



ProCamera



Photo: Jens Dämgen



User Manual v12.0

Please Note!

We are currently updating this manual for the new **ProCamera v13**. Besides the redesigned interface icons and the new blue highlight color, the explanations are still valid. The latest features of v13 are not yet included.

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(tap for shortcut)



Photo: Jens Dämgen

Capture Screen

This section outlines the main shooting functions on the ProCamera capture screen.

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Flash/Torch

Open EV-Dial View

Front/Back Camera



Digital Zoom



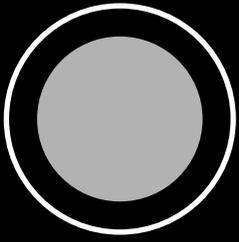
Camera Roll
Lightbox
Private Lightbox

Mode
Switch

Main
Shutter

Second
Shutter

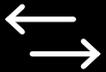
Control
Panel



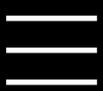
Press the **Main Shutter** to take a photo. The screen will flash black to indicate a photo has been taken.



The **Second Shutter** can be set as either an Anti-Shake or Self-Timer through the Control Panel.



The **Mode Switch** function allows you to select different cameras including Photo, Video, HDR, Selfie, LowLight, LowLight Plus and Code Scanner.



The **Control Panel** provides one tap access to a range of advanced shooting controls.



The **thumbnail** provides one-click access to the **iOS Camera Roll** – or the integrated ProCamera folders **Lightbox** and **Private Lightbox**. Perform a 3D Touch on the thumbnail to peek at the most recent image or video. Press a little deeper to pop into the content (iPhone 6 S and up).



Pressing on the **Flash** toggles between the Auto, On and Off settings.



Performing a long tap on the Flash de/activates the **Torch**. A single tap on the torch icon deactivates the torch. Long tap the torch icon to switch between torch intensity slider or exposure and ISO display.

In HDR and LowLight Plus camera mode there is no flash available.



The **Front/Rear Camera Switch** is available on devices equipped with a front camera.



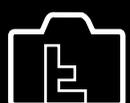
With a long tap on the Front/Rear Camera Switch you can **mirror the preview** in the viewfinder.



Normal



Horizontal



Vertical



180°

The **mirroring options** allow you to flip your viewfinder image as well as the final photo vertically or horizontally or rotate it 180°. The optional mirroring feature is enabled via Settings > Advanced Settings and is required by some add-on lenses like Beastgrip's DOF Adapter system. When the mirroring options are enabled, you will see an "F" in the front/rear camera switch icon on the capture screen. Tap the front/rear camera switch icon to open the **associated panel**. Tap the "F" button to toggle the available mirroring options – the displayed "F" will change accordingly.



+0.8 EV

A single tap on the **EV icon** opens the exposure compensation slider. Exposure value is displayed. Another single tap closes the slider, while keeping the exposure compensation value.

A double tap on the exposure compensation slider closes it and resets the value.

1x

The **zoom factor** is displayed on the Capture Screen. 1x means no magnification is active. When shooting with the Tele lens system of dual lens devices, the „unzoomed“ starting position is 2x.

• • • 1.8x • • •

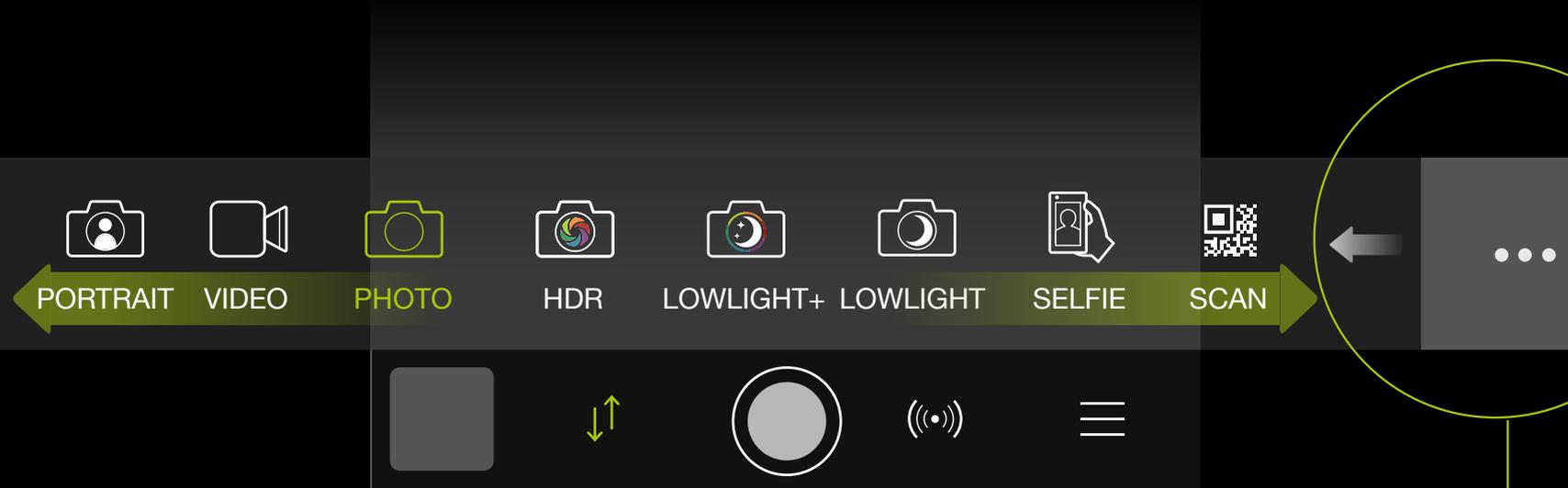
The Full-Resolution Zoom can be controlled in two ways:

1. Slide your finger over the semi-transparent zoom slider to adjust the level of magnification. The slider fades into the background when the zoom factor is 1x (to limit distractions when shooting).
2. Use the pinch gesture (two fingers) to zoom in and out (the zoom slider will appear).

With a single tap on the zoom factor, you can quickly jump back to the starting position (=no zoom).

This function can be turned on and off under the Photo Zoom option in the ProCamera Settings.

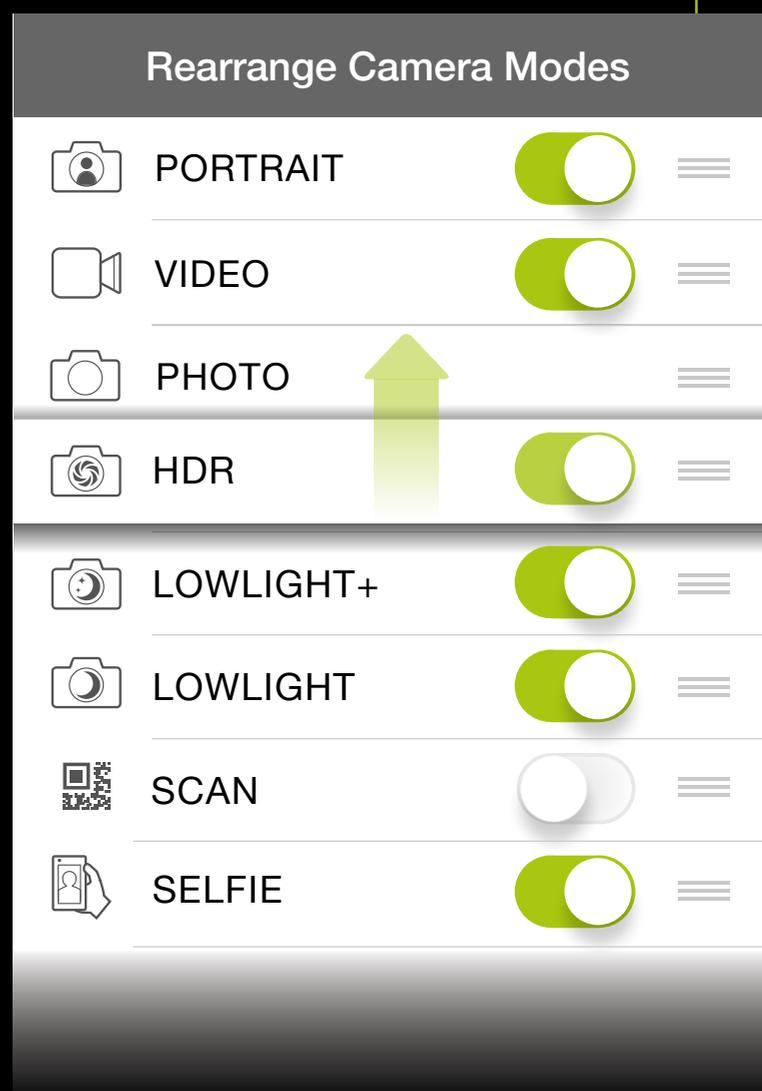
Camera Mode Selector does not only allow you to select different camera modes, but can also be customized. To change the camera mode, swipe left or right and tap on the desired mode.



Rearrange Camera Modes is placed at the right end of the menu. Swipe to the left to get there.

To **Rearrange Camera Modes** press and move the modes according to personal preferences. You can even hide Camera Modes you rarely use.

The **Today Widget** displays the first five camera modes. If you rearrange camera modes those changes will be taken over in the Today Widget.



As with the ProCamera Widget, the order of the camera modes in the Camera Mode Selector determines which modes appear on your **Home Screen Quick Action List**. Via 3D touch on the app icon, you can directly launch ProCamera in a specific camera mode (available on iPhone 6s and later). The quick action list shows the first 4 modes from your Camera Mode Selector.



2

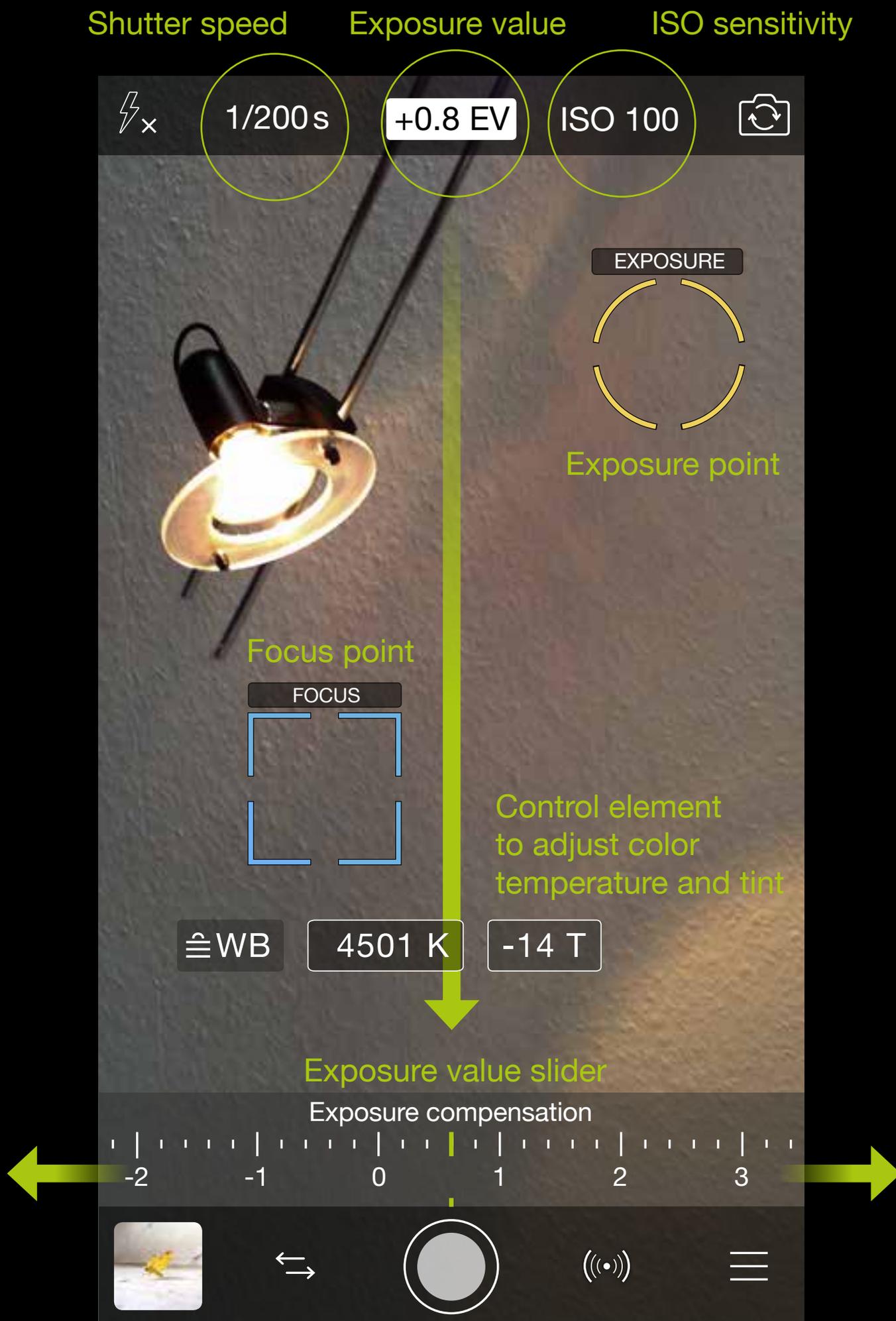
Focus and Exposure

Photo: Jens Daemgen

This section explains how to set focus and exposure separately on the viewfinder, how to adjust exposure, ISO and color temperature, and how to shoot better photos.

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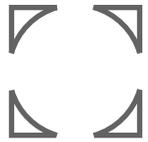
You can set focus and exposure by tapping on the preview image, or by moving the control elements (square and circle) directly on the viewfinder. Additionally, you can use the new exposure sliders to brighten or darken your image or to manually set ISO and shutter speed values.





Settings

The **Focus and Exposure** option lets you customize your preferred behavior of focus and exposure tools.



Go to: Settings > **General Options: Focus and Exposure**.



If you wish to control exposure exclusively by using dials, you can turn off the **exposure control (yellow circle)**. Exposure is measured automatically and can be biased with the exposure compensation control. You can also set exposure manually with ISO and Shutter Speed controls. In HDR mode the exposure circle can be activated or deactivated independently from the general setting for ProCamera.



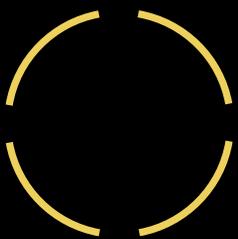
You can set the priority of exposure circle over focus square. In order to set focus first and adjust exposure afterwards, switch off **Exposure Priority** (which is the 'classic' setting).

Combined Focus and Exposure

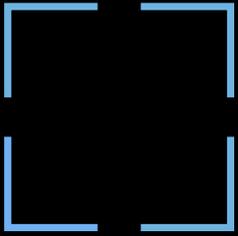


A single tap anywhere on the capture screen activates the combined Focus/Exposure point. This mode is great for quick and easy adjustments when shooting.

Separate Focus and Exposure Points



They can also be split by dragging one from the other. In the spot on the viewfinder where you locate the exposure circle, exposure is measured and adjusted optimally.

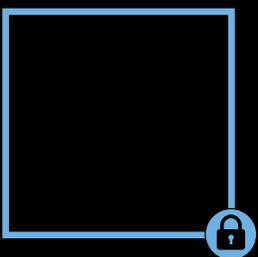


Placing the focus square determines the point where your picture is focused. A long tap anywhere on the screen other than on these control elements resets the points to the centre.

Lock and Unlock



A long tap locks (shown with the small lock symbol) and unlocks either the Focus Square and Exposure Circle. This allows you to change and readjust what you see in the viewfinder without altering your settings of exposure and focus.



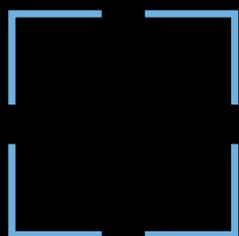
Moving a locked focus or exposure control element causes another automatic metering and saving of the resulting value. The control element will be locked when adjustment has finished.

Sharpness Information for Continuous Auto Focus

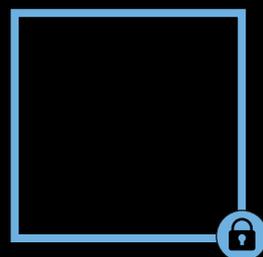
When using Auto Focus, the camera will automatically and continuously adjust focus to the area inside the blue reticle. The focus reticle flashes slightly during the adjustment.

Sharpness Information for Locked Focus

Focus can be locked once the focus adjustment is complete. A locked focus is indicated by a little padlock symbol, a brief vibration and the blue reticle will turn into a square with unified lines. This visual and haptic feedback is especially helpful in difficult lighting situations, like low light, backlight or scenes with low contrast.



Focus design during focus adjustment



Adjusted and locked focus

Manual Focus



Settings

The **Focus and Exposure** option lets you customize your preferred behavior of focus and exposure tools.



Go to: Settings > **General Options: Focus and Exposure**.

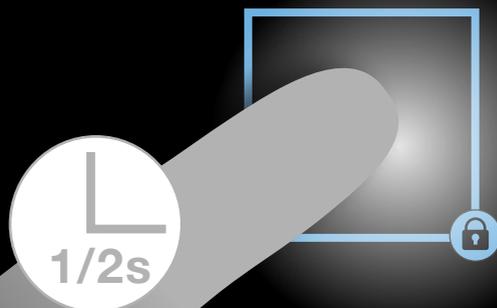


Enable **Manual Focus** by activating this option. You can decide, whether this function is **always active** or if it has to be activated with a long tap on the focus reticle.



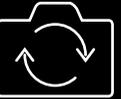
With Manual Focus enabled a long tap on the focus reticle toggles between autofocus and manual focus. If you set manual focus to “always active”, you can take over focus control anytime.

Manual focus works in video mode as well. Thereby you can change the focal plane by gradually shifting focus during video recording.





Current lens position



Target focus setting



You can manually set focus by sliding your finger up and down on the viewfinder. Afterwards, without taking your finger off the screen, slide left/right to fine-tune focus. Fine-tuning only works when done as a sequence in this order.

1.) Focusing roughly

Sliding your finger upwards: Focus towards infinity
Sliding your finger downwards: Focus towards object at close distance (Macro).

2.) Fine-tune focusing

Keep your finger on the screen (don't lift it off) and slide horizontally (left/right).



3

Control Panel

This section explains the different controls and functions in the ProCamera Control Panel

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The **Control Panel** is designed to provide one tap access to a range of advanced shooting controls.

Tip

Try tapping on all the functions and see what changes on the capture screen (for example the gridlines and aspect ratio)



Rapid Fire



F/E Lock



Grids



Tiltmeter



ISO & Shutter



White Balance



Histogram



Aspect ratio



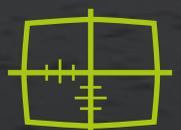
File Formats



Anti-Shake



Self-Timer



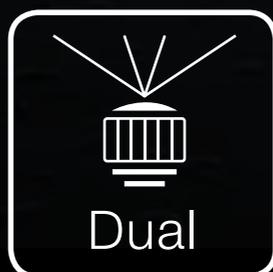
Standard



Settings



Wide



Dual



Tele



The lens selection (Wide, Dual, Tele) is only available on devices with two rear-facing camera systems.



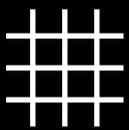
Rapid Fire

Rapid fire mode allows you to shoot continuous, full-resolution shots in quick succession.



F/E Lock

The **F/E Lock** sets the Exposure and Focus Points to lock on touch release (flashes briefly). Once locked, you can recompose your scene without changing the exposure level or focus distance.



Grids

Toggles between three **Grid** views (Small Grid, Rule of Thirds Grid and Golden Ratio) to assist with photo composition.



Tiltmeter

Turns on a virtual horizon 3D **Tiltmeter** to help straighten photos.



Histogram

Turns on the Live **Histogram** which shows overall light levels as bars or squares. Red bars or squares indicate over (right) or under (left) exposure. The higher the bars or the more intense the red color of the squares, the more the image is over or under exposed.



White Balance

When **White Balance (WB)** is enabled, an icon appears on the capture screen. Tap it to open a menu: You will see an indicator for color temperature (in Kelvin) and one for color tint. Tapping on either activates the corresponding slider at the bottom of the viewfinder. Your setting is saved until you activate Automatic White Balance by tapping the WB icon. This allows you to take a series of photos with the same color temperature and tint, or to compensate for too intensely orange colors in a sunset by sliding to a blue tint, e.g..



WB Lock for
color calibration

You can initiate a color calibration with a long tap on the **WB Lock** icon. Place a standardized grey card with a reflectance of 18% or 25% in front of your camera so it covers at least 50% of the viewfinder. Try to avoid shadows on the gray card. Then calibrate by long tapping WB Lock. Calibration is recommended when automatic white balance may not be properly functioning. This might occur with objects surrounded by a neutral palette (e.g. photos for advertisement purposes on white background). AWB can result in incorrect color values in such situations. If you don't have a gray card at hand, street asphalt is a good approximation.



ISO & Shutter
Full manual

In **Manual mode** you can turn on **ISO and shutter speed** readings at the top of the viewfinder. Tapping one of them opens a slider at the bottom of the viewfinder for manual control.

Slide or tap to set a value of your choice. In Manual Mode, you have full control over ISO and shutter speed.

Once set, the camera will not adjust the values automatically anymore.



Shutter & ISO
Single value

The **Semi-automatic mode** is all about control and speed, and is based on the interplay between shutter time and ISO value. According to the situation or your artistic needs, you can dial in a specific value for one of those two settings (shutter time & ISO) and ProCamera will do the rest, finding the appropriate value for the best possible exposure.

Manual Mode (M) and the semi-automatic SI Mode are not available, when shooting in Dual lens mode of dual lens devices.



Aspect Ratio

Toggles between seven **Aspect Ratios**: Standard (4:3), 35mm film (3:2), Widescreen (16:9), Square (1:1), maximum aspect ratio of Instagram (5:4), Letterbox (3:1) and Golden Mean. A long tap displays all modes.

When shooting RAW photos, those files (.DNG) will be saved in the 4:3 aspect ratio of the camera sensor – regardless of the selected aspect ratio in the Control Panel.



Anti-shake

Selecting **Anti-Shake** assigns it to the Second Shutter button (right of the Main Shutter). Anti-Shake will delay the shutter release until the iPhone is held steady, resulting in clearer and sharper photos. Movement detection is displayed onscreen by the small icon above the Main Shutter Button. When ProCamera's Anti-Shake is active the Automatic Image Stabilization (AIS), which is provided by iOS and available on iPhone 5s and newer, is disabled.



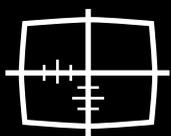
Self-timer

Selecting **Self-Timer** in the Control Panel assigns it to the Second Shutter button (right of the Main Shutter). Pressing the Second Shutter activates the count-down, three beeps will signal the last seconds before the photo is taken. The timer duration can be adjusted within ProCamera's Settings. A **Series of three** photos in a burst instead of a single Self-timer exposure may be activated at the same place.

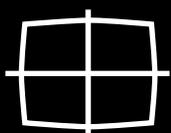


Series of 3

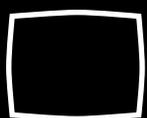
Displays:



Standard



Medium



Light

Toggle between three levels of **On-Screen Display Modes** (Standard, Medium & Light) in order to hide non-critical display elements on the Capture Screen. (Medium display has previously been called Fullscreen Mode.) Focus and Exposure points remain unaffected regardless of the mode you choose. Standard mode provides complete control over all the display elements, whereas Light mode offers a more streamlined camera experience. All 3 modes work in conjunction with the various Aspect Ratios.

File formats: The File formats can be selected in two ways:

1.) A quick way to change/check the file format is opening the Control Panel. In the bottom left corner, the current file format is displayed. Tap on it to change the file format.

2.) Open Control Panel (three lines icon, bottom right) > Settings > Photo Mode Options: File format.



You can save photos in five **file formats:**
TIFF LZW: Highest quality and largest file size.



JPEG: The standard file format for Apple devices. JPEG compression results in lower photo quality and smaller file size.



HEIF: The new photo file format gives you even better image quality at nearly half the size of a JPEG file. HEIF is available for all devices with an A10 Fusion chip (iPhone 7, iPhone 7 Plus and later).



RAW (DNG): Undeveloped photo, raw sensor data. RAW capture is supported on all devices with a 12 megapixel camera (iPhone 6S and newer)



RAW + JPEG: When shooting RAW+JPEG, both files will now be saved in one asset. This helps avoid clutter in your camera roll. When you want to edit or share such a combined asset, you may choose which file (RAW or JPEG) you want to use. When saving to our Lightbox, both files will be saved as two

separate photos – they also stay two separate files when exporting to the camera roll.

Deviating from the RAW file, the JPEG respects the selected aspect ratio and image stabilization may be applied.

We recommend using desktop software like Photoshop to develop your RAW files. Creative Cloud users can send a RAW file directly to Photoshop on the desktop from within ProCamera (Share-Menu).

Lenses:



Wide



Dual



Tele

Quickly switch between the wide and the tele lens on devices with two rear-facing camera systems. You will also feel the lens switch with haptic feedback.

How To:

Open Control Panel (three line icon, bottom right) > Tap „Tele“, „Dual“, or „Wide“ icon in the new Tool Selector.

In a dedicated article on blog.

procamera-app.com, you can find a detailed examination of [The Dual-Camera System Of The iPhone 7 Plus.](#)



Settings

The **Settings** mode opens up the ProCamera settings. The Photo options are explained below.



Under Settings > Stabilization there are two options available:

The **Anti-Shake slider** controls how steady the iPhone must be held before ProCamera takes the photo. Slider to the left: camera will snap a photo when the iPhone is completely stable - maximum shake protection. Slider to the right: will take a photo even if it is still a little shaky - minimum shake protection.



Automatic Image Stabilization (AIS): On iPhone 5s and newer AIS is activated by default. With this settings option you can deactivate AIS, which will give you the maximum amount of detail in the photo, but might lead to motion blur caused by camera shake.



Controls the **Self-Timer** length from 0.5 seconds to 20 seconds. You can use the lowest setting (0.5s) as another shake-preventing capture method.



The **Series of three** setting takes three photos in a quick burst after the specified delay time. This setting helps you to minimize the risk of eye-blinks in selfies and in group shots. This is also one of the benefits of the ProTimer, which offers full customizability (see chapter 4).



The available file formats in ProCamera:

RAW (DNG)

RAW + JPEG

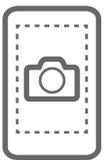
TIFF

JPEG or **HEIF**: Via swipe dial, you can adjust the compression rate. A lower quality settings means stronger compression (= smaller file size), which will gradually lead to so-called JPEG artifacts, causing a loss of fine details. Due to the efficient new compression standard, HEIF files are less prone to compression artifacts.

When editing in or exporting photos from ProCamera, the original file format remains unchanged. HEIF files can be converted to JPEG, when they are exported/shared outside the iOS ecosystem. The regulations of third-party service providers, like social media platforms, decide whether or not specific file types (TIFF, HEIF) are supported/altered.



Turn on **Auto Save** to automatically save photos to your Camera Roll or Lightbox. Turn off Auto Save to see a preview after an image is taken where you can choose to save or discard the image.



Turn on **Fullscreen Trigger** to tap anywhere on the viewfinder to instantly take a photo. The shutter will not fire if you press directly on either the focus or exposure points.

Perform a long tap to set focus and exposure to the point of interest.



Advanced Settings:



Turns the **Photo Zoom** on/off.



The optional **Datestamp** writes the date, time and location of the photo at the bottom of the image. The displayed information can be customized and is based on the metadata of the photo.

4

Extended Controls

There are many possibilities to extend the creative controls in ProCamera.

With our Remote Trigger for the Apple Watch and ProTimer you can remotely control your iPhone and take series of photos based on your specifications. Due to the ProCamera quick-launch widget and Home Screen Quick-Actions, you are ready to shoot in no time.

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Today Widget - Sunrise & sunset times

The **Notification Center**, which is provided by Apple's iOS, is your iPhone's customizable repository for system and app notifications. To open it, simply swipe from left to right on the lock screen or the first page of your iOS home screen.

How to add ProCamera as a Today View Widget:

The Today View can be customized via the Edit button at the bottom of your widget list (only visible when your iPhone is unlocked). By tapping the little green „+“ icon in front of the app name, you can add the ProCamera widget to your Today Screen.

How to use the ProCamera Widget:

The widget enables you to rapidly launch ProCamera, namely in one of the available camera modes. For example, if you plan to record a video, you are able to directly launch the app in Video Mode.

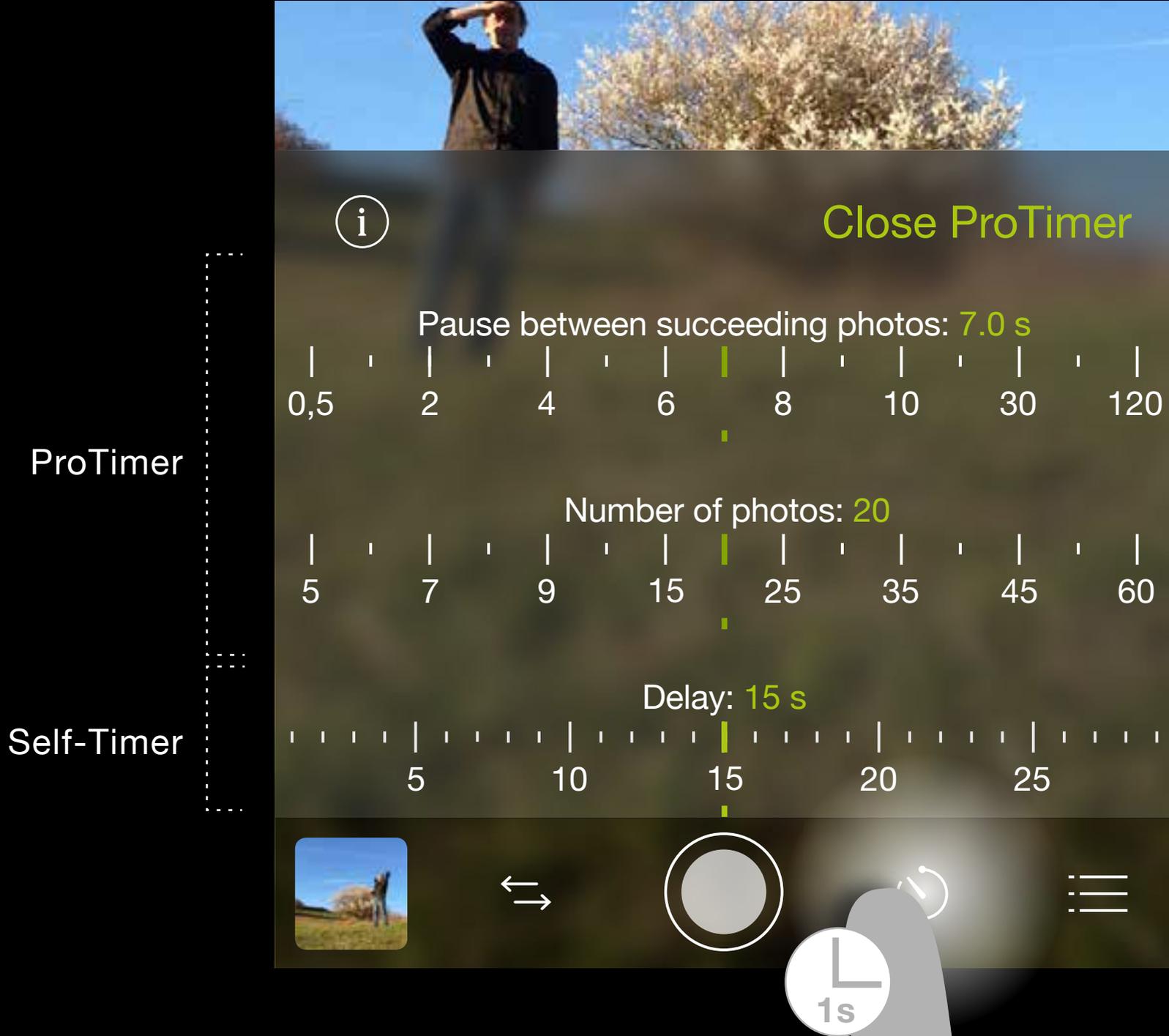
To best support your specifications, the order of the Camera modes in the widget is the same as in the Camera Mode Selector of ProCamera. If you re-arrange the Camera Modes in the app, those changes will be carried over into the Widget. The widget displays the first 5 camera modes.



In addition to this, the widget displays the **time of sunrise** and **sunset**, **next full moon**, and the duration of the **next blue hour** for your current location.



Use the **Today Widget Settings Option** to individually show/hide these additional information in the widget.



ProTimer is an intervalometer. This extension of the already known **Self-Timer** provides you with new options to set a total number of photos as well as a pause between succeeding photos.

Make sure you have set the **Self-Timer** as your **Second Shutter** in the **Control Panel** (see chapter 3: Control Panel).

Long tap on the **Second Shutter**, in order to get access to the settings of the **Self-Timer**. Here you can adjust the delay time before the camera starts capturing. Tap on "Open ProTimer" to additionally set the total number of photos and the pause between succeeding photos.

ProTimer is not available in HDR, LowLight Plus and Selfie camera mode.

A tap on the Second Shutter closes the settings menu.

Another tap on the Second Shutter starts the Self-Timer or ProTimer.

To stop the countdown or an ongoing capturing process, simply tap on the Second Shutter. To switch between Self-Timer and ProTimer tap on **Open ProTimer** and **Close ProTimer**. The respective settings are retained.

The icon of the Second Shutter indicates which Timer is active at the moment: The ProTimer icon includes the number of photos set.



Self-Timer



ProTimer



The **ProCamera Remote Trigger** extension for Apple Watch lets you control ProCamera remotely. For this, ProCamera has to be running in the foreground.



Remote Trigger

Show Preview

Settings for delay
and number of
photos

You have the following options with the **ProCamera Remote Trigger**:

- Capture your moments in Photo, Video, HDR, LowLight and LowLight Plus modes
- Change capture formats
- Set the delay and total number of photos
- Preview the viewfinder on the Apple Watch
- View photos

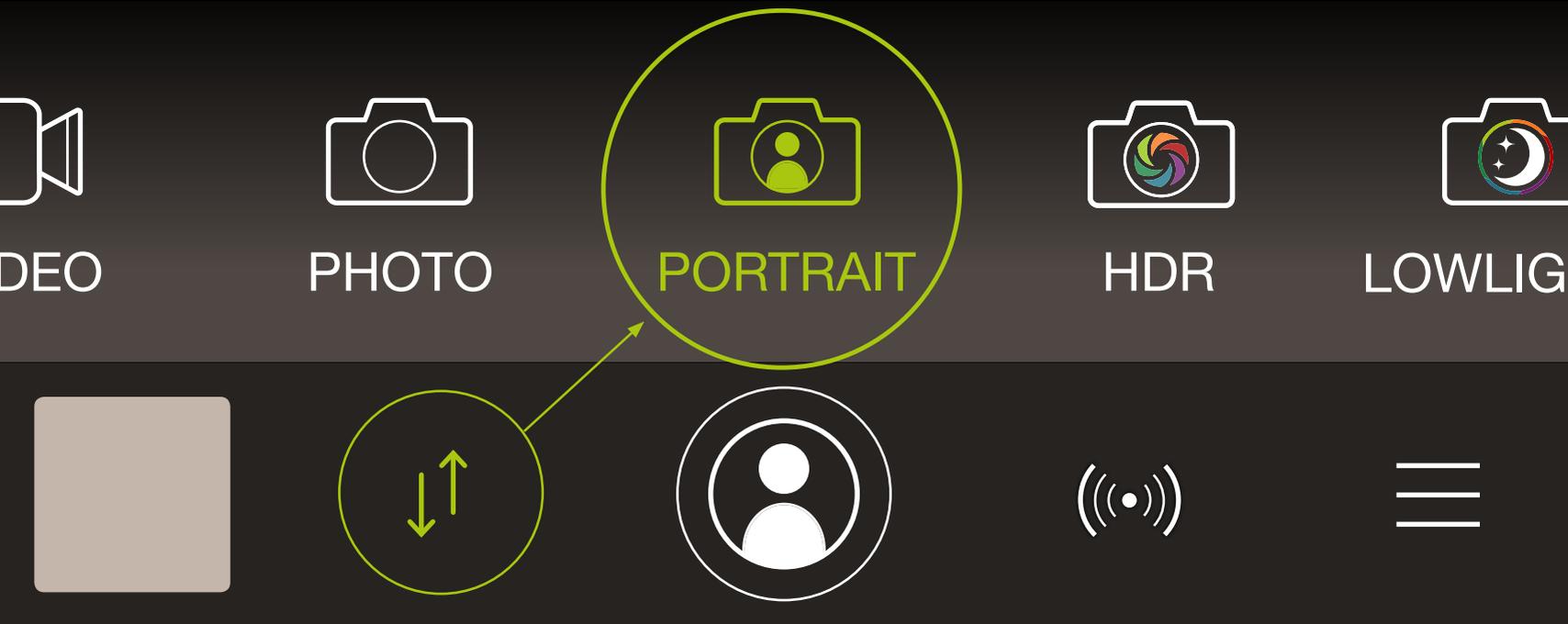


This camera mode allows you to take photos where your subject stands out in sharp detail against a blurred background – just like you see in professional (portrait) photography. It’s available for the rear-facing cameras on all dual lens devices.

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How to Switch to Portrait Mode

2. Swipe left and tap to select Portrait Mode

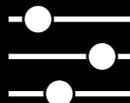


1. Select Mode Switch

Focus and Exposure controls work as usual in Portrait Mode. With the blue focus reticle, you also determine which part of the image will not be affected by the depth of field effect (background blur).

Editing

The Editing Suite can be accessed by selecting “Edit” in single image view.



Cancel



Save



1. Simulated aperture

When editing a Portrait Mode photo in the dedicated editing section, swipe up/down to adjust the strength of the background blur (simulated aperture).

2. Select area

You may also tap on the image to select the area that will not be affected by the background blur.

6

VIVIDHDR IN PROCAMERA



vividHDR enables you to capture photos with a high dynamic range. This means more details in highlights and shadows even if your scene has a high contrast.

With auto-bracketing, three pictures are shot with different exposure settings which are then combined into one HDR image.

The processing is so fast and precise, you can take photos without a tripod and capture scenes with objects in motion without ghosting.

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What is real HDR imaging?

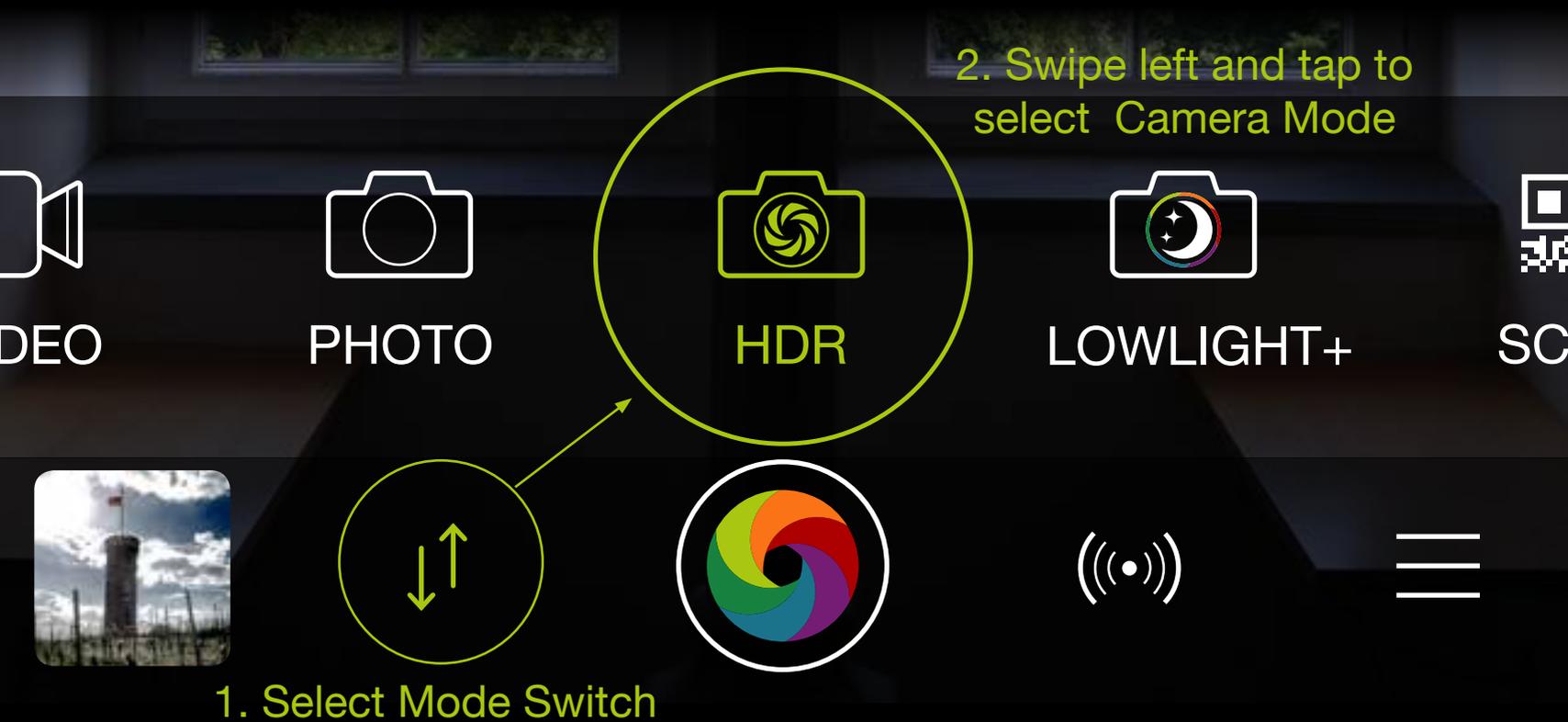
HDR images contain a greater range of light that is present in real-world scenes. Three or five photos are captured at different exposure levels, which are then combined into one with a higher level of color precision (aka higher dynamic range).

A standard screen has a limited dynamic range that inadequately displays the full range of light intensities found in an HDR image. To address this issue, the contrast range is compressed with a technology called tone-mapping so the photo can be displayed on a standard non-HDR screen. vividHDR enables you to tweak the parameters of tone-mapping so that you can choose between a natural-looking image or one with exaggerated contrast for dramatic effects.

vividHDR in ProCamera

You can purchase vividHDR as a special extension to ProCamera. vividHDR in ProCamera combines the best HDR for iOS along with the professional feature set already found in ProCamera.

To make sure you like it, you can try it out before buying it. In demo mode, your HDR photos will have a watermark that can't be removed.



Take great HDR photos with ease in Auto-mode, or set manual exposure for each of the three individual photos which are taken in quick succession in HDR mode.



Auto

Automatic HDR mode analyzes the range of contrast for your subject in a two-step scene analysis. In this mode, optimal values are automatically set to capture both an under- and overexposed image of your subject. This intelligent scene analysis forms a crucial part of the quality of vividHDR, making it the go-to choice in most situations. Just set exposure and focus (or let the camera do this automatically), then tap the shutter button and hold your iPhone steady. ProCamera will take three shots in quick succession (Bracketing). A preview shows the results. The medium exposed photo (LDR-photo (Low-Dynamic-Range)) will be saved along with the HDR photo. You can deactivate saving the LDR photo or showing a preview via Settings > HDR Settings.



Auto 3

In full Auto mode, the results of the scene analysis determine whether the camera takes 3 or 5 photos. Toggle the Auto icon to manually set the number of photos (**Auto 3 or Auto 5**).



Auto 5

For scenes with very high contrast, 5 photos will yield better results. However, the total exposure time is longer when taking 5 photos, which means you need to hold the iPhone absolutely still. Both Auto 3 and Auto 5 use a two step scene analysis to determine the best exposure settings.



LowLight HDR

LowLight HDR captures HDR photos utilizing the maximum exposure time of your device, allowing for clearer night shots with lower noise levels. This mode is a special bonus for users that have purchased both vividHDR and **LowLight Plus**.



MEB

In **Manual Exposure Bracketing Mode (MEB)**,

you determine the value of the medium exposure, as well as the range of contrast between over- and underexposure. In manual mode no two-step scene-analysis is performed, so it's up to you to set the optimal values.

For under- and overexposure slide one of the red brackets and the other bracket will adjust symmetrically based on your setting. While moving a bracket, a magnifier helps you to fine-tune. Many users may already be familiar with this popular feature available with most DSLR cameras.



AMEB

In **Advanced Manual Exposure Bracketing Mode (AMEB)** you have full control over

exposure values of your HDR photos. As in Manual HDR Mode, you set the central exposure by moving the green mark on the dial. Underexposure is set by moving the orange bracket, overexposure by moving the blue bracket. Both settings work independently (asymmetrically).

While moving a bracket, the picture at the under- or overexposure you are setting is displayed in the viewfinder. Upon release of your finger, the viewfinder shows the picture at your central exposure setting. While moving a bracket, a magnifier helps you to fine-tune. An automatic two-step scene-analysis does not take place.

In this mode you can create artistic modifications or nuanced HDR effects. However, careful arranging of the settings is required, in order to achieve good results.





Natural



Vivid



Dramatic



Black'n White



Faded

Choose how your HDR photo should look

After the HDR photo has been processed, you can choose one of five presets.

In the control panel, you can select your preferred preset, which will then become the first preset shown in the HDR preview screen.

The remaining four presets can be applied to your preview, just like in Filter Studio, by swiping to the left of the screen.



Now, you can select more than one HDR preset and save various versions of a single capture in one go. Simply swipe left and right to preview the different HDR presets, then tick off the ones you want to save.

A swipe to the right, as well as tapping your finger on the compare button in the center of the bottom tool bar, lets you compare your HDR photo to the medium exposure photo of your exposure bracket.



Cancel



Save

Switch to compare HDR with auto exposed photo.

7

LowLight-Cameras

This section gives an overview of the LowLight-Modes available in ProCamera. When photographing in dark environments, the iPhone camera hardware quickly reaches its limits. With LowLight and Lowlight Plus, ProCamera provides powerful software solutions for this problem.

Single photo or multi-frame capture

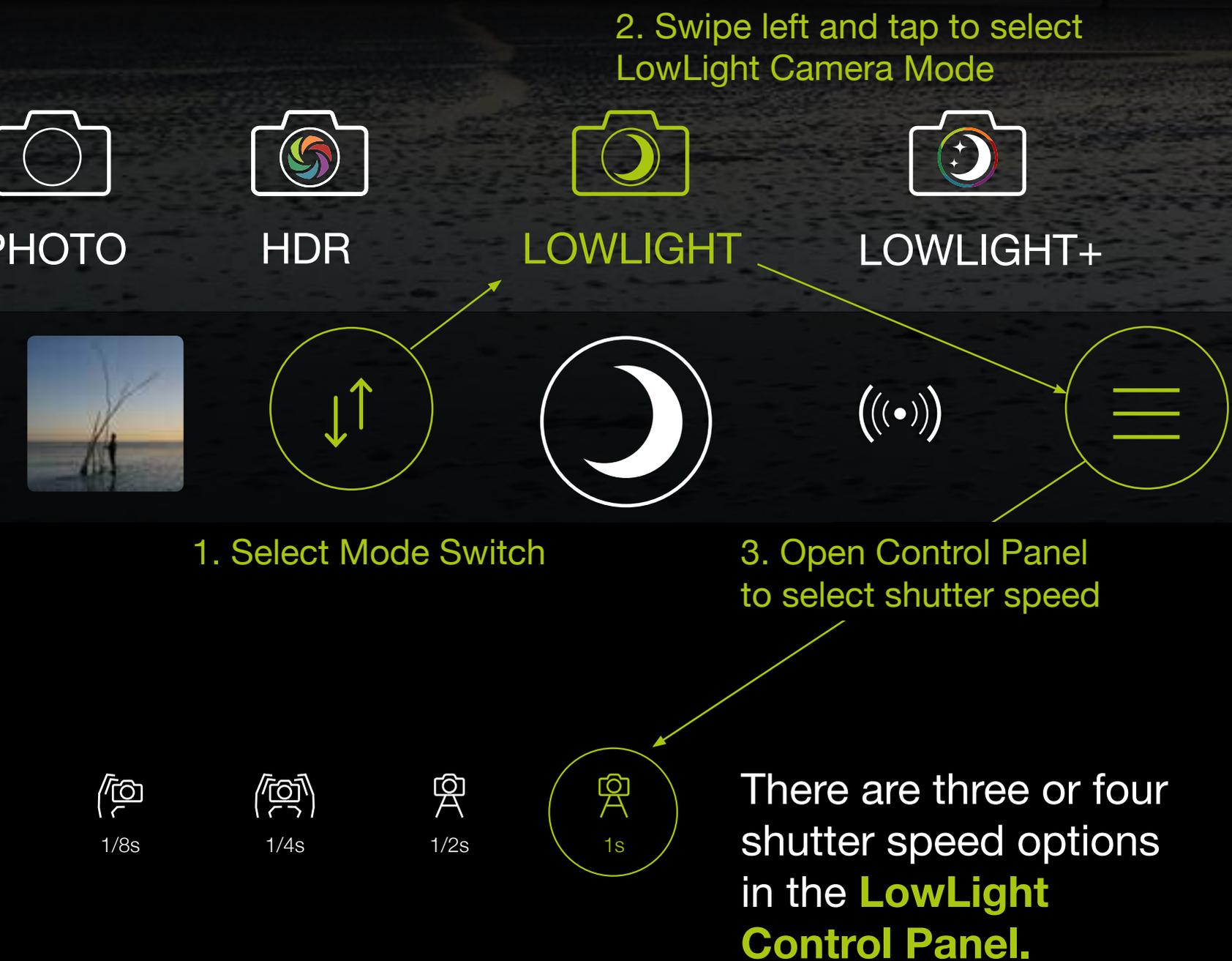
LowLight mode is an extension of the standard Photo mode. It allows you to take photos up to the device's maximum exposure limit. With LowLight Plus mode, you can go beyond this limit and take photos even in extremely low light. The groundbreaking technology automatically combines multiple exposures („multi-frame capture“) into one superior photo.

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LowLight camera

With this night mode, very dark environments resulted in very dark photos. However, you could (and still can) take photos with this mode in relatively low light conditions. Therefore, we decided to call it LowLight mode.

How to Switch to LowLight Camera Mode



The number of available exposure time options in the control panel depends on which iPhone generation you are using. Selecting one of those options means that the camera will set an exposure time up to this maximum value. If the scene you are shooting is too bright, the camera will choose a shorter exposure time to avoid overexposure. When shooting with long exposure times, an on-screen signal (tripod icon) will provide a warning if there is a risk of camera shake.

Tip

It is recommended that the 1/2 sec and 1 sec speeds are used with a tripod to limit camera shake.

These icons will help you take shake-free photos.



Use both hands to hold the iPhone as still as possible. Exposure times up to 1/8s.



Use a tripod or your own creative stabilization method. The tripod icon will turn red if the iPhone detects too much camera shake.

By means of on-screen icons (top left), the **tripod detection** helps you find out if the iPhone is steady enough. When LUX+ is activated, a tripod icon is always displayed as this mode requires total stabilization. The tripod detection is very sensitive, and even detects slight ground vibrations (e.g. on a bridge) or shaking caused by wind.



An important part of LowLight Plus is the **Hand-held Priority**, which allows you to capture noise-free photos with exposure times up to 1/8s without a tripod. By tapping the orange hands symbol (top left), you can switch to tripod mode even if the motion sensors detect too much camera shake. The



icon then displays a rounded box around the tripod symbol, and the camera will utilize the maximum exposure time of your device. When forcing the camera to switch to tripod mode (and longer exposure times), the risk for blurry photos due to camera shake increases. By tapping the icon again, you will go back to Hand-held Priority and the orange hands symbol will be displayed.

LowLight Plus in ProCamera

The LowLight Plus module is available as an In-App Purchase in ProCamera. We offer you the ability to try LowLight Plus before making the purchase. The free trial mode is unrestricted in functionality. However, all LowLight Plus images will be saved with a permanent watermark, which can not be removed. After you purchase LowLight Plus, there will be no watermarks added to any new photos you take.

3 potential applications of LowLight Plus

1. Noise Reduction – Hand-held

Now, you can take noise-free photos without a tripod using our revolutionary image alignment technology. Noise reduction is achieved by automatically combining multiple photos taken with exposure times up to 1/8s into one superior image.

2. Noise Reduction – Tripod Mode

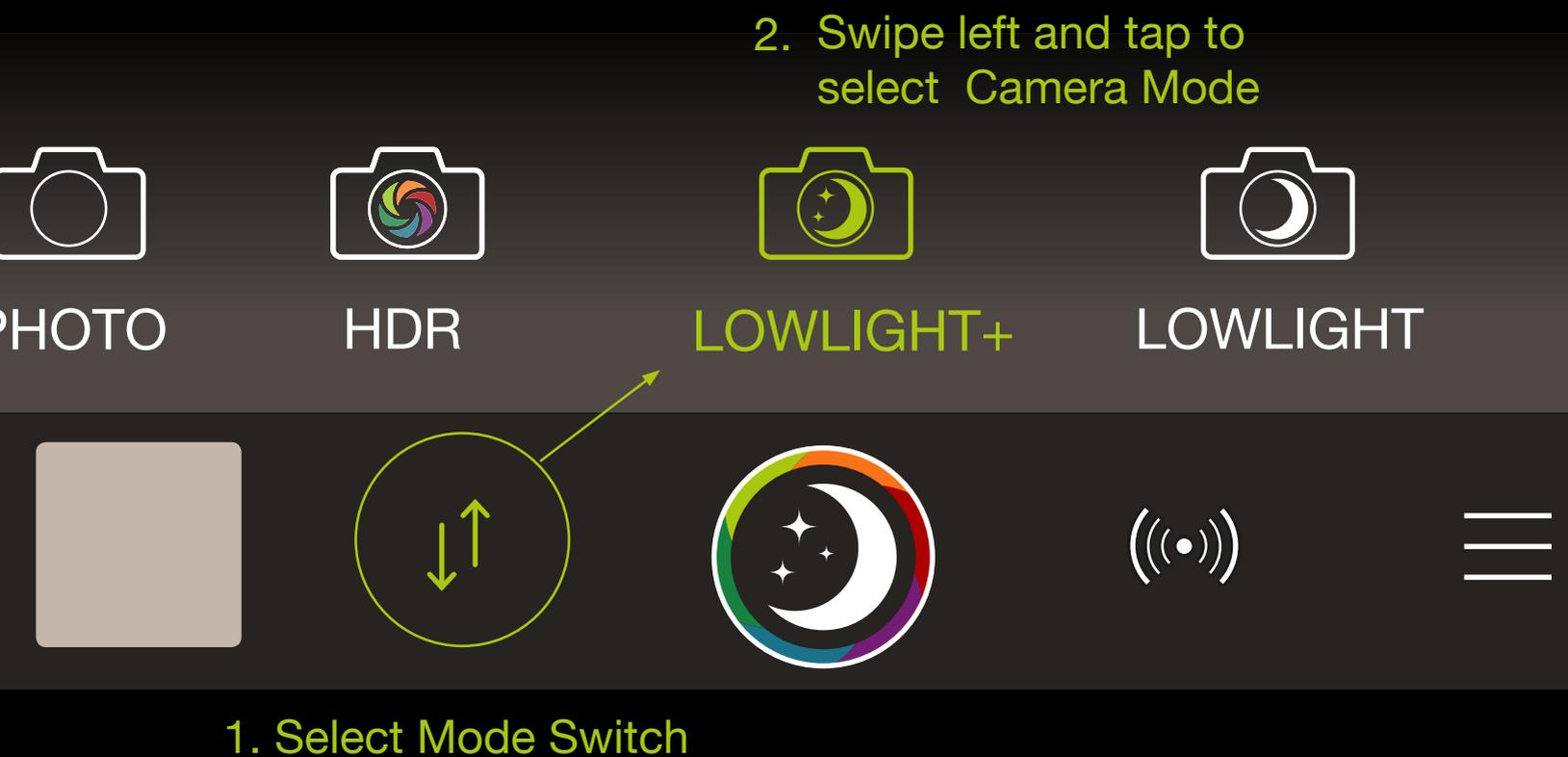
When using a tripod, multiple photos are captured and combined into one superior photo using the device's maximum exposure time. The iPhone's motion sensors automatically detect whether the device is kept steady enough to capture photos at maximum exposure time. When stability has been achieved, the device will switch to tripod mode and display a tripod icon (top left) instead of the shaky hands symbol.

3. Long Exposure (LUX+) – Tripod Mode

By activating "LUX+", you can now take photos even in very dark environments. Thanks to the powerful exposure boost, candlelight or moonlight will suffice as a light source. Using a tripod is mandatory, as LUX+ captures up to 64 separate images, and the device must remain completely still during this time. Long exposure photos may even come out brighter than you perceive the scene with your own eyes (LUX+ turns night into day).

Using LowLight Plus

How to switch to LowLight Plus camera mode:



1.) Tap the shutter button after setting up the shot. The **scene analysis** will automatically calculate the optimal number of photos necessary for a noise-free photo.

2.) After the scene analysis is complete, ProCamera will automatically capture the required number of photos. During the capturing process, a green **progress bar** is displayed at the top of the screen.

3.) You will see a **preview** of the completed LowLight Plus photo, which you may then confirm and save – or discard and go back to the viewfinder. Use the **toggle switch to compare** the standard photo (single exposure) with the LowLight Plus photo (multi-frame capture). Use the pinch gesture to zoom in and out or a double tap to jump to 100% view.

Saving the single exposure **reference photo**, as well as showing the preview screen, is optional and can be (de-)activated via Settings > LowLight Plus.

4.) While in preview screen, tap the **Magic Wand symbol** to (de-)activate the **auto image optimization** before saving the photo.

5.) In very dark environments, you can tap the **LUX+** button to activate the powerful exposure boost (tripod/stabilization required).

The **LUX+ Exposure Boost Adjustment** provides an option to adjust the overall brightness after you have taken a LowLight Plus (LUX+) photo. The innovative slider is far more than a simple brightness adjustment tool, since it makes use of the full information space of the long exposure. Afterwards, the photo can be saved, resulting in a standard image file (JPEG/TIFF). “Get it right in camera” without worrying about setting the perfect exposure before taking the photo.

Tip

Use a tripod or your own creative stabilization method and a remote trigger (bluetooth trigger, headset, or ProCamera RemoteTrigger for the Apple Watch), to avoid even the smallest camera shakes.

If you plan to go on an extended photo taking trip, make sure to bring an additional battery pack („power bank“).

In very dark environments, focusing will take longer than usual. It generally helps to focus on an object with clear contours. Optionally, you can also activate the manual focus via Settings > Focus and Exposure: „Manual Focus“ and „show lens position“.



Additional settings can be accessed via Control Panel (Settings > LowLight Plus).



In the **LowLight Plus** submenu, you're able to make the following changes:



When **Reference Photo** is deactivated, no LowLight photo will be saved along with the LowLight Plus photo.



When **Auto Save** is deactivated, you will see a preview after the capture process. It offers the ability to compare, auto optimize, adjust (LUX+ boost), and save or discard the image.



If **Screen Dimming** is enabled, the screen will be dimmed during the capture process of long exposure photos, to prevent „light pollution“ caused by reflected light from the illuminated screen.

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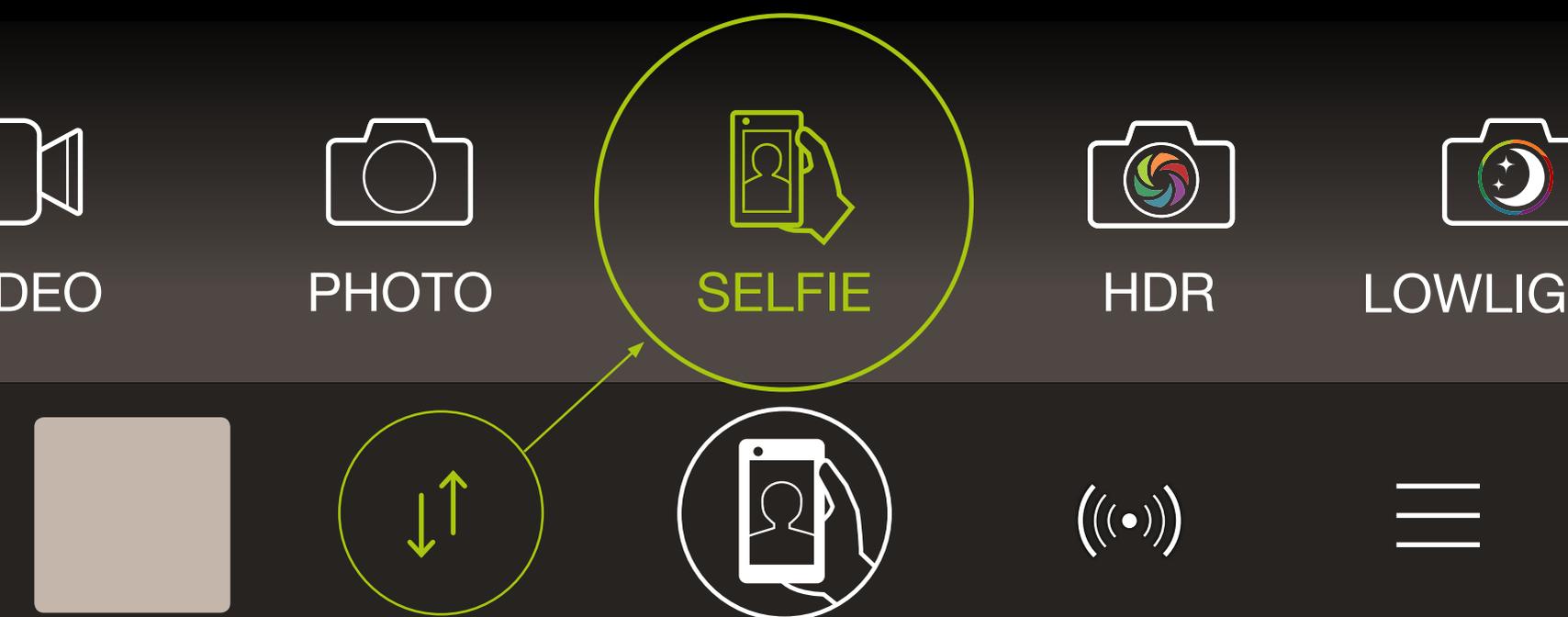
Selfie Camera

This section shows you how to use the Selfie Camera Mode in ProCamera – which lets you take selfies quickly and easily. With our innovative Skin Tone Front Flash faces are rendered beautifully – even in low light.

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How to Switch to Selfie Camera Mode

2. Swipe left and tap to select Selfie Camera Mode



1. Select Mode Switch

The Selfie Camera is a streamlined photo mode to enable quick and easy self-portraits. Given that the purpose of this camera mode is primarily to take selfies, it only uses the front camera (the one above the display of the iPhone).

To provide an intuitive way of composing your shot, the preview of the front facing camera is typically mirrored on smartphones – whereas the actual photo saved in your camera roll is not mirrored. In case you want to have an unmirrored preview in the viewfinder or to see how other people see you, simply tap on the top right Front/Back Camera switch.

To be ready in no time to take your selfie, you can launch ProCamera directly in Selfie Mode via Today Widget. Pull down the Notification Center at any time and tap on the Selfie Camera Icon in the ProCamera widget (see chapter 4 for more).



The Selfie Camera comes with an innovative **Skin Tone Front Flash**. To illuminate your face, the screen of your iPhone will flash when taking a photo (the front camera on the iPhone has no actual build-in flash). To achieve natural skin tones, the color of the front flash will be automatically adjusted depending on the tone of the scene.



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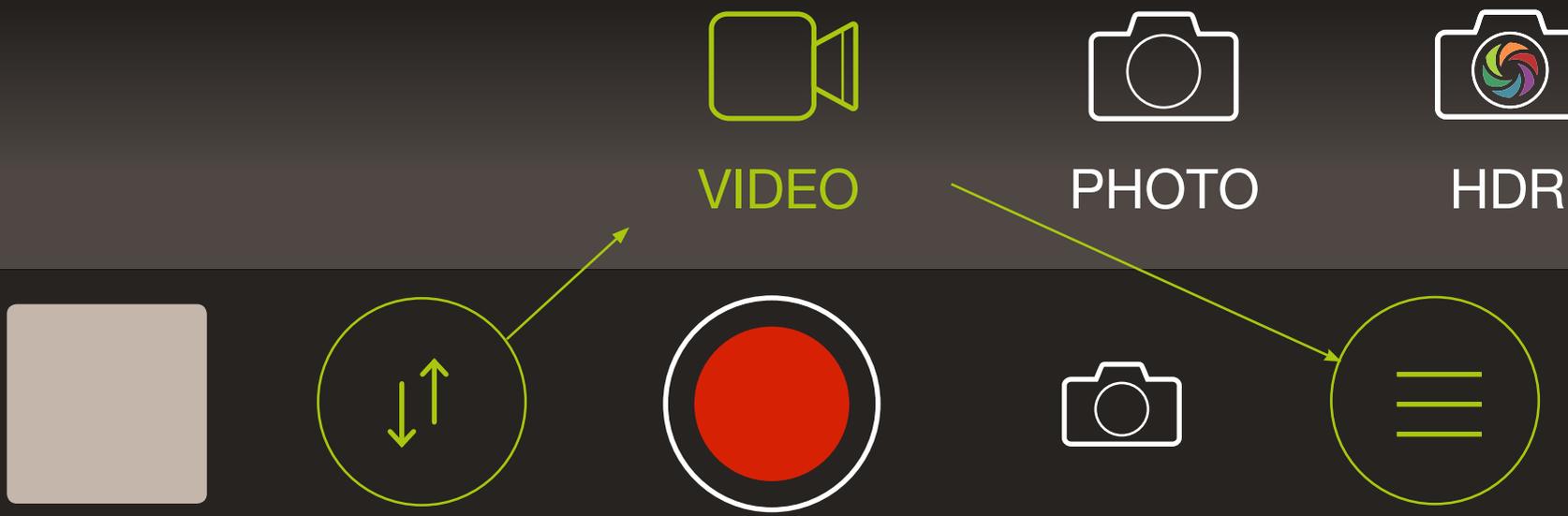
Video

This section shows you how to turn on and use the Video mode in ProCamera including the Control Panel and advanced Video Settings

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How to Switch to Video Camera Mode

2. Swipe left and tap to select Video Camera Mode



1. Select Camera Switch

3. Set Framerate and Advanced Settings in the Control Panel

The Flash/Torch, White Balance, Front/Back Camera, Main Shutter Button, Light Box and Focus and Exposure controls operate the same way as in the Photo and Night Mode.



The **Secondary Shutter** button enables you to capture photo stills while recording video. Photos are saved at native video resolution (e.g. 1920 x 1080 pixels).



The **Video Control Panel** contains dedicated options for better recording. They are outlined below



Resolution

You can choose between four different **resolutions** depending on your needs. There are two additional modes that provide high resolution in combination with high frame rates (HFR):

- A) 4K HFR: 3840 x 2160 (with 60 fps)
- B) 4K (Ultra HD): 3840 x 2160 (with 30 fps)
- C) HD+ HFR: 1920 x 1080
- D) HD HFR: 1280 x 720
- E) HD+: 1920 x 1080
- F) HD: 1280 x 720
- G) HQ: 640 x 480

30_{fps}

Framerate

Framerate sets the number of frames captured per second when recording. Framerate options vary across devices:

- A) 24, 25, 30, 60, 120 fps on iPhone 5s or newer
- B) Up to 240 fps on 6/6Plus/ or newer



Audiometer

When Audiometer is activated, the top bar of the capture screen will provide information on the current microphone input volume level in the form of colored square dots.



Settings

The **Video Settings** are explained below



Allows you to turn off the **Video Zoom** control on both the front and back cameras (if available). On iPhone 4 and 4S non-zoomed video saves faster than zoomed-in video. HD video zoom requires approximately 50 seconds of post-processing for every minute of recorded video.



Video Codec: HEVC / H.265 is the successor to the widely used H.264 standard.

The new compression standard enables you to save up to 50% storage space with increased video quality. Video files are currently transcoded to H.264 when they are exported. HEVC is the future and in many ways better than the older H.264 – but if you need maximum compatibility without re-encoding, choose H.264.

HEVC is supported on all iOS 11 devices with an A10 Fusion chip (iPhone7, iPhone 7 Plus and later).



Advanced Settings:



Video Focus Mode: Turn on Continuous Focus to automatically adjust focus while recording video. Turn off Continuous Focus to manually adjust and lock focus when recording.



Turn on for automatic **Video Stabilization.**

A QR code is visible in the top-left corner of the page, partially obscured by a green circle containing the number 10.

10

Code Scanner

In addition to taking photos and videos ProCamera can also read QR codes, barcodes and more.

Whether URL, address, GPS or product info – ProCamera recognizes the content type automatically and offers suitable actions to use the recognized codes in other apps or for online search.

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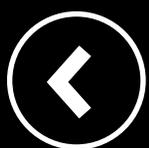
How to Switch to Code Scanner Mode

2. Swipe left and tap to select Scanner mode

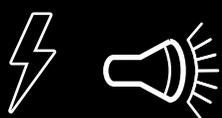


1. Select Mode Switch

Once scanner mode is switched on, ProCamera automatically recognizes any readable code you lined up inside the squared viewfinder. (You don't have to press a shutter button.) ProCamera will then display the result screen.



Back to the mode that was selected last.



The Steady Light (top-left corner) can also be turned on to assist with scanning in low-light conditions.

Result Screen

Once scanned, you can automatically open the web URL, copy, paste or share the link or use one of the context-sensitive options depending on the type of code (e.g. address book vCard). Additionally, ProCamera gives you the option to directly search for a book on Amazon. Just scan the bar code on the book and tap on “Search on Amazon”.

ProCamera’s code scanner reads more than 10 types of codes. A sample of the type will appear at the top of the result screen. Codes can include various types of data. Scanner mode distinguishes the following:



URL



Message



Contact



Phone



Calendar



Text



Email



Search



Map



WIFI

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Albums

You can choose to save photos and videos in ProCamera's Lightbox or Private Lightbox instead of the iOS Camera Roll. Files that are saved inside the (Private) Lightbox are not visible in the „Photos“ app or other iOS applications. Those special folders are particularly suitable for narrowing down the choice, before exporting to the Camera Roll.

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Album and Lightbox Functions

are listed below

< **Albums** Provides access to your Photo Library – including Camera Roll, saved albums and (Private) Lightbox. The Lightbox is always located second and the Private Lightbox third on the **Albums** list.



In thumbnail view the **Multi-Select** tool allows you to select multiple photos and videos to share, export or delete.



The **Select All** icon appears if the Multi-Select tool is turned on. This tool selects all photos, videos and animated GIF in the album. Perfect for mass saving or deleting of photos.



Organize your camera roll by adding your best or most important photos and videos to the iOS Favorites folder. **Favorites** are indicated by a green heart icon and can be filtered out by displaying the Favorites album.



Camera returns to Photo/Video capture mode.

The following **gestures** can be used to navigate within an album/ (Private) Lightbox.

Single image view:

A) Double-tap to zoom in or out on a photo.

B) Two-finger pinch to zoom in or out on a photo.

C) To copy to clipboard, long tap a photo preview until a „copy“ option appears.

Media thumb view:

A) When Multi-Select is active, you can de/select multiple images with a swipe gesture or by tapping on the images.

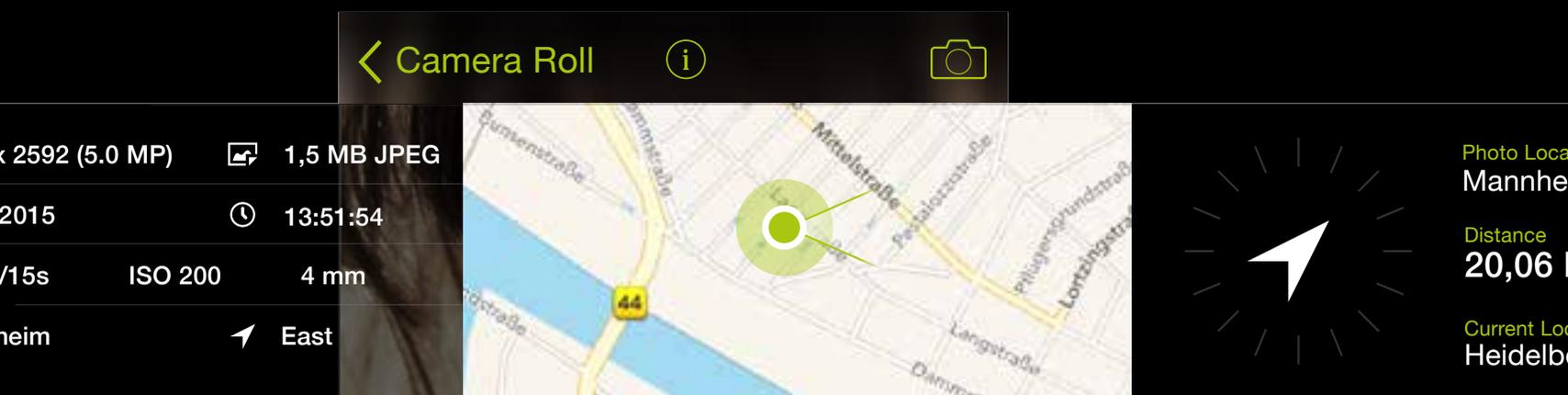
B) If your iPhone supports 3D Touch, you can force-push on the thumbnail images to see a quick preview.



Photo Info

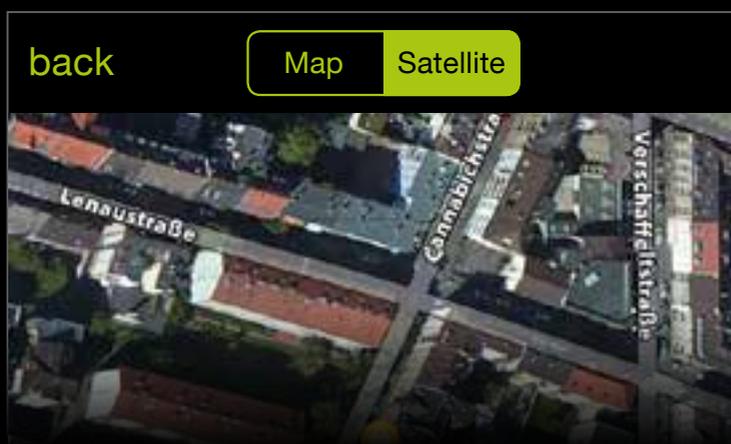
(Exif, Map View, Photo Compass)

ProCamera stores all Exif data for your photos (e.g. date, time, location, exposure, aperture and ISO value). View the photo's metadata by tapping the Info button. ProCamera displays where the photo was taken and which cardinal direction the camera was facing (only available for photos which contain compass orientation and GPS data).



← Swipe above bar: Switch between Exif, map view and Photo Compass

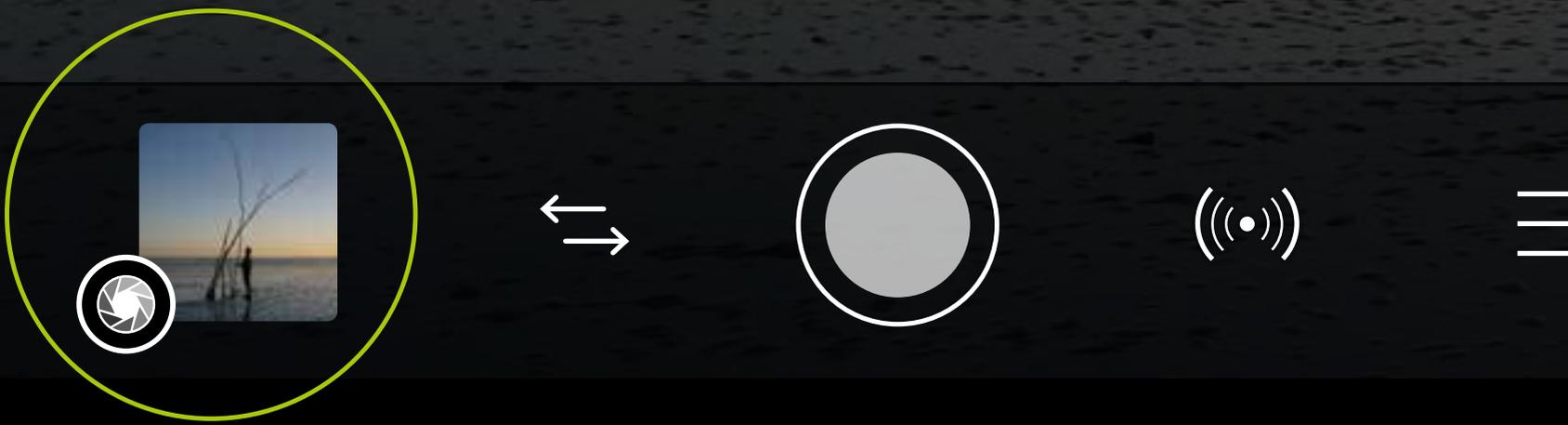
← Swipe below bar: Scroll through your photos



Double Tap: Full-screen map view. Choose between Map and Satellite view.

Tap the red dot in **Fullscreen map view** to show the photo's location in your Maps app.

The three save locations in ProCamera



When you are using the native iOS camera app, all photos and videos will be saved to the iOS Camera Roll. With ProCamera, you have the option to choose between three different save locations, including the iOS Camera Roll.

According to the currently selected save location, a little indicator is displayed at the edge of the preview thumbnail on the ProCamera capture screen.



Camera Roll

iOS default: Your system-wide save location. The standard Camera Roll also includes custom iOS albums, which are visible in the Photos app.



Lightbox

A folder inside of ProCamera for temporary file storage, which is not maintained by the iOS.



Private Lightbox (in-app purchase)

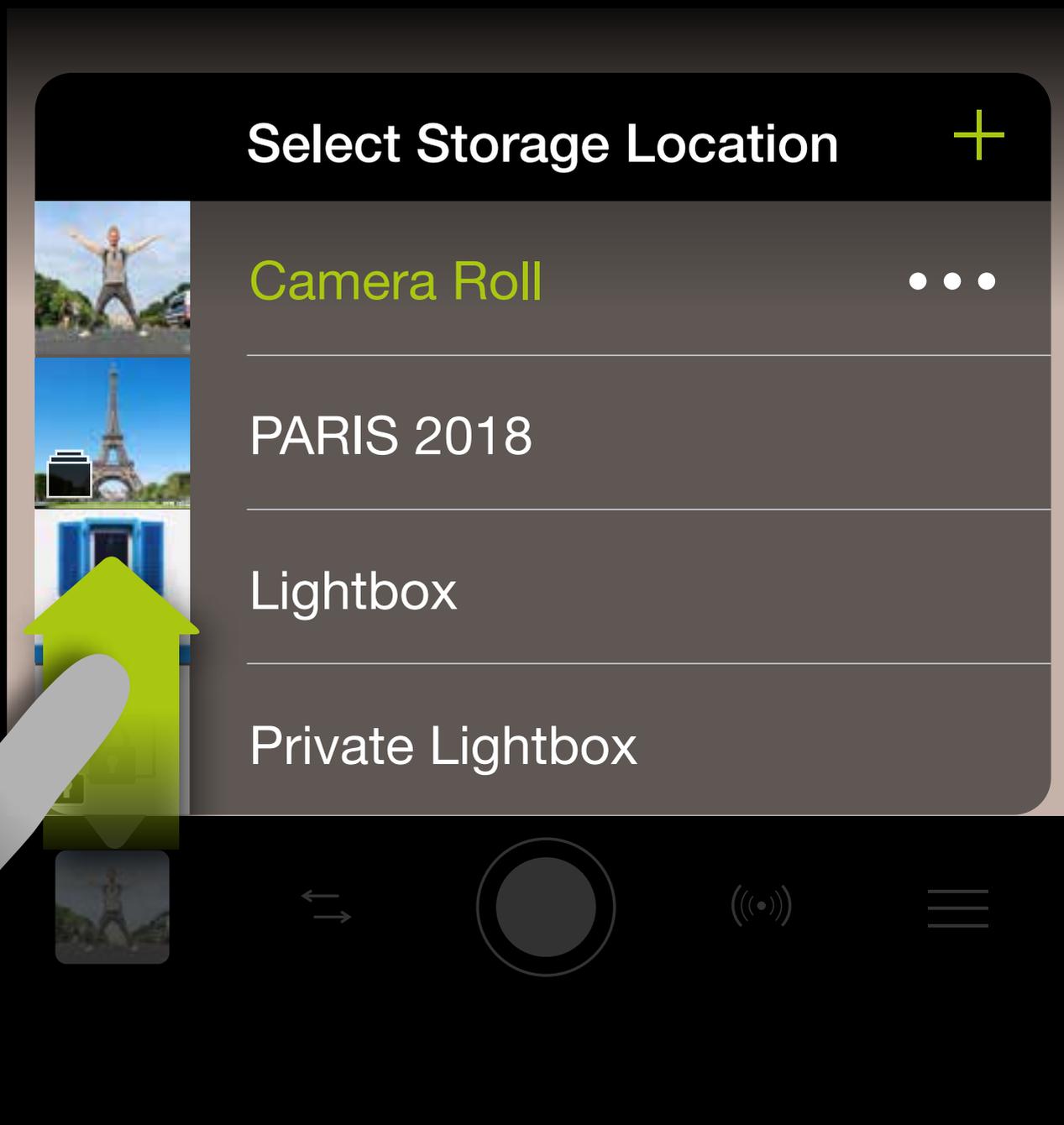
An additional folder inside of ProCamera, which is protected and can only be accessed with Face ID or Touch ID authentication. Even the thumbnail on the capture screen doesn't tell if or what files are currently saved in the Private Lightbox.

(Private) Lightbox
of ProCamera

Camera Roll of iOS



■ Apps ■ Photos ■ Messages ■ Books ■ Other



Album Selector

Organize your captures with our handy Album Selector. Swipe up from the preview thumbnail on the Capture Screen to select where you want to save new photos and videos: Camera Roll, Lightbox or Private Lightbox. You can also select any pre-existing custom album in your library or create a new one.

Of course, you can still change the save location for new captures in Settings, the swipe gesture is just a lot quicker and really handy for prompt switches. The swipe up gesture needs to start from the square preview thumbnail to open the Album Selector (when you swipe up from below that area, you will open the iOS Control Center...).



Settings

Selecting the save location

The save location is also set within the **settings** of ProCamera.



Go to **General Options: Save Location** to select one of the three save locations:



Camera Roll

The default save location provided by the iOS. Files in the “Camera Roll” will be synchronized according to your iOS settings – for example when “Apple iCloud Drive” is activated.



Lightbox

The internal folder is most suitable for pre-selecting photos and videos captured with ProCamera. When editing a photo saved inside the Lightbox, the edited version will also be saved to this integrated folder. Please bear in mind: Photos and videos that haven't been exported to the iOS Camera Roll will not be visible in other apps like the iOS photos app.

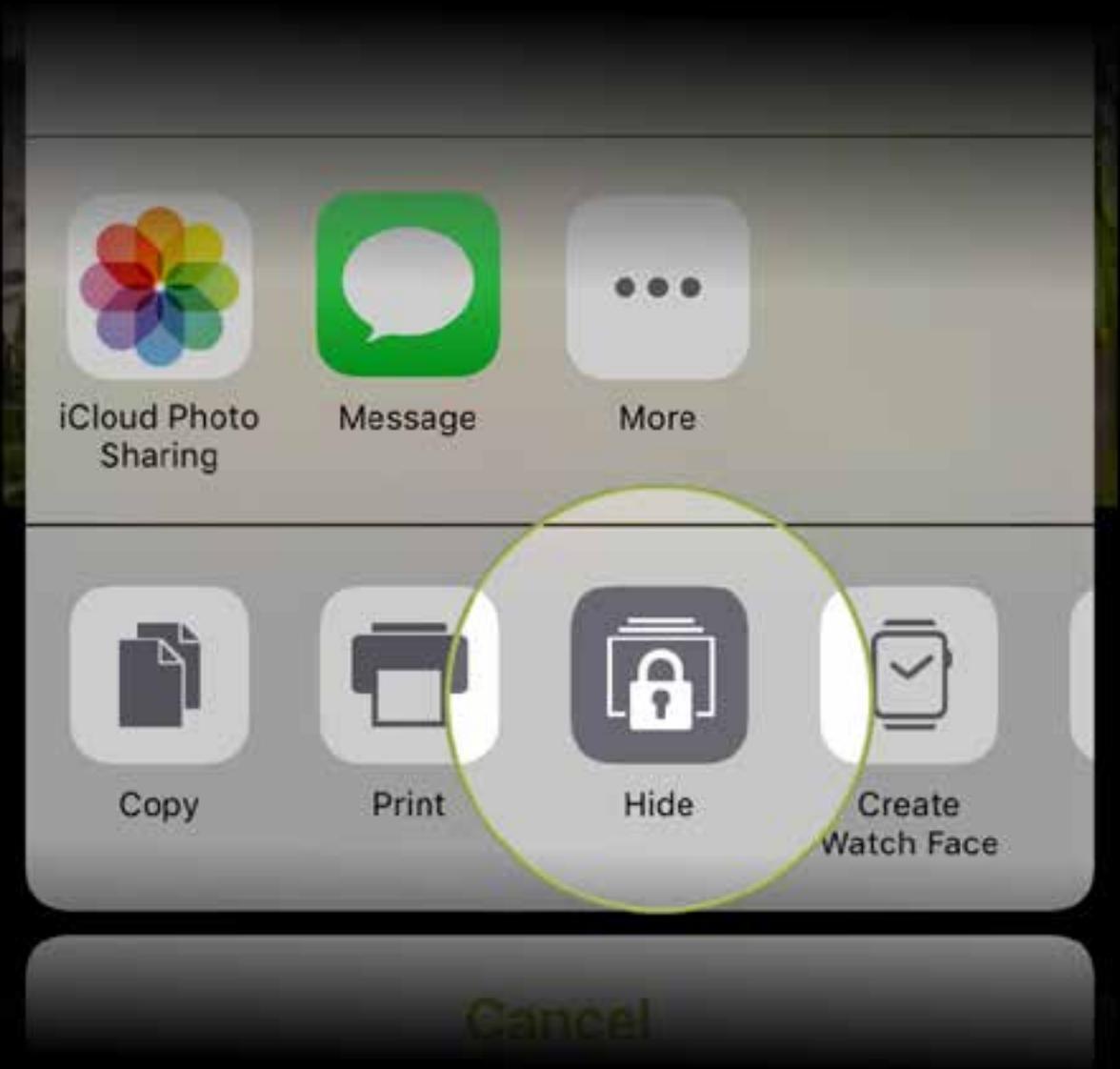
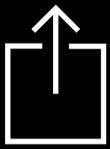


Private Lightbox (in-app purchase)

Files that are saved to the Private Lightbox can only be accessed via Face ID or Touch ID authentication (or password input). You can conveniently transfer the protected files to your Mac with AirDrop or export them to your Camera Roll or other destinations.



CAUTION. Please ensure that you export any (Private) Lightbox photos to the Camera Roll before you delete ProCamera. Otherwise they will be deleted along with the app.



Importing to ProCamera save locations



Photos and videos can be transferred between the iOS Camera Roll and ProCamera's Lightbox, as well as the new Private Lightbox (In App Purchase). By tapping the iOS share icon in ProCamera and selecting the corresponding activity, you can even transfer multiple files at once.



Exporting from (Private) Lightbox.



Files can be exported to the iOS Camera Roll at any time.

After importing the file(s), a dialog will appear, which allows you to delete the duplicate file(s).



12

Editing

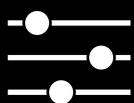
This chapter describes how to use the editing tools in ProCamera. The ProCamera Studio consists of four general sections: filters, tools, effects, and advanced cropping. For special files, like RAW or Portrait Mode photos, there are dedicated editing sections.

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The Editing Suite can be accessed by selecting “Edit” in single image view.



Filters has 68 free and 15 paid filters. Swipe through to see the dynamic filter on your image. Swiping up/down on the image adjusts the intensity of the filter. Dedicated filter packs, including the paid ‘San Fran’ pack are shown below the filters.



Tools has image tools to adjust brightness, contrast, exposure, color saturation, color temperature, vignette, sharpen, boost, shadows and highlights.



Lab give you the power to alter the colors in your photos to create a more vivid appearance or artistic effects. They allow you to create your own style. The Vignette tool is now to be found in the Magic Tools.

Swiping up/down on the photo controls the amount of adjustment applied. Tapping once on the photo resets the adjustment.



Cut lets you crop, straighten and rotate your image. When one of these sub-functions is activated, you can return to the general ProCut overview with the “Back”-button. To crop, move the corners on the crop rectangle. A double-tap resets the crop.



Via **Straighten** you can adjust the photo steplessly. A double tap on the scale will restore the original state.

If a tilted horizon is detected in an image, our Straighten tool will automatically rotate the photo for you. You are still able to manually adjust the angle or revert to the original by double-tapping the dial.

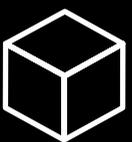
Aspect Ratio lets you select one of five presets (1:1, 3:2, 4:3, 16:9, 5:4, Φ :1). A second tap switches the aspect ratio preview from portrait to landscape mode.

Flip rotates your photo 90° (left or right) or flips the photo (horizontally and vertically).

Additional Editing sections

RAW

When editing a **RAW photo**, special tools will be available. Saving will produce a JPEG file. RAW files always remain unaltered.



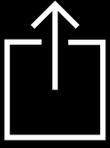
When editing a **Portrait Mode photo**, additional tools are available for all images with depth data (see „Portrait Mode“).

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Share

This section shows you how you
can share your photos through
ProCamera

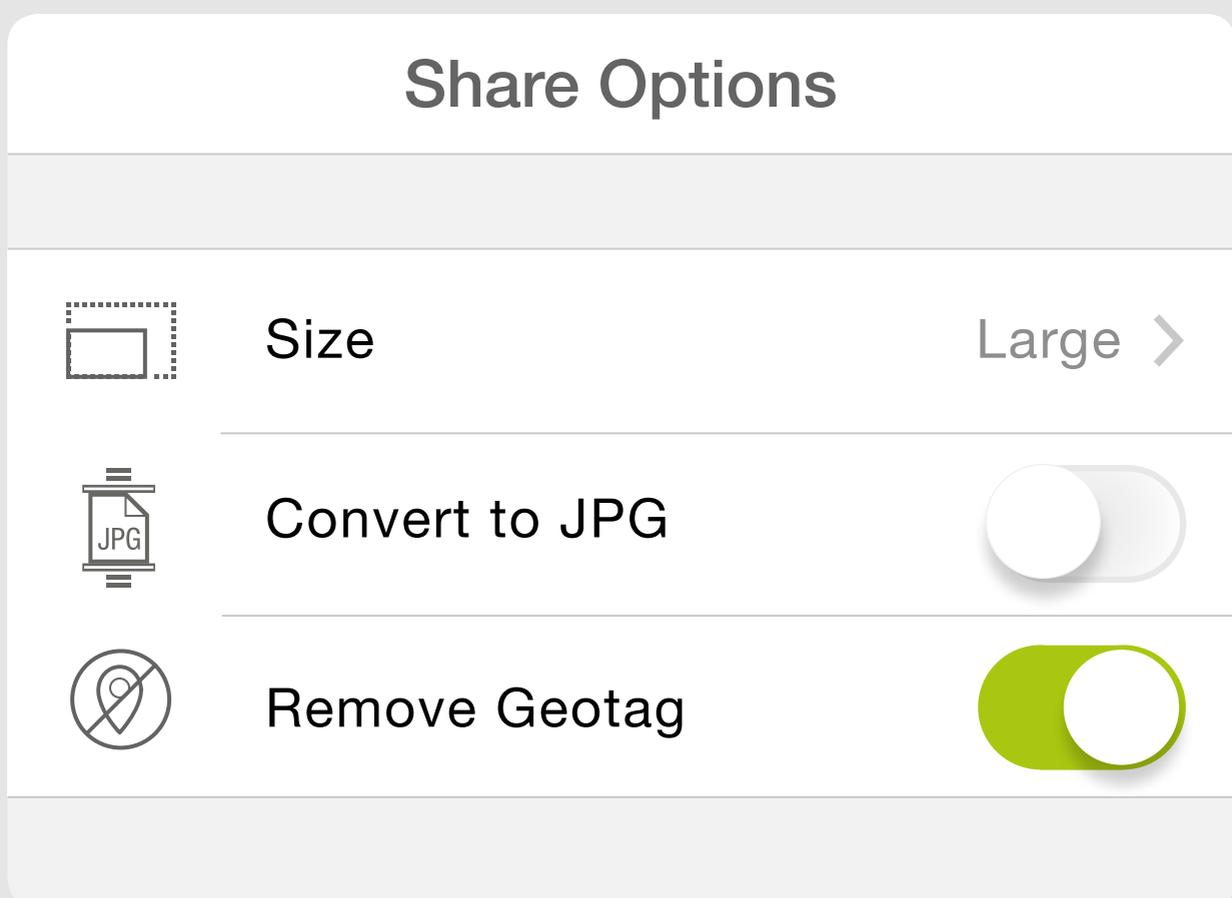
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The Share button is located in the bottom-left corner of the Lightbox/Camera Roll.

The images below show a selection of the apps and services available for exporting or sharing your captures. The apps and services that appear on your iPhone depend on which apps you have installed. ProCamera will export photos and videos in full resolution (including existing geotags), provided that the app or service you are exporting to accepts and handles those kind of files.

Using the **Export Menu**, you can share mobile-friendly versions of your files: Choose file size (Original, Large, Medium, Small), convert TIFF to JPEG, and/or remove existing geotags. You open the Export Menu via long tap on the sharing icon (bottom left) or by tapping on the export summary box above the displayed apps and services.



Your export preferences (size, remove geotag, etc.) are saved for your convenience. Each time a new photo/video is shared, the “next” button of the export settings must be pushed in order to apply your preferences. This prevents you from accidentally exporting your files with the wrong settings.

ProCamera can share to the following services:



Message



Mail

Inserts your photo directly into an email or text. You can attach up to five photos at one time into emails. Even videos saved in your Lightbox can be sent this way. Videos saved in your Camera Roll will be compressed when shared via Mail or Message.



Twitter



Facebook

Share to one or more social networks, including Facebook, Flickr and Twitter.

Via Settings > More > Social Tag you can define a default tag for sharing photos on Twitter, Facebook and Instagram. You can always change or extend this text manually when uploading your photo.



Vimeo

Share videos to Vimeo.



Instagram

Our dedicated SquarePrepare function lets you upload non-square photos into Instagram by adding bars along the edges. It also lets you snap to edges and resize within the frame.



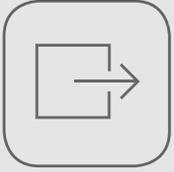
EyeEm

Share your photos to EyeEm.



Airprint

Print your photos wirelessly with compatible AirPrint printers and retail services.



Open In

Use Open in to transfer your photos to other apps for further editing or sharing. Photos will be transferred in the file format they are saved.



Creative
Cloud

ProCamera offers the option to directly send an image file from within the app to the desktop version of Adobe Photoshop or Adobe Illustrator. You can also transfer a photo directly to your Creative Cloud account, which will make it available on your desktop computer(s).



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General Options

This section explains the General Options section of the Settings

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Settings

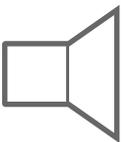
The **General Options** are listed below.



Geo-tagging: Turn on/off the ability to automatically save GPS photo data.



It's possible to use the **Volume Buttons** on your device or on your headphones to trigger the shutter release. To activate this function go to Settings (General Options) > Volume Buttons. ProCamera generally provides the capability to trigger the shutter release via Bluetooth, as long as the utilized device emulates headphones.



System Sounds: Turn on/off the ProCamera sounds.



Copyright (Exif): Enter text to embed Copyright information in photo and video metadata (Exif).



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Troubleshooting

This section addresses common user questions and issues with ProCamera. If you have any problems or find a bug please use the Feedback/Support function in the Settings.

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1. I neither see my last photo, nor the flash symbol, nor the front/rear camera switch. How do I restore the original design?

You have either activated “Medium” or “Light” mode. Tap on this icon in the control panel to leave this reduced mode.

2. Is it possible to trigger the shutter release via Bluetooth?

ProCamera generally provides the capability to trigger the shutter release via Bluetooth, as long as the utilized device emulates headphones. Under Settings > General Options “Volume Buttons” has to be activated.

If you have any other questions or would like to provide feedback then please use the Support & Feedback option in the ProCamera Settings. We now provide the option to send screenshots and photos along with your message.