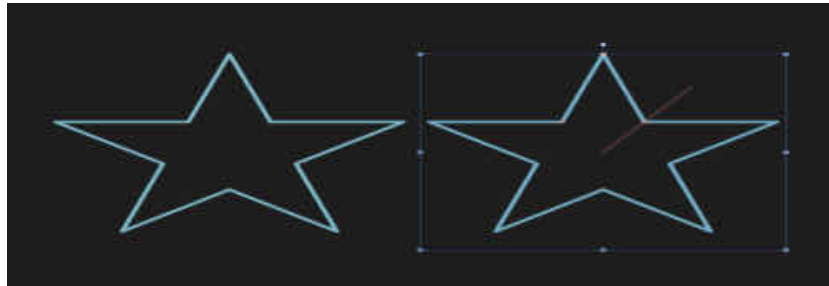
[Pie Tool](#)

[Callout: Ellipse Tool](#)



Star Tool

The Star Tool enables you to create all sorts of stars quickly and easily. The added controls even makes it possible to add curved sides to create alternative shapes.



Default shape and handle position (in red) before customisation.

Customisation

The Star Tool has several options on the shape and on the context toolbar to enable the number of points, the inner radius (length of points) and the curvature of the left and right sides of the points to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

Curve Edges-when checked, the sides of the star's points can be curved using the Left/Right curve settings.

Points-sets the number of protrusions on the shape.

Inner radius-controls the length of the points relative to the centre of the star.

To Curves-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

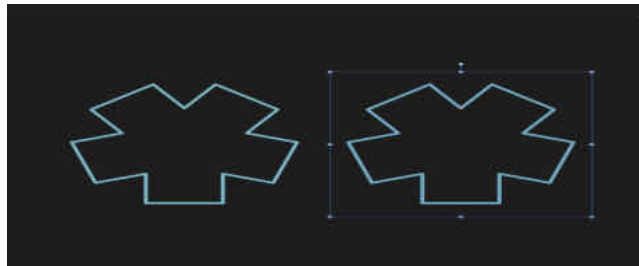
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Square Star Tool

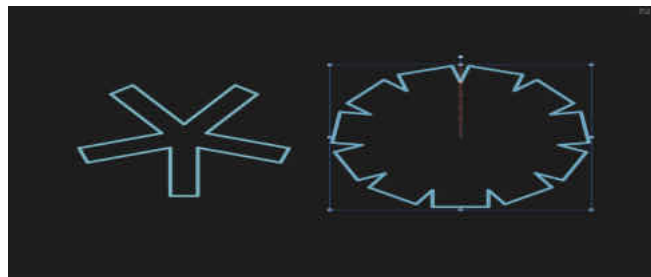
The **Square Star Tool** enables you to create all shapes from crosses to sunbursts quickly and easily.



Default shape and handle position (in red) before customisation.

Customisation

The **Square Star Tool** has several options on the shape and on the context toolbar to enable the number of sides and the cutout to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Sides**-sets the number of squared points on the shape.
- **Cutout**-controls the width of all squared points by cutting out the region between the shape's bounding box and the red shape handle.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



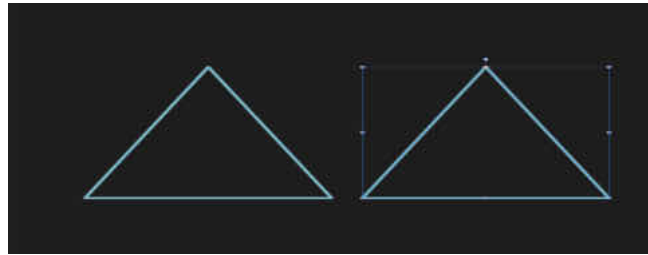
To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Star Tool](#)

Triangle Tool

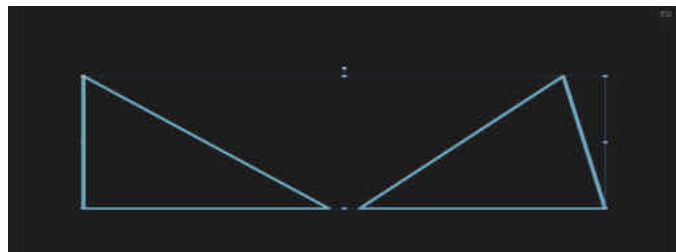
Create all types of triangles including true isosceles and right-angle triangles easily with the **Triangle Tool**.



Default shape and handle position (in red) before customisation.

Customisation

The **Triangle Tool** offers a handle on the shape and options on the context toolbar to enable the triangle to be modified.



Two possible outcomes when the option is customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Top Point**-controls the position of the top point of the triangle from left (0%) to right (100%), with 50% representing a central point.
- **Mirror**-updates the above settings to give a reversed (lipped) version of the current shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



Isosceles, Right-Angled and Equilateral triangles

- To create an isosceles triangle, set the top point to 50%.
- To create a right-angled triangle, set the top point to either 0% or 100%.
- To create a true equilateral triangle (where all three sides are the same length), use the *Polygon Tool*. Ensure that you constrain the shape as you draw, and then set the number of sides to 3 on the context toolbar.



To reset any red handle to its default position, simply double-tap the handle.

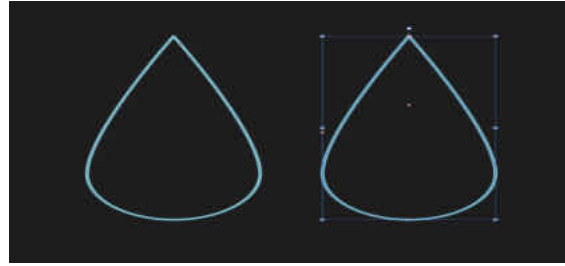
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Polygon Tool](#)



Tear

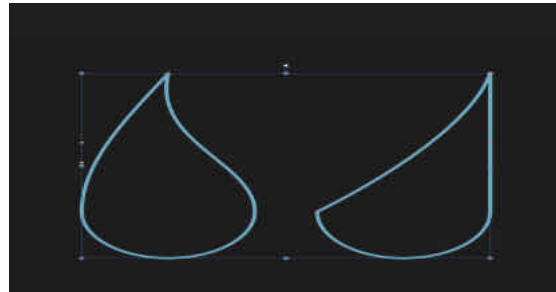
The **Tear Tool** enables you to create many types of tear or droplet shapes quickly and easily.



Default shape and handle position (in red) before customisation.

Customisation

The **Tear Tool** has several options on the shape and on the context toolbar to enable the ball size, curve, tail position and bend to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Curve**-controls the curvature of the edges which connect the elliptical end of the shape to the point.
- **Tail Position**-controls the position of the point of the shape from left (0%) to right (100%), with 50% representing a central point.
- **Bend**-controls additional edge curvature (see **Curve** above). Positive values curve both edges to the right (with the left edge affected more), negative values curve both edges to the left (with the right edge affected more).
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

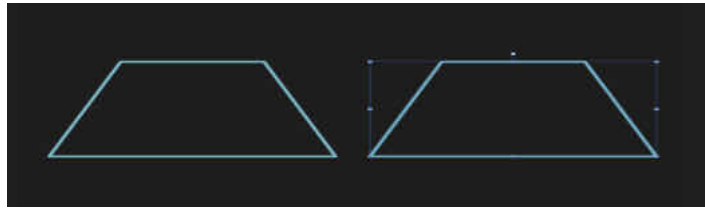
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Trapezoid Tool

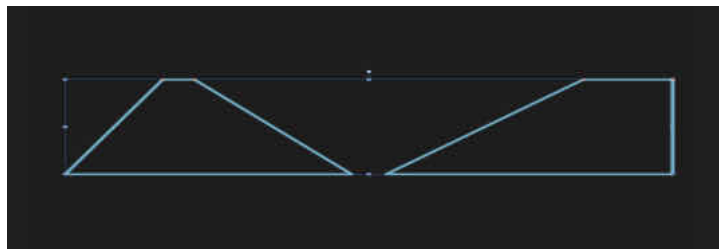
Easily create trapezoids with the **Trapezoid Tool**.



Default shape and handle position (in red) before customisation.

Customisation

The **Trapezoid Tool** has options on the shape and on the context toolbar to change the position of the top corners. This sets the length of the top edge (base) and the angles of the lateral sides (legs).



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Left/Right Point**-controls the position of the top-left/right corner of the trapezoid from left (0%) to right (100%), with 50% representing a central point.
- **Mirror**-updates the above settings to give a reversed (flipped) version of the current shape.
- **Negate**-updates the above settings to give the inverse (opposite) of the current shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



The left point cannot be positioned further to the right than the current position of the right point, and vice versa.



To reset any red handle to its default position, simply double-tap the handle.

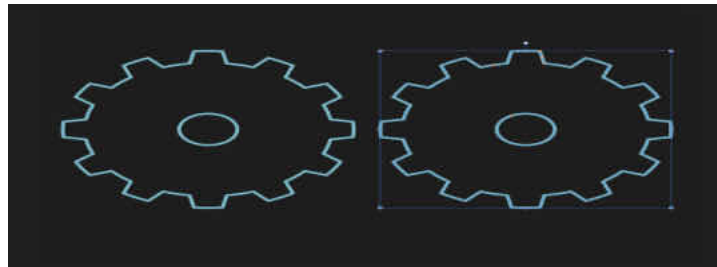
SEE ALSO:

[About geometric shapes](#)

[Draw and edit shapes](#)

Cog Tool

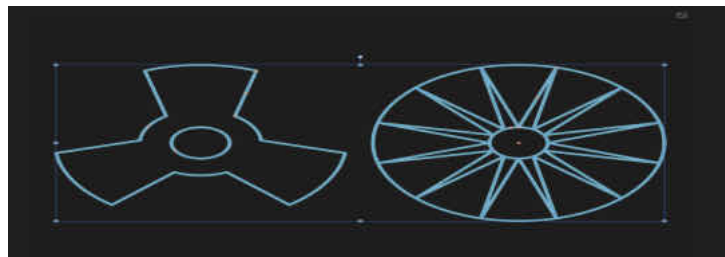
The Cog Tool is possibly one of the most versatile shape tools in the shape toolset. It's geometrically accurate and has a wide range of customisable control points to allow you to create a wide range of useful shapes, from cogs to sunbursts!



Default shape and handle position (in red) before customisation.

Customisation

The **Cog Tool** has several options on the shape and on the context toolbar to enable the number of teeth, tooth and notch size, and inner radius and hole size to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Teeth**-sets the number of protrusions on the shape.
- **Inner Radius**-controls the width of cog's teeth relative to the width of the shape.
- **Hole Radius**-controls the width of the hole at the shape's centre.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

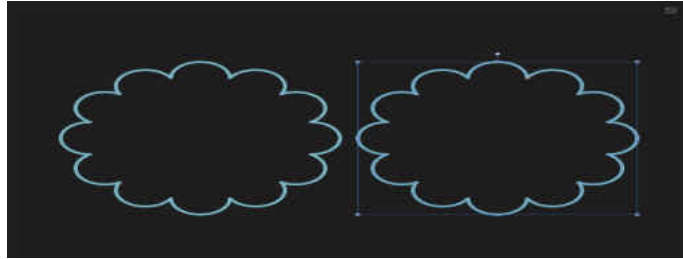
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Cloud Tool

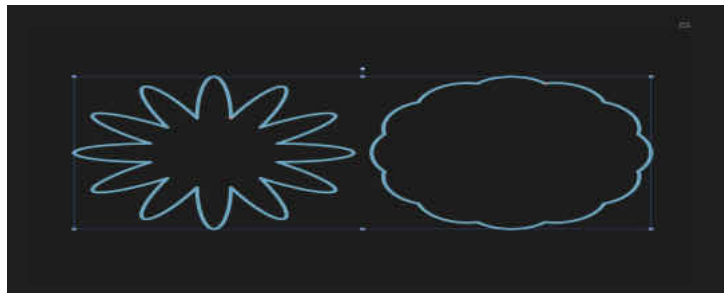
The **Cloud Tool** makes it easy to add clouds to your designs.



Default shape and handle position (in red) before customisation.

Customisation

The **Cloud Tool** has several options on the shape and on the context toolbar to enable the number of bubbles and the radius of the bubbles to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Bubbles**-sets the number of protrusions on the shape.
- **Inner Radius**-controls the length of the bubbles relative to the width of the shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

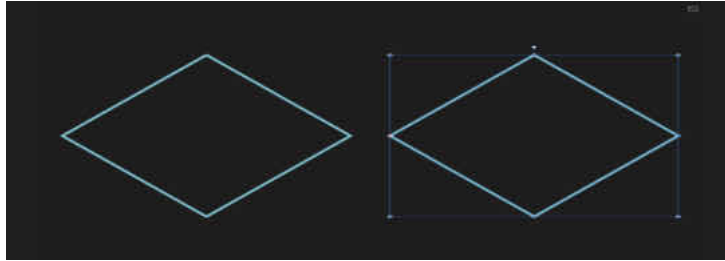
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Diamond Tool

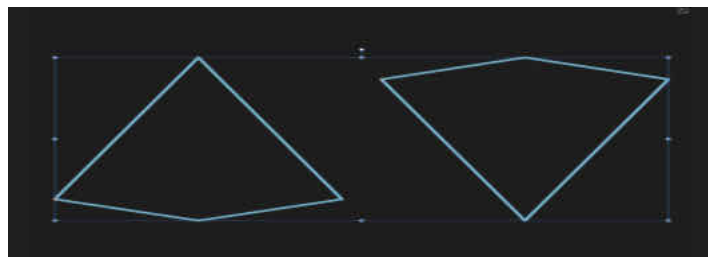
Easily create diamonds, rhombuses and kites with the **Diamond Tool**.



Default shape and handle position (in red) before customisation.

Customisation

The Diamond Tool has the option on the shape and on the context toolbar to change the height of the midpoint to create a kite shape.



Two possible outcomes when the option is customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Mid Point**-controls the position of the mid points of the sides of the shape from bottom (0%) to top (100%), with 50% representing a central point.
- **Mirror**-updates the above settings to give a reversed (flipped) version of the current shape.
- **To Curves**-coverts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

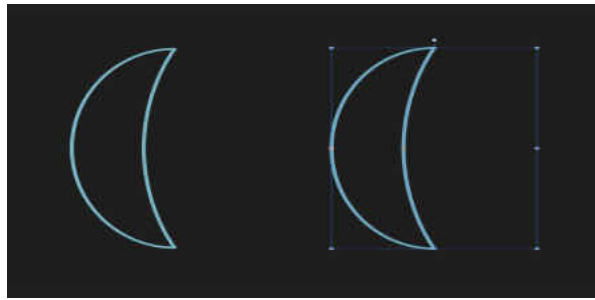
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Polygon Tool](#)



Crescent Tool

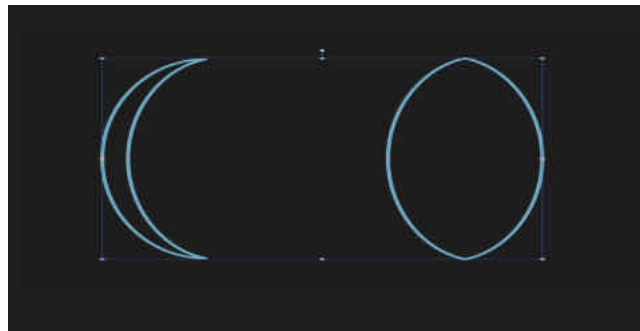
The **Crescent Tool** can be used to create crescent shapes from the thinnest 'New Moon' shape, to a full ellipse.



Default shape and handle position (in red) before customisation.

Customisation

The **Crescent Tool** has two options on the shape and on the context toolbar to enable the amount of curve on the left and right side of the shape to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Left/Right curve**-controls the curve of the left/right side of the shape. Negative values move the curve to the left, positive values move the curve to the right.
- **Mirror**-updates the above settings to give a reversed (flipped) version of the current shape.
- **Negate**-updates the above settings to give the inverse (opposite) of the current shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

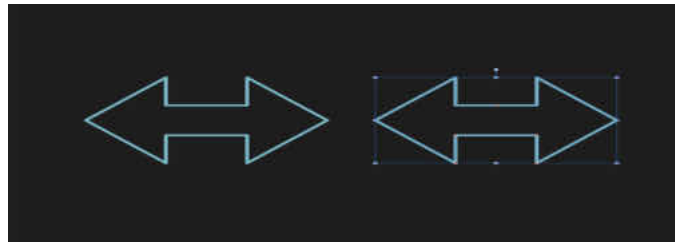
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Ellipse Tool](#)



Arrow Tool

The **Arrow Tool** makes it easy to quickly add arrows to your design.



Default shape and handle position (in red) before customisation.

Settings

The following settings can be adjusted from the context toolbar:

- **Thickness**-controls the height of the arrow body.
- **Left or Right**-sets the 'head' style on either end of the arrow.
- **Proportional**-when selected (default), the head proportions remain fixed for that 'head' style when the arrow is resized. If this option is off, the head resizes with the design.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

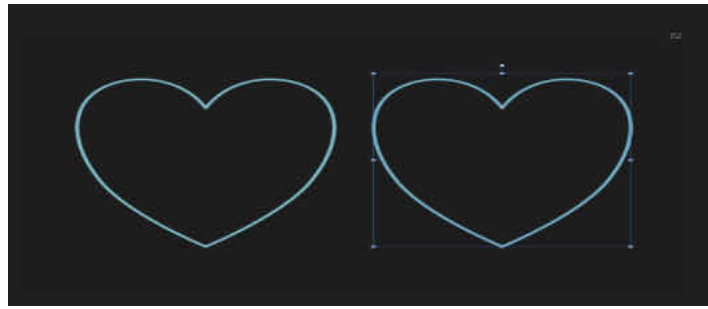
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Heart Tool

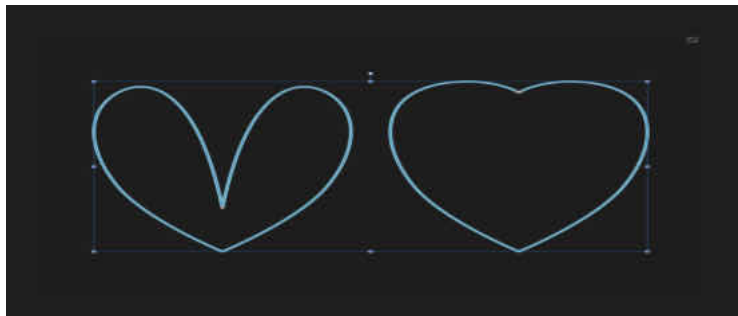
Create heart shapes with variable lobes with the **Heart Tool**.



Default shape and handle position (in red) before customisation.

Customisation

The **Heart Tool** has the option on the shape and on the context toolbar to enable the height of the lobes to be controlled.



Two possible outcomes when the option is customised.

Settings

The following settings can be adjusted from the context toolbar

- **Spread**-controls the height of the heart's lobes.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)



Pie Tool

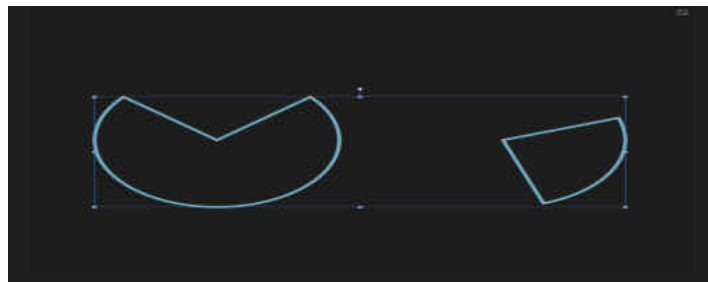
The **Pie Tool** makes it easy to create pie shapes, pie segments and doughnuts with segments removed. As the segments are geometrically correct, it's easy to create shapes with the exact angle you need for charts and other uses.



Default shape and handle position (in red) before customisation.

Customisation

The **Pie Tool** has several options on the shape and on the context toolbar to enable the start and end angle and the size of the doughnut hole to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Hole radius**-controls the width of the hole at the shape's centre.
- **Start/End angle**-sets the position of the start/end stops relative to 360°. The greater the difference in the angles, the larger the portion of pie.
- **Invert Angle**-switches the Start and End angle values. This converts acute shapes to obtuse (and vice versa) and flips the shape horizontally and/or vertically.
- **Close Pie**-if the circle is incomplete, closes the shape to create a full-circle.
- **To Curves**-converts the selected object into a series of connected lines and nodes



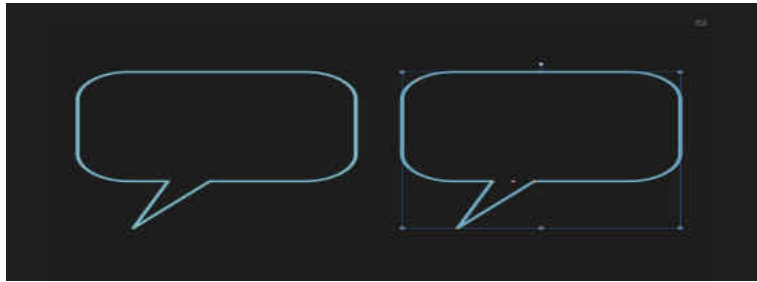
To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Ellipse Tool](#)

Callout Rectangle Tool

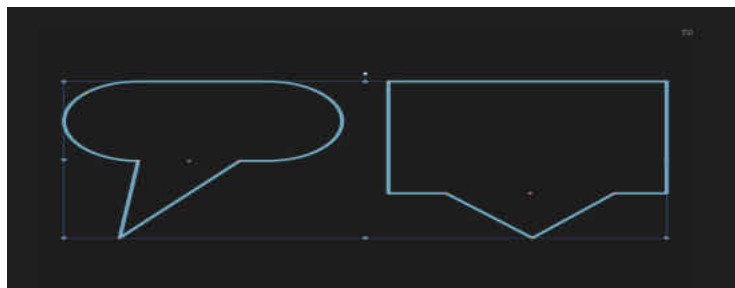
The **Callout Rectangle Tool** provides a quick way of creating a callout or speech bubble in your design.



Default shape and handle position (in red) before customisation.

Customisation

The **Callout Rectangle Tool** has several options on the shape and on the context toolbar to adjust the size, shape and position of the tail, and the radius (roundedness) of the corners.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Radius**-sets the radius of the rectangle's rounded corners.
- **Tail End**-controls the position of the point of the protrusion from left (0%) to right (100%), with 50% representing a central point.
- **Tail Start**-controls the position of the protrusion along the base of the shape from left (0%) to right (100%), with 50% representing a central point.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

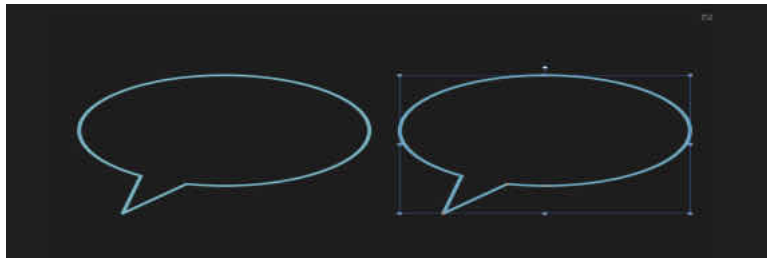
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Ellipse Tool](#)



Callout:Ellipse Tool

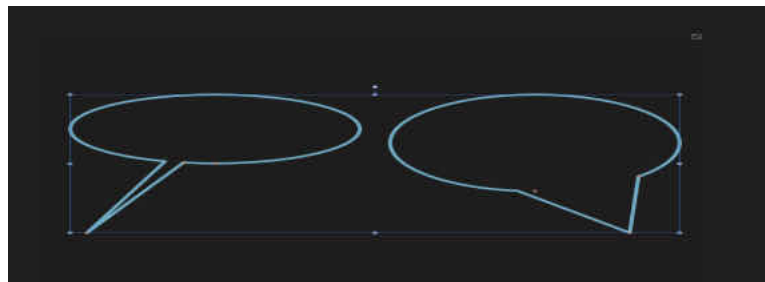
Create traditional looking callouts and speech bubbles with the **Callout Ellipse Tool**.



Default shape and handle position (in red) before customisation.

Customisation

The **Ellipse Callout Tool** has several options on the shape and on the context toolbar to enable the size, shape and position of the tail, and the depth of the callout ellipse to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar

- **Tail Height**-controls the height of the shape's protrusion relative to the height of the shape.
- **Tail End**-controls the position of the point of the protrusion from left (06) to right (100%), with 50% representing a central point.
- **Tail Angle**-controls the width and position of the protrusion along the base of the shape.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

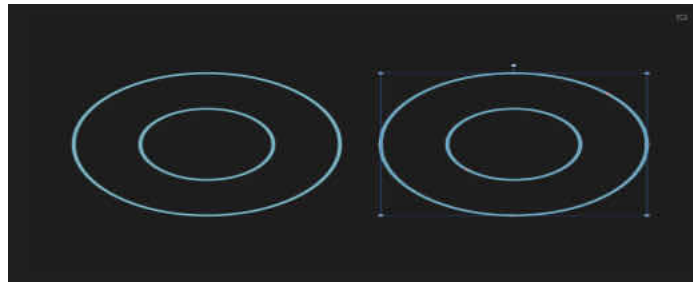
SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Ellipse Tool](#)



Doughnut Tool

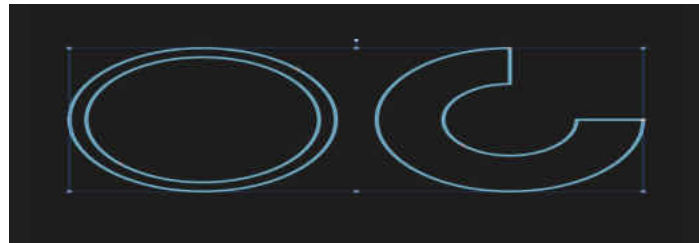
The **Doughnut Tool** easily creates an ellipse shape with a hole cut out of the centre.



Default shape and handle position (in red) before customisation.

Customisation

The **Doughnut Tool** has the option on the shape and on the context toolbar to control the size of the hole and completion of the circle.



Two possible outcomes when the option is customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Hole Radius**-controls the width of the hole at the shape's centre.
- **Start/End** angle-sets the position of the start/end stops relative to 360°. The greater the difference in the angles, the larger the portion of pie.
- **Invert Angle**-switches the Start and End angle values. This converts acute shapes to obtuse (and vice versa) and flips the shape horizontally and/or vertically.
- **Close Pie**-If the circle is incomplete, closes the shape to create a full circle.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)

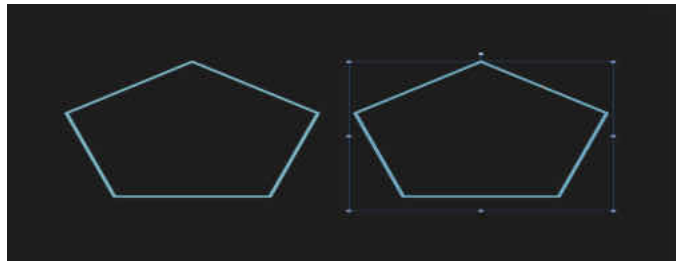
[Draw and edit shapes](#)

[Ellipse Tool](#)



Polygon Tool

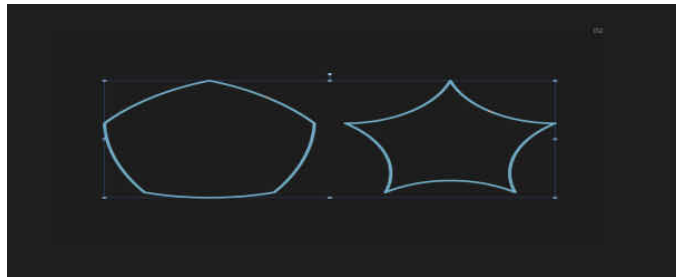
The **Polygon Tool** enables you to create useful multi-sided geometric shapes.



Default shape and handle position (in red) before customisation.

Customisation

The **Polygon Tool** has several options on the shape and on the context toolbar to enable the number of sides, and the side curvature to be controlled.



Two possible outcomes when the options are customised.

Settings

The following settings can be adjusted from the context toolbar:

- **Sides**-sets the number of sides (and angles) of the polygon.
- **Curve**-sets the convex or concave nature of the sides of the polygon. The percentage curve available is determined by the number of sides. For straight sides, set to 0%.
- **Smooth points**-applies smoothing to the points of the polygon, resulting in the appearance of a continuous curve. This only applies when the curve of sides is greater than 0%.
- **To Curves**-converts the selected object into a series of connected lines and nodes.



Equilateral triangles

To create a true equilateral triangle (where all three sides are the same length), use the [Polygon Tool](#). Ensure that you constrain the shape by holding down a secondary finger (or thumb) as you draw the polygon, and then set the number of sides to 3 on the context toolbar.



To reset any red handle to its default position, simply double-tap the handle.

SEE ALSO:

[About geometric shapes](#)
[Draw and edit shapes](#)
[Triangle Tool](#)
[Diamond Tool](#)

Text Tools



Artistic Text Tool

The **Artistic Text Tool** allows you to add artistic text to your design.

Artistic text, as the name suggests, is best suited to decorative or artistic typographical design.

Settings

The following settings can be adjusted from the **Apple Keyboard interface**:

- **Font**-sets the font of the text. Select from the pop-up menu.
- **Font size**-type directly in the text box or use the +/- buttons to set a value in 1 pt increments.
- **Font format**-toggle **Bold**, **Italic**, and/or **Underline**.
- **Paragraph alignment**-select from **Left Align**, **Centre Align**, **Right Align**, or **Justified** (with additional pop-up menu options).
- **Text manipulation**-select from **Cut**, **Copy** and **Paste** to copy and relocate text.



Additional formatting, character and paragraph options can be adjusted on the [Text Studio](#).

SEE ALSO:

[Working with text](#)
[Artistic text](#)
[Frame Text Tool](#)



Frame Text Tool

The **Frame Text Tool** allows you to add a text frame which acts as a container for paragraph text.

Frame text is best suited to working with text which will be presented in paragraphs with a formalised structure and layout. If you want to present text in columns, frame text is the ideal solution.

Settings

The following settings can be adjusted from the **Apple Keyboard interface**:

- **Font**-sets the font of the text. Select from the pop-up menu.
- **Font size**-type directly in the text box or use the +/- buttons to set a value in 1 pt increments.
- **Font format**-toggle **Bold**, **Italic**, and/or **Underline**.
- **Paragraph alignment**-select from **Left Align**, **Centre Align**, **Right Align**, or **Justified** (with additional pop-up menu options).
- **Text manipulation**-select from **Cut**, **Copy** and **Paste** to copy and relocate text.



*Additional formatting, character and paragraph options can be adjusted on the **Text Studio**.*

SEE ALSO:

[Working with text](#)
[Frame text](#)
[Artistic Text Tool](#)

Liquify Tools (Liquify Persona)



Liquify Tools

The Liquify tools can be used in isolation or combination to allow you to warp an image as appropriate.

The Liquify tools available include:



Push Forward Tool

Shifts pixels in the direction of the stroke.



Push Left Tool

Shifts pixels 90 to the left of the stroke direction. This spreads and compresses edges along the stroke.



Twirl Tool

Applies a clockwise rotational distortion under the stroke (centred around the middle of the tool cursor). If the tool is used in one area multiple times, the strength of the distortion increases.



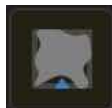
Pinch Tool

Applies a convex 'bulging' spherical distortion under the stroke. If the tool is used in one area multiple times, the strength of the distortion increases.



Punch Tool

Applies a concave spherical distortion under the stroke. If the tool is used in one area multiple times, the strength of the distortion increases.



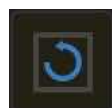
Turbulence Tool

Applies a crumbling distortion under the stroke which compacts some mesh lines together while expanding others. If the tool is used in one area multiple times, the strength of the distortion increases.



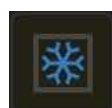
Mesh Clone Tool

Paints samples from one part of the mesh onto another. Ideal for applying previously set mesh adjustments to another area of the image; to pick up, hold down secondary finger (or thumb) on the screen and tap your primary finger on the area of the mesh you wish to copy.



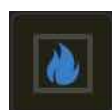
Reconstruct Tool

Reduces the warp effect applied to an image using the above tools. If the tool is used in one area multiple times, the strength of the underlying effect decreases. With the appropriate number of applications, the area will return to its original, unwarped state.



Freeze Tool

Protects areas of the image from any warp effects by applying a mask.



Thaw Tool

Allows areas of the image to be warped by removing the Current mask.

Settings

The following Tool settings are available:

- **Width**-the brush (stroke) size in pixels.
- **Hardness**-how hard the edges of the brush are. The brush appears softer as the percentage decreases.
- **Opacity**-the strength of the effect/mask applied with each stroke.
- **Speed**-how fast the brush effect/mask is applied (1% is very slow, 100% is immediate).
- **Slowly**-(on-screen modifier key) reduces the speed of warping.
- **Pinch/Punch**-(on-screen modifier key) offers the opposite operation as a modifier (punch while you're pinching).

SEE ALSO:

[Warping using Liquify Persona](#)

[Masking in Liquify Persona](#)

[Liquify Studio](#)

Raw Tools (Develop Persona)



Raw Tools

The **Raw tools** allow you to make and modify adjustments applied to an image in **Develop Persona**.

The Raw tools available include:



View Tool

Used to move the visible portion of your document in the Document view.



Red Eye Tool

Quickly [fixes the red eye effect](#) in your photos and preserves the detail of the eye.



Blemish Remove Tool

Enables you to [remove small imperfections](#) from images.



Overlay Paint Tool

Allows you to add areas to the [selected overlay adjustment](#).



Overlay Erase Tool

Allows you to remove areas of the [selected overlay adjustment](#).



Overlay Gradient Tool

Allows you to apply linear, elliptical, or radial graduated opacity to the [selected overlay adjustment](#).



Crop Tool

Removes areas of an image to improve composition.



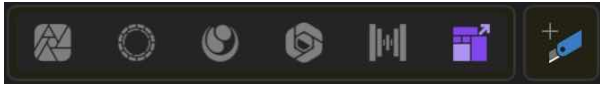
White Balance Tool

Automatically sets the [white balance](#) of the image depending on the colour of the pixel tapped under the tool's cursor or pixels selected by dragging (averaged colour).

SEE ALSO:

[Developing a raw image in Develop Persona Basic Studio](#)
[Overlays Studio](#)
[White Balance adjustment](#)

Export Tools



Slice Tool

The **Slice Tool** allows you to create and edit drawn export areas, called slices, so you can select portions of your image to be exported as individual graphics.

Rather than drawn slices using the tool, selected vector object and layers can also be made into automatically sized slices too.



Available in Export Persona only.

SEE ALSO:

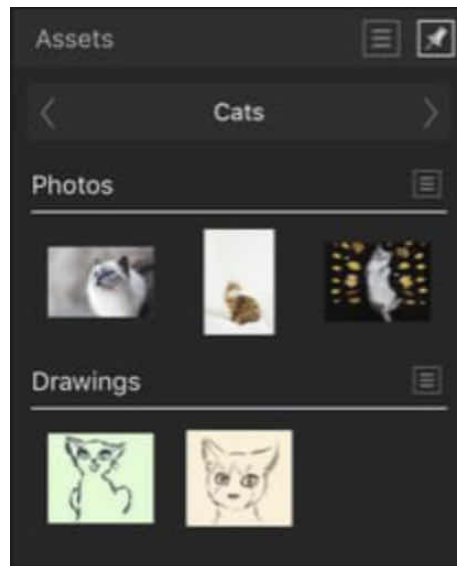
[Exporting using Export Persona](#)
[Export](#)

Studios



Assets Studio

The **Assets Studio** acts as an area for storing design elements which you can then access from any Affinity Photo document. By default, the Studio is populated with UI design elements for developing iOS-based designs.



The Assets Studio showing two sub-categories.

Options

The following options are available in the **Studio**:

- **Category**-displays the currently active category. Select from the pop-up menu.
- **Subcategory**-displays all assets in that subcategory. Tap a subcategory's title to collapse or expand the subcategory.

The following options are available from the **Studio Preferences** menu:

- **Add Category**-adds a new, custom assets category to the Studio.
- **Add Subcategory**-adds a new subcategory to the currently selected category.
- **Import Category**-adds a new category to the Studio pre-populated with subcategories and assets.
- **Export Category**-allows you to export the selected category to a location of your choice.
- **Delete Category**-removes the currently selected category (and all its assets) from the Studio.
- **Rename Category**-allows you to rename the currently selected category.

The following options are available from **subcategory option** menus:

- **Add Asset from Selection**-adds all the objects in the current on-page selection to the subcategory as assets. Grouped objects are added as a single asset.
- **Rename Sub-Category**-allows you to rename the subcategory.
- **Delete Sub-Category**-removes the subcategory (and all its assets) from the Studio.

SEE ALSO:

[Using assets](#)



Layers Studio

The Layers Studio lets you manage your design more easily by compositing layer content onto separate layers, each layer being independently controlled.

About the Layers Studio

The Studio can be used to build up your design as multiple layers, with each layer devoted to a particular facet (eg, brush strokes, images, adjustments, vector shape, curves and text).

From the **Layers Studio** you can:

- Create or delete pixel or fill layers
- Apply blend modes (or blend ranges) to layers
- Arrange and reorder layers
- Select layers
- Show and hide layers
- Group layers
- Lock layers
- Clip layers
- Create masks



Studio Preferences menu which offers:

- **Select All**-selects all objects across all layers.
- **Lock**-locks the selected layer(s).
- **Unlock**-unlocks the selected layer(s).
- **Unlock All**-unlocks all layers.
- **Hide**-hides the selected layer(s).
- **Show**-displays the selected layer(s).
- **Show All**-displays all hidden layers.
- **Show Unlocked**-displays all unlocked hidden layers.
- **Edit All Layers**-tick this checkbox to allow selection across all layers (not just the selected layer). This is ticked by default.



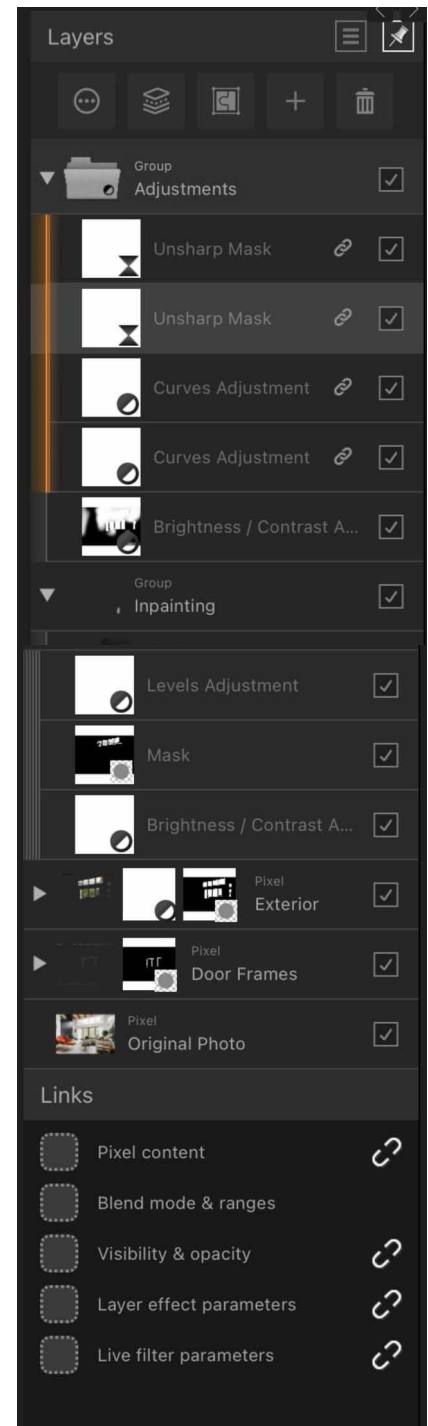
Tap the pin icon in the top right of the Studio to hide the Studio automatically.

Layer options include:

- **Opacity**-Adjusts opacity of the selected layer(s).
- **Blend Mode**-Changes how the applied pixels interact with existing pixels on the layer below.



- **Visible**-Disable to hide the layer; Enable to make it visible again.
- **Lock-Tap** to lock or unlock selected layers to prevent or allow editing.
- **Solo-Tap**. to hide all layers apart from the selected layer, for focused editing of layer content without any distraction.



Layers Studio

- **Blend Ranges**-The blend Gamma, Channels and Source /Dest spline graphs let you alter how tones blend between the selected layer and the layer below.
- **Tag**-allows you to tag layers with a choice of colours.
- **Pattern**-with a [pattern layer](#) selected, allows you to toggle a mirrored effect and select a sampling method for your pattern.



- **Merge and Rasterise**-Allows you to either:
 - **Merge Down**-Merges the currently selected pixel layer with the layer directly below it.
 - **Merge Selected**-Merges the currently selected pixel layers.
 - **Merge Visible**-Merges all visible layers, including vector and pixel layers. Merging vector layers will automatically rasterise the objects within those layers.
- **Rasterise**-Rasterises the selected vector layer.
- **Rasterise To Mask**-Rasterises the selected vector layer as a mask layer.



- **Group**-Groups or ungroups the currently selected layers.
- **Add pop-up menu**-Creates either an empty Pixel Layer or Fill Layer above the currently selected layer, a mask based on the current selection (Mask Layer) or an empty mask that ignores selections (Empty Mask Layer). Use Empty Group to allow layer content to be subsequently dragged and dropped into it.



- **Remove**-Deletes the currently selected layer.



- **Expand/Collapse**-Tap to expand/contract the layer, revealing child layers, or group layer to expand the group's content

- **Layer entry**-The created layer, showing a thumbnail of layer contents and the layer name.



- **Layer effect**-Indicates that a layer effect(s) has been applied to the layer; tap to jump to the Layer FX Studio to view the effect settings.



- **Visible**-Uncheck to hide the layer; Check to make it visible again.



Adjustment layers and live Filter layers are created via the Adjustments Studio and Filter Studio, respectively.



Hidden layers will not print or export.



When a layer group is collapsed into a single row it may display up to two more thumbnails, which represent mask, filter or adjustment layers applied to it. Tap one of those thumbnails to select the corresponding component for editing-painting black or white to hide or reveal the component's effect, respectively-without expanding the row. Tap the left thumbnail to return to editing the parent layer's contents.

SEE ALSO:

[Create layers](#)
[Layer masking](#)
[Layer blending](#)
[Layer blend ranges](#)



Colour Studio

The **Colour Studio** is used to choose colour for various brush tools and to apply colour to the stroke and fill of vector shapes, lines, and text.

About the Colour Studio

The Studio can operate in several colour modes-**RGB, HSL, CMYK, LAB** and **Greyscale**-and has various ways of presenting colour options-as a colour wheel (HSL only) or using sliders.

Colour Studio:

- (A) Foreground/Background colour selectors,
- (B) Colour picker tool and picked colour swatch,
- (C) Colour model,
- (D) Default HSL colour wheel,
- (E) Opacity control associated with colour,
- (F) Noise control for graininess effect,
- (G) Quick colours recently used in your document,
- (H) Swatches section for storing colours and palette control.

The **active colour** selector is shown at the **front** of the two colour selectors.

Choosing a new colour will apply it to the active colour selector.

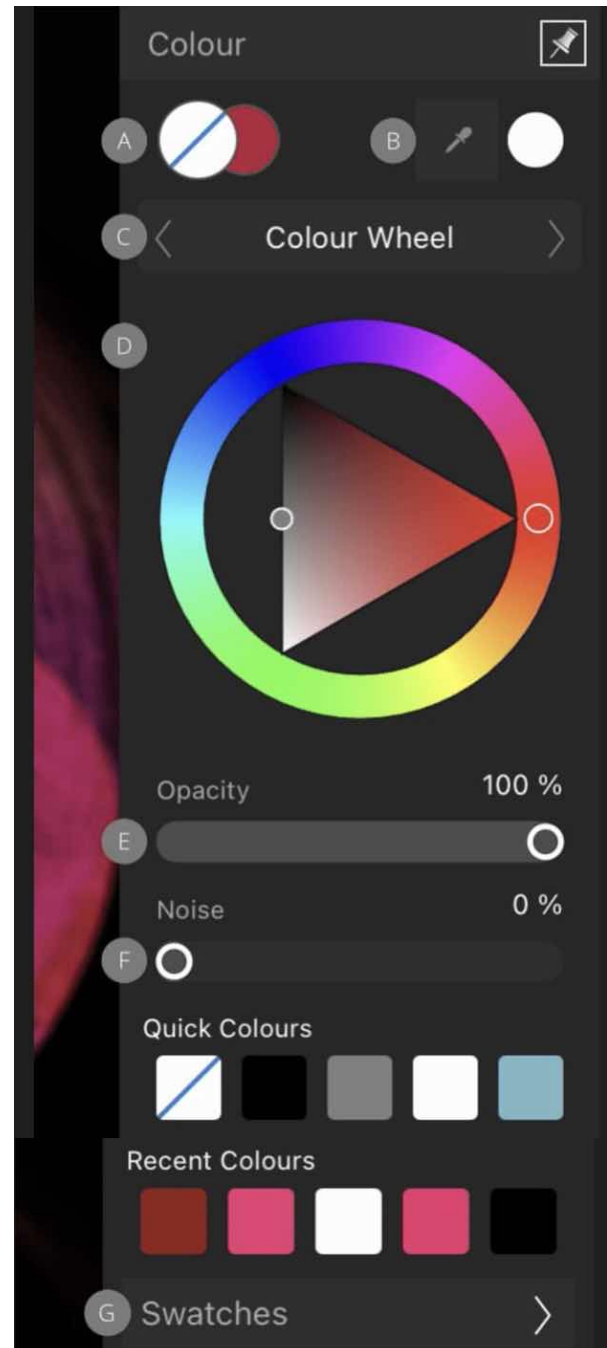
For vector shapes, lines and text, the colour selector is for stroke and fill colour instead of Foreground and Background colour, respectively.



The Gradient Tool changes the appearance of the Colour Studio. Only one colour selector swatch is shown to represent the colour of the currently selected stop on the gradient.



Tap the pin icon in the top right of the Studio to hide the Studio automatically.



Colour Studio

Using the Colour Studio

With the Colour Studio, colours can be set for use by a tool in just a few taps. Opacity and noise are further attributes which can be applied with a colour.

Colour display options and colour models

When choosing colours in the **Colour Studio**, you can choose different ways to present colour options (e.g. by wheel or slider) and different colour models. For example, if you want to design a hi-res print document, you could select colour using CMYK Sliders to match with a CMYK colour profile chosen at document setup. This doesn't change the working colour profile of the document, but changes the input values for the colours only.

The following colour options are available using the navigation buttons.

- **Colour Wheel** (HSL)
 1. Drag on the outer ring to set the hue.
 2. Drag in the triangle to set saturation and lightness.
- **Sliders** (HSL, RGB, CMYK, LAB, Grey)
 1. Tap the left/right navigation buttons under the swatches to jump between colour options and models.
 2. Drag sliders or type directly into the value boxes to set the colour values.

To set the colour of a selector:

1. Tap the selector you want to apply the colour to. It will show at the front of the two colour selectors.
2. Do one of the following:
 - Select a colour from the colour wheel or slider.
 - Tap the picked colour swatch (if you've previously colour picked).
 - Select one of the five most Recent Colours.



Swipe up on a chosen colour selector to set 'No Fill'.

Using the Colour Picker

The Studio's picker lets you sample colours from your page, then use them in your design.



• To use the Colour Picker:

1. Drag the **Colour Picker** icon to the colour you want to sample.
2. Tap the selector in the Colour Studio you want to apply the colour to.
3. Tap the swatch next to the **Colour Picker** to apply the colour.

Saving chosen colours for later use

Once your colour has been chosen and applied to a tool or content, there are several ways to preserve this colour for later use.



The following options are available from the **Studio Preferences** menu.

- **Add current fill to Palette**-adds the current colour to the currently loaded palette in the Swatches section.



Gesture(s)

- *Swipe left/right to swap colours between stroke and fill on colour selectors in Colour Studio.*
- *Swipe up on Stroke or Fill colour selector to set no fill in Colour Studio.*

Using swatches

The Swatches section stores your recently used colours and lets you access a range of predefined palettes, each containing solid or gradient fill swatches. These can be selected for use with various tools and for applying directly to objects. You can also create and store your own swatches in custom colour palettes either for the document or the application.

Swatches are organised into colour palettes by category.

Swatches Studio:

(A) Foreground/Background swatches, (B) [Colour Picker Tool](#) and picked colour swatch, (C) Quick colours (None, Black, Mid-grey and White swatches), (D) Quick colours recently used in your document, (E) Category list, (F) Swatch or list View, (G) Category colour palette swatches.

The Swatches section also hosts some 'quick colours, ie. None, Black, Mid-grey and White swatches, as well as the five most recently used colours.



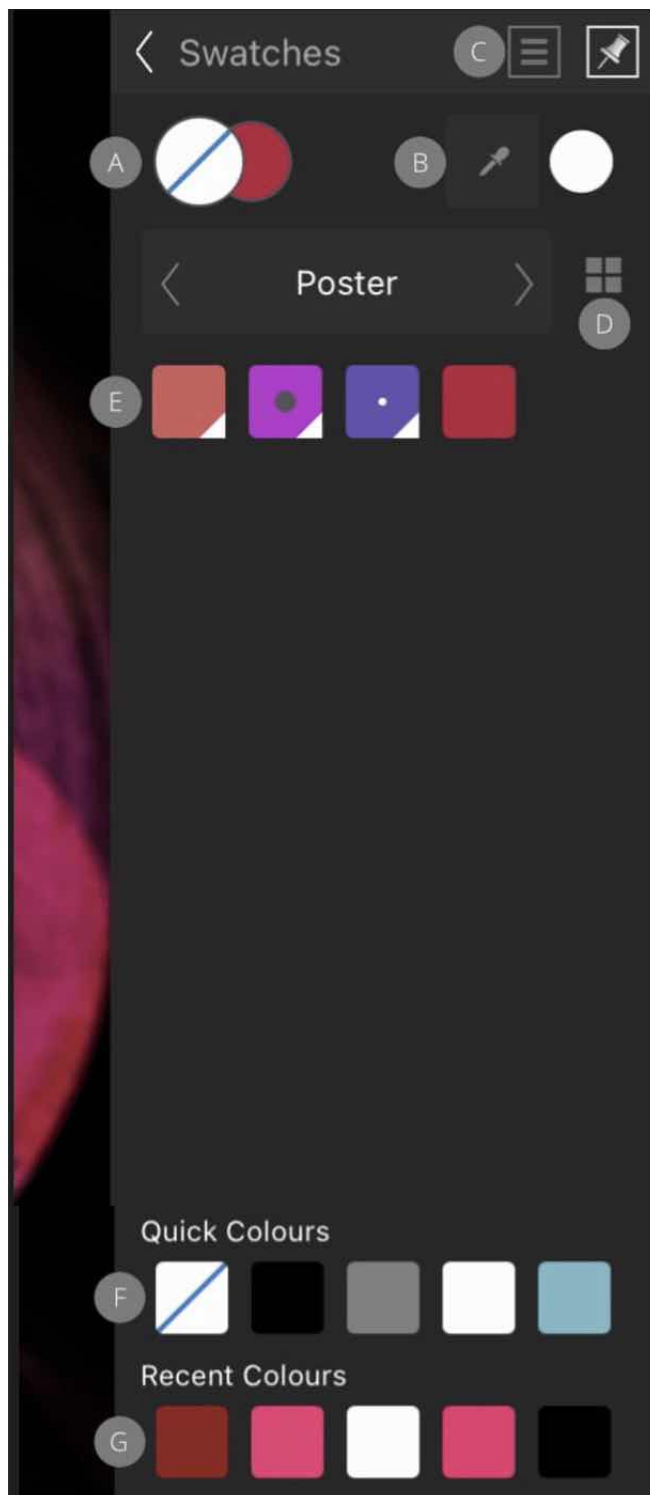
Hold down a secondary finger (or thumb) when selecting a swatch to honour the opacity and/or noise already applied to any vector shape, line or text file. only the colour will update).

Palettes

The following types of palette exist within Affinity Photo:

- **Document**-these palettes are saved within the current document.
- **Application**-these palettes are saved within Affinity Photo. These palettes are available to any Affinity Photo document.
- **PANTONE**-these palettes are based on PANTONE Colours. These palettes are available to any Affinity document.

You can permanently store custom colours and gradients that you use most often in any of the palettes or you can create custom palettes to host them. Although we recommend that you always create your own custom categories.



Creating and saving to custom colour palettes



To create a new palette:

- With the **Swatches** section open, tap **Studio Preferences** and choose an '**Add Palette**' option.



*From Studio Preferences, you can also **rename** and **delete** the selected palette.*



To save a colour or gradient to a palette:

1. Choose the colour from the HSL wheel or equivalent.
2. Open the **Swatches** section, and select a **palette** from the category list.
3. From the **Studio Preferences**, select **Add current fill** to palette.

To rename or delete a saved swatch:

- Long-press the swatch you want to remove and choose **Rename** or **Delete** from the pop-up menu.

SEE ALSO

[Selecting colours](#)

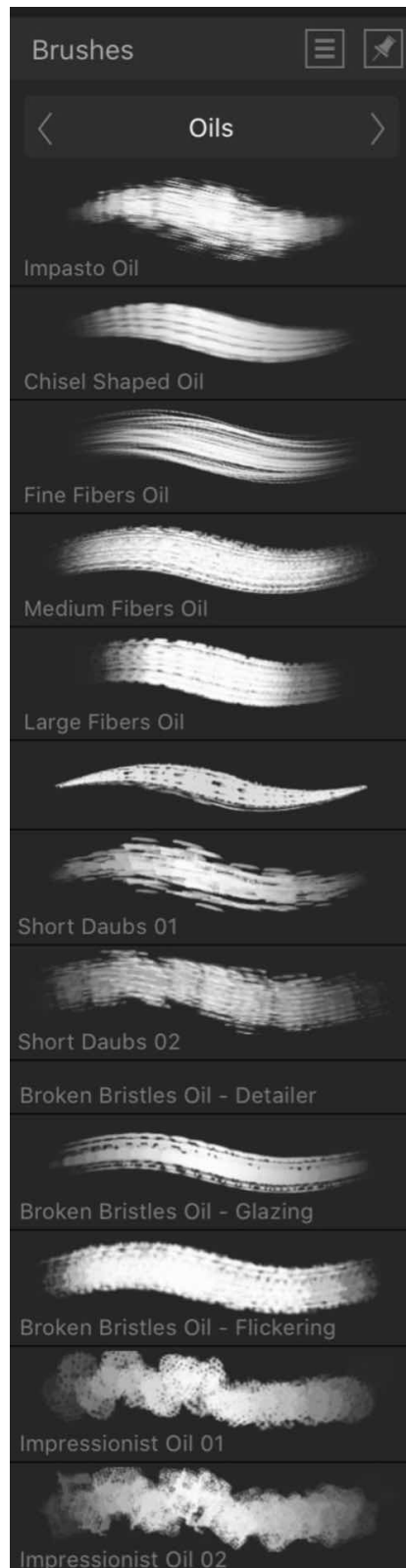


Brushes Studio

The **Brushes Studio** hosts a selection of brush presets which can be selected for use with the Paint Brush Tool and other brush-based tools. Any custom brushes you design can be saved to your own categories.

About the Brushes Studio

A choice of pre-designed brushes are available as selectable thumbnails. With the. are arranged in categories which can be navigated from the top of the Studio.



The Brushes Studio.

The Brushes Studio.

The Studio displays the following:



- **Studio Preferences** menu which offers:
 - **Add Category**-adds a new, empty category to the Studio.
 - **Remove Category**-removes the currently selected brush category.
 - **Rename Category**-allows you to rename the currently selected brush category.
 - **Sort Category by Date Added**-allows you to sort Brush categories by the date they were added.
 - [Import Brushes](#)-allows you to import a set of pre-designed brushes, including those in .afbrushes format (exported from Affinity Photo's desktop version) and .ABR format. You can also import brushes via drag-drop from your Files app onto the Brushes panel.
 - **Export Brushes**-allows you to export the currently selected brush category, ready for sharing with other users.
 - **New Intensity Brush**-creates a brush stroke based on the opacity values of a raster image, available on your Cloud Drive.
 - **New Round Brush**-creates a brush stroke with a soft, feathered edge.
 - **New Square Brush**-creates a brush stroke with a hard edge.
 - **New Image Brush**-creates a brush stroke based on an image, available on your iCloud Drive.



- Tap the pin icon in the top right of the Studio to hide the Studio automatically.
- Categories. Use the navigation buttons to jump between brush categories thumbnails update for the displayed category.
- Brush thumbnails for the current category.



Brush properties can be modified using the tool's context toolbar.



For more information on creating custom brushes, see [Creating custom brushes](#).

SEE ALSO:

[Painting brush strokes](#)

[Brush tools](#)

[Mixing paint colours](#)

[Creating custom brushes](#)

[Erasing](#)

[Retouch](#)



Adjustments Studio

The **Adjustments Studio** allows you to apply colour and tonal corrections to your image non-destructively, i.e, without making permanent changes to the underlying pixels.

About the Adjustments Studio

The **Adjustments Studio** presents colour and tonal adjustments under adjustment type (eg, HSL Adjust) as a series of scrollable preset thumbnails.

The Studio displays the following:



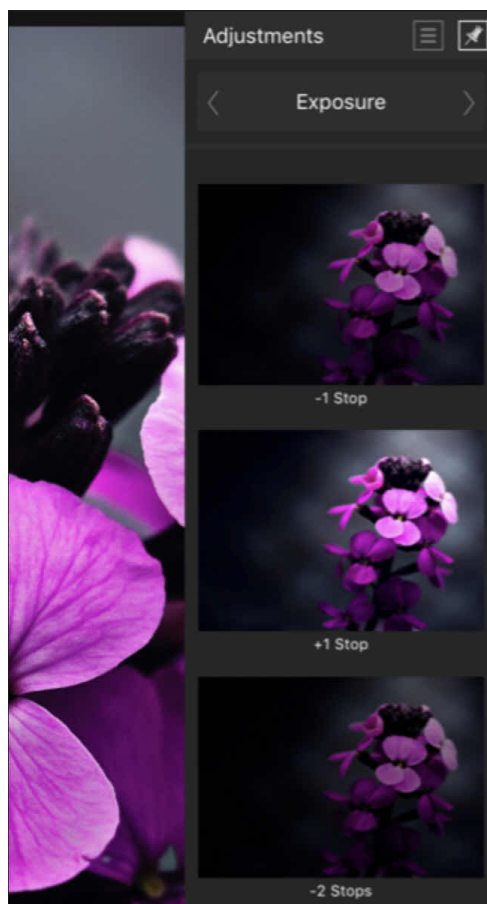
Studio Preferences menu which offers:

- **Toggle list mode**-swaps between the default adjustment thumbnail view and a list view without thumbnails.
- Tap the **pin** icon in the top right of the Studio to hide the Studio automatically.
- **Categories**. Use the navigation buttons to jump between adjustment categories, thumbnails update for the displayed category.
- **Adjustment thumbnails** for the current category.

Navigating some adjustment types at the top of the Studio may also offer additional thumbnails for that type, with each thumbnail applying an adjustment intended for specific uses (e.g, Desaturate); tapping on a thumbnail applies that preset.

The adjustment is added as an adjustment layer above the active pixel layer in your layer stack.

As you apply a preset you can fine-tune the preset's settings, optionally creating the modified adjustment as a new preset; this is saved as a new thumbnail available from the 'adjustment type' navigation buttons at the top of the Studio.



The Adjustments Studio.

Settings

The following general settings are available from the context toolbar. Settings preceding these are specific to the adjustment:

Opacity-how see-through the adjustment layer is.

Merge Down-merges the current adjustment layer with the layer immediately below it in the layer order.

Reset-reverts all toolbar settings to default.

Delete-closes the context toolbar and deletes the adjustment layer, removing the adjustment from the image.

Add Preset-adds the current adjustment settings as a preset for use with later images and projects.



You can set the adjustment layer's blend mode on its layer entry in the **Layers Studio**.

SEE ALSO:

[Applying adjustments](#)



Filters Studio

The **Filters Studio** allows you to creatively enhance or correct your image.

About the Filters Studio

The **Filters Studio** presents filters under filter type (eg, Blurs) as a series of scrollable preset thumbnails; tapping on a thumbnail applies that preset.

The Studio displays the following:



Studio Preferences menu which offers:

- **Toggle list mode**-swaps between the default filter thumbnail view and a list view without thumbnails.
- Tap the pin icon in the top right of the Studio to hide the Studio automatically.
- **Add Live filters**-allows you to add live filters directly from the studio, avoiding rasterisation.

Settings

The following general settings are available from the context toolbar. Settings preceding these are specific to the filter.

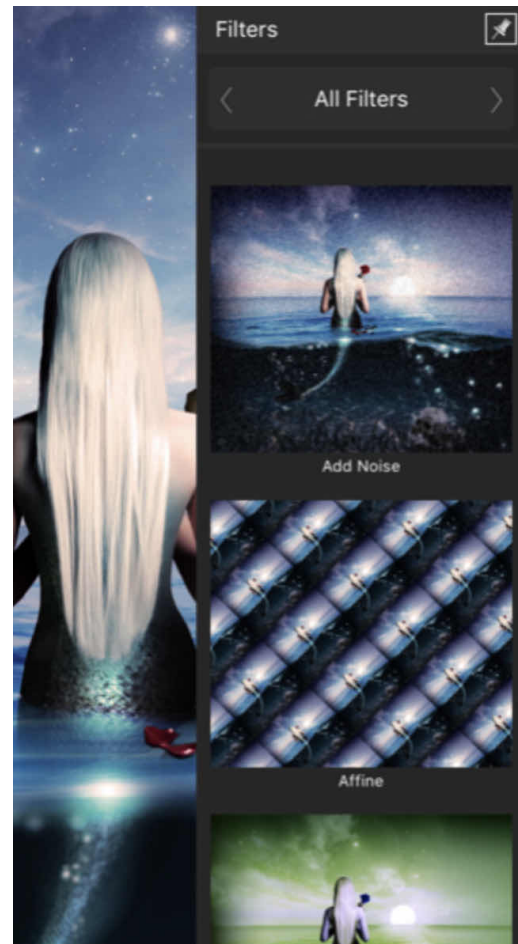
- **Before/After**-when tapped, a dividing line is displayed over the document to show a before and after preview. Tapping again will mirror the image for both before and after previews. Tapping a third time will remove the comparison.
- **Make live**-(certain filters only) converts the filter to its "live" equivalent, where it becomes a non-destructive layer.
- **Cancel**-exits without applying the changes to the filter.
- **Apply**-exits and applies the filter settings to the layer.

Live filters have these additional general settings:

- **Opacity**-how see-through the filter layer is.
- **Merge Down**-merges the current filter layer with the layer immediately below it in the layer order.
- **Reset**-reverts all toolbar settings to default.
- **Delete**-closes the toolbar and deletes the filter layer, removing the filter from the image.
- **Preserve Alpha**-fills alpha information rather than leaving it transparent (applies mainly to blur filters).



*You can set the live filter layer's blend mode on its layer entry in the **Layers Studio**.*



The Filters Studio.

SEE ALSO:

[Applying filters](#)



Layer FX Studio

Apply layer effects directly to layer contents using the Layer FX Studio.

About the Layer FX Studio

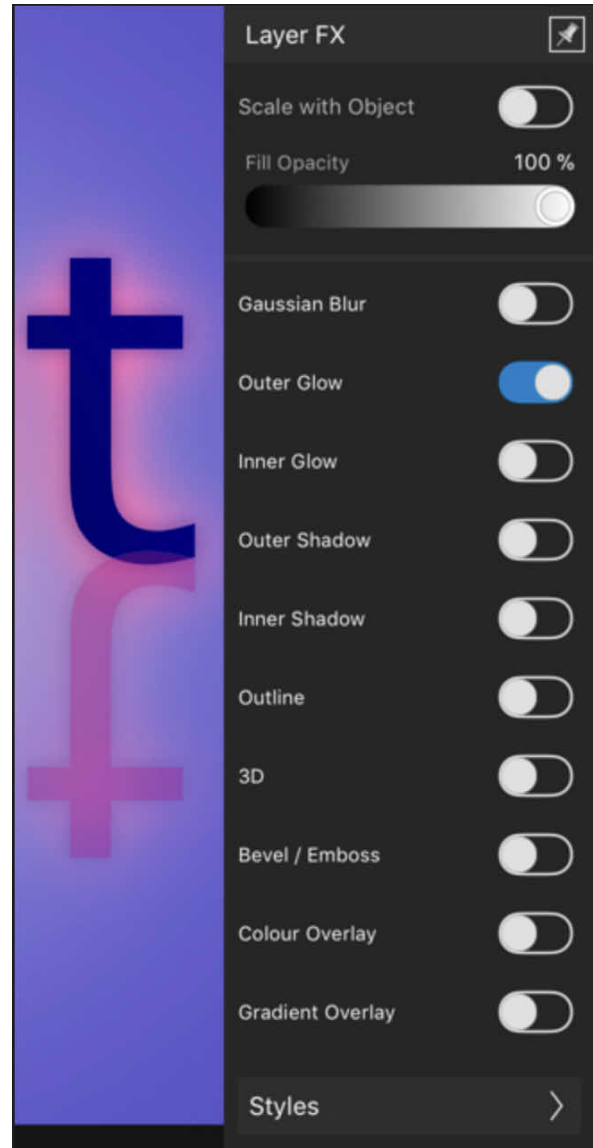
Layer effects can be applied to layer content. These effects are also non-destructive so you can change them at any time.

The Layer FX Studio.

The Studio displays the following:



- Tap the pin icon in the top right of the Studio to hide the Studio automatically
- **Scale with Object**-when enabled (default), the effect scales in proportion to the layer contents if the content is resized. If this option is disabled, the effect's scale remains unchanged when the layer content is resized.
- **Fill Opacity**-sets the opacity of the layer contents without affecting the applied effect(s).
- **Gaussian Blur**-blurs the layer content.
- **Outer Glow**-adds a colour glow that emanates from outside the layer content's edges.
- **Inner Glow**-adds a colour glow that emanates from inside the layer content's edges.
- **Outer Shadow**-adds a shadow behind the layer content.
- **Inner Shadow**-adds a shadow inside the layer content's edges.
- **Outline**-adds an outline to the layer content.
- **3D**-adds lighting to give a 3D appearance.
- **Bevel Emboss**-adds various combinations of highlights and shadows.
- **Colour Overlay**-applies a solid colour to layer content.
- **Gradient Overlay**-applies a linear gradient to layer content.



The Layer Fx Studio

About styles

The **Layer FX Studio** also lets you apply predesigned styles to layer content. Styles can comprise an individual effect with predefined settings or a combinations of effects that complement each other. The Styles section lets you apply these with one tap.

You can also save any style to the **Layer FX Studio** for future use. For vector shapes and text, the stroke, opacity and other vector properties can be stored.

Layer Fx Studio (Styles)

The Studio displays the following:

- **Categories.** Use the navigation buttons to jump between style categories; thumbnails update for the displayed category.
- Style thumbnails for the current category.

Settings



The following options are available from the **Studio Preferences** menu:

- **Add Style from Selection**-If your object is selected, select this option to save the object style to the current Styles category.
- **Add Category**-creates a new style category that you can save your custom styles into.
- **Remove Category**-deletes the currently active custom category.
- **Rename Category**-renames the currently active custom category.
- **Import Styles**-if styles have been previously exported to a file you can import them using this option.
- **Export Styles**-exports the current category, and its styles, to a file.



The Layer FX Studio showing styles in the Default category.

SEE ALSO:

[Using layer effects Styles](#)



Stock Studio

The **Stock Studio** provides access to stock photos directly from within Affinity Photo.

About the Stock Studio

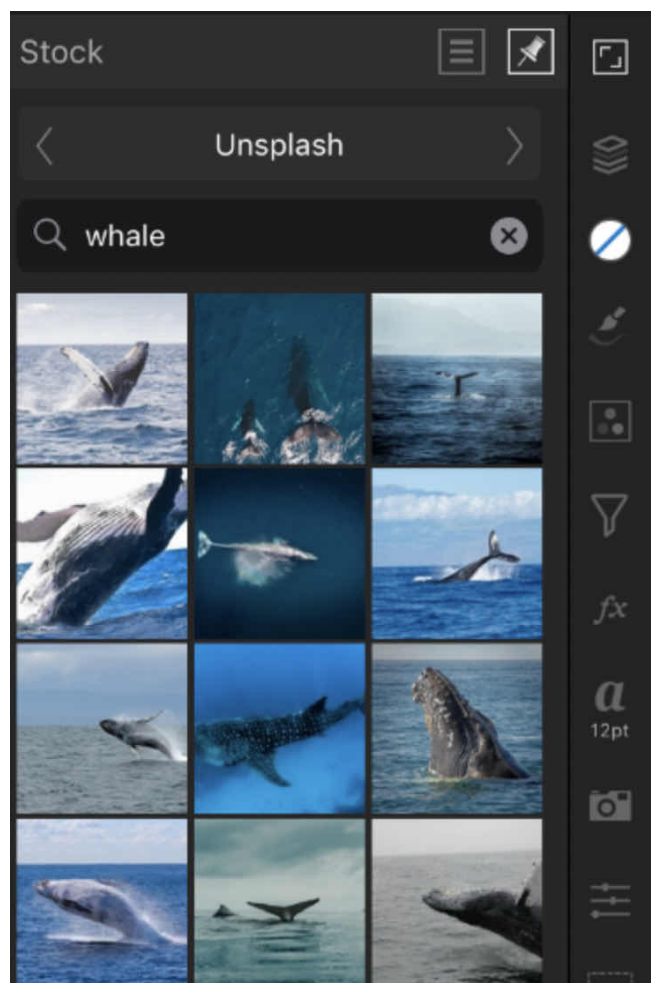
The Studio acts as an in-app image browser which connects to one of several free and royalty-free photo providers. You can search the provider's images, browse image thumbnails and add stock images to the page.

Settings

The following settings are available:



- If you have added a stock image to the page, a **Studio Preferences** menu will appear which offers:
 - **Open Stock URL**-loads the web address of the photo you have added to the page.
 - **Photo by**-loads the provider's profile of the photographer for the photo you have added to the page.
 - **Archive**-sets the archive currently displayed in the studio. Select from the pop-up menu.
 - **Search**-tap the box and enter a search term to display images tagged with matching terms. Tap the cross to remove the search term and display all images.



The Stock Studio populated with images.

SEE ALSO:

[Using stock photos](#)



Text Studio

The **Text Studio** allows you to apply formatting to characters and paragraphs created with the **Art Text Tool** or **Frame Text Tool**.



Tap the pin icon in the top right of the Studio to hide the Studio automatically.

About the Text Studio

The following Studio options are available for applying to selected text:

- **Font**-controls which typeface is applied.
- **Size**-controls the point size of characters.
- **Attributes**-applies a bold, italic, underline and/or strikethrough attributes.
- **Left Align**-sets the paragraph alignment to adhere to the left edge of the text container.
- **Centre Align**-sets the paragraph alignment to be equidistance between the left and right edges of the text container.
- **Right Align**-sets the paragraph alignment to adhere to the right hand edge of the container.
- **Justified options**-sets the paragraph to be justified and aligns the last line of the paragraph to the left, right, justified.



The Text Studio.

Character

The Character section of the Studio allows you to apply local formatting to individual letters, words, sentences and paragraphs as well as entire stories. You'll be able to:

- Set kerning and shearing.
- Apply horizontal and vertical scaling.

Positioning

Kerning-controls the kerning (distance) between characters.

- **Tracking**-controls the spacing between characters.
- **Baseline**-controls the position of the bottom of text characters. Positive values lower the baseline, negative values raise the baseline.
- **Leading Over**.-Leading Override applies a local override to selected text to increase the leading with regard to the paragraph's leading.
- **Shear**-controls the extent of text slant. Positive values will tilt text to the left, negative values will tilt text to the right.
- **Horz Scale**-horizontal scale stretches the characters and spacing width with regard to point size.
- **Vert Scale**-vertical scale stretches the characters with regard to point size.

Typography

- **Standard Ligatures**-applies any available typeface ligatures to the selected text.
- **Contextual Alternatives**-applies any alternative typeface designs available for glyphs depending on their relative position within a word or with respect to neighbouring glyphs.
- **Ordinals**-automatically applies a superscript to letters which are part of an ordinal number.
- **Fractions**-dynamically converts fractions into a single glyph.
- **Superscript**-converts text characters to superscript, ie. characters are set higher than neighbouring characters and font size is decreased.
- **Subscript**-converts text characters to subscript, ie. characters are set lower than neighbouring characters and font size is decreased.
- **All Caps**-displays all selected text as upper case (or small caps, if Small Caps option selected).
- **Small Caps**-displays lower case letters as miniature upper case.

Paragraph

The Studio's Paragraph section allows you to control the position and flow of individual paragraphs or entire stories.

The section lets you:

- Control the amount of vertical space between paragraphs.
- Apply left and right indentations as well as indents for first lines only.
- Create multiple tab stops set at different distances-giving you the ability to have irregular spacing when tapping tab several times.

Spacing

- **Leading**-controls the distance between text baselines (vertical gap between lines) within the paragraph. Select from the pop-up menu. Options include:
 - **Default**-sets the line spacing to the font's default (ie. single).
 - **Exactly**-sets a fixed spacing (other text attributes are ignored for line spacing purposes). This can be adjusted using the presets in the pop-up menu.
 - **0% Height**-sets spacing based on a percentage of the text's size. This can be adjusted using the presets in the pop-up menu.
 - **At Least**-sets a minimum spacing (actual line spacing may increase depending on other text attributes). This can be adjusted using the presets in the pop-up menu.
 - **Multiple**-controls line spacing as a portion of the default. This can be adjusted using the presets in the pop-up menu.
 - **Custom**-allows you to enter custom spacing.
- **Space Before**-controls the vertical gap which precedes the paragraph.
- **Space After**-controls the vertical gap which succeeds the paragraph.
- **First Line Indent**-controls the indent applied to the first line of the paragraph.
- **Left Indent**-controls the left indent applied to the entire paragraph (excluding the first line).
- **Right Indent**-controls the right indent applied to the entire paragraph. Justification
- **Word Spacing**-sets the minimum, desired or maximum gap allowed.
- **Letter Spacing**-sets the minimum, desired or maximum tracking allowed. Preferred tracking is applicable when a paragraph has a justified alignment

Justification

Word Spacing-sets the minimum, desired or maximum gap allowed.

Letter Spacing-sets the minimum, desired or maximum tracking allowed. Preferred tracking is applicable when a paragraph has a justified alignment

Tab Stop

- **Default Tab Stops**-controls the standard horizontal space added before a character when a tab stop is inserted.
- **Add New Tab Stop**-adds an additional tab stop position.
- **Delete Selected Tab Stop**-removes the selected tab stop.

For each new tab stop added, expand the tab stop entry (using the right arrow) to set:

- **Tab stop alignment**-sets the alignment of the current tab stop.
- **Tab stop leader**-sets the characters displayed up to the current tab stop.



Gesture(s)

*Dragging up and down on the **Text Studio** icon will adjust the text size.*

SEE ALSO:

[Working with text](#)

[Artistic text](#)

[Frame text](#)

[Character formatting](#)

[Paragraph formatting](#)

[OpenType font features](#)



Metadata Studio

The **Metadata Studio** is a multi-functional Studio for inspecting and editing information about the contents of photos.

In the **Photo and Selections personas** it hosts **Histogram**, **Scope charts** (for examining image luminance/chrominance) and **metadata** for camera images. Most metadata is editable here.

In the **Develop persona**, it displays **GPS location** about a photo's shooting location, which can be edited.

About histograms

The histogram gives a valuable 'heads up' of the Red, Green, and Blue values present in your image, layer, or current selection, which is useful for deciding if colour or tonal correction is needed.

The light blue values indicate the overlap of the RGB channels (not the luminosity). Purple represents where the red and blue channel representations overlap.



To display specific channels:

- Select **Studio Preferences**, and then select a specific colour channel.

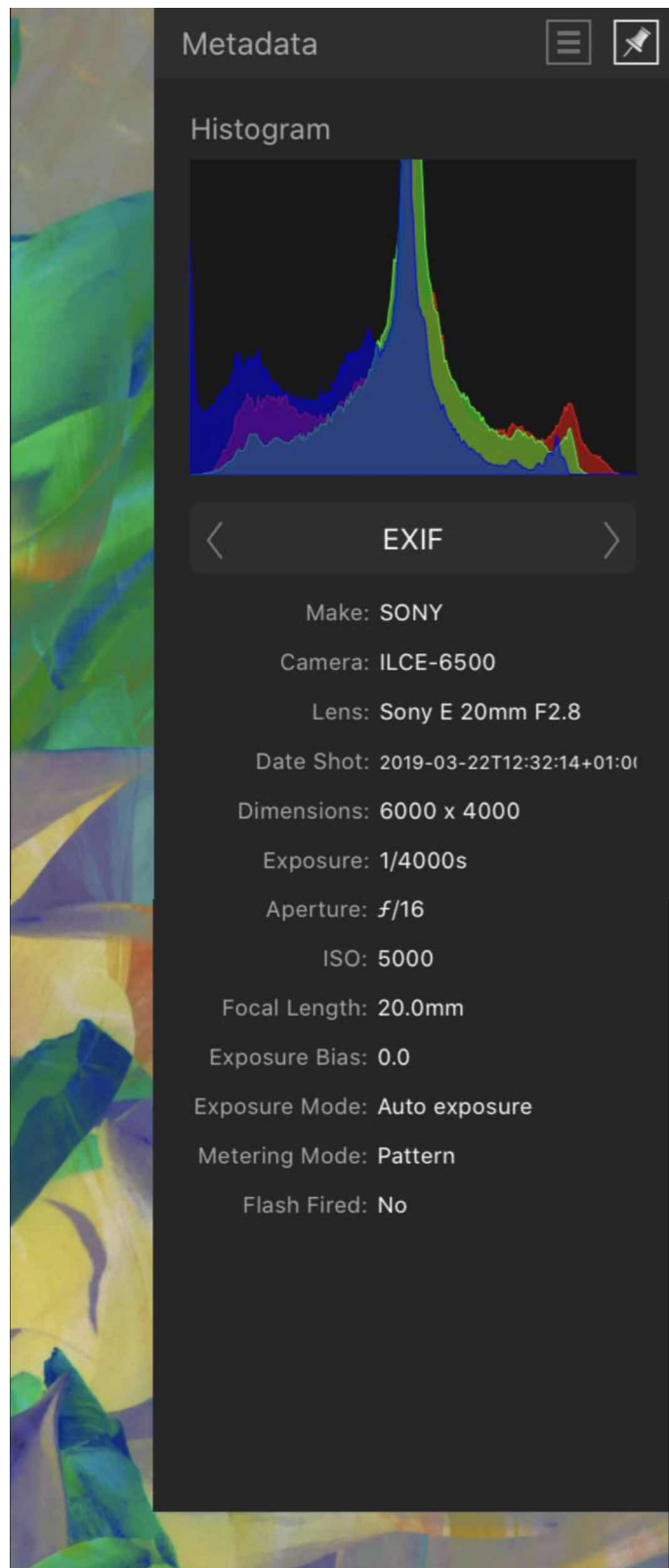


In LAB or CMYK colour modes, channels for that mode are displayed instead of Red, Green and Blue (RGB).



To show the histogram for a selected layer or selection:

1. Select a layer or make a selection.
2. From **Studio Preferences**, select **Current layer only** or **Marquee selection only**, respectively.



Metadata Studio

About Scope charts

The **Metadata Studio** also provides a variety of charts which allow you to examine the distribution of luminance and chrominance in an image, allowing you to judge whether tonal or colour correction is needed. It can be used as an alternative to, or in combination with, the histogram in the same Studio.

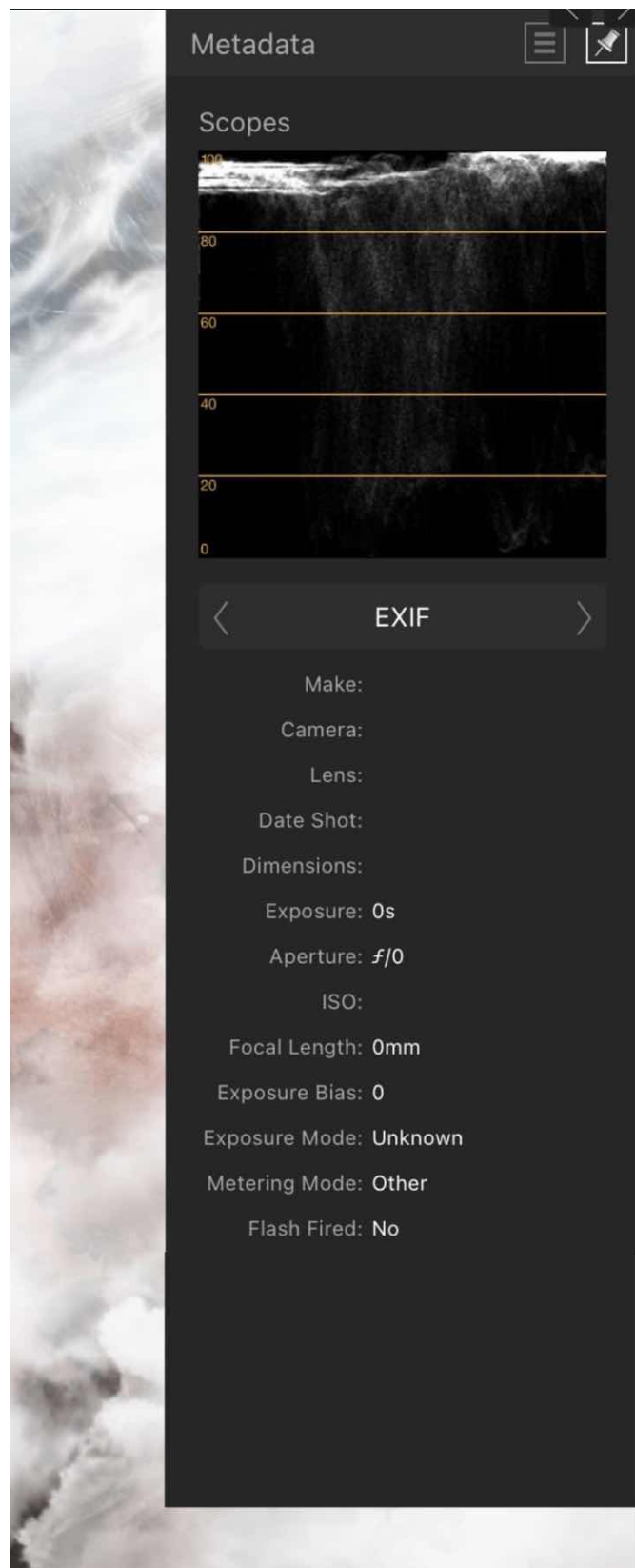


To choose a Scope chart:

- Select **Studio Preferences**, and then select a **specific scope chart**. Choose from:
 - **Intensity Waveform**-displays a scatter plot of the luminance values of pixels in an image. The X axis gives the horizontal location of the pixel while the Y axis provides its luminance value.
 - **RGB Waveform**-as with Intensity Waveform, but displays RGB rather than luminance values.
 - **RGB Parade**-as with Intensity Waveform, but separated into RGB components.
 - **Power Spectral Density**-represents the image in the frequency domain. Low frequencies are represented as solid lines. High frequencies can be seen as speckles. The colour of the frequency plot indicates the dominant colour tone in the image.
 - **Vectorscope**-displays a circular chart which monitors an image's colour information. Saturation is measured from the centre outwards from desaturation to full saturation. The direction of the pattern indicates the image's hue.



In LAB or CMYK colour modes, channels for that mode are displayed instead of Red, Green and Blue (RGB).



The Scope chart displaying the intensity Waveform for the adjacent photo.

About Metadata

You can use the **Metadata Studio** to add new metadata to an image or edit existing metadata.

The contents of the Studio's fields are saved as part of Affinity Photo documents and optionally included when exporting to other image file formats.

Additionally, you can use the Studio to inspect EXIF metadata that describes the hardware and shooting settings used to take a photo. EXIF metadata is not editable in Affinity Photo.

Items in the Keywords field can be single or compound terms. Often a comma or a semicolon is used to separate them. For example: United States of America; USA; California; Golden Gate Bridge; architecture.

Check whether other tools in your workflow expect a specific character.

Metadata categories

The Studio's fields are organised into several categories. Use the pop-up menu to Switch between them. The following categories are available:

- **File**-a summary of the image's contents and creator.
- **EXIF**-a read-only summary of the digital camera hardware and settings used to capture the image, where applicable.
- **IPTC (image)**-descriptions of the content and the location depicted, the image's source (owner), the credit line to display wherever the image is used, and a job ID to help track the image through a workflow. Often used by news organisations and photo agencies.
- **IPTC (Contact)**-the image creator's contact details, including postal and email addresses, telephone number and website. Often used by news organisations and photo agencies.
- **Rights**-image copyright details, any applicable Creative Commons licence, and rights-related website addresses.

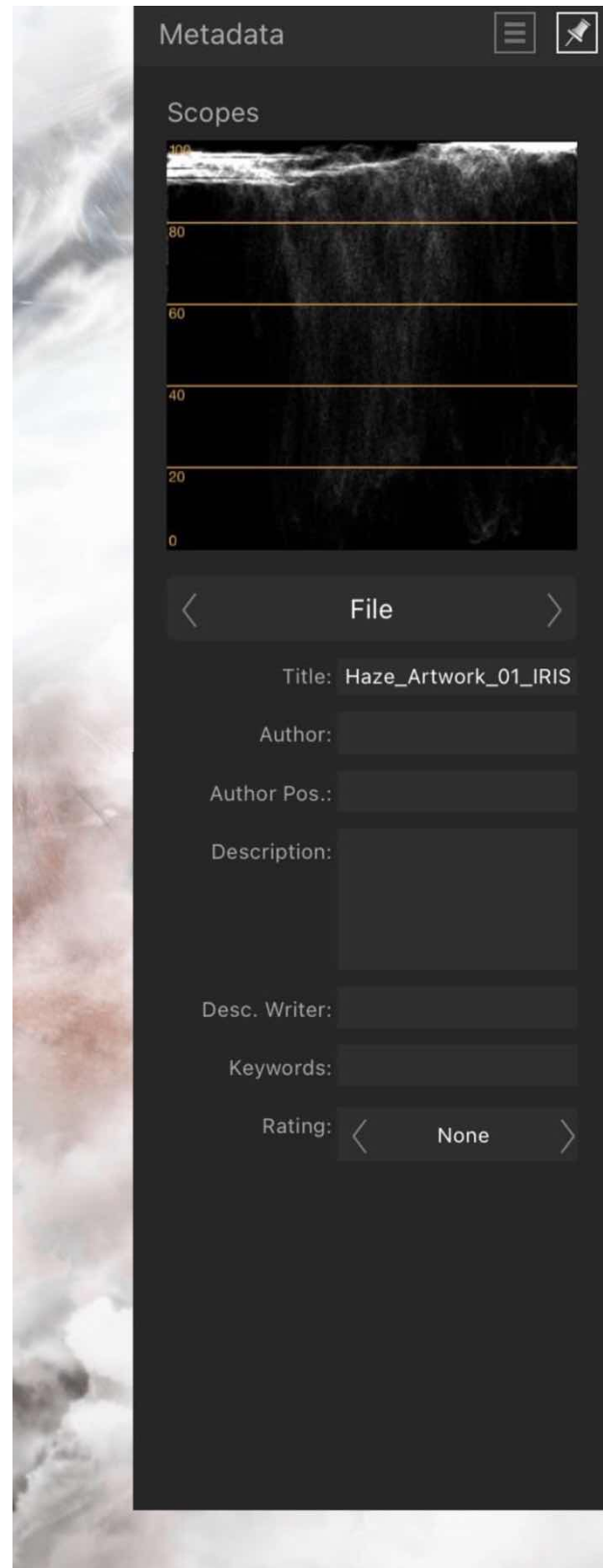


Use the freeform **Instructions** field in the **IPTC (Image)** category to mention any usage details that do not belong in other fields.

For additional guidance about each field's expected contents, refer to the Metadata User Guide's [Field Reference Table](#). Many fields in the Metadata Studio accept freeform text; the guide contains examples of common practice.



Images downloaded from stock photography sources may have had their metadata stripped out prior to delivery. Check the licence agreement supplied by the image provider for complete usage terms.



Metadata studio showing the file category

Choosing what metadata to record

Setting metadata is optional. The following properties are recommended as the minimum to be populated:

- **Description**¹ in the **File** category.
- Author in the **File**¹ category. (The same as the IPTC attribute Creator)
- **Source** in the **IPTC (Image)** category. (The same as the IPTC attribute Copyright Owner)
- **Statement**¹ in the **Rights** category. (The same as the IPTC attribute Copyright Notice.)
- **Credit**¹ in the **IPTC (Image)** category. (The same as the IPTC attribute Credit line)

¹ Image-based searches conducted using Google can display this metadata. Further details are available online at [this IPTC article](#).

Ask your organisation or client whether it has its own guidance on which metadata it requires to be recorded and how the data should be expressed.

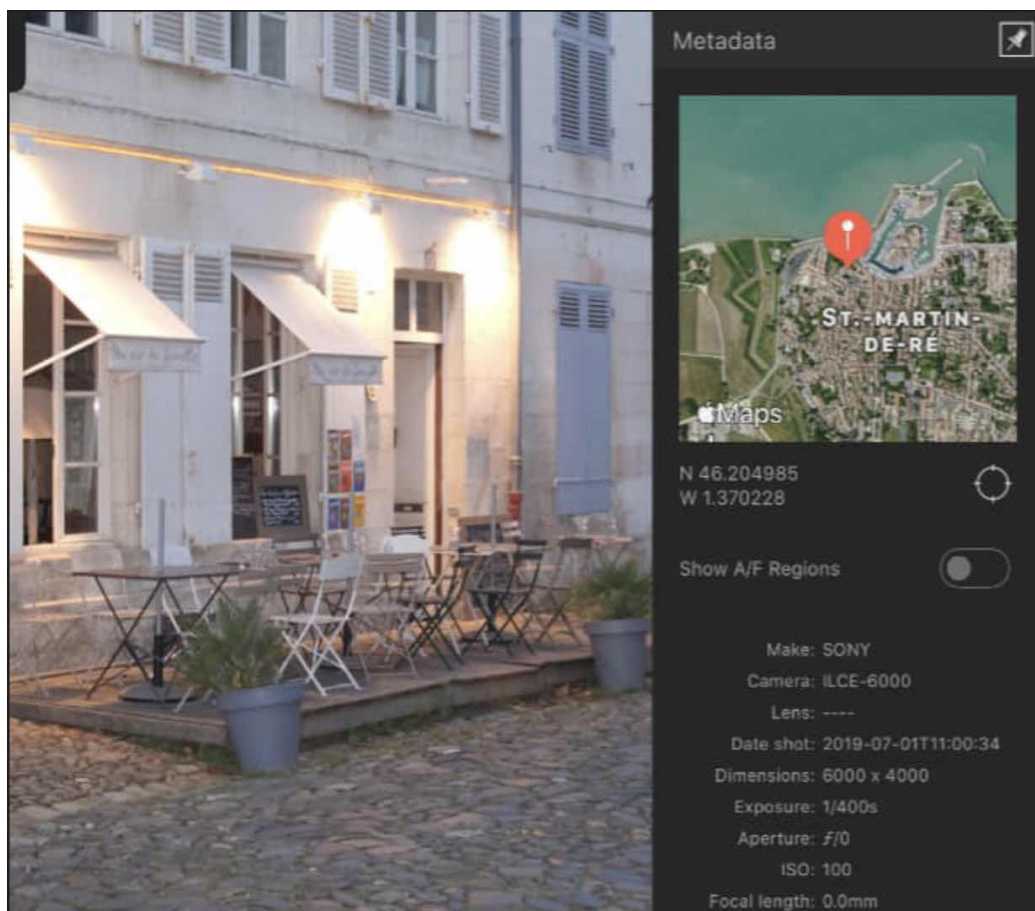
Metadata in exported images

To include metadata from all the Studio's editable fields when exporting a PNG, JPEG, TIFF, PSD or EPS file using the **Export** command on the **Document** menu, turn on **Embed metadata**. Most EXIF data will also be included; in particular, some lens information may be omitted.

Exported PDFs include the contents of the **Title**, **Author** and **Keywords** fields, which you can set in the Studio's **File** category.

About Locations

For raw files only (in Develop Persona), the **Location** section of the Studio allows you to review and set the GPS metadata of your raw image if needed.



The current location's latitude and longitude are listed below the map shown in the Studio.

Raw images from cameras with built-in GPS capability will show the recorded image location automatically. For all other cameras, the image location can be set manually. from the Studio insteadOptions

The following options are available:

- Tap anywhere on the map to set the location of the pin. This information will then be integrated into your image's metadata.



- **Locate**-sets the pin to your current location (see note below).

- **Show A/F Regions**-when enabled, areas of the image which are within the auto focus region set by the camera, and auto focus regions which are in focus, are highlighted green and yellow, respectively.



*To use the **Locate** option, you must allow Apple's Maps app to find your location. This can be managed in **Settings > Privacy > Location Services**.*

SEE ALSO:

[Colour models](#)
[Developing a raw image](#)



Channels Studio

The **Channels Studio** displays the colour channels and alpha channel for the whole image and selected layer.

About the Channels Studio

As well as being able to view an image's colour channels in isolation, you can edit any channel in isolation too. Selections can be made based on a chosen channel (e.g, Reds only) and different selections can be combined, subtracted or intersected for colour-based editing. The Studio also lets you store selections as spare channels for future retrieval.

As well as the channel information for the image and any currently selected layer, you'll also see the:

- Current pixel selection.
- Mask alpha*
- Adjustment layer alpha*
- Live Filter layer alpha*
- Any stored selections (as spare channels) for future use.

* When selected in the Layers Studio.

By default, all colour channels are visible and editable.

Settings

The following options are displayed on the Channels Studio:

- **Reset**-reverts the channel settings back to default.



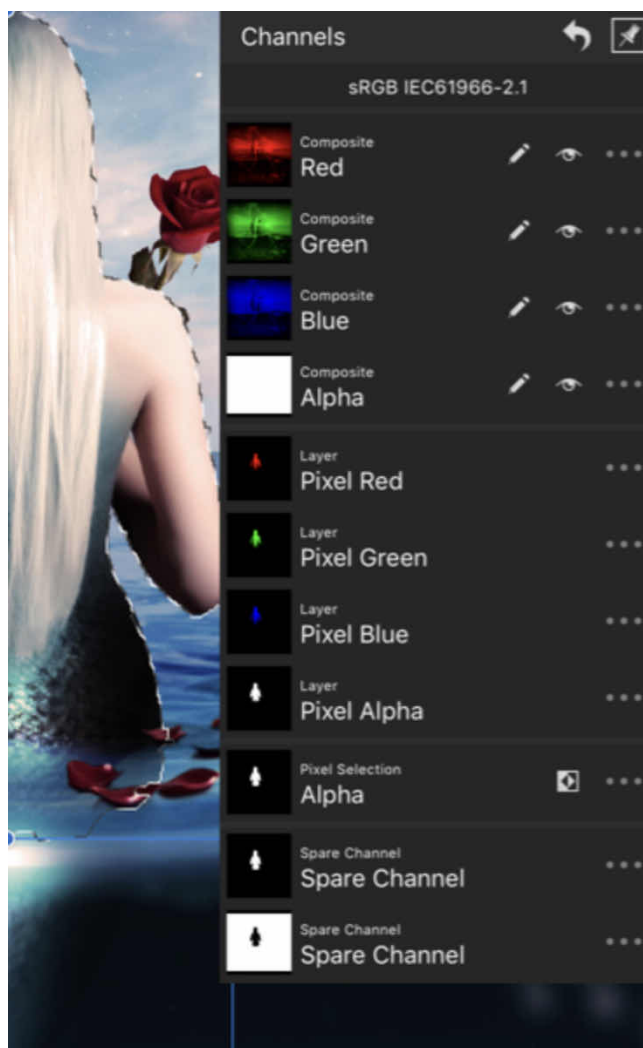
- Tap the pin icon in the top right of the Studio to hide the Studio automatically.

- **Channel thumbnail**-displays the colour channel as a thumbnail.
- **Editable**-protects/makes editable the channel.
- **Visible**-hides/shows the channel.
- **Invert**-inverts the pixel selection.
- **Delete**-removes the saved spare channel from the document.



Additional options are available via the **More** button to allow you to:

- Create selections from channels.
- Add to, subtract from, and intersect channel with current selection.
- Retrieve stored selections.
- Load selections to current layer channel, mask, adjustment layer, or filter layer.
- Create greyscale layers.
- Create mask layers.
- Invert selections, layer channels and masks
- Rename, edit and delete spare channels.



Channels Studio showing channel for the image and selected layer (left).

SEE ALSO:

[Using channels](#)

[Pixel selections from channels](#)

[Saving and loading selections](#)



Transform Studio

When selected, layer content can be precisely manipulated using the **Transform Studio**.

About the Transform Studio

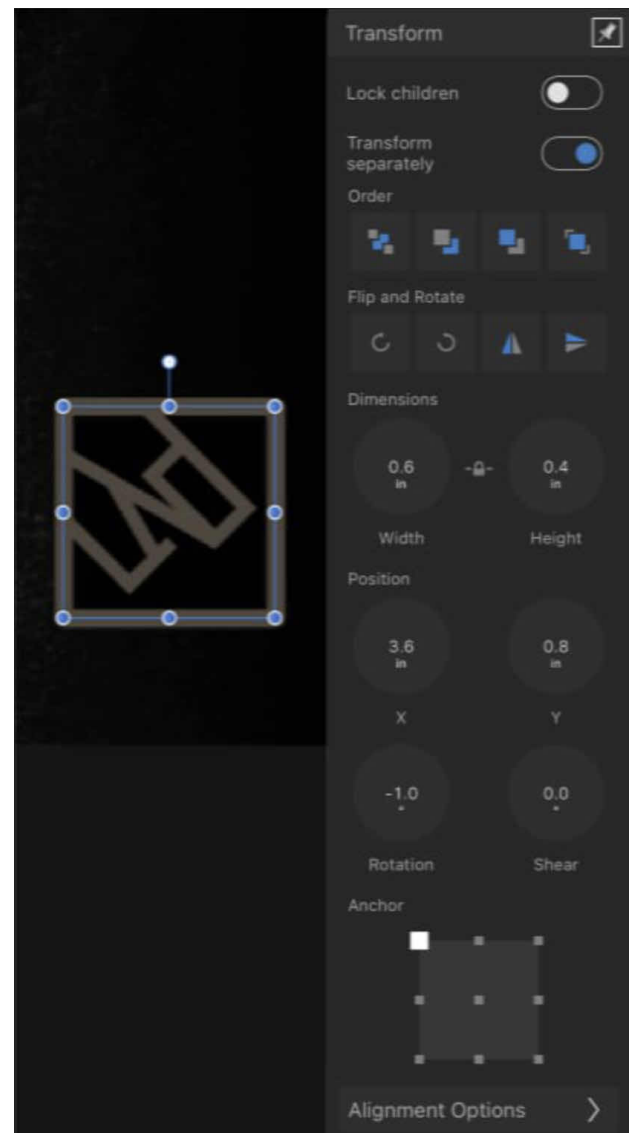
The Transform Studio lets you reorder, flip, rotate, resize, reposition or shear layer content precisely. In addition, you can align and distribute layer content precisely.

All resizing and repositioning is carried out in relation to a defined anchor point-corner, edge midpoint or centre-allowing the selected transform to be adjusted.

The following controls are found on the Transform Studio:



- Tap the pin icon in the top right of the Studio to hide the Studio automatically.
 - **Lock children**-when enabled, any child (clipped) object will remain fixed in size and position when its parent object is transformed (moved, rotated, etc.).
 - **Transform separately**-when enabled, each selected object is scaled, rotated or sheared around its own anchor point. When disabled, the objects are transformed around a shared anchor point determined by their combined bounding box.
 - **Order**-reorders the selected layer content in relation to other layers. Choose **Back One**, **Forward One**, **Move to Back** or **Move to Front**.
 - **Flip and rotate**-rotates layer content 90° clockwise or anti-clockwise; flips layer content horizontally or vertically.
 - **Dimensions**-for resizing layer content.
 - **Width**-adjusts the layer content's width in relation to the selected anchor point. Tap the lock symbol to maintain aspect ratio on resizing.
 - **Height**-adjusts the layer content's height in relation to the selected anchor point.
 - **Link**-When enabled, width and height are adjusted in proportion to each other, maintaining the current aspect ratio.
- When deselected, they can be adjusted independently.
- **Position**-for moving the layer content in relation to the page.
 - **X-Horizontal position**. Increasing the value moves the layer content to the right.
 - **Y-Vertical position**. Increasing the value moves the layer content down the page.
 - **Rotation**-rotates the layer content in relation to the selected anchor point.
 - **Shear**-shears the layer content in relation to the selected anchor point.
 - **Anchor**-transforms are carried out from the selected anchor point. Tap on an anchor point to select.



The Transform Studio showing settings applied to layer content.

Using alignment options

The Alignment section offers the following controls:

- **Align Horizontally**-aligns selected layer content to left, centre, or right the last option distributes content evenly and horizontally.
- **Align to..**-sets the alignment criteria for the operation. For example, you can align in relation to Selection Bounds, page spread or page Margin.
- **Distribute Horizontally**-for the last 'distribute' option, disable Auto to set a fixed "bufer Width between layer content; if Auto is enabled, layer content is automatically spread within leftmost and rightmost content.
- **Align Vertically**-as for Align Horizontally but aligns vertically instead.
- **Distribute Vertically**-as for Distribute Horizontally but distributes vertically instead.

SEE ALSO:

[Layers Studio](#)
[Transforming](#)
[Rotating and shearing](#)



Navigator Studio

The **Navigator Studio** lets you zoom into your design and pan around to view specific areas.

It can also be used to control Affinity Photo's output of a second document view to an external screen.

Depending on the zoom level, a view rectangle denotes the area currently visible in the main view.



Tap the pin icon in the top right of the Studio to hide the Studio automatically.

To zoom into/out of your design:

Do one of the following:

- Tap a **zoom** level or the **Fit** option on the Studio.
- Drag on the Zoom setting to set an arbitrary zoom level.
- Tap the **Zoom** setting to type or calculate the required zoom level.



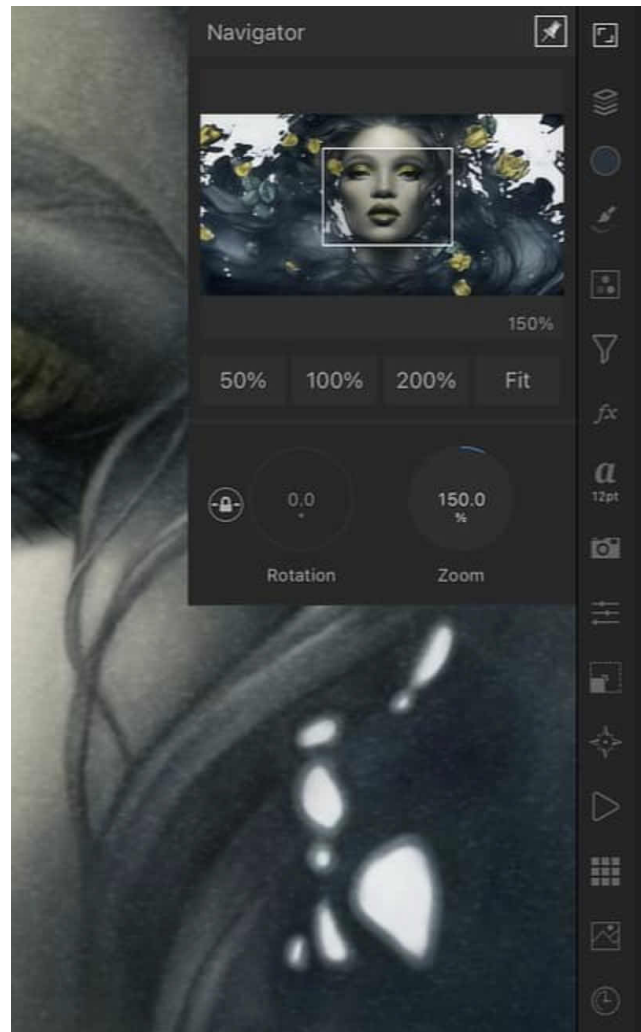
To lock/unlock canvas rotation:

- Open the **Navigator Studio**.
- Tap on the **padlock** icon next to the **Rotation** setting.

To rotate the canvas:

Do one of the following:

- With **Rotation** unlocked, drag on the setting to alter the rotation of the canvas. Alternatively, tap on the setting and manually enter a number into the pop-up menu.
- Place two fingers on the screen of your device and then rotate them in whichever direction you'd like the canvas to turn.



Navigator Studio



Gesture(s)

- *Swipe up/down on the Navigator Studio's icon will zoom to screen centre.*
- *Double tapping within the Navigator Studio window will Zoom to Fit; double tap again to revert back to original zoom level.*
- *A rotate gesture (twist) will rotate your canvas with **Rotation** unlocked.*

SEE ALSO:

[Panning](#)

[Using external screens](#)



Macro Studio

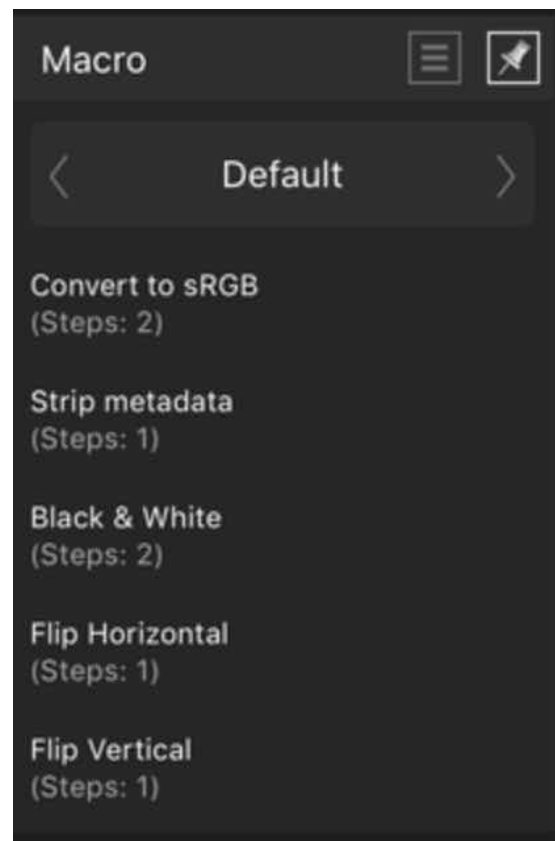
The **Macro Studio** stores macros and allows them to be applied to the current document via a single tap. Both stock macros and imported macros appear in this Studio.

About the Macro Studio

The Studio is available from the **Photo Persona** or **Selections Persona**.

The Studio displays the following:

- Studio Preferences menu which offers:
 - **Remove Category**-removes the currently selected category.
 - **Rename Category**-allows you to rename the currently selected category.
 - **Import Macros**-imports a .afmacro file that was previously exported from the desktop version of the software.
- Tap the pin icon in the top right of the Studio to hide the Studio automatically.
- **Categories.** Use the navigation buttons to jump between macro categories.
- Macro thumbnails for the current category.
- Select a scale option to determine how macros are scaled when playing back.
- Select an alignment option to determine how macros are aligned when playing back.



Macro Studio

SEE ALSO:

[Macros](#)



History Studio

The **History Studio** tracks changes and shows each state as a labelled entry in a list. This allows you to return to earlier points in time quickly and easily.

About the History Studio

The **History Studio** shows changes that are applied. The oldest state is the topmost in the list. When edits are made, new states are added to the bottom of the list.

If you tap on an earlier state and then make a new edit, any states that originally came after it are replaced with the new state.

Each entry displays a brief description of the edit made to the document. Tap a state to jump back/forward to that edit.

The document's [history is always saved](#) along with the document, so earlier edits can be returned to at any point in the future.

Options

The following options are available:



- Studio Preferences menu which offers:
 - **Clear History**-removes all history entries. Your session's edits will no longer be undoable.



- Tap the pin icon in the top right of the Studio to hide the Studio automatically.

- Position-the slider represents edits made to a document from root (creation or opening) on the far left to the last edit on the far right. Drag the slider left to undo a change, right to redo a change.



- Enable the camera icon preceding an entry to set the chosen source from which the [Undo Brush Tool](#) can paint back to.

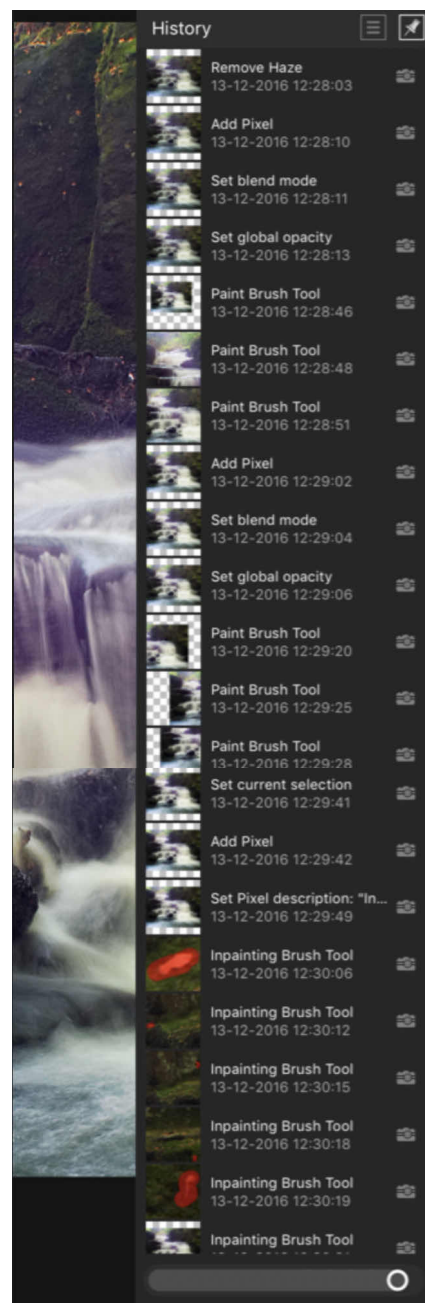


- Cycle future-appears where the history was changed, storing all of the original edits associated with that 'branch' of the timeline. If you want to revert to an old redo history after making a change, tap the Cycle future icon beside the point in the timeline you wish to revert to in order to go back to your preferred redo history. You can tap this again to toggle between the different series of edits you made beyond this point.

Using snapshots

From the **Snapshots** section of the **History Studio**, you can store your current work at any point in time. You might do this in advance of carrying out more complex operations where you might need to restore back to a previous point in time (if things don't go to plan!).

If you're experimenting with different approaches, you can also create different snapshots for each approach which lets you explore, compare and evaluate each in turn. You then have the option to choose a preferred snapshot to continue working from. Compared to reverting edits step-by-step using the History Studio, snapshots let you define a stage in your session from which you can restore from.



The History Studio showing the actions that have been carried out on the file.

Options

The following options are available:



- **Studio Preferences** menu which offers:
 - **Clear History**-removes all history entries. Your session's edits will no longer be undoable.



- **Add Snapshot**-tap to add a new snapshot.



- **Delete Snapshot**-tap to delete the selected snapshot.



- Enable the camera icon preceding an entry to set the chosen source from which the Undo Brush Tool can paint back to.



- **Restore Snapshot**-tap to restore the selected snapshot.

SEE ALSO:

[Using undo, redo and history](#)

[Undo Brush Tool](#)



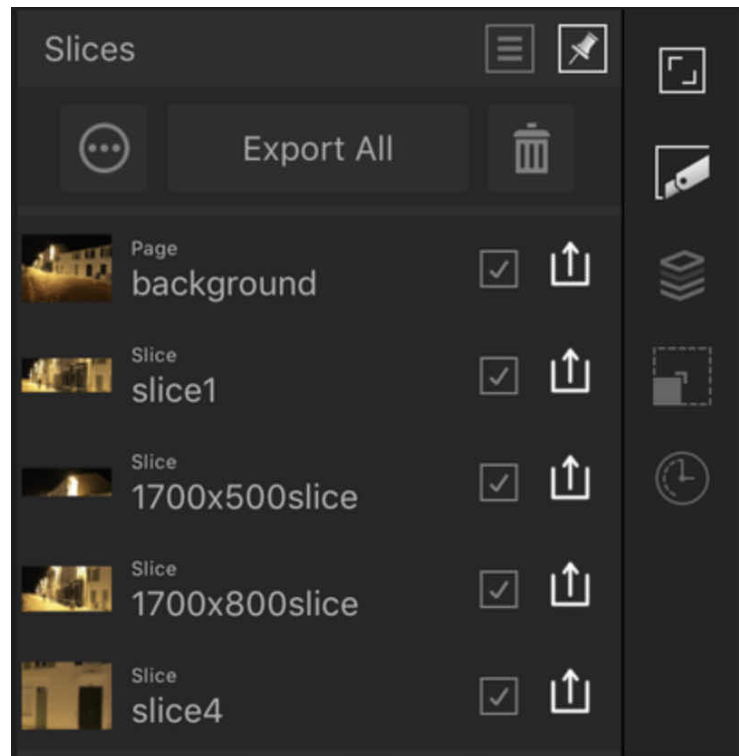
Slices Studio

The **Slices Studio** allows you to export defined areas of your design to universally recognised vector and raster image formats.

About the Slices Studio

Once an export area has been defined using the **Layers Studio** or a drawn slice with the **Slice tool**, the Slices Studio allows you to export the slices to various formats.

The Studio can be populated with one or more slices, which can all be exported simultaneously using the same default export format; individual slices can adopt their own export format if selected first.



The Slices Studio showing export areas in the document.

Options

The following options are available in the Studio:



- **Studio Preferences** menu which offers:
 - **No JSON output**-graphics are output standalone without any supplementary JSON files.
 - **Xcode JSON**-generates image sets consisting of supplementary Xcode JSON files along with the exported slices for Apple icons. For Xcode UI development only.
 - **Spine JSON**-creates a Spine image set.
 - **Continuous Export**-when selected, slices are re-exported automatically if the content within the slices is modified.
 - **Choose Export Folder**-sets up the export folder to which slices are to be exported to.



- Tap the pin icon in the top right of the Studio to hide the Studio automatically



- More layer options include:
 - **Slice name**-displays the name for the slice area. Tap to rename the slice using your own slice name.
 - **File format**-select a file format to be exported using left/right navigation buttons.
 - **Size scaling**-select scaling options (e.g, 1x, 2x, etc.) for the export format. For raster image formats only.
- **Export All**-exports all checked Studio items as slices.



- **Delete**-removes the slice area from the page. The object itself will not be deleted.
- **Thumbnail**-visually indicates the area to be exported.



- **Hide/Show slice**-Uncheck to exclude from export; check to make it exportable again.



- **Export**-exports the current slice independently of the other slices.

SEE ALSO:

[Exporting using Export Persona](#)
[Layers Studio \(Export Persona\)](#)
[Supported file formats](#)



Layers Studio (Export Persona)

The Layers Studio in Export Persona lets you choose layer content or groups that you want to export as slices. Conversely, the Slice Tool in Export Persona can be draw rectangular/square regions over your image that you can export.

About the Layers Studio

The Layers Studio is different from the Layers Studio in Photo Persona. It is used exclusively as a precursor for selecting layers and groups from which slices can be created, and manually added to the Slices Studio, ready for export.

By selecting them, they can be made into slices from the same Studio; the Studio's Create Slice option generates slices for the Slices Studio from which vector or raster images can be exported.

The Studio displays the following:



- **Studio Preferences** menu which offers **Select All, Hide, Show, Show All, Show Unlocked, Edit All Layers,** and **optional thumbnail checkerboarding** (to indicate transparency).



- Tap the pin icon in the top right of the Studio to hide the Studio automatically.

- **Create Slice**-creates a slice from the selected layer or group in readiness for export.



- **Remove**-removes the slice area for that layer from the page. The object itself will not be deleted.

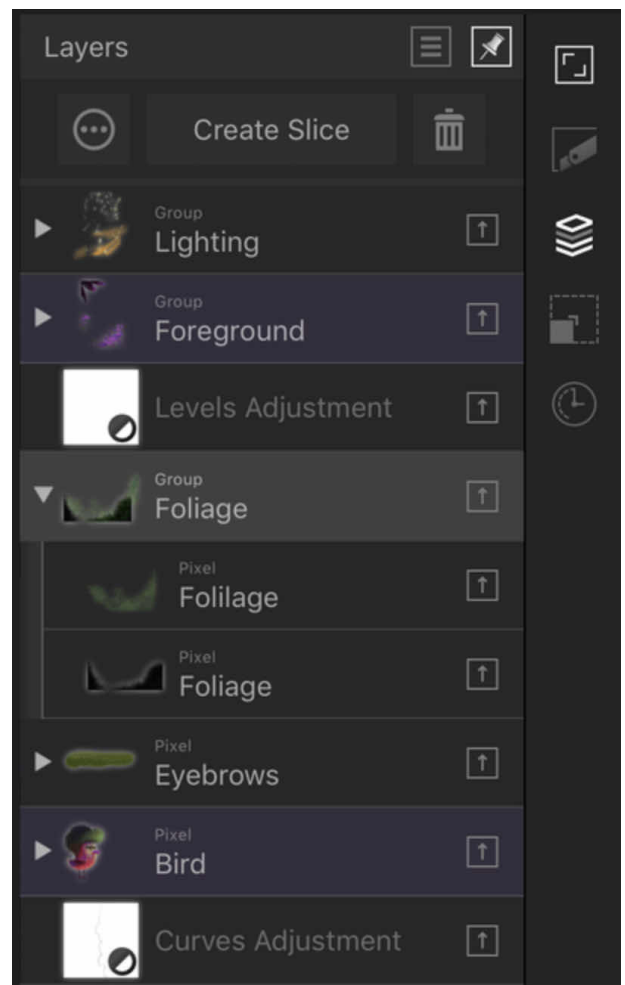


- **Expand/Collapse**-Tap to expand/contract the layer, revealing child layers, or group layer to expand the group's content.

Layer entry-The created layer, showing a thumbnail of objects and the layer name.



- **Exportable**-Tap to disable, which prevents the object from exporting.



The Layers Studio showing selected layers (greyed out) and layers from which slices have already been created (in magenta).

SEE ALSO:

[Exporting using Export Persona Slices Studio](#)
[Layers Studio](#)

APPENDIX

Supported file formats

Affinity Photo is capable of opening many raster and vector file formats. Photo also imports PDF and Adobe PSD files, and exports a range of raster file formats and the PSD file format.

File type	Open	Export
Adobe Illustrator (AI)	✓ ¹	
Adobe Freehand (10 and MX)	✓ ²	
Adobe Photoshop (PSD)	✓ ³	✓ ¹⁰
Adobe Photoshop (PSB)	✓	
DNG	✓ ⁹	
EPS	✓	✓
GIF	✓	✓
HEIF	✓ ⁴	
JPEG	✓	✓
J2K,JP2	✓	
JPEG-XR/JXR (WDP/HDP)	✓ ¹¹	
PDF	✓ ^{1,8}	✓
PNG	✓	✓ ⁵
RAW	✓ ⁶	
SVG	✓	✓
TGA	✓ ⁵	✓
TIFF	✓ ⁷	✓ ⁵
WEBP	✓	
EXR	✓	✓
HDR	✓	✓

¹ Files with multiple artboards (A) or pages (PDE) can be imported; each artboard/page will be kept as a distinct page on its own layer.

² Multi-page Freehand files open with each page concatenated onto a single page. Add file extensions .fh10 or .fh11 in Finder to import. Text import is not supported.

³ Includes Smart Objects, loaded as editable [embedded documents](#).

⁴ Includes depth map, loaded as second layer. Depth maps are upsampled.

⁵ Supports transparency.

⁶ For a comprehensive up-to-date list of RAW file support, please see the following links:

- [SerifLabs RAW](#)

- [Apple Core Image RAW](#)

⁷ 12 bit TIFF (RG8 or Greyscale) included.

⁸ JBIG2 PDF encoding is supported

⁹ Apple ProRAW DNG Support (from Apple iPhone12 Pro) is supported.

¹⁰ Text will be rasterised on export.

¹¹ Includes JPEG-XR 101010 (eg. XBOX screen captures).

Contacting us

Website: affinity.serif.com

Facebook: facebook.com/affinitybyserif

Twitter: [@affinitybyserif](https://twitter.com/affinitybyserif)

Instagram: instagram.com/affinitybyserif

User Support Forums: affin.co/forum

Copyrights

The following trademarks and copyrights are acknowledged:

Trademarks

Serif is a registered trademark of Serif (Europe) Ltd.

Affinity is a registered trademark of Serif (Europe) Ltd.

Apple, App Store, iPhone, and iPad are registered trademarks or service marks of Apple Inc.

Adobe, Photoshop and PostScript are either registered trademarks or trademarks of Adobe Systems incorporated in the United States and/or other countries.

Artifex, the Artifex logo, MuPDF, Ghostscript, the SmartOffice logo, and the Ghostscript logo are registered trademarks of Artifex Software, Inc.

Copyrights

ICC Profiles 2006 Adobe Systems Incorporated. All rights reserved.

PANTONE® Colours displayed in the software application or in the user documentation may not match

PANTONE-identified standards. Consult current PANTONE Colour Publications for accurate colour.

PANTONE® and other Pantone trademarks are the property of Pantone LLC.®Pantone LLC, 2010.

Pantone LLC is the copyright owner of colour data and/or software which are licensed to Serif (Europe) Ltd. to distribute for use only in combination with Affinity Photo. PANTONE COLOUR Data and/or Software shall not be copied onto another disk or into memory unless as part of the execution of Affinity.

Extensible Metadata Platform (XMP) Copyright © 2006 Adobe Systems Incorporated. All rights reserved.

FontForge 2000,2001,2002,2003,2004,2005,2006,2007,2008 by George Williams.

Portions of this software are copyright 2008 The FreeType Project (www.freetype.org). All rights reserved.

Anti-Grain Geometry - Version 24 Copyright 2002-2005 Maxim Shemanarev (McSeem)

Portions Copyright 1998/2020 Artifex Software Inc.

This software is based in part on the work of the Independent JPEG Group.

Portions Copyright © 2001 URW+.

Portions Copyright 2005 LuraTech Imaging GmbH. All Rights Reserved.

© 2017-2020 James Ritson photography

© 2020 Serif (Europe) Ltd. All rights reserved. No part of this Help system may be reproduced in any form without the express written permission of Serif (Europe) Ltd.

Affinity Photo© 2015-2020 Serif (Europe) Ltd. All rights reserved.

Copyright notices for Help imagery

Licensed content used:

Blending images, Image Copyright Pinchuk Alyona. Used under licence from Shutterstock.com

Embedding documents, Kissing just married couple dancing' Image Copyright Jose AS Reyes.

Used under licence from Shutterstock.com. 'Grunge layer Image Copyright Gordan. Used under licence from 3D Effect, Image Copyright _LeS Used under licence from Shutterstock.com

Colour Overlay, Image CopyrightLeS Used under licence from Shutterstock.com

BevelEmboss, Image Copyright _LeS. Used under licence from Shutterstock.com.

Gaussian Blur, Image Copyright _LeS. Used under licence from Shutterstock.com.

Gradient Overlay, Image Copyright _LeS Used under licence from Shutterstock.com.

Inner Glow, Image Copyright _LeS. Used under licence from Shutterstock.com
Inner Shadow, Image Copyright_Les Used under licence from Shutterstock.com.
Outer Glow, Image CopyrightLeS Used under licence from Shutterstock.com.
Outer Shadow, Image Copyright_LeS Used under licence from Shutterstock.com.
Outline, Image Copyright_Les Used under licence from Shutterstock.com
Aligning, 'A handsome smiling man with a beard' Image Copyright Markus Gann. Used under licence from Shutterstock.com.
'Grunge layer' Image Copyright Gordan. Used under licence from [shutterstock.com](https://www.shutterstock.com)
Distributing, 'Grunge layer' Image Copyright Gordan. Used under licence from Shutterstock.com.
'School of fish' Image Copyright cbpix. Used under licence from Shutterstock.com. Caribbean reef shark' Image Copyright Sharne Gross. Used under licence from Shutterstock.com. 'Exotic tropical fish' Image Copyright aastock. Used under licence from Shutterstock.com.
Rotating and shearing, 'A handsome smiling man with a beard' Image Copyright Markus Gann. Used under licence from Shutterstock.com
Viewing, A handsome smiling man with a beard' Image Copyright Markus Gann. Used under licence from Shutterstock.com. 'Grunge layer Image Copyright Gordan. licence from Shutterstock.com.
Layer blend ranges, Image Copyright Pinchuk Alyona. Used under licence from Shutterstock.com. Shutterstock.com. 'Grunge layer Image Copyright Gordan. Used under licence from Shutterstock.com
Beautiful young woman' Image Copyright Pinchuk Alyona. Used under licence from Shutterstock.com
Warping using Liquify Persona, Image Copyright Pinchuk Alyona. Used under licence from Shutterstock.com
Masking in Liquify Persona, Image Copyright_leS_ Used under licence from Shutterstock.com.
Frequency separation, Image Copyright katielittle. Used under licence from Shutterstock.com
Removing blemishes, Image Copyright Mark Ivkovic, bang | Photography. Used under licence.
Creating outline selections, Fluff Ball'Image Copyright Zoran Milutinovic Photography. Used under licence.
All rights reserved.
At a glance, Image Copyright Pinchuk Alyona. Used under licence from Shutterstock.com.
Erasing. Image from Unsplash.com
Mixing paint colours. Image from unsplash.com.

Importing Brushes

Brushes are used with the various brush tools to paint in different styles. They are managed on the Brushes Studio.

Your Affinity app can import compatible brushes files with an .afbrushes or .abr file extension.

If brushes are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

To import brushes:

1. In the **Photo Persona** or **Selections Persona**, select the **Brushes Studio**.
2. From the **Studio Preferences** menu, select **Import Brushes**
3. Browse to the .afbrushes file you want to import and tap it.

After importing

A new category containing the brushes is automatically displayed on the **Brushes Studio**.

SEE ALSO:

[About Affinity resources](#)
[Brushes Studio](#)

Importing assets

Assets are stored design elements that can be added to any open document by dragging and dropping them from the Assets Studio.

Your Affinity app can import compatible assets files with an .afassets file extension.

If assets are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding

To import assets:

1. In the **Photo Persona** or **Selections Persona**, select the **Assets** Studio.
2. From the **Studio Preferences** menu, select **Import Category**.
3. Browse to the .afassets file you want to import and tap it.

After importing

A new category containing the assets is automatically displayed on the **Assets** Studio.

SEE ALSO:

[About Affinity resources](#)
[Assets Studio](#)

Importing LUTs

Lookup tables (LUTs) define transformations to be applied to an image's colours in order to achieve a particular visual style. They are managed in the **Adjustment** panel.

Your Affinity app can import LUTs in several file formats:

- Files with a .cube, .csp, .3dl, or .look file extension. Each file contains a single LUT.
- Files with an .afluts extension. Each file contains a categorised collection of LUTs.

If LUTs are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

To import LUTs:

1. In the **Photo Persona** or **Selections Persona**, select the **Adjustments Studio**.
2. From the pop-up menu at the top of the studio, select **LUT**.
3. Do one of the following:
 - From a category's **Preferences** menu, select **Import LUT** if the resource is a .cube, .csp, .3dl, or .look file.
 - From the **Studio Preferences** menu, select **Import Category** if the resource is an .afluts file.
4. Browse to the file you want to import, then either:
 - Tap an individual file to import it.
 - Tap **Select**, select each file you want to import, then tap **Open**.

When importing multiple .afluts files at the same time, each file results in a new category being created in the Adjustments Studio, the same as if they were imported one at a time.

After importing

If the imported resource is a .cube, .csp, 3d, or .look file, it is added to your chosen category in the **Adjustments Studio**.

If the imported resource is an .afluts file, the new LUT category is automatically displayed in the **Adjustments Studio**. You may need to scroll to see it.

SEE ALSO:

[About Affinity resources](#)
[Adjustment panel](#)

Importing macros

Macros are recorded sequences of operations that perform corrective or creative effects. Their purpose is to reduce time spent repeating processes by automating steps instead.

Affinity Photo for iPad can import compatible macro files with an .afmacros file extension.

About .afmacro files

Affinity Photo for iPad does not import files with the .afmacro file extension. A provider has supplied in that format, either:

- Ask them to resupply as a .afmacros file.
- In Affinity Photo for desktop, create a new category in its **Library** panel, import the .afmacro file into it, and then export the category, which results in a .afmacros file.

If Macros are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

To import macros

1. In the **Photo Persona** or **Selections Persona**, select the **Macro Studio**.
2. From the Studio **Preferences** menu, select **Import Macros**.
3. Browse to the .afmacros file you want to import and tap it.

After importing

A new category containing the file's macros is available from the pop-up menu at the top of the Macro Studio.

SEE ALSO:

[About Affinity resources](#)
[Macro Studio](#)

Installing styles

Styles are predesigned sets of effects, fills, colours and other properties that can be instantly applied to objects. They are managed on the [Layer FX Studio](#).

Your Affinity app can import compatible styles files with an .afstyles file extension.

If Styles are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

To install styles:

1. In the **Photo Persona** or **Selections Persona**, select the **Layer FX Studio**.
2. Tap **Styles**
3. From the Studio **Preferences** menu, select **Import Styles**.
4. Browse to the .afstyles file you want to import and tap it.

After importing

A new category containing the styles is automatically displayed on the Layer FX Studio.

SEE ALSO:

[About Affinity resources](#)
[Layer FX Studio](#)

Installing fonts

Your typographic options can be expanded using font files or a third-party font app.

Third-party font apps

Font apps are available from the App Store. Fonts installed using this method are available to all apps, including your Affinity apps.

Refer to a font app for instructions on installing its fonts.

Font files

OpenType (OTF) and TrueType (TTF) font files, available from many font foundries, can be installed from within your Affinity app.

Fonts installed using this method become instantly available in all your Affinity iPad apps. They are not available in other apps.

The font files need to be stored in a location that's accessible in your iPad's Files app.

If font files are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

To import font files:

- Tap **Preferences** at the top right of your Affinity app's **Home** screen.
- Select **Fonts**.
- Tap the **cloud** icon.
- Browse to the font file(s) you want to import.
- Do one of the following:
 - For an individual font file, tap it.
 - For multiple font files, tap **Select**, tap the **files**, then tap **Open**.

After importing

The fonts will be instantly available wherever you can select a font in your Affinity app, e.g. when using the Artistic Text Tool or Frame Text Tool.

SEE ALSO:

[About Affinity resources](#)
[Preferences](#)
[Artistic Text Tool](#)
[Frame Text Tool](#)

Importing templates

Templates are predesigned documents from which new documents can be created and then edited. Like a regular document, each template can contain its own pages/artboards, text styles, assets, swatches palettes and other resources.

Your Affinity app can import compatible templates with an .aftertemplate file extension.

If templates are supplied in a ZIP archive, [extract the archive's contents](#) before proceeding.

In order to create a document from a template, the template file must be stored in a location that is accessible in iPadOS's Files app, eg. On My iPad or iCloud Drive, or a third-party cloud storage service such as Dropbox.

To import templates:

In the Files app:

1. Create a folder in which to store templates.
2. Move or copy your .aftertemplate files to the folder.

After importing

To create a new document from a template:

1. Tap + at the top right of your Affinity app's **Home** screen.
2. Select **New From Template**.
3. Browse to the folder that contains the required template.
4. Tap the template to create a new (unsaved) document.

SEE ALSO:

[About Affinity resources](#)

Extracting resources

Resources may be supplied in the compressed ZIP format and need to be extracted (decompressed) before they can be imported into your Affinity app.

To extract resources from a ZIP archive:

1. In your iPad's **Files** app, browse to the folder that contains the archive (zip file).
2. Tap the **archive**.

If the archive contains one file, the file is extracted to the same folder as the archive. If you're unsure of the file's name, tap the icon to the left of **Select**, and then tap **Date** to help identify it.

If the archive contains multiple files, they are extracted to a subfolder alongside and named after the archive.

SEE ALSO:

[About Affinity resources](#)

About Affinity Resources

New creative options can be added to your Affinity app by importing Affinity resources, including brushes, assets, swatches, palettes, object styles, and document templates.

Resource providers

Affinity resources are available from the [Affinity Store](#) and third-party providers. Third-party resources need to be imported manually.

Resources might also be shared with you by team members and clients, e.g. as part of a brand style guide.

Managing Affinity Store resources more easily

Resources acquired from the Affinity Store can be downloaded from the website and installed manually. However, they can be imported more easily-entirely automatically, even-by using the My Account feature.

Manually importing resources

Each type of resource is imported via the corresponding part of your Affinity app.

- [Assets](#)
- [Brushes](#)
- [Fonts](#)
- [Look-up tables \(LUTs\)](#)
- [Macros](#)
- [Styles](#)
- [Document templates](#)

SEE ALSO:

[Product registration and content sync](#)

Extras

Apple Photos library access

Images from your Apple Photos library can be used as the basis of a new Affinity document or placed as a new layer within an existing Affinity document.

In iPadOS 14.0 or later, you can grant Affinity Photo full and ongoing access to the library, limited access to manually selected photos, or disallow library access altogether.

Your choice can be revised at any time in iPadOS's Settings app.

To change Affinity Photo's level of access to your Photos Library

1. Open your iPad's Settings app.
2. Go to Privacy > Photos > Photo.
3. Choose Selected Photos, All Photos or None.

To change the selected photos:

1. Open your iPad's Settings app
2. Go to **Privacy > Photos > Photo**.
3. Select Edit Selected Photos.
4. Browse or search your library. Tap any photos you want to access in Affinity Photo so they are marked with a tick in a blue circle.
5. Tap **Done**.

SEE ALSO

[Import From Photos](#)

[Place From Photos](#)

Using a mouse or trackpad

A Bluetooth mouse, Bluetooth trackpad, or Magic Keyboard (with built-in trackpad) can be used to interact with Affinity Photo using an on-screen pointer. It can be used in addition to your iPad's touchscreen and (optional) Apple Pencil. Your iPad must be running iPadOS 13.4 or later.

Apple provides guides about how to connect a bluetooth mouse or trackpad and use it with your iPad.

If you have difficulty finding the pointer against your artwork, or it gets in the way, the latter guide includes instructions for customising its size, colour and auto-hide duration, as well as its tracking speed and scrolling direction.

SEE ALSO:

[Preferences](#)

Using external screens

While editing a document on your iPad, Affinity Photo can display a second view of it on an external screen.

The external screen can be connected physically using a cable or adaptor, or wirelessly to an Apple TV or AirPlay 2-compatible television. The document view on it is controllable independent of the document view on your iPad's built-in screen.

About the second document view

The **Navigator** Studio is used to adjust the zoom level, the displayed region and the rotation of the document on the external screen.

Toolbars and studios are shown only on the iPad's internal display. However, user interface elements that provide helpful feedback about your interactions-e.g. the selection bounding box and tool attributes such as brush size-can be shown on the external screen as well.

With an external screen connected, use the pop-up at the top of the Navigator Studio to select which screen is being controlled.

The external document view is not constrained to the same aspect ratio as your iPad's built-in screen, enabling you to take advantage of large widescreens. Depending on the connection method, the document view may be letter-boxed or pillar-boxed.



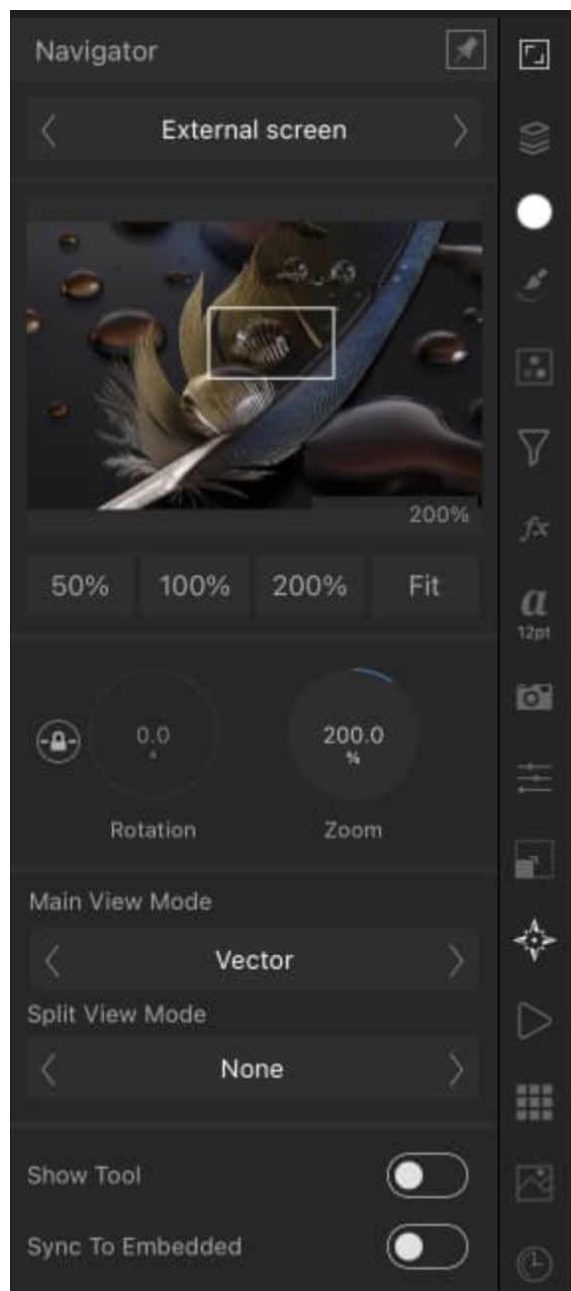
External touchscreens

iPadOS does not support touchscreen input from external displays with that feature.

Settings

The following settings become available on the Navigator Studio when an external screen is connected:

- **Screen**-choose whether the studio's other settings affect the iPad screen or the external screen.
- **Main View Mode**-determines the document representation (**Vector**, **Pixels**, **Retina Pixels** or **Outline**) displayed on the selected screen, or on the left when Split View Mode is active.
- **Split View Mode**-set to None by default. Select **Pixels**, **Retina Pixels**, **Vector** or **Outline** to split the selected screen horizontally and display the selected document representation on the right side.
- **Show Tool**-determines whether user interface controls, such as handles, are shown on the external display.
- **Sync To Embedded**-when editing an embedded document, this determines whether the external screen displays the parent document (disabled) or the embedded document (enabled).



On the iPad screen, dragging Split View

Mode's divider horizontally updates the document representations to each side of it in real time.



Presenting to an external display can be disabled in Affinity Photo's General preferences. You might do this in order to stream audio to an AirPlay 2-compatible TV while you work, for example.

To connect an external screen using AirPlay:

1. Connect your iPad to the same Wi-Fi network as your Apple TV or AirPlay 2-compatible TV.
2. Swipe down from the top-right corner of your iPad's screen to open **Control Centre**.
3. Tap **Screen Mirroring**.
4. Select an external screen from the list.
5. (Optional) If the external screen displays an AirPlay passcode, enter it on your iPad.

To control the external screen's document view:

1. Connect your iPad to your external screen using a cable, adaptor or AirPlay. Affinity Photo will automatically detect and output to the external screen.
2. In **Affinity Photo**, open the **Navigator Studio**.
3. Select **External screen** from the pop-up at the top of the Studio.
4. Use the Studio's other controls to control the rotation, zoom level and other attributes of the view on the external screen.

To finish using Airplay:

1. Swipe down from the top-right corner of your iPad's screen to open **Control Centre**.
2. Tap **Screen Mirroring**
3. Tap **Stop Mirroring**.

SEE ALSO:

[Navigator Studio](#)

Benchmark

Affinity Photo includes a benchmark to test your device's vector and raster performance. The benchmark assesses the capability of your device's CPU to perform vector operations, its CPU and GPU to perform raster operations, and combined results for situations where vector and raster content is used together.

Comparing results

Results from different devices, whether Mac, PC or iPad, can be compared only for the same benchmark version. The version number is displayed at the top-left corner of the Benchmark screen.

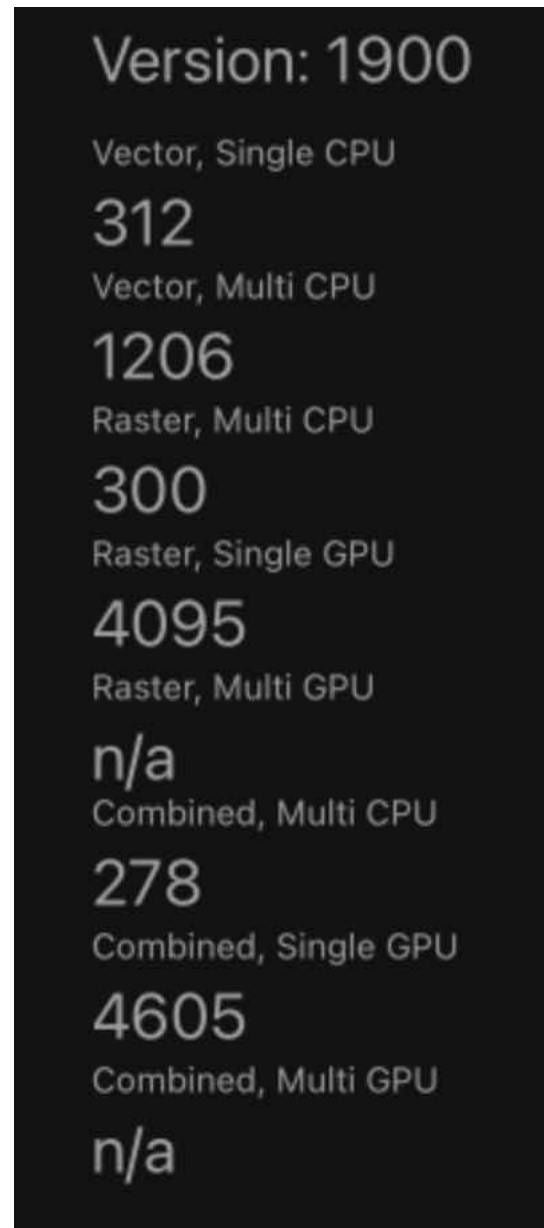
The numeric results reported by the benchmark are linearly comparable, ie. double the score means twice as fast.

Each test is performed twice and the second pass's result is displayed. The first pass enables resources used in testing to be cached by the application, enabling the second pass to provide an accurate representation of processing capability.

To obtain averaged results, run the benchmark multiple times and make a note of each test's result on each occasion, then use your notes to calculate the average for each test.

To perform the benchmark:

1. Ensure no other apps are running in the background. This includes services that sync cloud storage, so disconnect from the Internet to ensure this does not happen while performing the benchmark.
2. At **Affinity Photo**'s main menu, select **Preferences**.
3. Select **Benchmark**.
4. Select **Run Benchmark**.



The benchmark reports several scores.

SEE ALSO:

[Preferences](#)

