

CameraPro 1.1.5

Manual
Version 1.1, 26-April 2011
Harald Meyer

Table of Contents

Introduction.....	2
Download and Updates.....	2
Contact Information.....	2
User Interface.....	3
Flash	3
Effects.....	3
Exposure Mode	4
Focus Range	4
Autofocus Type	4
White Balance.....	4
Image Controls.....	5
ISO Mode	5
Camera Mode	5
Settings.....	6
Taking Pictures.....	9
Focusing an Object.....	9
Simulating Touch Focus.....	10
Frequently Asked Questions	10
Change Log	10

Introduction

CameraPro is a touch-optimized application for Symbian 5th Edition and Symbian^3 mobile phones. It is focused toward:

- Fast accessibility of camera features, such as flash, exposure, macro, effects, etc.
- Full accessibility to camera features.

Download and Updates

CameraPro can be purchased through Ovi-Store. I also accept Paypal payments if you do not have access to Ovi-Store. Further details and download links are located here:

<http://www.tegunique.com/wb/pages/products/camerapro.php#download>

CameraPro is updated regularly. At the moment the update procedure with Ovi-Store is a bit inconvenient:

1. Uninstall CameraPro.
2. Re-download and install CameraPro with the Ovi client.
3. In case of problems (e.g. download limit reached) contact Ovi support.

Contact Information

The fastest way to contact the author is by email or with the contact form which can be found here:

<http://www.tegunique.com/wb/pages/contact.php>

If you want to keep up-to-date please also join the CameraPro newsletter:

<http://www.tegunique.com/wb/pages/newsletter.php>

Besides this manual the FAQ section offers useful information:

<http://www.tegunique.com/wb/pages/products/camerapro.php#faq>

User Interface

One of the major goals of CameraPro is to provide fast access to camera features. The most important settings can be reached with two taps.



Figure 1 CameraPro user interface

The five icons located on the left and right side of the screen provide access to all settings. The settings differ between phone models. For instance the Nokia N8 offers single- and continuous autofocus while the Nokia C7 has only a fixed focus.

When the icons are tapped then a popup window is opened which provides different options. The popup window can be closed either by:

- Tapping the “Close” button on the lower right, or
- Double-tapping the selected option.

New in Version 1.1.3: A small +/- symbol on the bottom left allows showing and hiding the menu bar. This is useful if full visibility of the camera viewfinder is needed.

New in Version 1.1.5: With a fast double tap on an empty region on the viewfinder it is now possible to zoom in and out (2x for still images and 3x for video). It is also possible to set an exact zooming range by double tapping the zooming slider.

⚡ Flash

This button opens a popup window with different flash options:

- No Flash
- Auto: The flash will automatically fire when required.
- Forced: The flash will always fire.
- Red Eye Reduction
- Videolight: Constant light is emitted during video recording.

The mode “Videolight” works only on devices with a LED flash and while in video recording mode. Devices having a Xenon flash, such as the Nokia N8, do not support this mode.

🎨 Effects

This button opens a popup window with image effects which are applied in real-time to the image:

- None: No effect is applied to the image.
- Negative: The colors of the picture are inverted.

- Black&White
- Sepia: Gives the picture an old photo touch.
- Vivid: Increases saturation of colors.
- Natural

All effects work for still images and during video recording.

🔍 Exposure Mode

This button opens a popup window with different exposure modes:

- Auto: The exposure is automatically adjusted by the camera firmware.
- Night: Long exposure for night shootings without flash.
- Backlight: For pictures where the light source is behind the object (bright background).
- Center: The (weighted) center region of the image is used to adjust exposure.
- Sport: Short exposure time for quick movements.
- Very long: Very long exposure. Please note that this mode does **not** work correctly on all phone models.

At the moment there are no means to control the exposure manually due to lack of firmware support.

🌿 Focus Range

This button opens a popup window with different focus ranges:

- Auto: Automatically selects focus range.
- Macro: For close objects where details are of interest, such as flowers, insects, etc.
- Normal: Sets the focus range to normal.
- Hyperfocal: All objects at distances from half of the hyperfocal distance out to infinity will be in focus. This gives maximum depth of field, for instance for landscape pictures.
- Infinite: Focus on distance.

Note: The focus range cannot be changed during video recording.

Note: Single autofocus focus does not work with Hyperfocal or Infinite focus.

^{AF} Autofocus Type

This button opens a popup window with different autofocus types:

- None: Autofocus is switched off.
- Single: This option works only in image mode. The success (green) and failure (red) are indicated by the color of the focusing rectangle.
- Continuous: The focus is continuously adjusted (also during video recording). This option consumes more energy than single autofocus.

^{WB} White Balance

This button opens a popup window with different white balance modes:

- Auto: The white balance is set automatically.
- Daylight: Normal daylight.
- Cloudy: Overcast daylight.

- Tungsten: Tungsten filament lightning.
- Fluorescent: Fluorescent tube lightning.

🔍 Image Controls

This button opens a popup window with controls for adjusting image properties, such as:

- ☀ Brightness
- 🌓 Contrast
- 🎨 Saturation
- 📈 Sharpness
- ➕ Exposure Compensation

There are **three** means to manipulate values:

1. Using the slider
2. Tapping the left icon sets the adjustment to “0”
3. Tapping the number on the right side opens a popup dialog where a value can be inserted manually.

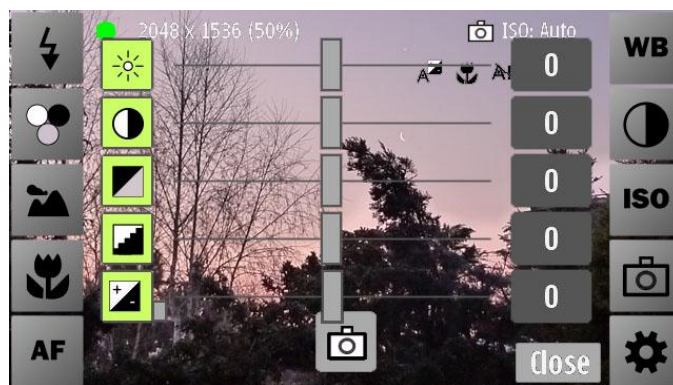


Figure 2 Controls for adjusting brightness, contrast, saturation, sharpness and exposure compensation

ISO Mode

This button opens a popup window with different ISO modes:

- Auto: Adjusts the ISO mode automatically.
- Camera dependent manual ISO modes, such as 100, 200, 400, 800.

In Auto mode the ISO rate can be higher than in manual mode due to camera firmware restrictions. For instance in auto-mode an ISO rate of 1200 is possible while in manual mode the maximum value is 800.

📷 Camera Mode

CameraPro offers seven different camera modes:

- Normal: A picture is taken each time when the shutter key is pressed.
- Video: For recording 3gp, mp4, and h264 videos.
- Self-Timer: Shooting is delayed by a user-defined amount.
- Anti-Shake: A picture is taken when the camera is held still.

- Bracketing: Either 3 or 5 consecutive images with different exposure settings are taken. These images can be used for high dynamic range (HDR) photos.
- Burst: A user-defined number of pictures are taken as fast as possible.
- Time-Lapse: Pictures are taken in a user-defined interval.

The wheel icon on the right side of each mode opens a settings dialog with settings specific to the selected camera mode. In “Normal” mode the wheel icon will open the “Global Settings” dialog for image settings, while in “Video” mode the “Global Settings” dialog for video settings will be opened.

For all other modes selection of the wheel icon leads to camera mode specific dialogs:

Self-Timer

Dialog options:

- Delay in seconds

Anti-Shake

Dialog options:

- Sensitivity of movement detection. For “High Sensitivity” the camera must not move at all, while the other modes accept small movements.

Bracketing

Dialog options:

- Three, respectively five different exposure compensation rates for each picture can be selected. On the right side a shooting delay (delay when the bracketing series will be started) and between three or five picture mode can be selected. Due to camera firmware restrictions it is not possible to set guaranteed exposure steps. The camera automatically adjusts the values according to the current light conditions.

Burst

Dialog options:

- Delay when the burst shooting will be started
- Number of pictures to take

Time-Lapse

Dialog options:

- Interval in which pictures are taken

A more advanced program for taking time-lapse videos on Symbian phones is FastMotion:

<http://s.meh.at/fastmotion>

*** Settings**

The settings dialog provides access to

- Presets,
- Global Settings,
- Feedback, Info, and Updates.

Besides, four different graphical overlay hints for taking pictures can be enabled in the settings dialog:

- # Sparse Grid: A 2x2 sparse grid.
- # Dense Grid: A 6x6 dense grid.
- ⚓ Compass: A compass is not supported on all phones. If the phone does not support compass mode, then an error message is displayed.
- ⊗ Virtual Horizon: Overlays a virtual horizon/level meter over the camera viewfinder to align pictures with the horizon. This can be useful if the exact level is uncertain (for instance to show the steepness of a hillside during skiing or hiking).

Presets

Presets can be created, loaded, and deleted. A preset holds values for all camera settings, such as exposure, flash mode, focus range, image brightness, etc.

Creating a preset

A preset can be created with the following steps:

- Set exposure, flash, etc. settings
- Open the “Settings” popup dialog and select “Presets”
- Click on “Save” and enter a preset name

Load a preset

A preset can be loaded with the following steps:

- Open the “Settings” popup dialog and select “Presets”
- Click on “Load” and select the preset you want to load

Delete a preset

A preset can be deleted with the following steps:

- Open the “Settings” popup dialog and select “Presets”
- Click on “Delete” and select the preset you want to delete

Global Settings

This Section describes how to change global settings which are used by all camera modes, such as picture quality, resolution, geo tagging, etc. There are two different global setting modes, one for still images (“Image Settings”) and one for videos (“Video Settings”).

Image Settings

The global image settings store settings which are valid for all still camera modes.

- **Storage location:** Here a storage location can be selected. If a drive, such as c: or e: is selected then images are stored in the default image folders, which are usually “c:\data\Images” or “e:\Images”. “Custom location” can be used to store images in a different directory.
- **File prefix:** The file prefix defines the filename pattern. Either the shooting date or a custom pattern can be selected. The date-based format is: “YYYYMMDDHHMMSS.jpg” where YYYY is the current year, MM month, DD day, HH hour, MM minutes, and SS seconds.
- **Image size:** List of all possible picture resolutions.

- **Image quality:** The jpeg picture quality between 1 to 100 percent. The recommended setting is 90.
- **Show captured image:** If on, then the captured image is shown after capturing. This applies only to “Normal” camera mode. The captured image view provides options to discard and save images. If the camera shutter key is (accidentally) pressed when the preview is visible, then the picture is saved and another picture is taken.
- **Face detection:** If enabled, then single and continuous focus will focus on faces. This option is only available on Symbian^3 devices. **Please note, that this feature is still experimental.** (since version 1.1.5)
- **Geotag (GPS):** This option allows to geo-tag pictures with the current GPS position.
- **Play sounds:** If enabled, then sounds are played. At the moment the only available sound is a ticker sound for the last 5 seconds in Self-Timer camera mode.
- **One tap selection:** If enabled, then a single tap on a setting selects the setting and closes the popup dialog.
- **Autofocus light:** If the phone has an autofocus light, then the behavior can be set here. Possible options are “On”, “Off”, and “Auto”.
- **Show on-screen info:** If on, then information such as current image resolution, or currently selected settings are displayed on top of the viewfinder.

Note: In versions earlier than 1.1.3 some settings (file prefix, play sounds, one tap selection, and show on-screen info) which are only visible under “Image Settings” also apply for video settings. This issue has been removed with CameraPro 1.1.3.

Video Settings

The global video settings store settings which are valid for video recording mode.

- **Video type:** A list of default video resolutions and container formats. Depending on the device, 3gp, mp4, and h264 encoders are supported.
- **Storage location:** Here a storage location can be selected. If a drive, such as c: or e: is selected then videos are stored in the default video folders, which are usually “c:\data\Videos” or “e:\Videos”. “Custom location” can be used to store videos in a different directory.
- **File prefix:** The file prefix defines the filename pattern. Either the shooting date or a custom pattern can be selected. The date-based format is: “YYYYMMDDHHMMSS.jpg” where YYYY is the current year, MM month, DD day, HH hour, MM minutes, and SS seconds.
- **Audio recording:** Option to turn on/off audio recording.
- **Video stabilization:** Option to turn on/off video stabilization. This mode is not supported on all phone models. If a device does not support video stabilization then this setting is ignored.
- **Expert mode:** If enabled, then expert settings are used instead of the default “Video type” settings. To change expert settings select “Options” – “Expert mode settings”.
- **“Shutter key autofocus”:** If enabled then the camera shutter key enables/disables continuous autofocus in video recording mode.
- **Play sounds:** If enabled, then sounds are played. At the moment the only available sound is a ticker sound for the last 5 seconds in Self-Timer (still) camera mode.
- **One tap selection:** If enabled, then a single tap on a setting selects the setting and closes the popup dialog.

- **Show on-screen info:** If on, then information such as current video resolution, or currently selected settings are displayed on top of the viewfinder.

Note: In versions earlier than 1.1.3 some settings (file prefix, play sounds, one tap selection, and show on-screen info) which are only visible under “Image Settings” also apply for video settings. This issue has been removed with CameraPro 1.1.3.

Expert Video Settings

The expert video settings can be reached from the “Video Settings” – “Options” – “Expert mode settings”. Expert settings are only enabled if “Expert mode” is turned on. The expert mode is intended for experimentation and only some setting combinations will work. If a combination is not allowed then an error message is displayed when trying to record a video.

The following options are available:

- Preset: Allows storing expert settings as presets.
- Video type: Selection of video encoder and container format.
- Frame size / custom width, custom height: Sets the video’s dimensions. If custom width and custom height are greater than 0 then the custom width/height are used. Else the predefined frame size is used.
- Frame rate: The video frame rate between 1 to 30 pictures per second.
- Video bit rate: The video bit rate in bits per second.
- Audio type: The audio encoder. Either AAC or AMR.
- Audio bit rate: The audio bit rate in bits per second.

A sample expert setting could be as follows:

- Video type: video/H264; profile=42801F
- Frame size: 1280 x 720
- Custom width/height: 0
- Frame rate: 30
- Video bit rate: 3000000
- Audio type: AAC
- Audio bit rate: 128000

Taking Pictures

Depending on the phone model there are three means for taking pictures:

- By pressing the hardware camera shutter key.
- By tapping the touch screen camera button.
- By pressing the hardware “Ok”/“Enter” key.

Additionally, in video mode a touch button is available to pause and resume video recording.

Focusing an Object

If your phone model supports autofocus an object can be focused either

- By slightly pressing down the hardware camera shutter key, or
- By tapping on “Single focus” in the autofocus popup menu.

The success or failure of the focus operation is visualized by a red/green rectangle.

Simulating Touch Focus

Due to technical restrictions it is currently not possible to touch-and-focus with Nokia Symbian smartphones. But there is an easy way to simulate touch focus:

- Move the phone so that the object (distance) you want to focus is close to the center of the viewfinder
- Apply a single focus
- Reposition the phone without changing the distance to the object
- Take the picture without re-focusing

Frequently Asked Questions

Can I manually set exposure, focus range, and aperture?

At the moment it is only possible to use the presets because manual selection is not possible due to camera firmware restrictions.

Taking pictures with CameraPro seems to be slower than with the built-in camera application!

CameraPro processes images in background, so you can capture multiple images directly after taking a picture. But CameraPro provides 100% quality (=raw jpeg) which results in up to 5 times larger image sizes (like 10 MB instead of 2 MB). Thus sometimes CameraPro can be a little bit slower than the built in camera when taking pictures with 100% quality.

How can I take pictures in 16:9 formats?

When you are in photo mode, go to "Settings" and change the image size to dimension with a 16:9 ration, e.g. "4000x2248".

The display hangs and/or the video frame rate varies for 1280x720 video at 30 fps!

The Nokia N8's official maximum recording setting is 1280x720 at 25 fps. With the current firmware 30fps overload the N8's CPU which causes stuttering.

The exposure in bracketing mode is not constant.

The camera firmware allows only little manual intervention of parameters. Adjusting the exposure compensation value gives the camera only a hint which is sometimes ignored.

Change Log

Version 1.1.5

- Added face detection support
- Zoom in/out with double-tap on empty viewfinder area (2x for still images, 3x for video)
- Open selection dialog when double-tap on zoom slider

Version 1.1.4

- Popup dialogs can now be closed with a second tap on the same menu button
- Fixed virtual horizon

Version 1.1.3

- Changed date-based file format to YYYYMMDDHHMMSS
- Fixed custom filename for videos function
- Added options "file prefix", "audio", "one-tap-selection", and "show onscreen information" to video options dialog
- Fixed jpeg quality onscreen information
- Pictures are now automatically saved when the camera shutter key is pressed while the photo preview is visible
- Added option to show/hide menu bars

Version 1.1.1

- Automatic screenlock is now disabled while CameraPro is running
- Option to set shooting delay in burst- and bracketing mode
- Option to check for program updates
- Removed tactile feedback for zooming slider in video mode
- Correct video resolution is now displayed in video expert mode
- Pause function for video recording
- Fixed GPS status information

Version 1.1.0

- Added option to take 5 pictures in bracketing mode

Version 1.0.9

- Fixed compass
- Option to disable on-screen information
- Camera orientation is now stored in EXIF header. Note: the N8 photo viewer does not rotate the picture
- Show remaining number of pictures in bracketing/burst mode

Version 1.0.8

- Added icons and on-screen information for whitebalance, autofocus, focus mode, flash, camera mode, and ISO mode
- Added on-screen information: image dimensions, video dimensions and framerate
- Improved continuous AF in video mode

Version 1.0.7

- AF light on/off/auto
- Option to use camera shutter button for continuous autofocus
- Fixed autofocus mode
- Changed default jpeg quality from 100% to 50%
- Set h264 default video bit rate from 3000000 to 300000000

Version 1.0.6

- Added default presets
- Added time indication for time-lapse
- Added indicator for anti-shake
- Fixed zooming

Version 1.0.5

- Auto focusing with camera-key fixed
- Auto focus success/failure is now visualized by a rectangle
- Fixed focus modes (macro, etc.)

Version 1.0.4

- Improved bracketing mode
- Option to store images and video in custom locations
- Whitebalance fixed
- Auto ISO mode fixed

Version 1.0.3

- Fixed image controls
- Fixed recording time text for video mode
- Better audio quality for h264 video recordings
- Added touch camera button