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1 NKRemote

Overview

NKRemote allows recent Nikon digital SLR cameras to be operated tethered to a PC using a USB cable. All of the camera's controls remain fully operational when connected to the PC and pictures can be taken directly using the camera's shutter release or remotely from the PC.

It is advisable to use a mains DC adaptor when using NKRemote for extended periods or when using the time lapse features. If the camera is located a long way from the PC or is not easily accessible it is essential that there is a way of turning the power to the camera on and off. Then if there is a communication failure between the camera and PC it is possible to turn everything off and to start again.

Photo Booth Mode



Please see the section on [photo booth shooting](#) for help on setting up a photo booth.

Supported Cameras and Operating Systems

NKRemote runs on Windows 10, Windows 8.1, Windows 8, Windows 7 and Windows Vista and supports the following Nikon DSLR camera models: Nikon D4S, Nikon D4, Nikon D3X, Nikon D3s, Nikon D3, Nikon D810, Nikon D810A, Nikon D800, Nikon D800E, Nikon D750, Nikon D700, Nikon D610, Nikon D600, Nikon D300s, Nikon D300, Nikon D90, Nikon D7200, Nikon D7100, Nikon D7000, Nikon D5500, Nikon D5300, Nikon D5200, Nikon D5100 and Nikon D5000

Windows XP: Microsoft ended support for Windows XP on April 8, 2014 and therefore we are no longer able to test or support our software on Windows XP. NKRemote should still work on Windows XP however we strongly recommend that you upgrade to a more recent version of Windows.

Please visit our [website](#) to find out about our other camera control products: DSLR Remote Pro for Canon EOS digital SLRs, PSRemote for Canon PowerShot cameras

Nikon D300, Nikon D300s, Nikon D3s and Nikon D3: Please check that the camera USB mode is set to "MTP/PTP" not "Mass Storage" before connecting to it using NKRemote (this can be set via the camera's setup menu).

Nikon D200 and Nikon D80: Please use NKRemote v3.3.2 or earlier to control a Nikon D200 or Nikon

D80. These cameras are not supported in NKRemote v3.4 or later.

Please note: The following cameras **DO NOT** support remote capture: Nikon D3000, Nikon D3100, Nikon D3200, Nikon D3300, Nikon One series cameras

2 Installing and Registering NKRemote

When you install NKRemote you need to activate your license on each PC it is running on. Activating the software is a quick and simple procedure if the PC has access to the internet, however, we recommend activating the PC at least 48 hours before an event. You can still activate a computer which does not have access to the internet, but this involves sending an email to sales@breezesys.com and will take longer than activating the software online. The software can be activated on up to two computers at any given time.

You must deactivate the software before **making any hardware changes, upgrading or repairing the PC**, reinstalling Windows or reformatting a hard disk. The software can then be reactivated after the work has been done.

Topics covered in this section:

- [Installing the software](#)
- [Uninstalling the software](#)
- [Evaluating the software](#)
- [Registering](#)
- [Activating](#)
- [Deactivating](#)
- [Moving the software to a different PC](#)
- [Making changes to your PC](#)
- [Decommissioning a PC](#)
- [Checking for updates](#)
- [Activation problems](#)

Installing the software

The latest version of NKRemote can be downloaded from www.breezesys.com.

To install NKRemote simply download and run the setup program then follow the on-screen instructions.

Uninstalling the software

NKRemote can be uninstalled using the standard Windows "Uninstall a program" option in the Programs section of the Windows Control Panel.

IMPORTANT: Please deactivate NKRemote before uninstalling otherwise you may not be able to activate the software on another computer. If you forget to deactivate the software you should be able to reinstall the software, deactivate it and then uninstall.

Evaluation Version

The trial evaluation version of the software is identical to the registered version and is fully functional for 15 days. Each time you run the software it will display the registration dialog allowing you to enter a registration code or press the "Evaluate" button to continue evaluating the software:

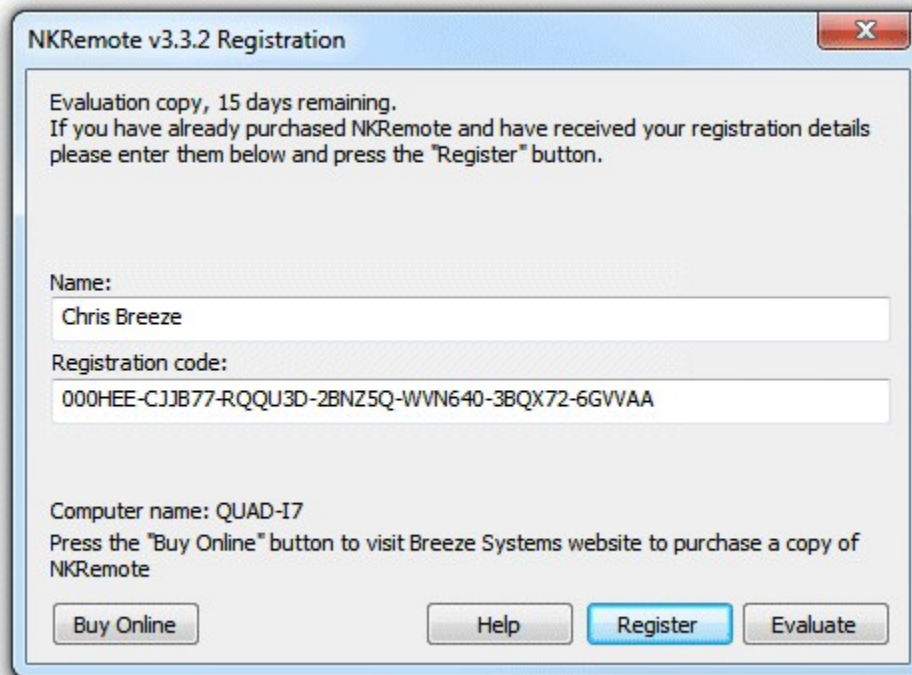


At the end of the 15 day trial period you must purchase a license to continue using the software.

Registering the software

To purchase a license for NKRemote please visit our website: http://www.breezesys.com/purchase_nkremote.htm. You will be sent an email containing your registration details when your payment has been received.

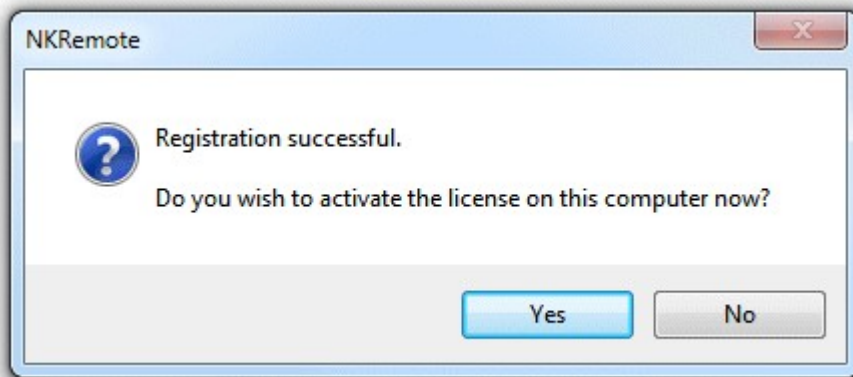
To register NKRemote run the application enter your registration name and code exactly as they appear in your registration email. You may find it easier to copy and paste both the registration name and code directly from your registration email to avoid mistakes when entering it. Please keep a copy of your registration email safe in case you need to re-enter your registration details.



Click on the "Register" button after entering your name and registration details. If the details are correct the message below will be displayed. An error message will be displayed if the name and registration code are not valid (e.g. they were not entered correctly) or if you need to purchase an upgrade to use this version of the software.



Click on the "Yes" button to register the software and the following message will be displayed asking you whether you want to activate the software on this computer:

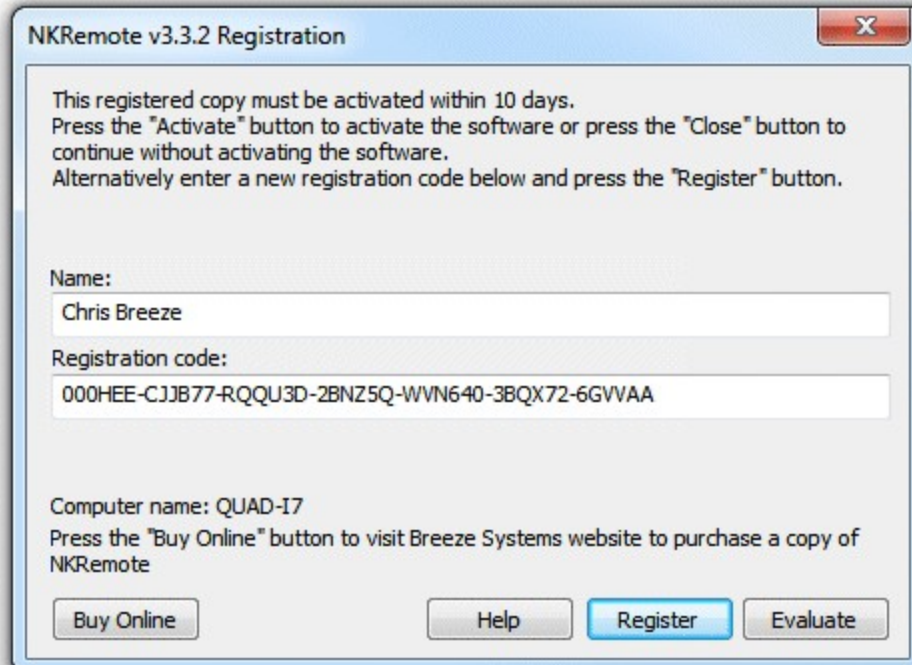


Click on the "Yes" button to activate the software on this computer (see the section below for details).

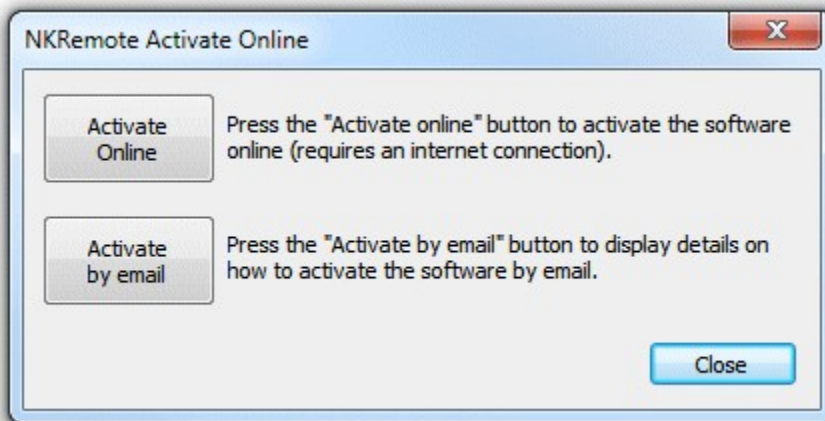
Activating the software

The software must be activated on the computer before it can be used. The software can be run without activating for up to 10 days after the the date when the registration code was issued. After that time the software will not run unless it is activated. The software can only be activated on up to two computers at any given time. If you wish to move the software to a different computer you must deactivate it from the old computer before activating it on the new computer. Once the software has been activated on a computer you can run it normally.

To activate the software click on the "Activate..." button in the registration dialog

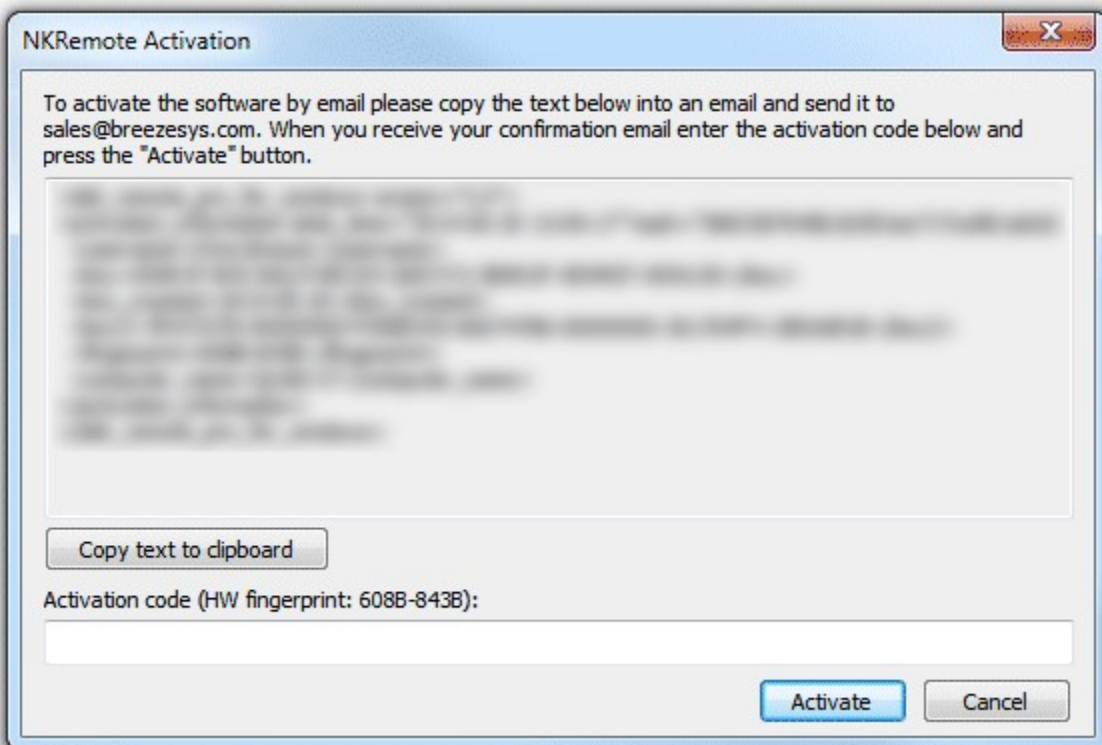


and the activation dialog below will be displayed:



The quickest and simplest way to activate the software is to do it online by pressing the "Activate Online" button. Please note that the computer must have an internet connection and the program must be allowed to access the internet in order to activate the software online. Please note that it may take up to 30 seconds to activate the software online.

If the computer is not connected to the internet you can activate the software by email by clicking on "Activate by email" button and the dialog below will be displayed:



It is important that you copy all of the text and email it to sales@breezesys.com. Please do not modify the text otherwise we may not be able to validate it. The simplest way to copy the text is to press the "Copy text to clipboard" button and then paste it into the email by typing Ctrl+V. If the computer doesn't have email you can copy the activation text to a USB memory stick and then read it on a computer which does have email.

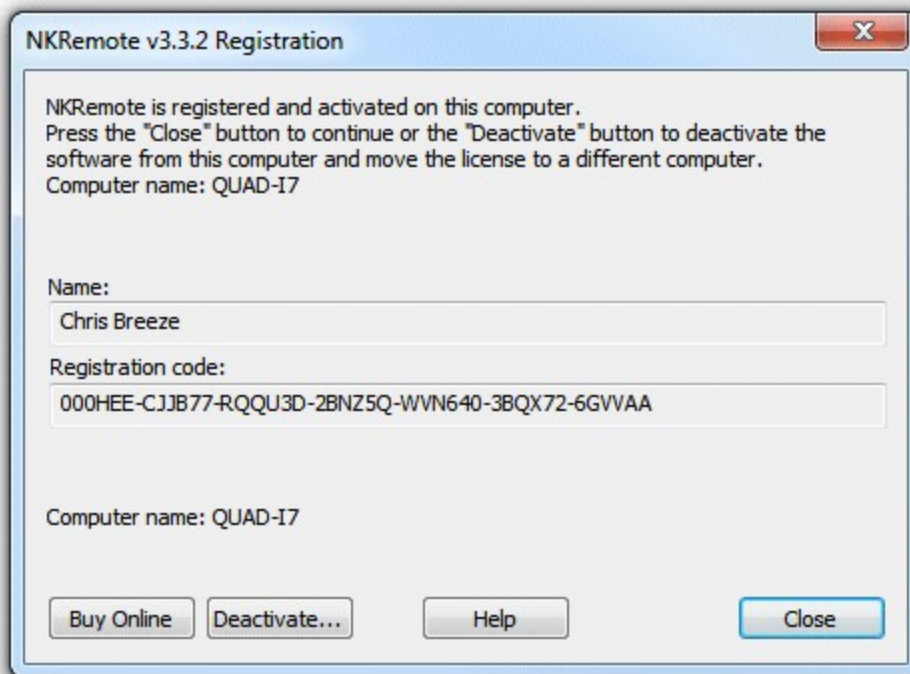
You should normally receive an email containing your activation code within 12 hours of sending the activation request email. Paste your activation code into the "Activation code" text area at the bottom of the activation dialog and click on the "Activate" button to activate the software. If you have closed the activation dialog you can display it again by running the software and then clicking on the "Activate..." button in the registration dialog followed by the "Activate by email" button.

Deactivating the software

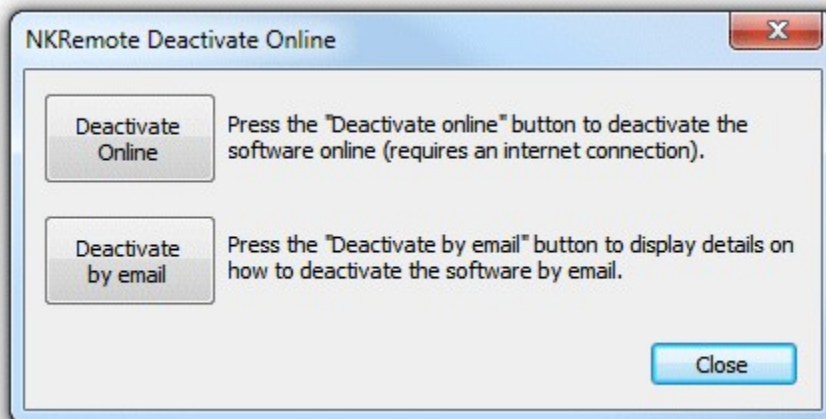
The software can only be activated on up to two computers at any given time. If you wish to move the software to a different computer you must deactivate it from the old computer before activating it on the new computer.

You also need to deactivate the software before **making any hardware changes, upgrading or repairing the PC**, reinstalling Windows or reformatting a hard disk. The software can then be reactivated after the work has been done.

To deactivate the software select "Register..." from the Help menu in the main window to display the registration dialog:

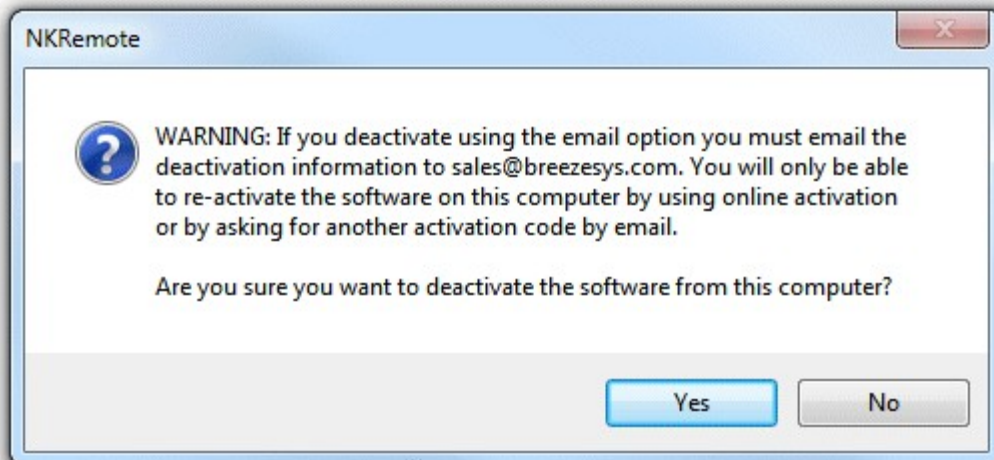


Then click on the "Deactivate..." button to display the deactivation dialog:

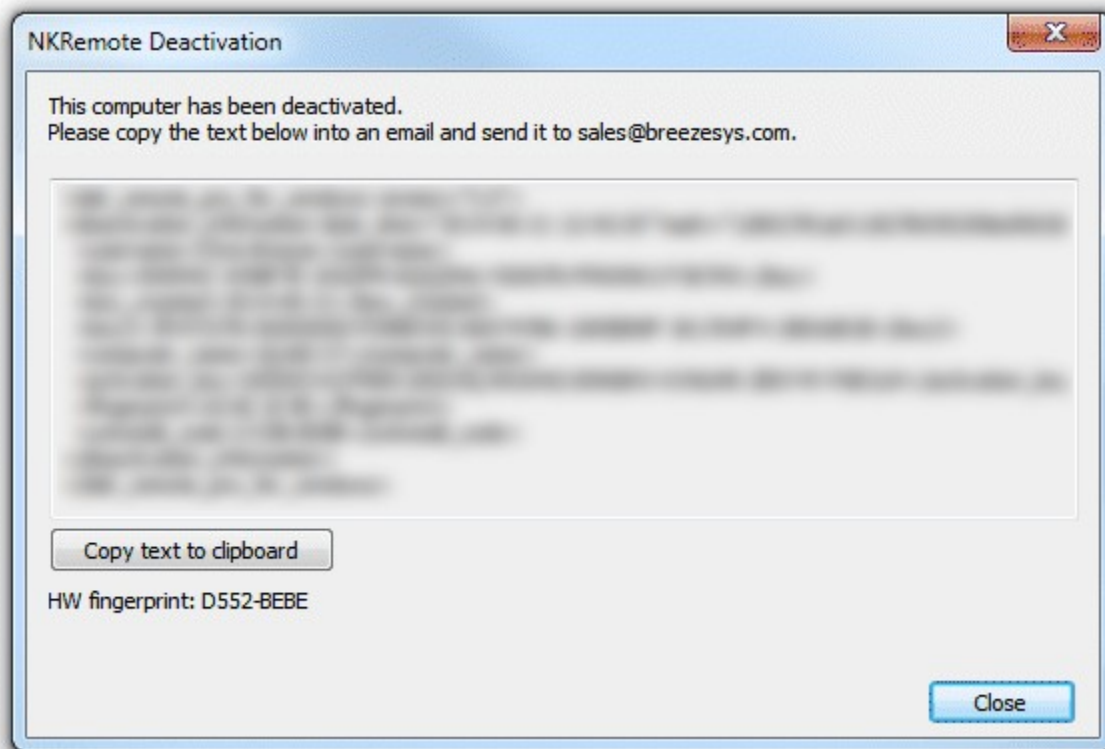


The quickest and simplest way to deactivate the software is to do it online by pressing the "Deactivate Online" button. Please note that the computer must have an internet connection and the program must be allowed to access the internet in order to deactivate the software online. Please note that it may take up to 30 seconds to deactivate the software online.

If the computer is not connected to the internet you can deactivate the software by email by clicking on "Deactivate by email" button and the warning dialog below will be displayed:



Click on the "Yes" button if you want to continue and the deactivation dialog below will be displayed:



It is important that you copy all of the text and email it to sales@breezesys.com. Please do not modify the text otherwise we may not be able to validate it. The simplest way to copy the text is to press the "Copy text to clipboard" button and then paste it into the email by typing Ctrl+V. If the computer doesn't have email you can copy the text to a USB memory stick and then read it on a computer which does have email.

You should normally receive an email acknowledging the deactivation code within 12 hours of sending the request email. If you forget to copy the deactivation information and email it to sales@breezesys.com you can display it again by selecting "Register..." from the Help menu in the main window and clicking on the "Display" button. Please note that the copy of the deactivation information will be not be available after another registration code has been entered.

Moving the software to a different PC

The software can be activated on up to two computers at any given time and so if you are moving the software to a different PC you should [deactivate the software](#) from the old PC first. Then install the software on the new PC, then [register](#) and [activate the software](#). If you are planning to move the software to a different PC permanently please following the instructions for [decommissioning a PC](#).

Making changes to your PC

You need to [deactivate the software](#) before making changes to your PC such as upgrading the PC hardware, reformatting a hard disk, reinstalling Windows, upgrading Windows or getting a PC repaired.

Simply deactivate the software online (or by email if the PC doesn't have access to the internet), make

the changes and then [re-activate the software](#). If Windows has been reinstalled or the hard disk has been replaced or reformatted you may need to re-install NKRemote, re-enter your name and registration code and then activate the software.

The latest release and previous releases of the software can be downloaded from the [upgrades page on the Breeze Systems website](#).

IMPORTANT: Please make sure you have a copy of your name and registration code before making changes to your PC just in case you need to re-enter them later

Decommissioning a PC

If you are decommissioning a PC and planning to sell it or give it to somebody else you need to [deactivate the software](#) and remove your registration details. It is very important that you remove your registration details even if you have uninstalled the software otherwise the new owner may be able to reinstall the software and gain access to your registration details. If someone obtains your registration details they will be able to register and activate the software on their computer and could prevent you from using it on your computer.

After deactivating the software you can remove your registration details by entering the special registration code below:

Name: Uninstall

Code: 000JJ3-F5D6KF-D2UQ6G-JAMBHU-XD7GRV-X47WUD-PXXPZ2

This will install a special old code which replaces your registration details and will cause the software to display an "Upgrade required" message when it is run.

If you decide to use the computer again you can reinstall the software, enter your registration details and activate software.

Checking for updates

You can check for updates by selecting "Check for updates online". This will connect to the internet and display details of the latest version NKRemote in your web browser. Alternatively go to the NKRemote page on our website: <http://www.breezesys.com/NKRemote>

Activation problems

If the error message "The server name or address could not be resolved" is displayed when you try to activate or deactivate the software online it means that the PC is unable to access the internet. Please check that the computer is connected to the internet and check your firewall settings to make sure that NKRemote.exe (the NKRemote program) is allowed to access the internet. If you are still unable to activate the software online you may need to [activate it by email](#) instead.

If a different error message is displayed please follow the instructions displayed in the error message. If you are not sure what to do please email sales@breezesys.com and include your registration name and code and details of the error message.

Please also see the support page on the Breeze Systems website for [help with activation problems](#).

3 Main Window

The Main Window

The main window shows the main camera controls together with a large preview display and a histogram for assessing exposure. The main camera settings can be changed using the controls down the left hand side of the main window. Other settings are available from the menus.



Screen shot of NKRemote main window showing optional focus point overlay display

3.1 Release and Preview Buttons

Release Button

Click on the Release button to take a picture. The picture is automatically downloaded to the PC, displayed in the main window and saved to disk.

Note: No picture is taken and an error message is displayed if the camera is set to auto-focus and is unable to focus.

Preview Button

Click on the Preview button to take a picture in preview mode. The picture is downloaded to the PC and displayed in the main window but is not stored on the PC's disk.

3.2 Reviewing and deleting images

Reviewing Previous Images

You may review previous shots by pressing the "<- Prev Image" and "Next Image ->" buttons or by

using the left and right cursor keys. The main and preview images displays are updated to display the selected image together with the histogram display. You can delete previously taken shots in the normal way. To help identify which shot is being displayed the status bar shows the filename of the image and its number in the sequence e.g. [3 of 5].

When a picture is taken the display is updated to show the new shot.

Deleting Images

Press the Delete key to delete the current picture from the computer's hard disk.

3.3 Changing camera settings

The camera settings can be changed using the controls in the main window or directly using the camera's controls. When the settings are changed on the camera they are updated and displayed in the main window. Not all controls can be changed in all camera modes (e.g. the shutter speed can only be set in Manual and Tv exposure modes) and so some controls are "grayed out" when they are not applicable.

Some settings (e.g. exposure mode) can only be adjusted from the PC when the "Lock camera controls" option in the main window is selected.

Notes

1. The lens can only be zoomed by physically turning the zoom ring on the lens
2. You can only switch between manual and autofocus using the switch on the lens or camera body

3.4 Full screen mode

Press F11 or select "Full Screen" from the view menu to display images in full screen mode. Press the Escape key or F11 to exit full screen mode.

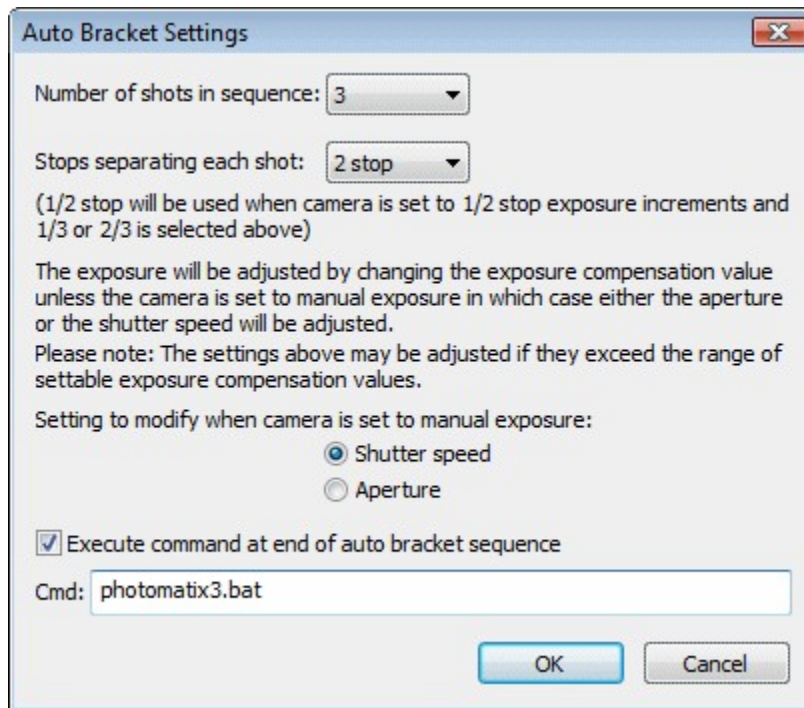
In full screen mode the images fill the screen. The following keyboard shortcuts are available when in full screen mode:

F7	View image
F8	Release the shutter and save the image
F9	Take preview shot
F11/Esc	Exit full screen mode
Delete	Delete current image
Cursor left	Display previous image
Cursor right	Display next image
Ctrl+C	Toggle caption display on and off
Ctrl+F	Toggle focus point overlay display on and off
Ctrl+G	Toggle grid overlay display on and off
Ctrl+W	Toggle black and white display mode on and off

3.5 Auto Bracketing

NKRemote has flexible settings for auto bracketing (taking a sequence of shots using different

exposure settings) which simplify the taking of shots which are later combined together to form a single HDR (high dynamic range) image. To enable auto bracketing select the "Auto-bracket" checkbox and then click on the "Settings..." button to display the auto bracket settings dialog below:



You can set the number of shots in the sequence using the first dropdown list. Then set the number of exposure stops should separate each shot. This can be 1/3, 2/3, 1, 1 1/3, 1 2/3 or 2 stop per shot depending on your camera's settings (if your camera is set to use 1/2 stop increments instead of 1/3 stop increments selecting a value of 1/3 or 2/3 stop increments will result in 1/2 stop increments being used).

The different exposures are set using the camera's exposure compensation control if the one of the auto exposure modes is selected.

Please note: The range of the sequence is limited by the exposure compensation range of the camera.

If manual exposure mode is selected the exposure will be varied using either the shutter speed or the aperture according to the settings in this dialog. Normally it is better to keep the aperture constant (and hence the depth of field) and vary the shutter speed.

NKRemote can optionally run a command at the end of the auto bracket sequence to combine the shots. To do this click on the "Execute command at end of auto bracket sequence" checkbox and enter the name of the program or script to run. In the screenshot above the script "photomatix3.bat" has been entered. This will run the Windows batch file "photomatix3.bat" which combines the images using Photomatix Pro (which can be purchased from <http://www.hdrsoft.com>) and displays the result in BreezeBrowser Pro (<http://www.breezesys.com/BreezeBrowser>). The batch file can be found in the NkRemote installation folder (usually C:\Program Files\BreezeSys\NkRemote) and makes use of the command line interface for Photomatix Pro. Please use photomatix3.bat with Photomatix Pro 3.1 and photomatix2.bat with Photomatix Pro 2.

Suggested procedure for auto bracketing:

1. Use a tripod and compose the shot as required
2. Switch to manual exposure mode and low ISO setting to maximize the quality

3. Set the required aperture (e.g. use a small aperture like f/16 for good depth of field)
4. Take a preview shot to determine the correct exposure (this can be judged by looking at the histogram display). It may be necessary to take a number of test shots to get the correct exposure. Adjust the exposure by changing the shutter speed
5. Set the lens to manual focus and focus carefully
6. Set the required number of shots and number of stops separating each shot (a 5 shot sequence with 1 stop increments is a good start, more shots may be required if the brightness range in the shot is very large)
7. Press the "Release" button and NKRemote will automatically take the sequence

Auto exposure bracketing is particularly useful for product shots and for taking pictures of the interiors of buildings. The photos below compare the results from a single exposure of the interior of a church with an image which was blended from seven separate exposures taken using the auto bracketing feature:



Photo of the interior of St Andrews Church, Sherborne St John, Hampshire, England. (The image on the right was created by blending the auto bracketed images using a separate image editor which is not part of NKRemote)

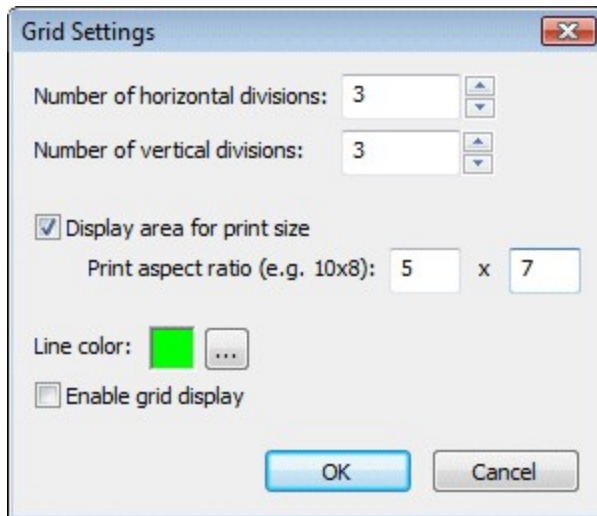
The seven shot auto bracket sequence used to create the blended exposure above:



3.6 Grid and focus point overlays

Grid Display

To toggle the grid overlay on the preview image type Ctrl+G or select "Display Grid" from the "View" menu. Select "Grid Settings..." from the "View" menu to display the "Grid Settings" dialog, shown below:



Select the show print area checkbox to show the extent of a particular print size. For example most digital SLRs shoot images with an aspect ratio of 3:1 which fits perfectly on a 6"x4" print but needs to be cropped if it is printed on 10"x8" paper. You can display extent of a 10"x8" print by setting the print aspect ratio to 10 x 8.

Note: The grid display is only displayed on the preview image and doesn't affect images saved to disk.

Focus Point Overlay Display

To toggle the focus point overlay display type Ctrl+F or select "Show Focus Points" from the View menu. When the focus point overlay display is enabled the seven focus point areas are displayed over the preview image. Active focus points are displayed in red.

Focus points can be selected from the PC or using the camera controls.

Note: The focus point overlay display is only displayed on the preview image and doesn't affect images saved to disk.

3.7 Flashing highlight display

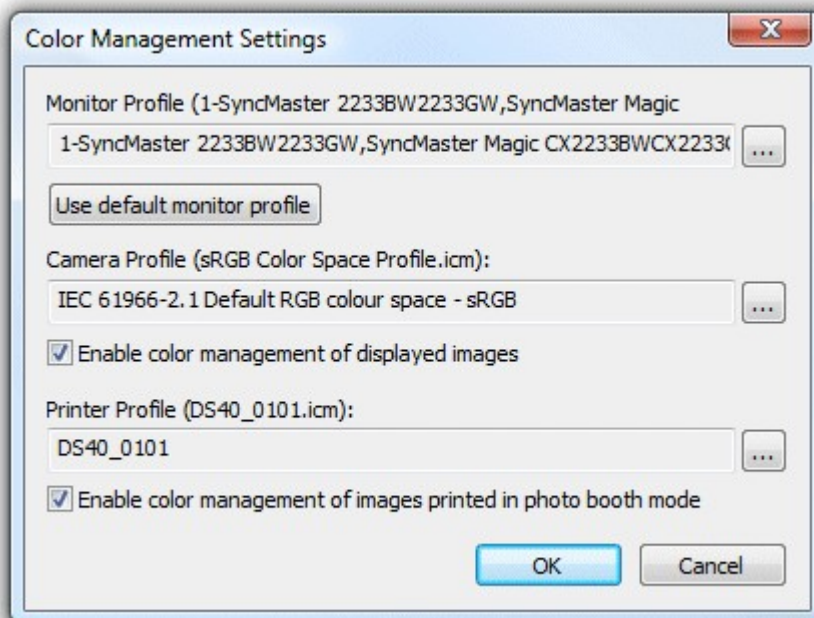
Select "Flashing Highlights" from the "View" menu to display over-exposed areas by highlighting them flashing on and off in black. The method of calculating the highlight values and the threshold at which to start flashing them can be specified by selecting "Highlight Settings..." from the "View" menu. When the highlight method is set to "Luminosity" the luminosity or brightness of the image is used to calculate the highlight values. When it is set to "RGB value" the largest of the red, green and blue channel values is used.

Note: The flashing highlight display is only available for images displayed in the main window. It is not available in full screen mode or the image preview window.

3.8 Color Management

NKRemote supports the color management of images displayed in the main window and when printing photo booth images. Color management helps produce more accurate and consistent colors when displaying and printing images. NKRemote uses the perceptual rendering intent for both the display and printing of images. A detailed explanation of color management is beyond the scope of this help file.

Select "Color management settings..." from the File menu in the main window to display the color management settings dialog:



Color Management of displayed images

Select a suitable color profile for your monitor by clicking on the "..." browse button or clicking on the "Use default monitor profile" button. Next select a suitable color profile for your camera. Normally this will be the sRGB Color Space profile unless your camera is set to AdobeRGB in which case it should be the AdobeRGB 1998 profile. Then select "Enable color management of displayed images" to enable color management.

Please note: For performance reasons color management is only applied to images displayed in the main and full screen windows. It is not applied to live images or images displayed in photo booth mode.

Color Management of printed images

First select a suitable color profile for your camera as described above. Next select a suitable color profile for your printer by clicking on the "..." browse button. Most printer manufacturers provide generic color profiles for their printers, often with different profiles for different papers. Then select "Enable color management of printed images" checkbox to color manage the printing of photos for more accurate colors.

IMPORTANT: Please disable color management in the printer driver when selecting color management in NKRemote otherwise the colors may be adjusted twice.

4 Live View Display

Select "Live View" or type Ctrl+L to select the live view display and display the windows below. If the camera is not already in live view mode the mirror will flip up and the camera will enter live view finder mode. The controls in the main NKRemote window can still be accessed when the live view window is displayed. If the live view window is covered by other windows it can be displayed by typing Ctrl+L when the main NKRemote window is displayed. Closing the live view window will cause the camera to exit live view mode. The window can be resized to display a larger live view image.



Live view images can either be displayed full frame as in the screenshot above or zoomed as shown below. The green rectangle shows the area of the zoomed image. The position of the zoomed area relative to the rest of the frame is also shown in the navigation window in the bottom left hand corner. The zoomed area can be moved by clicking on the white rectangle and dragging it using the mouse or by dragging the rectangle in the navigation window. Double click the left mouse button over the image or the navigation window to move the zoomed area and switch to the zoomed view.

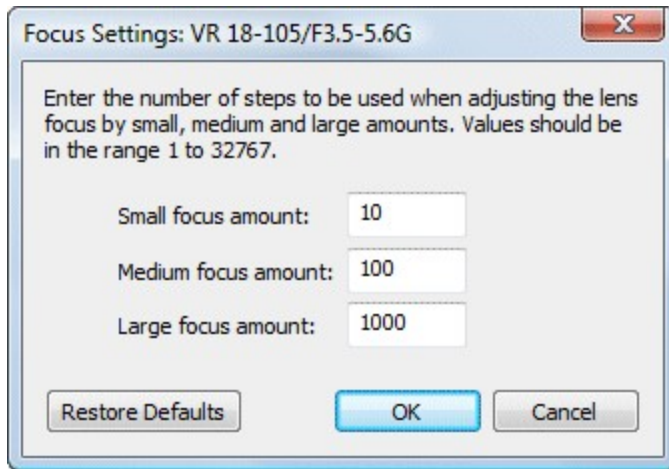
Click on the "Release" or "Preview" buttons to take a image or a preview shot. The shot will be displayed in the main NKRemote window.

The lens can be focused using the arrow buttons or by using the mouse wheel. The "<<<" button shifts

the focus nearer by a large increment, "<<" focuses nearer by a medium increment and "<" can be used for fine adjustment. Similarly the ">", ">>" and ">>>" focus farther away by small, medium or large increments.

The mouse wheel provides a very effective way to adjust the focus. When the Shift key is held down the mouse wheel adjusts the focus in large increments. When the Ctrl key is held down the mouse wheel adjusts the focus in medium increments and when no keys are held down the mouse wheel can be used for fine focus adjustments. The lens can also be focused using the cursor left and right keys with the Ctrl and Shift selecting medium or large increments respectively.

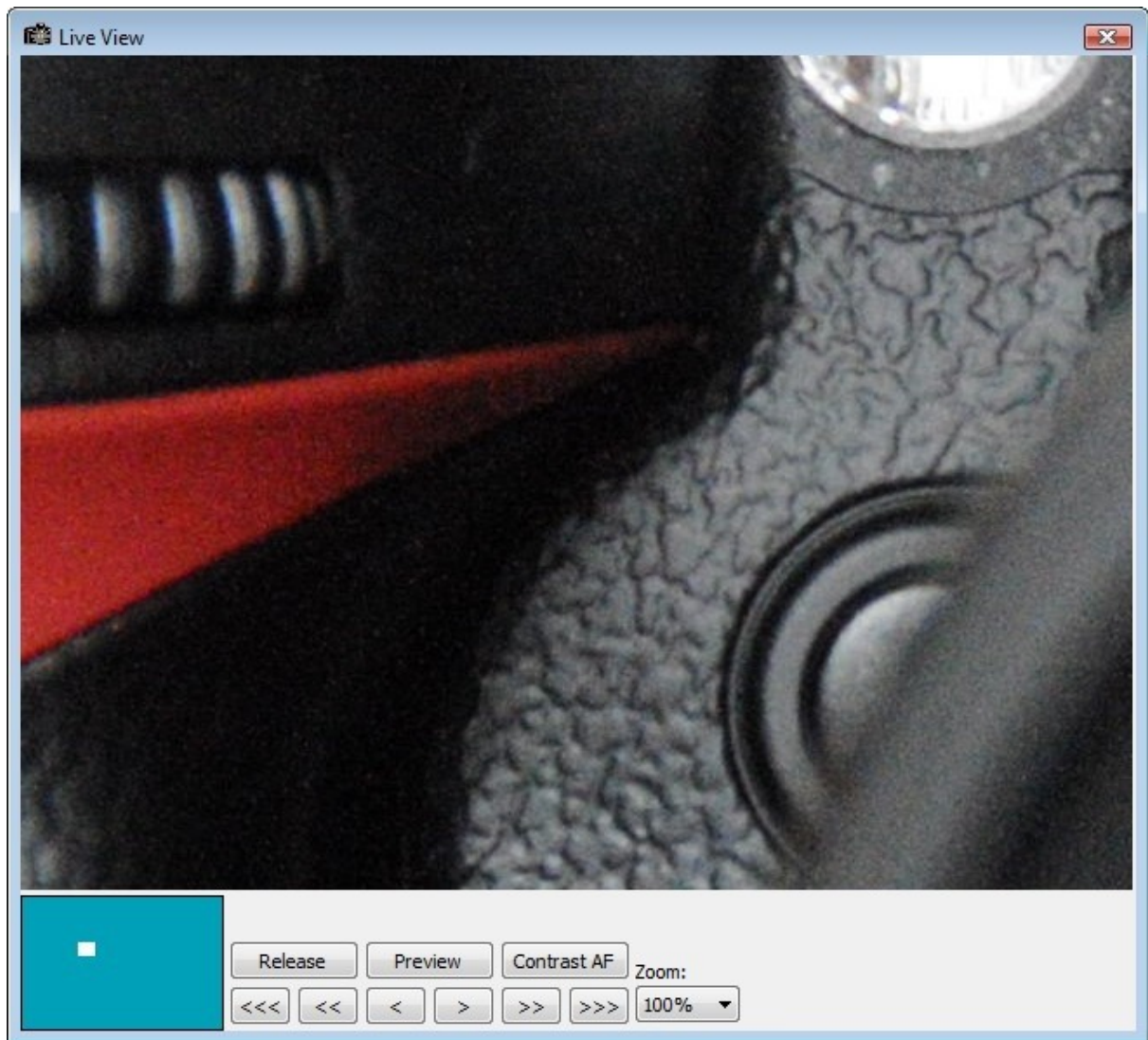
The size of the small, medium and large focus increments can be adjusted by right clicking on live view image and selecting "Adjust focus settings...". The dialog below will be displayed:



Different settings may be defined for each lens (the lens name is displayed in the window title bar).

Please note: The lens should normally be set to the auto-focus setting for the focus controls to work.

Right click on the image to display a menu for enabling or adjusting the grid overlay display. The live view shares the same grid overlay settings as the image display in the main window.



The zoomed area can be moved by clicking the mouse on the image and dragging as required or by dragging the white rectangle in the navigation window. It can also be moved by double clicking in the navigation window.

Double click on the live view image or set the "Zoom" dropdown list to "None" to return to the full frame view.

Overlay

An optional overlay image can be displayed over the live view images to help composition e.g. registration marks could be displayed to help align the camera when taking id photos. The overlay image should be a PNG file with transparency information in the alpha channel. It should be in landscape orientation with an aspect ratio of 3:2 e.g. 640x426 pixels in size. Once a suitable overlay image has been defined it can be displayed by right clicking on the live view image and selecting "Load overlay image...". An example overlay image called `example_overlay.png` can be found in the NKRemote installation folder.

Auto Focus

Click on the "Contrast AF" button to auto focus the lens using the camera's contrast detection AF. During AF the green AF area will be shown in red in the full frame view.

In the full frame view the area defined by the green rectangle is used to define the auto focus area. The rectangle can be dragged to a new position to auto focus in a different area of the live view image. In the zoomed view the central area of the image is used for auto focus.

Limitations: Because it takes several seconds to auto focus in live view it is not suitable for handheld shots or for moving subjects. Auto focus may fail if the image is very out of focus when AF starts, if the focus area has poor contrast or if the live view images are very noisy due to low light levels. Lenses which focus in large steps when using the fine focus settings (the "<" and ">" buttons) and lenses which focus by different amounts when focusing nearer or farther may cause AF to fail to achieve optimum focus in live view.

EVF Upscaling

The full frame live view image is 640x426 pixels in size. By default the Live View window will enlarge (or upscale) the images to fit the window. This can produce pixelated images or other display artefacts depending on the amount of upscaling or the type of subject being photographed. If this is a problem EVF upscaling can be disabled by right clicking on the image and deselecting "Allow EVF upscaling".

Mirroring and rotating the live view display

Right click on the full frame live view image to display a menu to select horizontal flipping of the live view image. Horizontal and is useful if pictures are being taken through a mirror or if you want to get the same effect as looking through a mirror e.g. mounting the camera above the computer display so that when people look at the display it is like looking through a mirror. The image can be rotated in 90 degree increments by the appropriate option from the View menu in the main window (Landscape, Portrait, Inverted or "Use Orientation Sensor"). When "Use Orientation Sensor" is selected the live view display will be automatically rotated to match the camera's orientation (please set "Auto Image Rotation" to On in the camera's Setup menu to enable this).

Electronic level display

An optional electronic level can be displayed in live view for camera models that support it (Nikon D7200, Nikon D7100, Nikon D7000, Nikon D810, Nikon D810A, Nikon D800, Nikon D800E, Nikon D750, Nikon D610, Nikon D600, Nikon D4s and Nikon D4 at the time of writing). To display the electronic level right click on the live view display and select "Display electronic level".

Focus Peaking (experimental)

Press and hold down the F2 function key to enable live view focus peaking which will highlight areas in focus in red. The sensitivity of focus peaking can be adjusted by changing the following setting in the Windows registry (you need to exit NKRemote before changing this setting):

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\EvfFocusPeakingThreshold

The default setting is 400. Please note that the focus peaking display is experimental and may change in future releases.

Onion Skinning

Onion skinning is where the current live view image is displayed on top of a previous image help line up a shot. This is very useful when taking stop motion animations and in other situations where it is important to accurately line up the camera for consecutive shots.

Onion skinning is only available when the full frame view image is displayed. To start onion skinning right click on the view image and select "Onion skinning" from the menu. By default the background image is updated whenever a photo is taken but this behavior can be disabled if required.

The background image used for onion skinning can be saved and loaded to from the a file. This is useful when doing stop motion animation and you wish to save the background at the end of the day and load it again to continue work the next day. It also means you can save the background image, edit it in an image editor to add reference marks and then load it back into the live view window.

Another use for onion skinning is when taking panoramas. The onion skinning background can be offset to the left or right for panoramas taken in horizontal format or to the top or bottom for vertical

format. The background is offset by 60% and is used to help align the next shot in the panorama.

Arranging Windows

Type Ctrl+A to automatically arrange the live view and main windows. Repeatedly pressing Ctrl+A will cycle through the following window layouts:

1. Main window resized to just show the controls and positioned on the left of the screen with the live view window occupying the rest of the screen. This mode is useful for viewing the live view and adjusting the camera settings from the computer.
2. Live view window filling the screen - useful for composing and focusing the image
3. Main window filling the screen - useful for viewing images that have been taken

Note: The full frame live view images from the camera are 640x426 pixels and may not fill the live view window. If EVF upscaling is enabled (right click in the live view window to display a menu to enable this) the 640x426 pixel images will be scaled to fit the window.

Keyboard Shortcuts

The following keyboard shortcuts can be used when the live view is displayed:

Spacebar or F8	Take a picture
F9	Take a preview image
Ctrl+L	Close the live view window
Cursor left	Focus closer by a small increment
Ctrl+Cursor left	Focus closer by a medium increment
Shift+Cursor left	Focus closer by a large increment
Cursor right	Focus farther by a small increment
Ctrl+Cursor right	Focus farther by a medium increment
Shift+Cursor right	Focus farther by a large increment
Cursor up	Zoom the preview
Cursor down	Select full frame display
Ctrl+O	Toggle onion skinning on and off
Ctrl+B	Capture current live view image as onion skinning background
Ctrl+A	Arrange the main and live view windows
Ctrl+E	Display electronic level overlay for camera models that support it
Ctrl+Z	Zoom in/out
Ctrl+Tab	Cycle through: Controls+AF area display->AF display but no controls->live view images only

5 Focus Stacking

Focus stacking is a technique for increasing the depth of field by taking a series of photographs with different focus settings and then combining them together using the areas in focus from each image. This technique is useful for macro and close-up photography, landscapes, product photography and any other image where the depth of field is critical and the subject isn't moving.

The live view display in NKRemote makes it simple to automate the process of taking a sequence of images with different focus settings by running a script. Once the pictures have been taken they can be combined using free software such as [CombineZM](#) or commercial software like [Helicon Focus](#) (the example on this page was combined using CombineZM).

Please note: The photos below were taken using our DSLR Remote Pro software for Canon EOS digital SLRs. Focus stacking using NKRemote and a Nikon DSLR will produce similar results.



Image combined using CombineZM from a series of 40 individual shots shot taken with a Canon EOS 40D and Tamron 90mm macro lens set f/5. This is a full frame image which has been resized to fit on the page and shows the edge effects to the left and right of the image resulting in the text being reflected and also edge effects at the top and bottom. These can easily be cropped from the final image but it is worth noting that it is a good idea not to frame the image too tightly when taking the photos.



Single shot taken with Canon EOS 40D with Tamron 90mm macro lens at f/5. A smaller aperture could have been used to get greater depth of field but the image quality would be affected due to diffraction effects if too small an aperture is used. One of the advantages of the focus stacking technique is the lens can be set at its optimum aperture to give the best possible quality.

How to take the photos using NKRemote

What do you need?

1. A Nikon DSLR which supports live view e.g. Nikon D7200, Nikon D7100, Nikon D7000, Nikon D5500, Nikon D5300, Nikon D5200, Nikon D5100, Nikon D5000, Nikon D90, Nikon D300, Nikon D300s, Nikon D610, Nikon D600, Nikon D750, Nikon D700, Nikon D810, Nikon D800, Nikon D800E, Nikon D3s, Nikon D3, Nikon D3X, Nikon D4S, Nikon D4
2. A copy of NKRemote (you can use the free trial version for 15-days) and a USB cable connecting your camera to your computer
3. A sturdy tripod to hold the camera steady while taking the sequence
4. AutoHotKey - a free scripting tool which can be downloaded from <http://www.autohotkey.com>
5. focus_stacking.ahk - an AutoHotKey script for taking the photos and adjusting the focus which can be found in the NKRemote installation folder (usually C:\Program Files\BreezeSys\NKRemote)
6. CombineZM - a free program for combining the images (download [CombineZM](#))

First mount the camera on the tripod, select manual exposure mode and compose the shot, roughly focusing the lens on the subject. Then connect the camera to your PC using the USB cable and run NKRemote. Activate the live view on the PC by typing Ctrl+L and use the mouse wheel or cursor keys focus the lens on the nearest part of the subject. Finally, double click on the focus_stacking.ahk file to run the script to take the photos. NKRemote's live view window will appear and a sequence of shots with different focus settings will be taken. Please don't touch your computer while the sequence is being taken otherwise it may not work properly.

By default the focus_stacking.ahk script will take 30 images. This can be changed either by editing the

script using a text editor or by running the script from the Windows Command Prompt and specifying the number of images on the command line e.g.

```
C:\> focus_stacking.ahk 15
```

Combining the images (or focus stack)

Run CombineZM and select "New" from the "File" menu. Locate the folder containing the images taken earlier, select all the images in the file open dialog and click "Open". CombineZM will load the images (this may take a few seconds). Then select "Do Stack" from the "Macro" menu to combine the image (this may take a few minutes). When it has finished the combined image will be displayed in CombineZM's main window. The image can be saved by selecting "Save Frame/Picture As" from the "File" menu.

6 Time Lapse

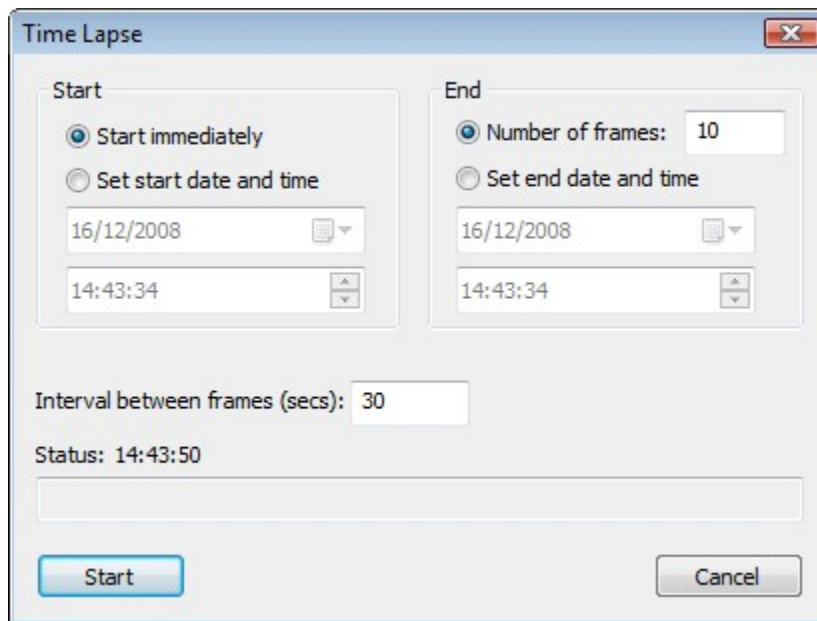
Select "Time-lapse..." from the "Camera" menu to take time-lapse shots.

The time lapse sequence can be set to start immediately or to start at a particular time and date. You can either specify an end time and date for the time lapse sequence or the number of frames in the sequence.

You can specify the interval between shots.

Note: If you set the interval to a time shorter than that required to take and download the picture the sequence will run as fast as possible.

Press the "Start" button to start the time lapse sequence.



7 Auto Reconnect

When auto reconnect is selected from the "Camera" menu NKRemote will attempt to reconnect to the camera every 5 secs if it becomes disconnected. NKRemote will display a red screen saying "Not

connected" to clearly indicate that the connection has been lost.

The connection to the camera will be lost if the USB cable is removed, the camera's memory card door is opened, the camera is switched off or the battery becomes flat or is removed.

Warning: Do not disconnect the camera from the computer while images are being downloaded. This may result in some images being lost and may confuse the USB drivers making it necessary to reboot the PC before reconnecting.

In [fullscreen photobooth](#) mode auto reconnect will automatically restart the photobooth mode, enable the live view if required and display the "ready" screen when the camera is connected.

8 Editing Images and Editor Setup

Right click on the image and select "Edit Image" to open the image in an image editor (or type Ctrl+E). For this feature to work you need to tell NKRemote how to run the image editor by selecting "Setup Image Editor" from the File menu.



Select the "Use the Windows Explorer 'Open' command" option to use the same editor or viewer as when you open or double-click an image in Windows Explorer.

Select the other option and enter the command line in the edit box to specify a different editor.

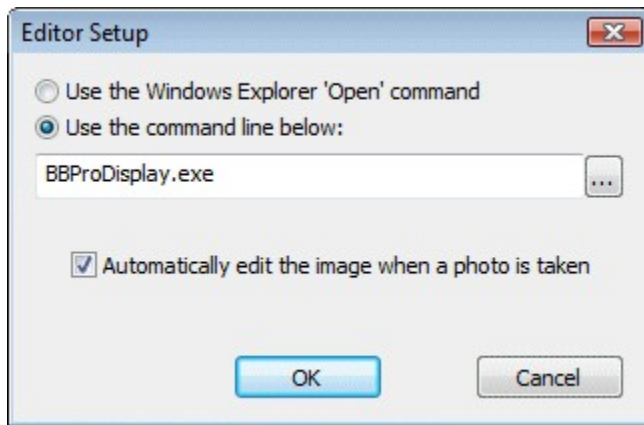
Select "Automatically edit image when a photo is taken" to automatically load images into an editor when they are taken. Please take care not to load too many images into your editor as Windows may run low on memory causing the editor or NKRemote to fail.

Notes:

1. Only images saved to disk can be edited. Preview images cannot be edited.
2. Many image editors cannot open raw files directly and will display an error message if you try to edit a raw image.

9 Displaying Images in BreezeBrowser Pro

Images can be automatically displayed in BreezeBrowser Pro after they have been taken and downloaded to the PC. To do this select "Setup image editor..." from the File menu and set it up to run the command BBProDisplay.exe as shown below:



10 The Image Preview Window

To display an enlarged preview window select View Image from the Image menu (or press F7). The image preview window can be left on the screen while more pictures are taken to monitor composition or focus in critical areas e.g. the eyes of a model during a portrait session. The preview window is automatically updated when the image in the main window changes.

The image can be scrolled by moving the scroll bars or by clicking the left button on the mouse and dragging the image. If the image preview window is still displayed when a picture is taken it will be updated to show the same area of the new shot. This is very useful for monitoring important areas of the image e.g. a model's eyes when taking portraits.

11 Photobooth Shooting



Start here

The quickest way to get started is to setup your printer and then use the [photobooth setup wizard](#) to set everything else up for you.

You can then change the appearance of the screens by editing the JPEG screen images in an image editor such as Photoshop or Photoshop Elements.

Then use the [print layout editor](#) to edit the print layout or to load a different preset print layout. The [advanced settings](#) can be used to fine tune the settings.

A series of shortcut buttons to provide quick access to key photobooth options can be displayed at the top of the main window:



The photobooth shortcut buttons can be turned on or off by selecting "Photobooth Shortcuts" from the View menu.

More detailed help...

Topics covered in this section:

- [Photobooth setup wizard](#)
- [Editing the print layout](#)
- [Touchscreen settings](#)
- [Saving settings for future reference and using profiles](#)
- [Print layout](#)
- [Other output options](#)
- [Images displayed to the user](#)
- [Running external commands](#)
- [Touchscreen keyboard](#)
- [Keyboard shortcuts](#)
- [Using external buttons for photobooth shooting](#)
- [In operation](#)
- [Reprinting photos after an event](#)
- [Green screen shooting](#)
- [Live view overlay](#)
- [How to create PNG images using Photoshop and Photoshop Elements](#)
- [Uploading to social networking and photo sharing sites](#)

Please also see the [series of articles on photobooth shooting](#) on our website.

Summary of changes to print layouts in NKRemote v3.0 onwards

The following changes have been made to the way layouts are printed. These should have little or no effect on print layouts defined using previous versions, but it layouts created using version 3.0 or later may not appear the same in earlier releases.

1. background.jpg image is now centered on the page after allowing for the printer margins. In previous releases the background.jpg image was placed in the top left hand corner of the page and tiled to fill the page
2. overlay.png is now centered on the page after allowing for the printer margins. In previous releases the overlay.png image was placed in the top left hand corner of the page
3. The global setting for enabling or disabling captions has been removed. Individual captions can be enabled or disabled by selecting "Edit captions..." in the "Photobooth settings" dialog or the print layout editor

4. Up to 8 captions can be defined (previous releases only supported 2 captions)
5. Custom layouts can now be edited using the new print layout editor which allows you to drag and drop items interactively
6. Up to 12 photos may be added using the print layout editor (the old custom layouts were limited to 10 photos)
7. A background color can be defined in the print layout editor (this defaults to white when using the automatic layout option)
8. A QR code can be added using the print layout editor

11.1 Photobooth Setup Wizard

The photobooth setup wizard provides a fast and simple way of creating the screens and the print layout for common photobooth configurations.

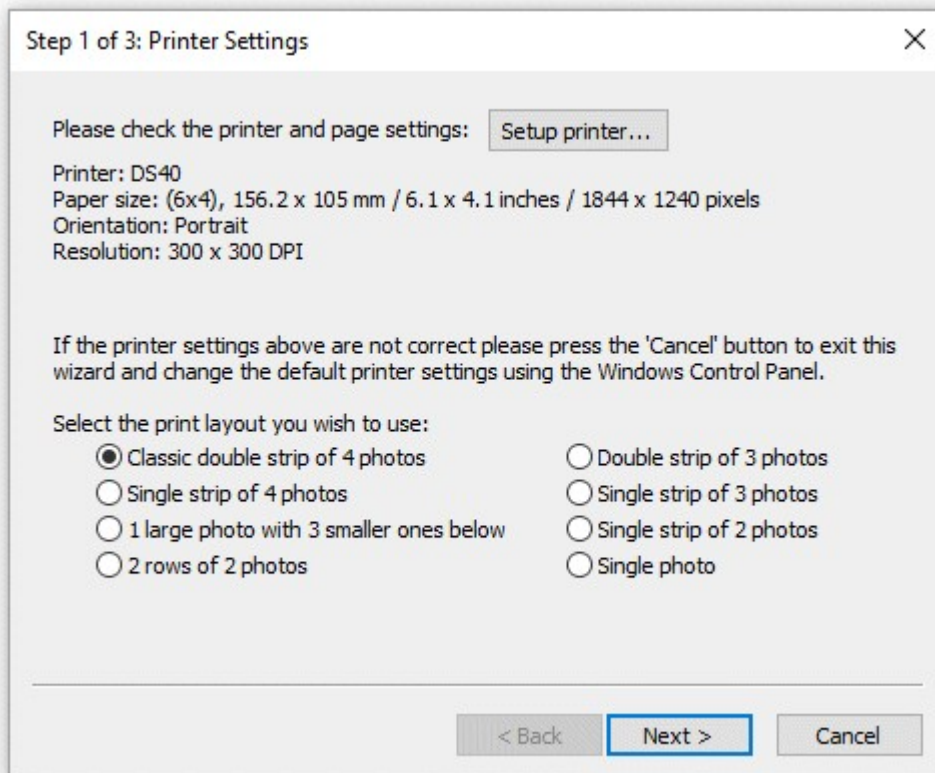
Running the Photobooth Setup Wizard

If the photobooth shortcut buttons are displayed at the top of the main window simply click on the "Photobooth Setup Wizard" button (if the shortcuts buttons aren't displayed select View->Photobooth Shortcuts to display them).

Alternatively click on the File menu and select "Photobooth Setup Wizard..."

Step 1: Printer Settings

This step displays the current printer settings and asks you to select a print layout. The settings for a DNP DS-40 printer loaded with 6x4 paper are shown below:



First check the printer settings and click on the "Setup printer..." button if they need changing.

Please note: if you printing a double strip of 3 or double strip of 4 photos and are using a dyesub printer which can cut a 4"x6" sheet into two 2"x6" strips you need to select this option in the printer driver by clicking on the "Setup printer..." button.

Next select one of the seven print layout options:

"Classic double strip of 4 photos" - This prints two columns of four images side by side as shown below:



"Single strip of 4 photos" - prints a single column of four images as shown below. This option is useful for printers like the DNP DS-RX1, HiTi P510 and Mitsubishi CP-D70DW which can cut 6x2 strips from 6x4 paper and treat these as 6x2 pages.



"Double strip of 3 photos" - Similar to the "Classic double strip of 4 photos" but with only three photos and more space for logos etc.



"Single strip of 3 photos" - Similar to the "Single strip of 4 photos" but with only three photos and more space for logos etc.



"1 large photo with 3 smaller ones below" - This layout gives plenty of space for logos and captions as shown below:



"2 rows of 2 photos" - This option fills the page with four equally sized photos arranged in a 2 x 2 grid:



"Single photo" - This option fills the page with a single photo:



When you have selected your preferred layout press the "Next >" button to go to step 2.

Step 2: Specify the photo booth images folder

This step allows you to specify the name of the folder where the various screen and layout images should be stored and looks like this:

Step 2 of 3: Specify Photo Booth Images Folder

Please enter the name of the folder where the photo booth images will be stored:

Wedding Booth

The photo booth images folder will be created as a subfolder of:
C:\Users\chris\Documents\PhotoboothImages

The photo booth images folder is where screen designs and layout images are stored. A folder containing simple screen and background images will be created in the PhotoboothImages subfolder of your documents folder.

Screens are simply JPEG images which can be edited in any image editor. The ready screen is defined by a JPEG named ready.jpg.

Logos can be added by editing the background.jpg layout image. This is the same size in pixels as the printed output and is placed on the page before the photos, captions and overlays.

Please edit these images to customize the look of your booth.

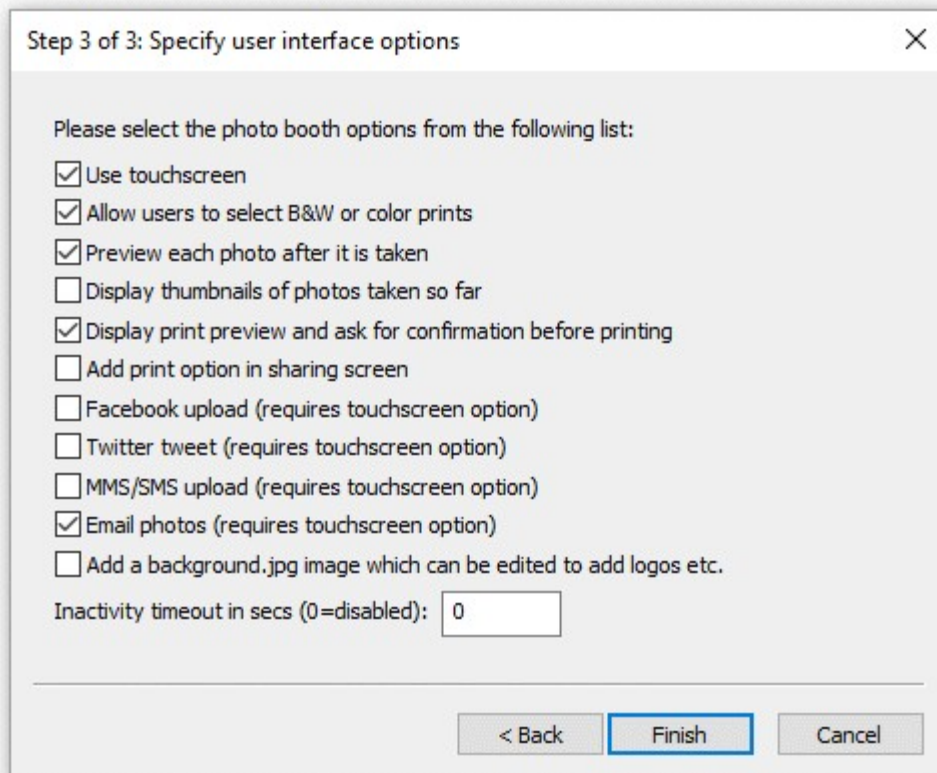
< Back Next > Cancel

Enter the name of the photo booth images folder. The screens for the photo booth and the optional layout images will be saved in this folder and can be edited later using an image editor to personalize the look of your booth.

Press the "Next >" button to go to step 3.

Step 3: Specify user interface options

This step allows you to specify the options available to users of your photo booth and looks like this:



Step 3 of 3: Specify user interface options

Please select the photo booth options from the following list:

- ☒ Use touchscreen
- ☒ Allow users to select B&W or color prints
- ☒ Preview each photo after it is taken
- ☐ Display thumbnails of photos taken so far
- ☒ Display print preview and ask for confirmation before printing
- ☐ Add print option in sharing screen
- ☐ Facebook upload (requires touchscreen option)
- ☐ Twitter tweet (requires touchscreen option)
- ☐ MMS/SMS upload (requires touchscreen option)
- ☒ Email photos (requires touchscreen option)
- ☐ Add a background.jpg image which can be edited to add logos etc.

Inactivity timeout in secs (0=disabled):

< Back Finish Cancel

Select the options you wish to use and then press the "Finish" button to create the photo booth settings. The settings are saved to a file named settings.xml in the photobooth images folder. These settings can be loaded again by pressing the "Load..." in the photobooth settings dialog.

"Use touchscreen" - select this option if your booth has a touchscreen. The setup wizard will automatically add buttons and touchscreen actions to the screens shown to users.

"Allow users to select BW or color prints" - If the "Use touchscreen" option is selected this option will add buttons and touchscreen actions to allow users to choose color or B&W prints. If "Use touchscreen" is not selected this option will do nothing but users will be able to select B&W or color using the keyboard shortcuts Ctrl+B and Ctrl+C.

"Preview each photo after it is taken" - when this option is selected a full screen preview will be displayed for 3 secs after each shot is taken.

"Display thumbnails of the photos taken so far" - select this option to display a small thumbnail of each shot taken so far down the right hand of the screen. Each screen will have a series of small gray rectangles added to show where the thumbnails will be placed. Please see the section on the optional [thumbnail display](#) for more information.

"Display print preview and ask for confirmation before printing" - when this option is selected a full screen preview of the print layout will be displayed before printing. If the "Use touchscreen" option is selected buttons and touchscreen actions allowing users to print or reject the photos will be added. If the "Use touchscreen" option is not selected users need to press A to accept the print or X to reject it.

"Add print option in sharing screen" - select this option to allow users to print photos from the sharing screen.

"Facebook upload" - select this option to allow users to upload photos to their personal Facebook page direct from the photobooth (requires an internet connection). Please see the section on [uploading photos to social networks](#) for more information on uploading photos to Facebook.

"Twitter tweet" - select this option to allow users to post photos their personal Twitter feed direct from the photobooth (requires an internet connection). Please see the section on [uploading photos to social networks](#) for more information on posting photos to Twitter.

"MMS/SMS" - select this option to allow users to text photos to their cellphone via MMS or SMS (requires an internet connection and an account with Twilio.com). Please see the section on [uploading photos to social networks](#) for more information texting photos

"Email photos" - select this option to allow users to email photos direct from the photobooth (requires an internet connection). Please see the section on [uploading photos to social networks](#) for more information on emailing photos.

"Add a background.jpg image which can be edited to add logos etc." - select this option if you want to add logos etc. to the prints. This will create a background.jpg image the same size in pixels as the printed output and place it the photo booth images folder. Please edit the background.jpg to add logos etc.

The inactivity timeout can be set to switch the booth to standby mode and display the welcome.jpg screen after a preset number of seconds if there is no user input. Set this to 0 to disable the inactivity timeout. The inactivity timeout is useful if the photobooth is not in continuous use because it disables the live view display and puts the booth into standby mode. Disabling live view will allow the camera's sensor to cool down to avoid possible overheating problems. The booth can be switched back to the ready screen by pressing F6 or touching the screen (if available).

What happens next?

Please try running the booth and taking a set of photos to check the print layout. If the photos aren't correctly centered on the page or the gaps between the photos is too large you can adjust the settings by clicking on the "Print Layout" shortcut button (or by selecting File->Photobooth settings... and clicking on the "Settings..." button to the right of the "Custom layout" checkbox. Please see the section on the [print layout editor](#) for more details.

Logos and other graphics can be added to the prints by creating a background.jpg image and editing this in an image editor. The background.jpg image needs to be the same size in pixels as the print output. If you selected the "Add a background.jpg image which can be edited to add logos etc." option when running the setup wizard there will already be a dummy background.jpg image in the photobooth images folder.

The various screens presented to the user are defined using JPEG images saved in the photobooth images folder. The look of your booth can be customized simply by editing the screen JPEGs using an image editor such as Photoshop Elements. The screen that is shown when the booth is ready to take the next set of photos is called ready.jpg. Please see the section on [images displayed to the user](#) for more details.

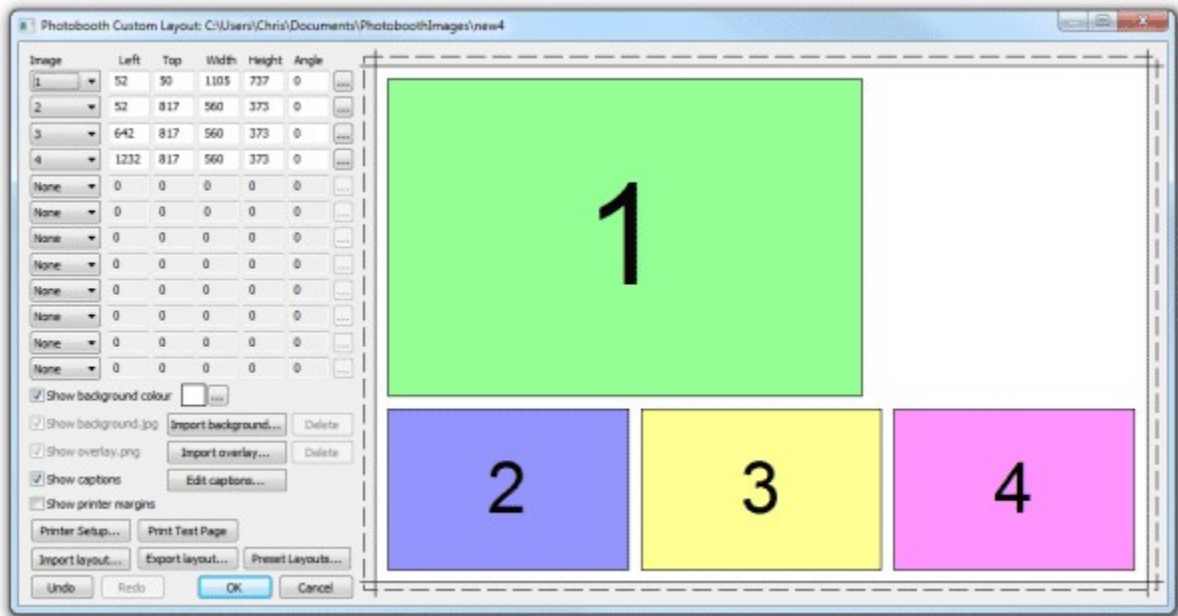
There are many other settings that can be adjusted. Please see the section on [photobooth setup](#) for more information. There is a series of [articles on our website](#) which includes lots of useful information about photobooth shooting and a section giving answers to [frequently asked questions](#).

11.2 Print Layout Editor

The print layout editor can be displayed by clicking on the "Print layout" photobooth shortcut button in the main window or by displaying the "Photobooth settings" dialog (File->Photobooth settings...) and

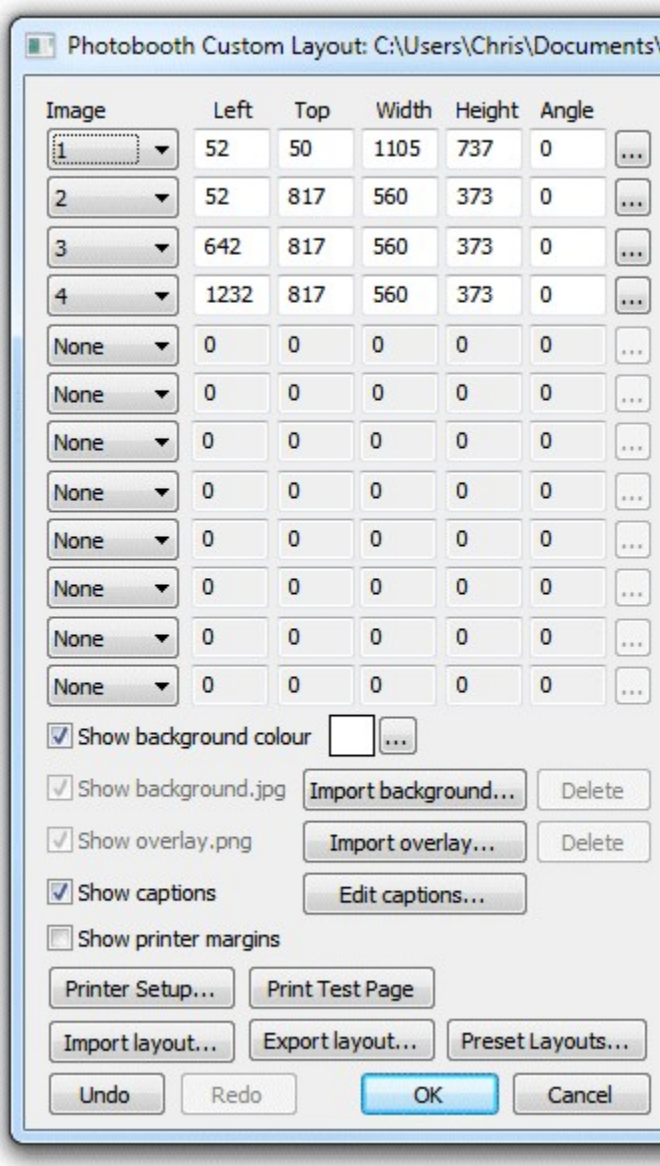
clicking on the "Settings..." button to the right of the "Custom layout" checkbox.

Note: if the photobooth shortcut buttons aren't displayed in the main window you can display them by selecting View->Photobooth Shortcuts



The right hand side of the window displays the print layout. Photos and captions can be edited interactively by clicking on them using a mouse and then dragging to position, resize or rotate them.

The left hand area of the window contains controls to help with the layout and for loading and saving settings:

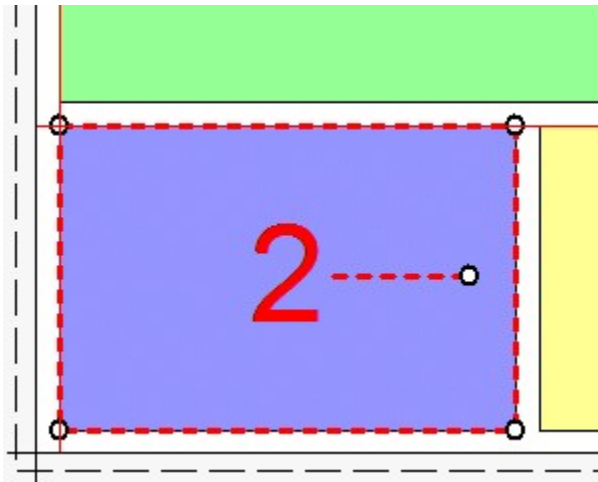


A Quick tour of the editor

This section gives a quick overview of some of the ways to edit the layout.

Click on the "Preset layouts..." button, select one of the preset layouts (e.g. "1 large, 3 small") and then click on the "OK" button. The right hand side of the editor should show the page layout similar to the screenshot above.

Left click the mouse on photo 2 to select it:



The photo will be highlighted with a dashed red line to show that it has been selected. It will also have a resize control in each corner and a dashed line in the center with a control for rotating the image.

Move the mouse over the center of the photo (a hand cursor will be displayed) and then click on hold down the left mouse button and drag the photo to a new position and then release the left mouse button. The keyboard cursor keys can also be used to adjust the position of the photo e.g. pressing the left cursor key will move the photo one pixel to the left. Hold the shift key down and press one of the cursor keys to move the photo 10 pixels in that direction.

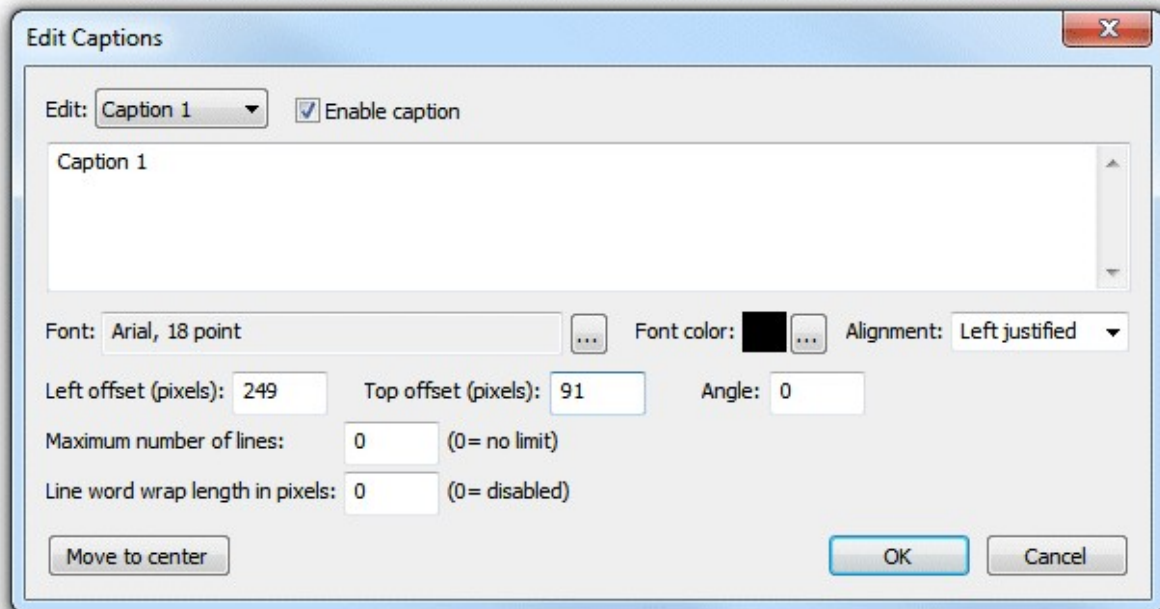
Resize the photo by moving the mouse over one of the corners of the photo (a resize cursor will be displayed) and then click on hold down the left mouse button and drag the corner to resize the photo and then release the left mouse button.

Rotate the photo by moving the mouse over the control area at the end of the dashed line in the center of the photo (a rotate cursor will be displayed) and then click on hold down the left mouse button and move the mouse to rotate the photo and then release the left mouse button. The keyboard cursor left and right keys can also be used to rotate the photo when the ctrl key is held down e.g. hold down the ctrl key and press the left cursor key to rotate the photo 1/2 degree to the counter clockwise. Hold the ctrl and shift keys down and press cursor left or right to snap the rotation to the nearest 15 degrees and then rotate in 15 degree steps.

Select all the photos by typing Ctrl+A or by right clicking on a photo as selecting "Select all". The selected photos will be highlighted with dashed red lines and can be dragged as a group by holding down the left mouse button.

When a photo is selected it is also highlighted in the image position display in the top left corner of the edit window. The size, position and rotation of the photo can be entered directly by clicking on the "..." button for that image. Click on the dropdown list to change the photo number (or select "None" to remove it or "QR code" set it to a QR code).

Add a caption by clicking on the "Edit captions..." button and the dialog below will be displayed:



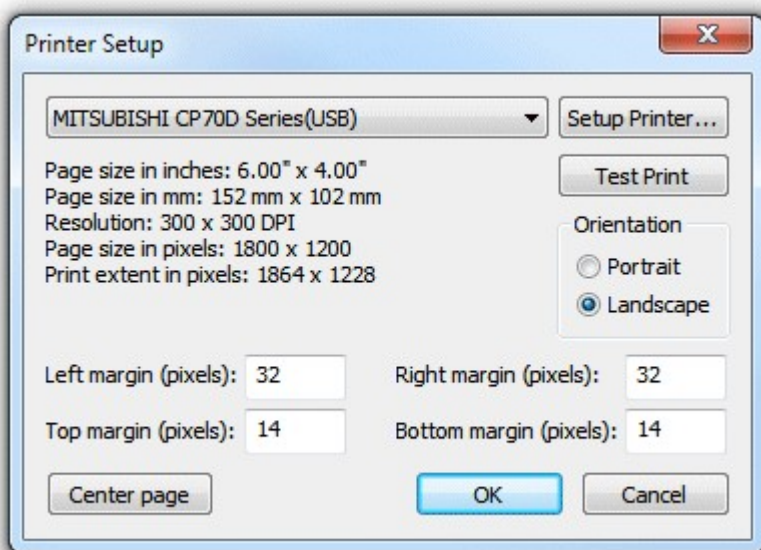
Check the "Enable caption" checkbox if it is not already checked. Caption 1 should now be displayed highlighted on the print layout (if it isn't visible click on the "Move to center" button). Type in the edit box to change the caption text or click on the "..." button to the right of the "Font:" label to change the font or to the right of the "Font color:" display to change the color. Click on the "OK" button and the font should remain highlighted. You can drag, resize and rotate the text using the mouse just the as with a photo.

Click on the "Undo" button a few times (or type ctrl+Z) a few times to undo the changes. Then click on the "Redo" button (or type ctrl+Y) to redo the changes.

Note: The dashed line around the layout shows the full printing extent of the printer including any overlap over the edges of the paper for borderless printing. The inner solid line represents the area of the final print.

Printer setup and margins

It is a good idea to check the printer settings and printer margins before designing the layout or running the photobooth setup wizard. To do this click on the "Printer Setup..." button and the "Printer Setup" dialog will be displayed:



Select the required printer from the dropdown list. If your printer isn't listed you may need to install the printer drivers first (please see the Windows help files or printer manuals for information on how to do this).

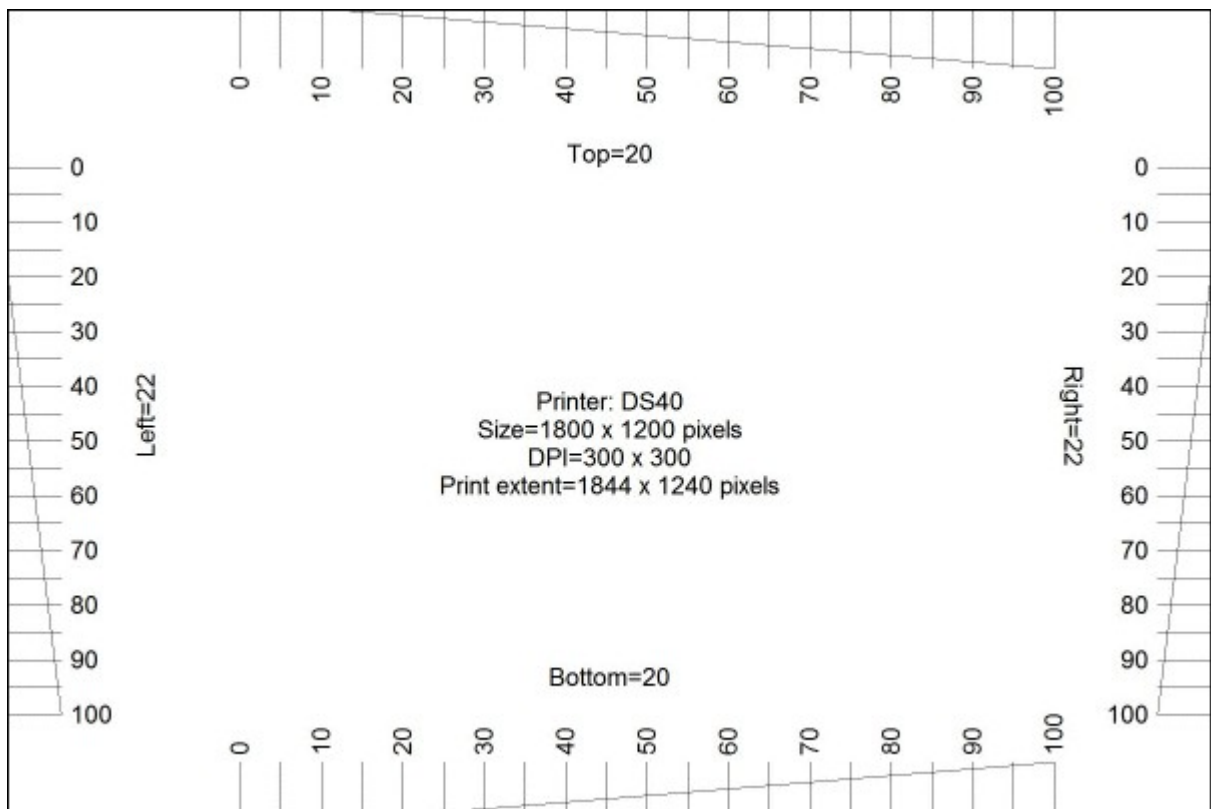
Click on the "Setup Printer..." button to select the page size, print orientation, print resolution and other printer settings.

Note: if you want to print a double strip of three or four images and are using a dyesub printer that can cut 4"x6" pages into two 2"x6" strips you need to select the 2x6 cut option in the printer driver.

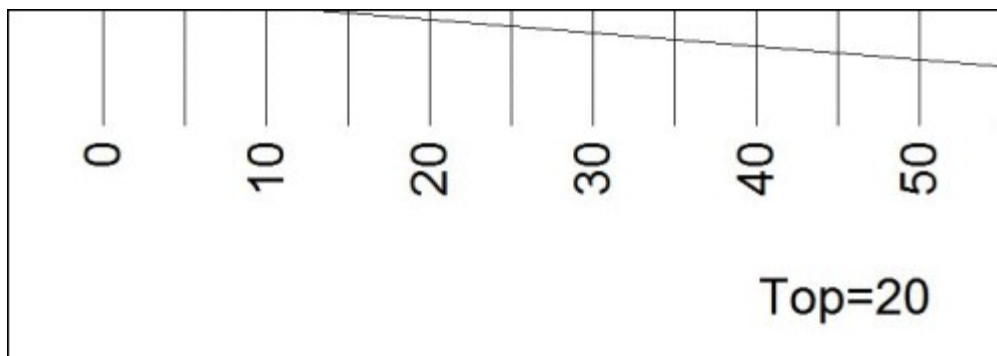
Click on the "Portrait" or "Landscape" radio buttons to change the printer page orientation.

If the selected printer is setup with a page size of 4"x6" and a print resolution of 300 DPI or 600 DPI (most professional dyesub printers support this) the "Center page" button will be enabled. You can press this button to setup the margins to center the page in the printable area. This should produce correctly centered prints with most printers.

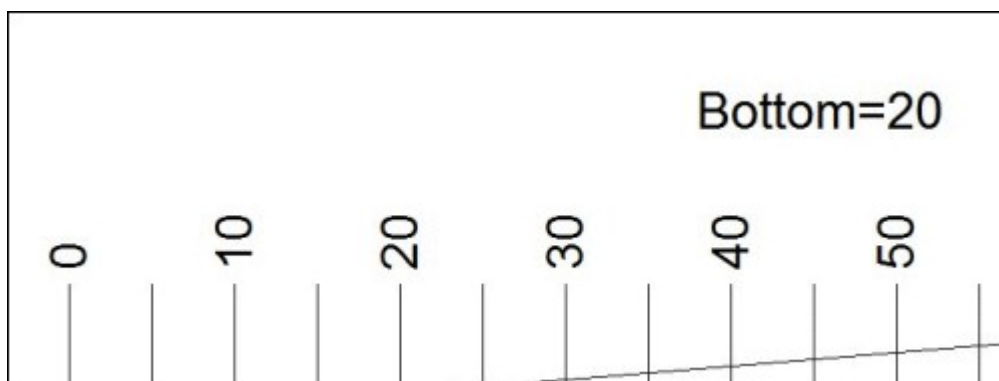
Click on the "Test Print" button to print a page to help setup the printer margins. The test print from a DNP DS40 printer will look something like this:



In the enlarged view of the top margin shown below the top margin can be read off the ruler as 14 pixels:



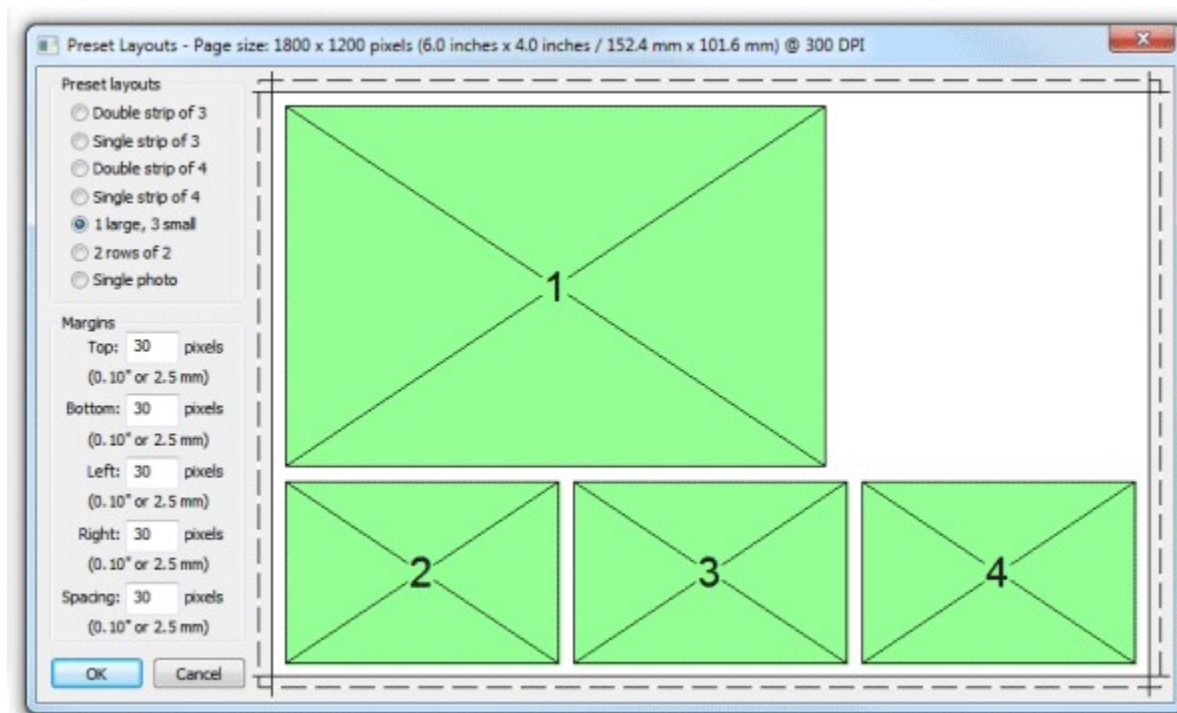
And in the enlarged view of the bottom margin shown below the bottom margin can be read off the ruler as 26 pixels:



Check the top, left, right and bottom margins and enter the values in the printer setup dialog. It is worth spending time setting up the print margins accurately as this will save time later.

Preset Layouts

The "Preset layouts..." button can be used to help design a number of different popular layouts using three or four photos. These include a double strip of three or four photos, a single strip of three or four photos, one large image with a row of three smaller images below and two rows of two images. Simply select the layout you want, adjust the page margins and image spacing and then press the OK button and the software will work out the settings for you:



Select the preset layout from the list of layouts in the top left of the window. The right side of the window shows a preview of the selected layout. The spacing between photos and the top, left, right and bottom margins can be adjusted using the edit boxes on the left of the window.

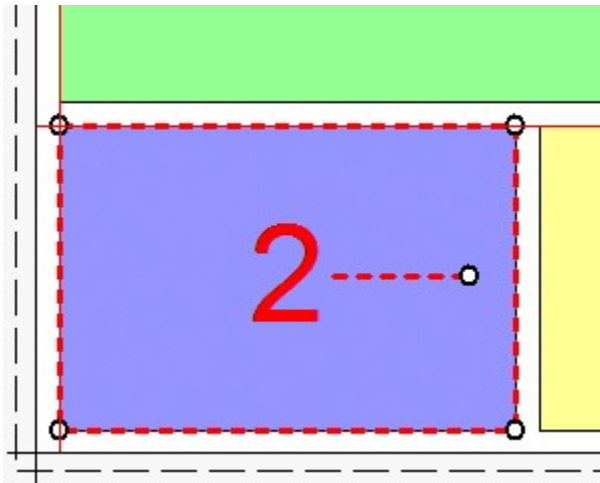
Note: The dashed line around the layout shows the full printing extent of the printer including any overlap over the edges of the paper for borderless printing. The inner solid line represents the area of the final print.

Click "OK" to copy the layout to the print layout editor.

Editing Photo Positions

A photo can be added to the layout by selecting the photo number from one of the spare image dropboxes showing "None" in the top left corner of the editor window. Alternatively a photo can be hidden by setting its dropdown list to "None".

The size, position and rotation of the photo can be edited by left clicking on the photo to select it and then using the mouse or keyboard cursor keys:



Move the photo by moving the mouse to the center of the photo (a hand cursor will be displayed) then hold down the left mouse button and drag the photo to the new position.

Tip: Hold down the shift key to limit the movement to a horizontal or vertical direction only.

Alternatively use the left, right, up and down cursor keys to move the photo one pixel at a time. Hold down the shift key and use the cursor keys to move the photo 10 pixels at a time.

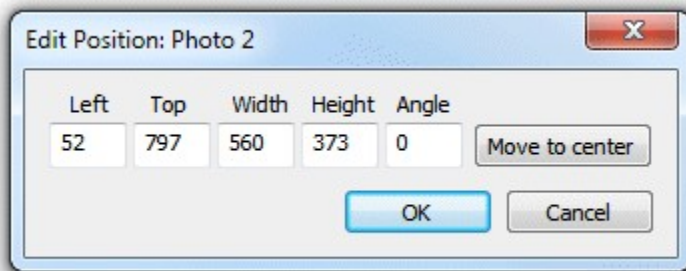
Resize the photo by moving the mouse to one of the circular control handles in the corners (the resize cursor will be displayed) then hold down the left mouse button and drag the corner to resize the photo. The aspect ratio of the photo will be preserved (i.e. the ratio of the width to the height). Hold down the shift key if to resize the photo without preserving the aspect ratio (this may result in the photos being cropped when they are printed).

Rotate the photo by moving the mouse to the circular control handle at the end of the red dashed line in the center of the photo (the rotate cursor will be displayed) then hold down the left mouse button and move the mouse to rotate the photo.

Alternatively hold down the ctrl key and use the left and right cursor keys to rotate the photo in 1/2 degree increments. Hold down the ctrl and shift keys and use the cursor left and right keys to rotate the photo in 15 degree increments.

Photos are printed in the order in which they are defined and so if the second photo's position overlaps the first photo the second photo will be printed on top of the first photo. You can change the order in which photos are printed by right clicking on a photo and selecting "Move to back", "Move back", "Move forward" or "Move to front".

You can also enter the photo position and angle directly by clicking on the "..." button for that photo on the left side of the editor window and it will display the "Edit Position" dialog:



You can also edit the position by right clicking on the photo and selecting "Edit image position..." from the popup menu.

The left and top entries specify the distance in pixels of the photo from the left and top edges of the page respectively. The layout in the print editor window will be updated automatically as you change the settings. If the photo isn't visible you can press the "Move to center" button to center it on the page.

The width and height entries specify the width and height of the photo in pixels. To preserve the aspect ratio of the photo you can enter 0 for the width or height and the software will replace this with the correct value when you press the "OK" button.

Note: Entering a width and height with a different aspect ratio from the photos taken by the camera (3:2) will result in the photo being cropped when it is printed.

The angle entry specifies the clockwise rotation of the photo in degrees.

Editing QR Codes

A QR code can be added to the layout by selecting "QR code" in one of the spare image dropboxes showing "None" in the top left corner of the editor window. Alternatively the QR code can be hidden by setting its dropdown list to "None". The size, position of the QR code can then be edited in exactly the same way as a photo (described in the section headed "Editing Photo Positions" above).

The text encoded in the QR code can be edited by right clicking on the QR code and selecting "Edit QR code..." from the popup menu. The "QR Code" dialog shown below will be displayed:



Type in the text you want to be encoded in the QR code. Normally this is a URL which needs to be prefixed with http://

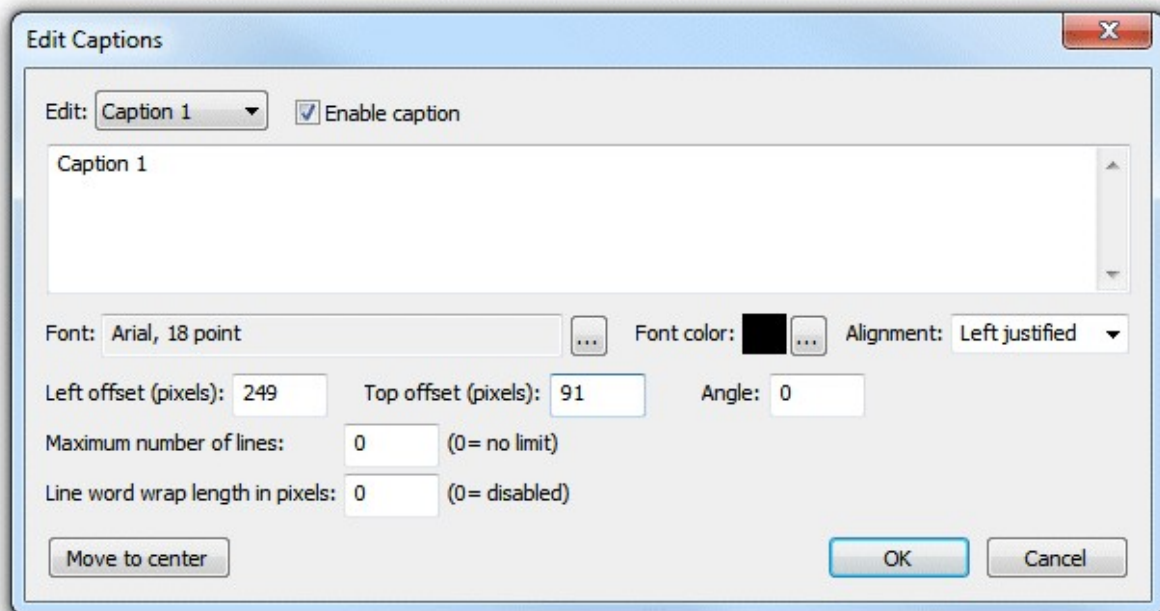
The QR code display will be updated automatically as you type in the text. You can test the QR code by pressing the "Test URL" button to open it in a web browser. You can also test the QR code by scanning it with a cell phone.

The error correction dropdown list specifies amount of error correction encoded in the QR code. A "Medium" setting should be suitable for most uses. You may wish to use the "Low" setting if the URL is very long or the QR code is to be printed very small.

Note: The QR code text can also be edited by selecting File->Edit QR code from the main program window.

Editing Caption Positions

Add a caption by clicking on the "Edit captions..." button and the dialog below will be displayed:



You can also edit the caption by right clicking on the caption and selecting "Edit caption..." from the popup menu.

Select the caption you wish to edit using the dropdown box at the top and then check the "Enable caption" checkbox if it is not already checked. The caption should now be displayed highlighted on the print layout (if it isn't visible click on the "Move to center" button). Type in the edit box to change the caption text. Captions span more than one line and can contain tokens such as %d for the date and %t for the time the sequence started, {comment} for the comments entered in the main screen and {filename} for the filename used for the JPEG copy of the print layout. Please see the [section on tokens](#) for a list of tokens available.

Click on the "..." button to the right of the "Font:" label to change the font, size and style or to the right of the "Font color:" display to change the color.

Use the "Left offset" and "Top offset" entries to specify the position of the text. This is specified in pixels from the top left corner of the page. Use the angle entry to specify the angle of the text. This is specified as degrees rotation in a clockwise direction.

Normally text is left justified (the "Alignment" dropdown list is set to "Left justified") and its position on the screen is measured from the top left corner of the text area.

If the "Alignment" dropdown list is set to "Centered" the text will be center justified and the position will be measured from the top center of the text area.

If the "Alignment" dropdown list is set to "Right justified" the text will be right justified and the position will be measured from the right side of the text area.

Click on the "OK" button to save the changes. The caption will be selected in the print layout:



The size, position and rotation of the can then be edited using the mouse or keyboard cursor keys similar to moving and resizing photos.

Move the caption by moving the mouse to the center of the caption (a hand cursor will be displayed) then hold down the left mouse button and drag the caption to the new position.

Tip: Hold down the shift key to limit the movement to a horizontal or vertical direction only.

Alternatively use the left, right, up and down cursor keys to move the caption one pixel at a time. Hold down the shift key and use the cursor keys to move the caption 10 pixels at a time.

Resize the caption by moving the mouse to one of the circular control handles in the corners (the resize cursor will be displayed) then hold down the left mouse button and drag the corner to resize the caption.

Alternatively hold down the ctrl key and use the up and down cursor keys to resize the caption.

Rotate the caption by moving the mouse to the circular control handle at the end of the red dashed line in the center of the caption (the rotate cursor will be displayed) then hold down the left mouse button and move the mouse to rotate the caption.

Alternatively hold down the ctrl key and use the left and right cursor keys to rotate the caption in 1/2 degree increments. Hold down the ctrl and shift keys and use the cursor left and right keys to rotate the caption in 15 degree increments.

Aligning, sizing and moving multiple items

All the currently defined photos, captions and QR codes can be selected by typing ctrl+A (or by right clicking and selecting "Select all"). Alternatively just photos can be selected by typing Ctrl+P (or by right clicking and selecting "Select all photos"). You can refine the selection by holding down the ctrl key and clicking on the item to be added or removed from the selection.

Tip: All captions can be selected by typing Ctrl+P to select all photos followed by Ctrl+I to invert the selection (this will unselect all photos and select all captions).

A group of selected images can be moved by holding down the left mouse button and dragging them to the new position or by using the keyboard cursor keys.

There are various options for aligning a group of selected items e.g. left align so that a group of images are arranged in a column. To align the currently selected elements right click the mouse on the reference element and select the required alignment from the "Alignment" menu of the popup menu. The selected elements will be moved to align them with the reference element.

Note: If this doesn't produce the required result simply type ctrl+Z to undo the changes.

A group of photos can be spaced evenly by selecting them in order and then right click on any of the selected images and select "Space photos evenly". The order in which the photos are selected is important because the middle photos will be spaced evenly between the positions of the first and last photos in the selection. To select the photos in the right order simply left click on the first photo and then add the remaining photos to the selection in order by holding down the ctrl key and clicking on them.

A group of photos can be set to the same size and angle as a reference photo by selecting them and then right clicking on the reference photo and selecting "Make photos same size and angle".

Background Color and background.jpg

Normally the page background is white but it can be set to any color by clicking on the "..." button next to the colored square besides the "Show background color" checkbox.

A JPEG image named background.jpg can also be used as a background. This is useful for adding logos or fancy captions to the print or to add frames around the photos. Ideally the background.jpg

should be the same size in pixels as the printed output (e.g. 1844 x 1240 pixels for a 6"x4" print from a DNP DS40 printer). The background.jpg will be centered on the page and so if it is bigger the excess will be cropped from the top, left, right and bottom or if it is smaller it won't fill the page.

Tip: Set the background color to the same color as the edges of the background.jpg to avoid white strips on the edges of the page if the background.jpg doesn't fill it.

The background.jpg should be saved in your photobooth images folder (this is displayed in the title bar of the print layout editor window). You can copy a JPEG image into your photobooth images folder by clicking on the "Import background..." button.

To delete a background.jpg image first press the "OK" button to save the print layout and close the print layout editor window. Then delete the background.jpg from your photobooth images folder.

Note: If the positions of photos and captions don't quite line up with an imported background.jpg they can be moved by typing ctrl+A (to select all) and then pressing the cursor keys.

Headers and footers

For backwards compatibility with previous releases the print layout can also display a header image named header.jpg at the top of the page and a footer image named footer.jpg at the bottom of the page. It is recommended that you avoid using headers and footers and use the background.jpg instead. This will make it easier save layouts for future reference without them being specific to a particular printer model.

Overlay

An option overlay can be placed over the photos by placing an PNG image named overlay.png in your photobooth images folder. You can copy a PNG image into your photobooth images folder by clicking on the "Import overlay..." button.

The overlay.png should be saved as a 24-bit color PNG file with an 8-bit alpha channel containing transparency information.

To delete an overlay.png image first press the "OK" button to save the print layout and close the print layout editor window. Then delete the overlay.png from your photobooth images folder.

Please see the section headed "[How to create PNG images using Photoshop](#)" for notes on how to create an overlay.png file.

There is an example PNG file named example_overlay.png in the installation folder which can be used for testing.

Tip: The current layout can be saved as a JPEG file by holding down the Shift and Ctrl keys and then clicking on the "Print Test Page" button. This JPEG image can then be loaded into a photo editor such as Photoshop to add logos, captions etc. and then saved as a background.jpg or overlay.png image which can be imported into the layout.

Hiding and showing elements

Use the various "Show" checkboxes to control what is displayed in the print layout preview. This is useful if you want to simplify the preview display to make it easier to adjust the photo positions.

Please note: Unchecking the "Show" checkbox for an element only affects the print layout preview and does not affect the final prints.

Undo and Redo

Most actions can be undone by clicking on the "Undo" button or by typing ctrl+Z and redone by clicking on the "Redo" button or typing ctrl+Y.
You can't undo the "Printer setup", "Import background...", "Import overlay..." or "Import layout..." actions.

Exporting and importing layouts

You can save a print layout for future reference by clicking on the "Export layout..." button. This will save the entire layout including any overlay and background images to a single file with a .pblt file extension.

A previously saved layout can be imported by clicking on the "Import layout..." button. It should be possible to import layouts defined for any similar printer (i.e. one with the same page size and print resolution) provided the print margins were set accurately.

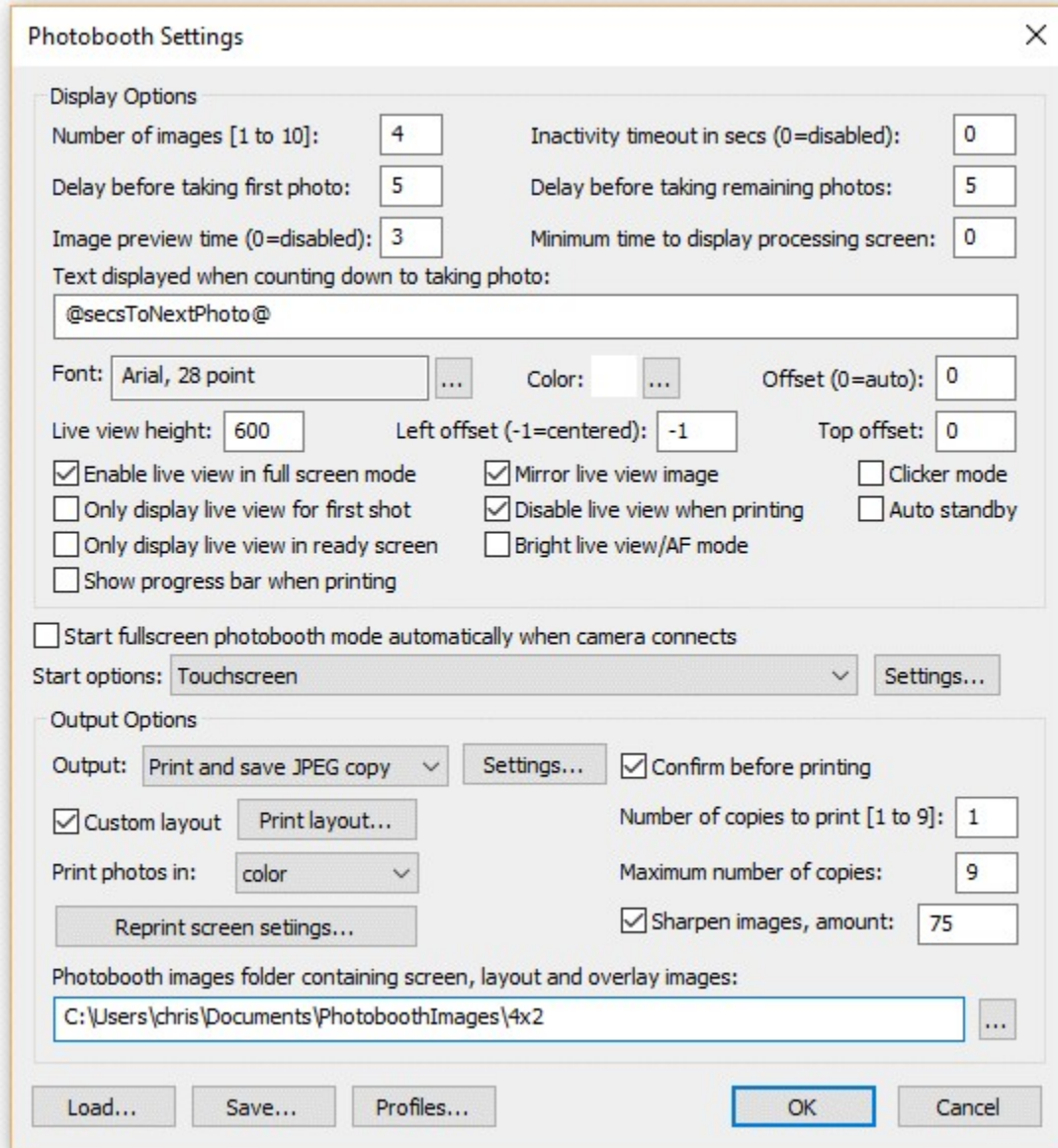
Please note: If your photobooth images folder contains a background.jpg or overlay.png image they will be deleted or overwritten when importing a print layout.

11.3 Advanced Photobooth Setup

This section gives detailed information about the various photobooth settings. If you want to get started as quickly as possible you can use the [photobooth setup wizard](#) to set everything up and then come back to this page later to find out more about tweaking the various settings.

Setting up the page layout

To setup photobooth operation select "Photobooth Settings..." from the File menu and the dialog below will be displayed:



Photobooth Settings

Display Options

Number of images [1 to 10]: Inactivity timeout in secs (0=disabled):

Delay before taking first photo: Delay before taking remaining photos:

Image preview time (0=disabled): Minimum time to display processing screen:

Text displayed when counting down to taking photo:

Font: ... Color: ... Offset (0=auto):

Live view height: Left offset (-1=centered): Top offset:

☒ Enable live view in full screen mode
 ☒ Mirror live view image
 ☐ Clicker mode
☐ Only display live view for first shot
 ☒ Disable live view when printing
 ☐ Auto standby
☐ Only display live view in ready screen
 ☐ Bright live view/AF mode
☐ Show progress bar when printing

☐ Start fullscreen photobooth mode automatically when camera connects

Start options:

Output Options

Output: ☒ Confirm before printing

☒ Custom layout

Print photos in:

Number of copies to print [1 to 9]:

Maximum number of copies:

☒ Sharpen images, amount:

Photobooth images folder containing screen, layout and overlay images:
 ...

First select the number of images to be taken and how they are arranged. This could be a single image on one sheet of paper (1 image, 1 row, 1 column), a passport style strip of images (e.g. 4 images, 4 rows, 1 column), 2x2 grid of 4 images as shown above or any other arrangement of up to 20 images arranged in a grid. Alternatively select "Custom layout" and click on the "Settings..." button next to the checkbox to position each image manually on the page (this is described in more detail later).

Using live view for long periods of time drains battery power and can cause the camera's sensor to heat up. Most camera models will automatically cancel live view after 30 minutes to prevent overheating. Fullscreen photobooth mode has an inactivity timer which will automatically cancel and restart live view after 25 minutes to prevent the camera from canceling it. Alternatively full screen photobooth mode can automatically cancel live view and display the welcome.jpg screen image if the photobooth is not used for a preset time. Live view can also be canceled manually by pressing the F6 function key. Press the F6 function key to reactivate live view and return to ready.jpg screen when the welcome.jpg screen is displayed. The inactivity timeout can be enabled by setting the "Inactivity in secs" value to the required number of seconds e.g. 120.

Next select the delay before taking each photo and how long the shot just taken is displayed on screen when shooting in fullscreen photobooth mode (this can be disabled by setting the time to 0). After taking each photo a preview can be displayed on the screen for a specified number of seconds (set this to 0 to disable the preview). The delay before taking the first photo can be set to a different value than that for the remaining photos. This is useful when using a touchscreen as it means a longer delay can be set before the first photo to give people time to move back from the touchscreen.

When the "Minimum duration in seconds before closing 'processing' screen is set to 0 the 'processing' screen will be close as soon as the data has been sent to the printer. The 'processing' screen can be displayed for longer by adjusting this value. This is useful if you want to keep displaying a message such as "Thank you! Your photos are being printed, please leave the booth now" for longer than it takes to print the images.

The countdown text is displayed before shooting each image and is updated every seconds. The following tokens can be used:

@imageNumber@ - the shot number in the photobooth sequence

@numberOfImages@ - the number of images in the photobooth seconds

@secsToNextPhoto@ - the number of seconds until the next photo in the sequence is taken

Select "Enable live view for fullscreen photobooth shooting" to display live view images in the fullscreen photobooth shooting mode. The live view image can be mirrored so that the user sees the image the same way round as when looking in a mirror. Use the height setting to resize the live view image up to its (camera dependent maximum setting). The live view image can be displayed in portrait orientation by selecting one of the portrait orientations from the View menu in the main window.

Select the "Auto standby" option to have the booth automatically switch to standby mode at startup and after each set of photos. This option is useful because it automatically disables live view when the booth is not in use which will avoid problems with the camera's sensor overheating. In standby mode the booth displays the welcome.jpg screen image. You can switch back to ready mode by typing F6 (toggle between standby and ready modes) or Ctrl+Alt+F6 (switch from standby to ready mode) or by using the "Toggle standby mode" or "Switch from standby to ready" touchscreen actions.

By default the live view images are displayed centered at the top of the screen with the count down text beneath. The position of the live view images can be adjusted using the "Left offset" and "Top offset" settings. These specify the offset in pixels from the left and top of the screen respectively. If the left offset is set to -1 the live view display will be centered horizontally on the screen.

If the count down text offset is set to 0 the count down text is automatically displayed centered in the spare space above or below the live view images (depending on whether there is more space above or below the live view images). Please make sure there is enough space for the count down text when setting the live view size and position.

Alternatively the countdown text can be manually positioned on the screen by setting the offset to a non-zero value. This value is the number of pixels the text is offset from the top of the screen. If required, the countdown text can be positioned so that it overlays the live view images.

The live view display can be cropped if required by selecting fullscreen photobooth mode and holding down the Shift key and using the cursor left and right keys to increase or decrease the cropping. Cropping removes equal amounts from the left and right of the live view image when displaying live view images in landscape orientation and from the top and bottom when using portrait orientation. When adjusting the live view cropping a status message showing the amount of cropping is shown briefly in the bottom right hand corner of the screen.

Normally the live view display, if enabled, is shown before each image in the sequence is taken. When the "Only display Live View images for the first shot in the sequence" option is selected live view images are only displayed to the user before taking the first shot of the sequence and are hidden during the rest of the sequence. If the "Only display live view in ready screen" option is selected the live view is shown in the ready screen and is hidden when the user starts the shooting sequence.

The live view display can be disabled during printing by selecting the "Disable live view when printing" checkbox. Disabling the live view during printing and displaying a suitable message in the 'processing' screen is a good way of encouraging people to leave the booth after the photos have been taken. For example you could disable live view during printing, set the minimum duration before closing the 'processing' screen to 15 secs and display the message "Thank you! Your photos are being printed and will be ready outside shortly, please leave the booth now" by editing the 'processing screen (processing.jpg).

Bright live view/AF mode

Recent Nikon cameras may display dark live view images in photobooth mode when using aperture priority or manual exposure modes. This is because they stop down the lens to the selected aperture in live view and there may not be enough light to provide bright images. The "Bright live view/AF mode" option avoids this problem by selecting the lens's maximum aperture in live view and only switching to the selected aperture when actually taking the photos. This may cause a slightly longer than usual delay at the end of the countdown before taking the photo.

A side effect of bright live view/AF mode is that the camera will attempt to auto focus before taking each photo. Auto focus can be useful if people are likely to stand at different distances from the camera but it can also cause problems if the auto focus can't focus properly. Please note that if the camera's auto focus system is unable to focus properly the camera will not take the photo and an error message asking you to stand farther from the camera will be displayed for 5 secs before retaking the photo. Please set the camera to manual focus if you do not wish to use auto focus. The camera's AF mode should be set to AF-A or AF-S in order to use AF. If it is set to AF-C the camera will take the photo immediately without attempting to auto focus.

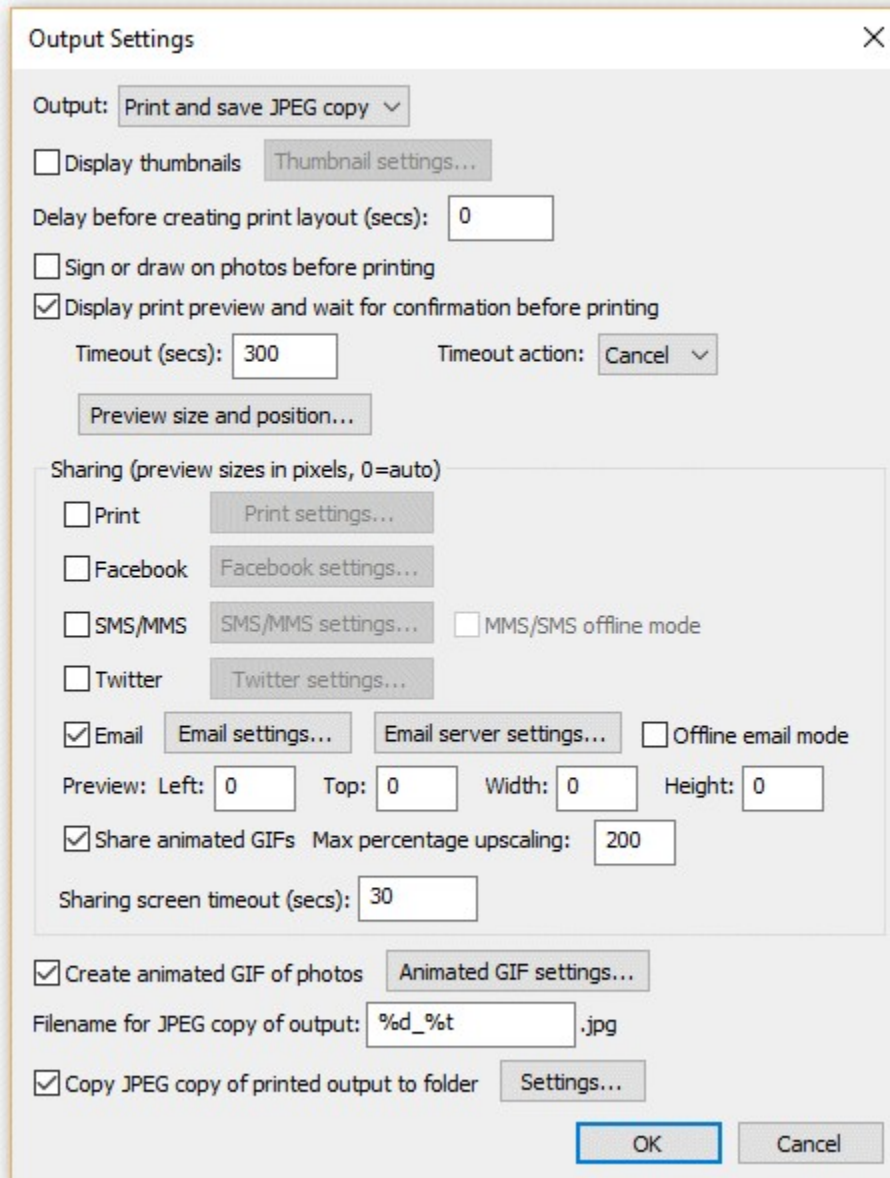
Clicker mode allows users or a photographer to choose when to take each photo rather than the standard operation where the software automatically takes the photos at preset intervals. When clicker mode is selected the software will wait until each photo is taken either by typing Ctrl+Z on the keyboard or a by using a wireless remote (e.g. a wireless presenter) connected to the PC. The wireless remote should be set up to send Ctrl+Z. The shooting sequence in clicker mode is:

1. The ready.jpg screen and live view displayed as normal until the start button is pressed (e.g. by pressing F4)
2. When the start button is pressed the 1.jpg screen will be displayed with no countdown text and the software will wait until a photo is taken by typing Ctrl+Z on the computer.
3. After each photo is taken a preview is displayed on the screen if enabled in the photobooth settings and then the screen for the next photo is displayed e.g. 2.jpg
4. After the last photo has been taken the processing.jpg screen will be displayed and the photos printed as normal

Please note: Unlike the Canon version of our photobooth software (DSLR Remote Pro for Windows) it isn't possible to take photos in clicker mode by pressing the shutter release on the camera. This is because Nikon disable all the camera controls on their cameras when live view is active and the camera is tethered to a computer.

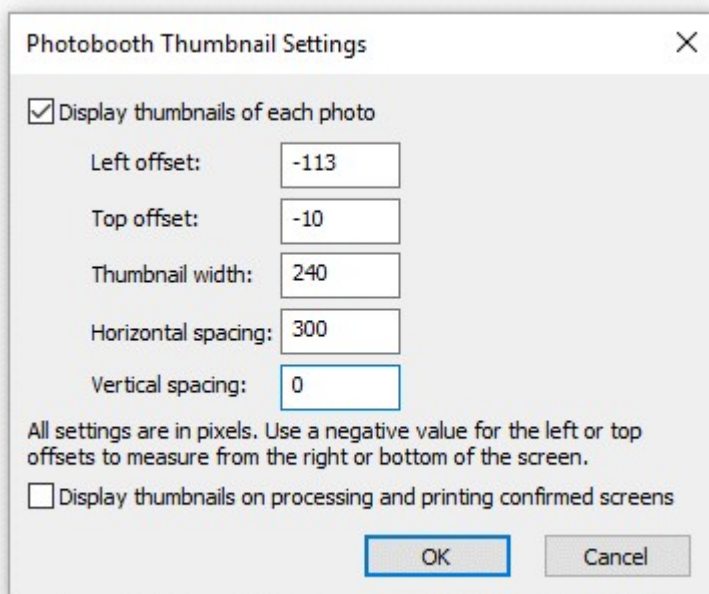
Output Settings

Click on the "Settings..." button to the right of the output options to display the output settings dialog which allows you to configure the print preview and how JPEG copies of the printed output are handled:



The "Output:" drop down list allows you to specify whether photos are printed only, printed with a JPEG copy of the layout saved in "prints" sub folder, a JPEG copy of the layout is saved in the "prints" sub folder without printing or no output action is taken. (This is the same as the "Output:" drop down list displayed in the main photobooth settings dialog).

Select "Display thumbnails" to display a small thumbnail of each photo. The thumbnails can be arranged vertically down one side of the screen or horizontally across the top or bottom of the screen. Click on the "Settings..." button to



The left offset specifies the distance in pixels of the first thumbnail from the left edge of the screen. If a negative value is specified the distance will be measured from the right edge of the screen e.g. and value of -1 will place the first thumbnail on the right of the screen. The top offset specifies the distance in pixels of the first thumbnail from the top edge of the screen. If a negative value is specified the distance will be measured from the bottom edge of the screen e.g. and value of -1 will place the first thumbnail on the bottom of the screen.

The thumbnail width specifies the width of the thumbnail in pixels (the height of the image will be calculated automatically using the aspect ratio of the photo).

The horizontal and vertical spacings specify the positions of the remaining thumbnails relative to the first thumbnail. The settings in the screenshot above will place four thumbnails 240 pixels wide across the bottom of the screen and will be centered horizontally if the screen resolution is 1366 x 768.

The default setting is to only display thumbnails during the photo booth countdowns when taking the photos and not to show them at the end of the shooting sequence on the processing or printing confirmed screens. Select the "Display thumbnails on processing and printing confirmed screens" if you also want the thumbnails to be displayed at the end of the shooting sequence when the processing or printing confirmed screens are displayed.

The "Delay before creating print layout (secs):" setting is normally set to 0 so that photos are printed as soon as possible. This setting is useful if the photos need to be modified by another program (e.g. by running a Photoshop droplet to edit the photos or using a green screen program to create high quality green screen photos) before they are printed by NKRemote. Please see the section on ["Modifying Photos Before Printing"](#) for information on how to use this option.

Select the "Sign or draw on photos before printing" option if you want to allow users to draw on the print layout before it is printed. This option is useful for letting users sign their photos when running a magic mirror photo booth with a touchscreen. Please see the section on ["Signing or Drawing on the Prints"](#) for more information on using this setting.

Select "Display print preview and wait for confirmation before printing" in the "Output Settings" dialog if you want to be able to decide whether to print the images or not (this is the same as the "Confirm before printing" checkbox displayed in the main photo booth settings dialog). When this option is selected the print layout will be displayed on the screen with "Print" and "Cancel" buttons in the top left hand corner. Users should click on the "Print" button (or press the Enter key or A key) to print the images or click on the "Cancel" button (or press the Esc or key or X key) to continue without printing. Users can also press the P key (or tap on the "Confirm printing (no JPEG copy)" touchscreen action)

to print without copying the JPEG copy of the printed output to a separate folder. This is useful if you want to offer users the choice of printing only or printing and copying the output to a separate folder (e.g. copying to a folder on another computer running Breeze Kiosk).

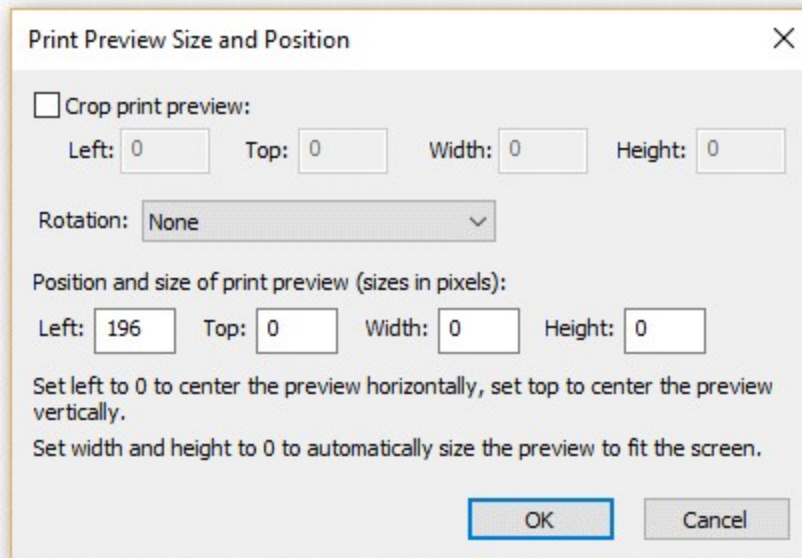
If the touchscreen input mode is selected and touchscreen actions for confirm or cancel printing are defined the "Print" and "Cancel" buttons will not be displayed. The touchscreen sensitive areas can be displayed using the confirm_printing.jpg screen image.

If a confirm_printing.jpg screen image is in the photo booth images folder this will be used for the background to the print confirmation window to allow instructions or touchscreen buttons to be displayed.

If a printing_confirmed.jpg screen image is in the photo booth images folder this will be displayed if the user selects printing. This allows the processing.jpg screen to show a message like "Processing, please wait..." and the printing_confirmed.jpg to display a message like "Thank you, please leave the booth now. Your photos are being printed outside."

Please note that if the "Sign or draw on photos before printing" option is selected the drawing screen can be used to accept or reject the photos and to select the number of copies to print. In most cases the print confirmation screen is not required if the "Sign or draw on photos before printing" option is used.

Click on the "Preview size and position..." to specify how the print preview image should be displayed:



The print preview can be cropped by enabling "Crop print preview" and specifying the top left corner and the width and height of the cropped area (these settings are in pixels). This is useful when printing double strips where two 2"x6" strips are printed on a single sheet of 4"x6" paper and automatically cut into two 2"x6" strips by the printer. The print preview would normally show the whole 4"x6" print with the two strips side by side, but by cropping the print preview just one strip can be displayed. For example a typical dyesub printer prints at 300 dpi giving a print size of 1200x1800 pixels when printing 4"x6" media in portrait orientation. This can be cropped so that only the left half of the strip is displayed in the print preview by setting left=0, top=0, width=600, height=1800.

The print preview can be rotated by 90 degrees CW, 90 degrees CCW or 180 degrees using the rotation setting. Normally this can be set to "None". If the print preview is displayed on its side it probably means that the page orientation is set incorrectly in the printer settings. The rotation setting can be used to compensate for this, but it would be better to change the page orientation setting in the printer settings and update the print layout.

The size and position of the print preview can be set print preview offset, width and height settings. If

these are all set to zero the print preview will be sized to fill the window and will be centered on the screen. The print preview can be moved on the screen, e.g. to make space for the print confirmation buttons, using the left and top offset settings. For example to leave a space 200 pixels wide on the left of the screen set the print preview left offset to 200. If the print preview width and height settings are set to 0 the print preview will be resized to fill the rest of the screen. Set the print preview width and height settings to values other than 0 to specify the size of the print preview image.

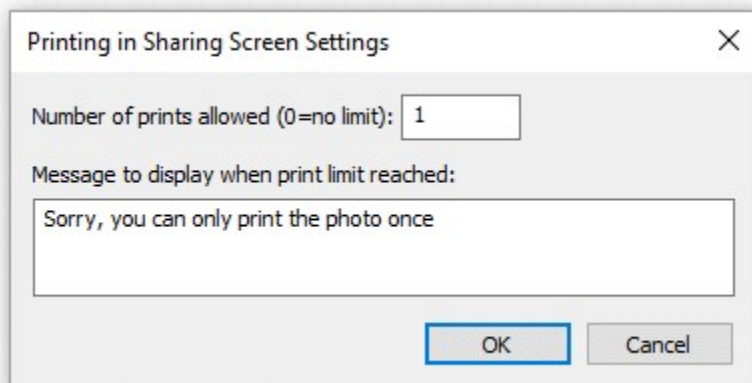
Use the "Timeout (secs):" to specify a timeout for how long the print preview should be displayed (the default timeout is 300 secs). Set the timeout action dropdown list to the action that should be performed when the timeout occurs (the default setting is to cancel the print).

Use the sharing options to enable the sharing of photos by uploading to the user's own Facebook page, Tweeting, texting (MMS or SMS) or by sending photos email. Please see the section on [uploading to social networks](#) for information on how to set this up.

Select the "Share animated GIFs" to enable the sharing of animated GIFs by email, Facebook, Twitter or texting. When sharing animated GIFs on Facebook the GIFs are hosted on www.giphy.com

Please note: When sharing animated GIFs please note that the files can be large and so it is best to keep the image size small to avoid excessively large files for sharing. This can result in the animated GIF appearing very small in the sharing screen. The preview can be made large by increasing the "Max percentage upscaling setting" e.g. set this to 200 to display the animated GIF 2x normal size or 300 for 3x normal size.

Select the "Printing" option to give users the option to print photos in the sharing screen. Users can print the photos by typing P or by using the "Sharing: Print photos" touchscreen action. Photos can be printed if the output is set to "Print and save JPEG copy" or "JPEG copy only". The share_printing.jpg screen is displayed for a minimum of 5 seconds each time the user selects printing from the sharing screen. The number of prints that can be made from the sharing screen can be limited by clicking on the "Settings..." button:



Set the "Number of prints allowed" to the maximum number of prints allowed or to 0 if there is not limit. Then enter the message that is displayed if the user tries to print more copies than is allowed.

If the user prints the photos one or more times from the sharing screen the photos additional copies won't be printed if the output is set to "Print and save JPEG copy". If the user doesn't print the photos from the sharing screen and the output is set to "Print and save JPEG copy" the photos will be printed when the sharing screen is closed using the currently selected number of print copies.

By default the sharing screen shows a print preview image centered on the screen with a height of no more than 2/3 the height of the screen. This setting can be overridden by setting the preview left, top, right and bottom settings to non-zero values. The left value is the offset in pixels from the left edge of the screen. The top value is the offset in pixels from the top edge of the screen. The width and height values specify the maximum width of the preview image in pixels.

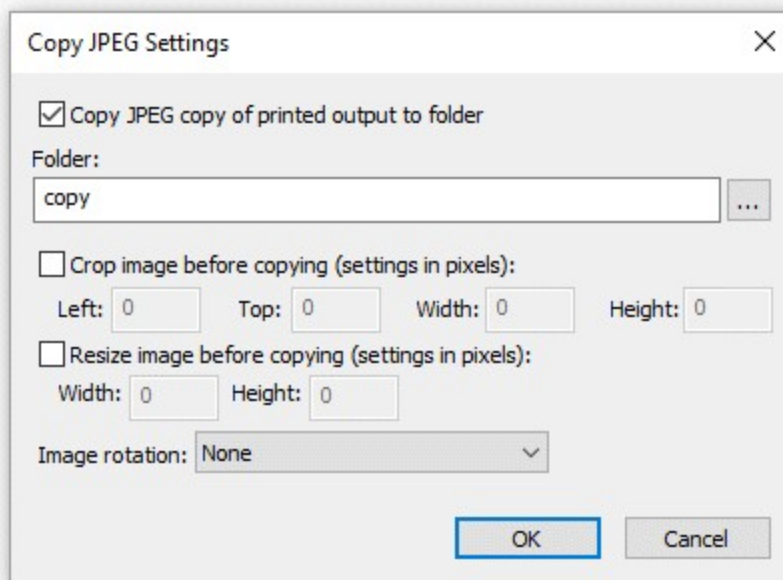
Select the "Create animated GIF of photos" option to created an animated GIF of the photos taken

with an optional overlay and title page.

Please see the [Animated GIF section](#) for details on how to set up animated GIFs in stills photo booth mode and in video mode.

When the output option is set to "Print and save JPEG copy" or "JPEG copy only" the filename of the JPEG copy of the printed output can be specified using the "Filename for JPEG copy of output:" edit box. This value can use tokens to specify values which are determined at run time e.g. %d represents the date and %t the time. Please see the [section on tokens](#) for a list of available tokens. The JPEG copy of the printed output is an exact copy of what is sent to the printer and can be used for reprints after an event.

An optional second copy of the printed output can be saved in a different folder by selecting the "Copy JPEG copy of printed output to folder:" option. Click on the "Settings..." button to display the "Copy JPEG Settings" dialog:



You can specify the folder where the additional copy of the printed output is saved using the "Folder:" edit box. If this is left empty the JPEG will be saved in a sub folder named "copy". You can also enter the full pathname of the folder where the images should be copied to (e.g. "C:\Print copies") or the name of a different sub folder (e.g. "Backup"). The folder name can also use tokens to specify values which are determined at run time. The second copy of the print output can also be cropped, resized and rotated before it is saved.

Photobooth Start options

The following start options are available:

"Keyboard only (ignore mouse or touchscreen clicks)" This is the default setting where the photobooth sequence can be started using the normal keyboard shortcuts e.g. F4

"Left click anywhere to start" This setting allows a mouse or a touchscreen to start the photobooth sequence. The user simply needs to click the left mouse button or press anywhere on the display if using a touchscreen

"Left click to start, right click to toggle B&W" This setting allows a standard mouse to be used to start the sequence (left click) or to toggle between B&W and color modes (right click)

mode"

"Left click top left to start"

This setting is designed for touchscreens and requires the user to click in the top left fifth of the screen to start the sequence. The ready.jpg image should be edited to show the user where to touch the screen to start the sequence.

"Left click top left to start color sequence, bottom left for B&W"

This setting is designed for touchscreens and requires the user to click in the top left fifth of the screen to start the sequence in color and the bottom left fifth to start it in black and white. The ready.jpg image should be edited to show the user which areas to touch to start the sequence.

"Touchscreen"

This setting allows up to 10 areas on a touchscreen to be given different actions (described in more detail below)

Touchscreen Settings

Up to 18 areas can be defined on a touchscreen to control different photo booth settings such as starting the sequence, switching between color and B&W, selecting the number of print copies etc. First select the "Touchscreen" option in the "Start options" dropdown list and then click on the "Settings..." button to display the touchscreen settings dialog:

Touchscreen Settings

Select the action and coordinates of up to 18 areas on the touchscreen:

Action	Left	Top	Right	Bottom
Action 1: Start photobooth	0	0	191	191
Action 2: Select color mode	0	192	191	383
Action 3: Select B&W mode	0	384	191	575
Action 4: Confirm printing	0	0	191	191
Action 5: Cancel printing	0	192	191	383
Action 6: Sharing: Facebook upload	0	0	191	191
Action 7: Sharing: Email photos	0	192	191	383
Action 8: Sharing: Close sharing screen	0	384	191	575
Action 9: No action	0	0	0	0
Action 10: No action	0	0	0	0
Action 11: No action	0	0	0	0
Action 12: No action	0	0	0	0
Action 13: No action	0	0	0	0
Action 14: No action	0	0	0	0
Action 15: No action	0	0	0	0
Action 16: No action	0	0	0	0
Action 17: No action	0	0	0	0
Action 18: No action	0	0	0	0

Photo booth exit action password (leave blank for no password): breeze

Touchscreen keyboard: Not displayed Test keyboard... Timeout (secs): 30

Show/edit touchscreen areas... OK Cancel

Select the action using the dropdown lists on the left and the area on the touchscreen that activates the action using the corresponding "Left", "Top", "Right" and "Bottom" edit boxes. The values entered in the edit boxes are the screen coordinates in pixels with the origin in the top left corner. The example in the screenshot above defines three sensitive areas on the touchscreen:

1. A square area 300x300 pixels in the top left corner of the screen which starts the photobooth sequence (action is set to "Start")
2. A smaller rectangular area 300x150 pixels in size located below the first area which selects B&W mode
3. A second area similar to item 2 which selects color mode

Touchscreen actions can also be viewed or edited interactively using a mouse by clicking on the "Show/edit touchscreen areas..." button. When the touchscreen action editor is first opened it will display the ready.jpg screen and the touchscreen actions for as boxes with white outlines and green text indicating the action. The action can be moved by clicking in the box and moving the mouse with

the left button held down. The size of the box can be adjusted by dragging the corners with the left mouse button held down. Touchscreen actions can be deleted by right clicking on the action and selecting "Delete action" from the menu. New actions added by right clicking the mouse and selecting the "Add action...". Different screens can be displayed by right clicking the mouse and selecting the required screen.

Exit the touchscreen action editor by pressing the escape key or by right clicking the mouse and selecting "Exit" from the menu. If the touchscreen actions have been modified a confirmation dialog will be displayed asking you if you want to save the changes.

Please note: the touchscreen action editor only edits the positions of the touchscreen actions. It doesn't edit the JPEG screen images which display the graphics for the touchscreen buttons - to do this you need to use an image editor such as Photoshop Elements.

An optional password can be used to protect the "Exit fullscreen photobooth" action by entering the password in the "Photo booth exit action password" field. Many photo booth operators define a secret touchscreen action on the screen to exit photo booth mode which can cause problems if users find it because it will allow them to break out of full screen photo booth mode. Using a password to protect this should prevent problems if users manage to find the secret exit photo booth mode touchscreen action.

An optional touchscreen keyboard can be displayed at the start or end of the photo booth shooting sequence to allow users to enter information such as their email address. This information is stored in the XML file saved after each shooting sequence. Use the dropdown list to select when the touchscreen keyboard should be displayed and the "Test keyboard..." button to test it. The "Timeout (secs):" value allows a timeout for the keyboard to be specified. If the user does not touch the touchscreen before the timeout the touchscreen keyboard will be automatically closed.

Please see the section describing the [touchscreen keyboard](#) for more details.

Saving settings for future reference and using profiles

Settings can be saved to file for future reference by pressing the "Save..." button and reloaded by pressing the "Load..." button. This makes it possible to define a number of different layouts which can be selected before entering fullscreen photobooth mode. Please note that layout depends on the size of the page which is affected by the printer settings. The values saved for one setup may not produce the same results if a different printer is used or the page or resolution settings have changed.

The image download directory specified in [preferences](#) is not saved with the photobooth settings, but you can use the tokens {photoboothDir} and {photoboothSubdir} to specify a different output directory for each profile.

{photoboothDir} gives the full path of the photobooth images folder e.g. C:

\Photobooth\Layouts\MyLayout

{photoboothSubdir} gives the name of the photobooth subfolder e.g. if the photobooth images folder is C:\Photobooth\Layouts\MyLayout then {photoboothSubdir} would become MyLayout

For example:

strips_profile: outputs standard photobooth strips to the default printer and uses C:

\Photobooth\Layouts\strips as its photobooth images dir

cubes_profile: takes four photos with the output set to 'none' and uses C:\Photobooth\Layouts\cubes as its photobooth images dir. Its output directory is then monitored by the [Hot Folder Prints](#) utility which formats the images as a photo cube and sends them to a different printer.

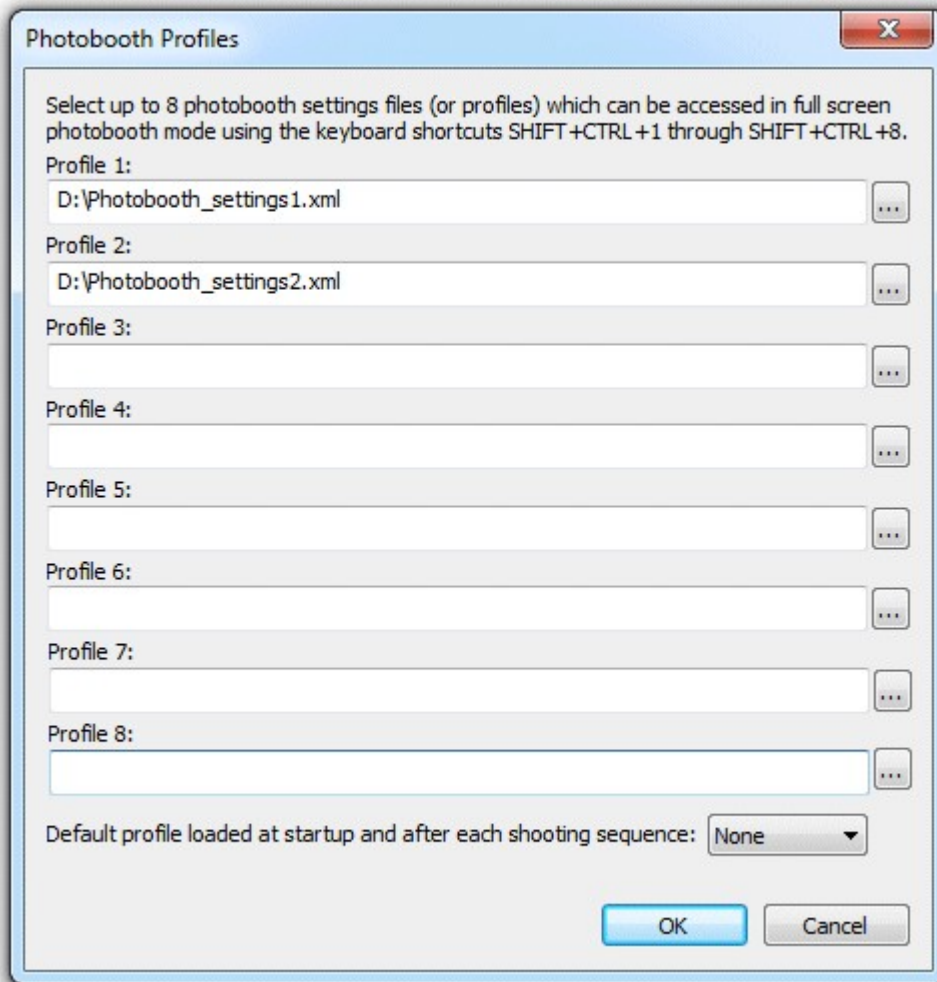
To make this work the download directory in [preferences](#) could be set to C:

\Photobooth\Output\{photoboothSubdir}. This would save images from the strips_profile to C:

\Photobooth\Output\strips and the cubes_profile to C:\Photobooth\Output\cubes. The [Hot Folder Prints](#) utility could then be setup to monitor the C:\Photobooth\Output\cubes folder for images and print them out automatically when the required number of images are available.

Profiles allow you to use a keyboard shortcut (or touchscreen action) to automatically switch between different sets of saved settings. To assign a profile to a keyboard shortcut click on the "Profiles..."

button at the bottom of the photobooth settings dialog to display the following dialog:



Then click on "." button for the appropriate profile and select a previously saved set of photobooth settings. In the screenshot above profile 1 (keyboard shortcut SHIFT+CTRL+1) loads the settings file photobooth_settings1.xml and profile 2 (keyboard shortcut SHIFT+CTRL+2) loads the settings file photobooth_settings2.xml. Profiles can be used to allow users to select different sets of photobooth settings e.g. profile 1 might be a traditional layout of two columns of four images and profile 2 might be a custom layout with one large image and several smaller ones. Profiles can be selected using the touchscreen actions (described above) allowing a user to easily switch between different settings.

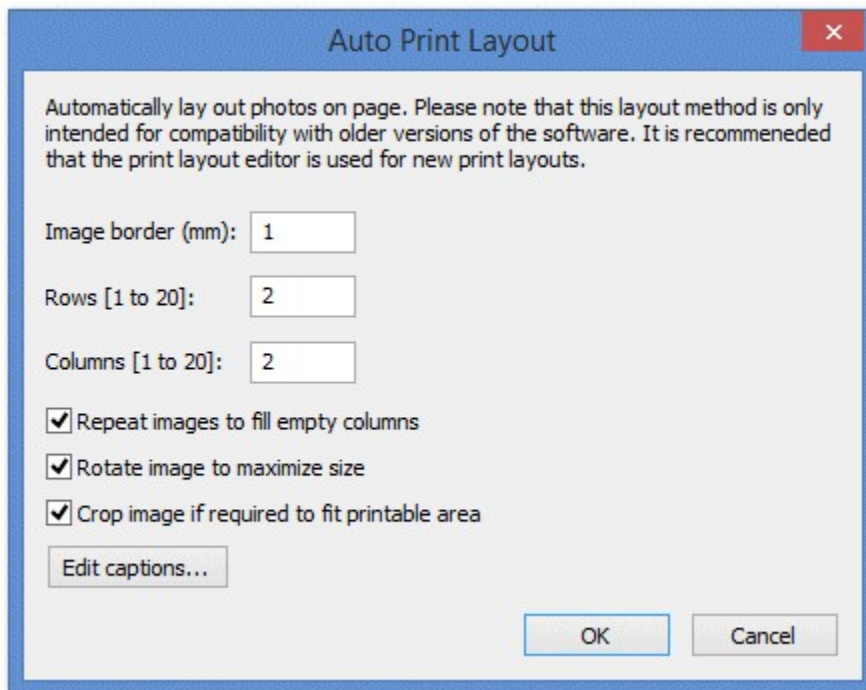
The tokens {photoboothDir} and {photoboothSubDir} can be used to specify the pathname of the profile file to be loaded. The tokens are replaced with the value of current photobooth images folder and provide a way to use more than 8 profiles.

The default profile setting can be used to ensure the photobooth starts up in a known state and is reset to a known state at the end of each photobooth shooting sequence e.g. setting the photobooth to stills mode, color photos and one set of prints.

Print layout

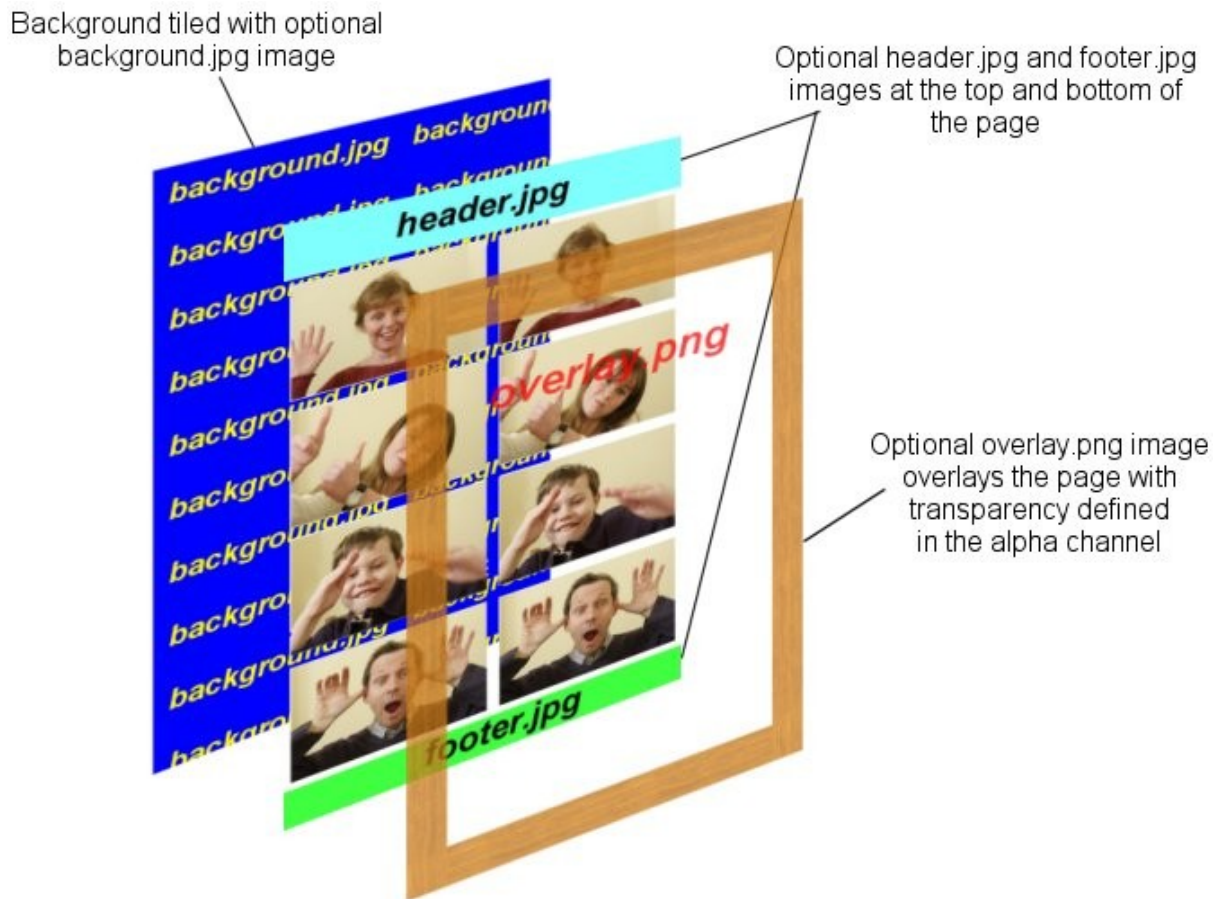
The recommended method for creating a print layout is to use the [print layout editor](#) and one of the preset print layouts. The automatic print layout method described below has been retained for compatibility with older versions of NKRemote. The automatic print layout option is used if the "Custom

layout" checkbox is not selected and the options can be accessed by clicking on the "Print layout.." button:



The print can have an optional background with a header and or footer image. When NKRemote prepares the image for printing it looks for the following files in the photo booth images folder:

- background.jpg - optional image which is tiled to fill the background of the printed page
- header.jpg - optional image which is centered and placed at the top of the page
- footer.jpg - optional image which is centered and placed at the bottom of the page
- left.jpg - optional image which is centered vertically and placed on the left of the page between the header and footer
- right.jpg - optional image which is centered vertically and placed on the right of the page between the header and footer
- middle.jpg - optional image which is centered vertically and placed between each column of images
- overlay.png - optional image which is overlays the page and uses transparency information stored in the alpha channel



The images are then arranged in a grid which fills the printable area of the page less any space taken up by a header or footer image. If the "Rotate image to maximize size" checkbox is selected the images are rotated through 90 degrees if this would give a larger image. e.g. if the printable area for the image within the grid is 80mm high and 50mm wide and the image was shot in landscape orientation it would be rotated by 90 degrees to better fill the printable area.

If the number of images matches the number of rows the images can be repeated in each column by selecting "Repeat images to fill empty columns". This is useful when printing strips of images on paper from a dye sublimation printer e.g. two copies of 4x1 strips on a sheet of 8x6 paper.

The easiest way to see how this all fits together is to run NKRemote and take some test shots. First setup the printer settings by selecting "Printer Setup..." from the File menu and then set basic photobooth settings using the setup dialog. Then take a test sequence by pressing Shift+F4 or selecting "Photobooth Test Shot" from the File menu. This will take a sequence of images and create a test page which is saved as photobooth_test_shot.jpg. Load this image into an image editor (or BreezeBrowser Pro) to view the layout. Then make any changes to the background.jpg, header.jpg, footer.jpg or overlay.png images and the photobooth settings and take more test shots until you're happy with the layout.

Some example layouts using four shots arranged in two columns of four:



With left.jpg down the left border, middle.jpg placed between the columns, right.jpg down the right border and footer.jpg at the bottom



Same layout as the first example but with no left.jpg or right.jpg images defining the left and right borders



Same layout as the previous example but with no middle.jpg image placed between the columns



Same layout as the previous example but with a 2mm border around each image



A custom layout where the size and position of each photo is specified individually

Other output options

The images can be sharpened by selecting the "Sharpen images" checkbox and specifying a sharpening amount in the range 0 to 100. The amount of sharpening required depends on personal taste, the camera and the printer. A value of around 75 is a good starting point.

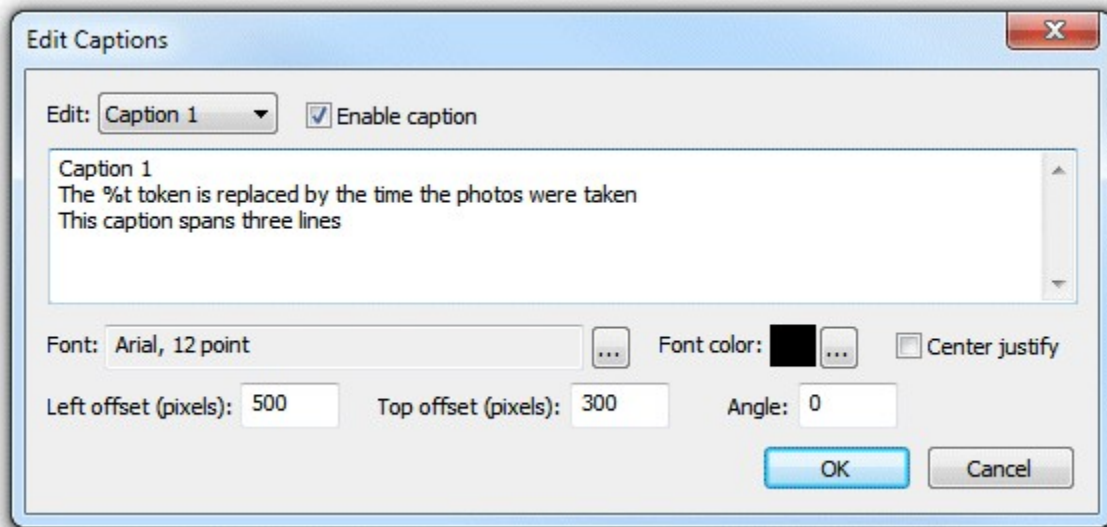
If the "Crop image if required to fit the printable area" checkbox is selected the image will be cropped to fill the printable area within the grid. e.g. if the printable area within the grid is square equal portions of the left and right of the image will be cropped to make it square.

Photos can be printed in color, pure black and white or toned black and white by selecting the appropriate option from the dropdown list headed "Print photos:". You can also switch between these options when the software is running in fullscreen photobooth mode by using the following keyboard shortcuts: Ctrl+C to select color, Ctrl+B to select black and white, Ctrl+T to select toning, Ctrl+W to toggle between color and B&W and W to cycle through color, B&W and toning.

When the "toned" option is selected the hue and saturation settings can be adjusted when the software is running in fullscreen photobooth mode by using the following keyboard shortcuts: Ctrl+cursor left/Ctrl+right to adjust the hue and Ctrl+cursor up/Ctrl+down to adjust the saturation. A status message showing the current settings is briefly displayed in the bottom right hand corner of the display when adjusting the hue and saturation in fullscreen photobooth mode. Setting the B&W toning hue to 200 and the saturation to 40 is a good starting point for sepia toned prints.

Captions

Up to 12 captions can be added by selecting the "Edit captions..." button:



To enable a caption select it from the "Edit:" drop down list. Then check the "Enable caption" checkbox to enable the caption or uncheck it to disable the caption.

Each caption can occupy more than one line if required and is left justified by default. Select the "Center justify" checkbox to center justify multiple lines. The size, font, color and rotation (in degrees clockwise) of the caption text can also be specified. The font size is calculated using the printer resolution and so a 72 point font should give text one inch high (one 'point' is 1/72 of an inch). The caption is printed in the selected font color with a transparent background. Tokens can be used in the caption text to insert values such as %d for the date and %t for the time the sequence started, {comment} for the comments entered in the main screen and {filename} for the filename used for the JPEG copy of the print layout. [Please see the section on tokens](#) for a list of tokens available. Enter the position for the captions as offsets in pixels from the top and the left of the page.

Applying effects to images before printing

You can use the [editor command](#) to run a command or script on each image after it has been downloaded. This could be used to run a Photoshop droplet to modify the image. You may need to add a delay to allow time for the droplet to finish before the images are printed. This can be done by setting the following DWORD value in the Windows registry:

```
HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100
\PhotoboothDelayBeforePrintingInSecs
```

The delay can be cut short by typing Ctrl+Z. This is useful if a script is used to post process the images because the delay can be minimized if the script sends Ctrl+Z after processing the images.

Please see the section on ["Modifying Photos Before Printing"](#) for more details.

Images displayed to the user

If full screen mode is selected (by pressing F11 or Ctrl+F4 to enter full screen mode and display the ready image) a series of images can be displayed to the user to show them what's happening and to advertise the photobooth. These images are held in the same folder as the background, header and footer images and are as follows:

ready.jpg - image displayed when NKRemote is ready to take the next set of photos
1.jpg, 2.jpg etc. - image displayed before taking the first, second, third etc. images together with the text specified in the setting dialog
taking.jpg - image displayed for approximately 1 sec before taking each shot
processing.jpg - image displayed after taking the photos while NKRemote formats and sends the page to the printer
camera_not_connected.jpg - image displayed when the camera is turned off or disconnected
welcome.jpg - image displayed when the inactivity timer has canceled live view or standby mode has been selected by pressing F6
confirm_printing.jpg - optional background image when displaying print confirmation screen
printing_confirmed.jpg - optional image displayed if user selects printing from the print confirmation screen
keyboard_input_ok.jpg - image displayed if user selects 'ok' from the on screen keyboard after the photos have been taken
keyboard_input_cancel.jpg - image displayed if user selects 'cancel' from the on screen keyboard after the photos have been taken

These images can be JPEGs containing any information you like and are displayed centered on the display with a black background. The images 1.jpg, 2.jpg etc are displayed together with the text defined in the settings dialog which can be used to give a count down timer before each picture. The text is displayed centered on the screen below the live view display, if applicable, as white text on a transparent background. The following tokens can be used in the text:

@imageNumber@ - the number of the image in the sequence starting from 1
@numberOfImages@ - the number of images in the sequence
@secsToNextPhoto@ - the number of seconds until the next photo is taken

The images displayed to the user should be the same size or bigger than the computer's display. If the images are too small they will be expanded to fit with a black border and a small warning message will be displayed in the bottom left corner showing the image size and the display size.

When using live view in photobooth mode the live view images will not be updated while the camera is actually taking each picture. This will cause the live view display to freeze for a couple of seconds and can confuse some users as it shows the live view just before the picture is taken and this will be slightly different from the actual photo. To avoid this problem the live view display will be blanked out when the photo is taken if you define a release.jpg image.

It is also possible to display different screens depending on whether color, black and white or monochrome toned mode is selected and the number of print copies. This provides a way of giving feedback to the user when different settings have been selected.

The way it works is to check for a suffix after the filename for the appropriate screen image in the form <screen>_<b|c|t><1..9>.jpg where <screen> is the name of the screen image e.g. "ready", <b|c|t> is the color mode: "b" for black and white, "c" for color or "t" for monochrome toned and <1..9> is the number of print copies e.g. "1" is one copy is selected.

For example when the ready.jpg image is to be displayed, the color mode is set to black and white and the number of print copies is set to 2 the software will look for a suitable screen image in the following order:

ready_b2.jpg - i.e. "ready" + black and white + 2 copies selected or if this isn't found it looks for:
ready_b.jpg - i.e. "ready" + black and white or if this isn't found it looks for:
ready_2.jpg - i.e. "ready" + 2 copies selected or if this isn't found it looks for:
ready.jpg

So to have screens to indicate the color mode and the number of print copies from 1 to 3 you need the following "ready" screens: ready_c1.jpg, ready_c2.jpg, ready_c3.jpg, ready_b1.jpg, ready_b2.jpg, ready_b3.jpg.

When a setting is changed, e.g. the color mode is set to black and white, the screen image is updated automatically to show the user the current status.

Using movie files to animate screens

Movie files can be displayed on the screens by placing a movie file in MP4 or QuickTime MOV format in the photobooth images folder and giving it the same name as the screen image. For example, to play an MP4 movie file when the ready.jpg screen is displayed the movie file should be named ready.mp4. Movie files can't overlap the live view display and so if live view is active the movie will be displayed in the area below the live view.

Append "_loop" to the filename, e.g. ready_loop.mp4, if you want the movie to automatically restart from the beginning and play continuously.

By default movie files are displayed centered on the screen unless live view is active in which case they are displayed below the live view. Movie files can also be positioned manually by appending the offsets from the left and top of the screen to the filename in the form _{LeftOffset}+{TopOffset} e.g. to position the ready.mp4 movie 200 pixels from the left of the screen and 100 pixels from the top the file should be named ready_200+100.mp4 (or ready_loop_200+100.mp4 if you want it to play continuously). If the movie is larger than the screen it will be automatically scaled to fit the screen.

When a movie is displayed on the countdown screen (e.g. by naming it 1.mp4) it replaces the normal countdown text and is only played once. Approximately 1 second before the end of the movie the taking.jpg screen is displayed and then the photo is taken when the movie reaches the end. There is a sample movie file called countdown.mp4 in the folder where NKRemote is installed. To use this simply copy it to your photobooth images folder and rename it to 1.mp4, 2.mp4 etc.

Important: The delay before taking each photo must be set to 2 secs or more otherwise the countdown movie will not be displayed.

If the MP4 movie file does not play correctly (e.g. portrait orientation MP4 files created using the h.264 CODEC not filling the screen) please try transcoding it to use a different CODEC such as MPEG. This can be done using free tools such as [HandBrake](#).

Audio Prompts

Audio prompts can be added by placing a WAV sound file in the photobooth images folder and giving it the same name as prompt screen. For example to play a sound when the photobooth is ready copy a WAV file named ready.wav into the photobooth images folder and it will be played when the ready.jpg image is displayed. You can also play an audio file when the touchscreen keyboard is displayed by naming it keyboard.wav and placing it in the photobooth images folder.

Note: There is no need to use a WAV file if you are already using a movie file (see above) because movie files can contain both pictures and sound.

The easiest way to see how this works is to try it out. To do this run NKRemote then press Ctrl+F4 to display the ready screen. Then F4 to start the photobooth shooting sequence.

A typical 4 picture sequence would be:

At startup: "ready.jpg" image displayed on screen and "ready.wav" played once (if present)

Sequence started: "1.jpg" image displayed on screen together with countdown text and "1.wav" played once (if present)

Approx 1 sec before taking picture #1: "taking.jpg" image displayed on screen and "taking.wav" played once (if present)

After taking picture #1: preview image displayed for the required number of seconds (if enabled in

the settings) then "2.jpg" image displayed on screen together with countdown text and "2.wav" played once (if present)

Approx 1 sec before taking picture #2: "taking.jpg" image displayed on screen and "taking.wav" played once (if present)

After taking picture #2: preview image displayed for the required number of seconds (if enabled in the settings) then "3.jpg" image displayed on screen together with countdown text and "3.wav" played once (if present)

Approx 1 sec before taking picture #3: "taking.jpg" image displayed on screen and "taking.wav" played once (if present)

After taking picture #3: preview image displayed for the required number of seconds (if enabled in the settings) then "4.jpg" image displayed on screen together with countdown text and "4.wav" played once (if present)

Approx 1 sec before taking picture #4: "taking.jpg" image displayed on screen and "taking.wav" played once (if present)

After taking picture #4: preview image displayed for the required number of seconds (if enabled in the settings) then "processing.jpg" image displayed on screen and "processing.wav" played once (if present). During this time the images are formatted ready for output and either saved to file or sent to the printer queue. When this has finished the screen goes back to the "ready.jpg" image and the ready.wav sound file is played ready for the next sequence.

It is also possible to display different screens depending on whether color, black and white or monochrome toned mode is selected and the number of print copies. This makes it possible to show the user which settings have been selected and could be used as part of a touchscreen menu system. The way it works is to check for a suffix after the filename for the appropriate screen image in the form <screen>_<b|c|t><1..9>.jpg where <screen> is the name of the screen image e.g. "ready", <b|c|t> is the color mode: "b" for black and white, "c" for color or "t" for monochrome toned and <1..9> is the number of print copies e.g. "1" is one copy is selected.

For example when the ready.jpg image is to be displayed, the color mode is set to black and white and the number of print copies is set to 2 the software will look for a suitable screen image in the following order:

ready_b2.jpg - i.e. "ready" + black and white + 2 copies selected or if this isn't found it looks for:
ready_b.jpg - i.e. "ready" + black and white or if this isn't found it looks for:
ready_2.jpg - i.e. "ready" + 2 copies selected or if this isn't found it looks for:
ready.jpg

So to have screens to indicate the color mode and the number of print copies from 1 to 3 you need the following "ready" screens: ready_c1.jpg, ready_c2.jpg, ready_c3.jpg, ready_b1.jpg, ready_b2.jpg, ready_b3.jpg.

When a setting is changed, e.g. the color mode is set to black and white, the screen image is updated automatically to show the user the current status.

Running External Commands

External commands can be used to customize the way the photobooth works e.g. by emailing images or turning lights on and off. There are three different ways external commands can be run when shooting in full screen photobooth mode:

1. After each photo is downloaded
2. When the photobooth screen changes during the photobooth shooting sequence
3. When the XML summary file is written after the photobooth output has been printed or saved

Running commands after downloading each photo

You can use the [editor command](#) to run a command or script on each image after it has been downloaded. This could be used to run a Photoshop droplet to modify the image. You may need to add a delay to allow time for the droplet to finish before the images are printed. This can be done by setting the following value in the Windows registry:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100
 \PhotoboothDelayBeforePrintingInSecs

Running commands when the photobooth screen changes

This allows a command to be run each time the photobooth screen changes during the photobooth shooting sequence. The full pathname of the screen image is passed as a command line argument to the command e.g. C:\Program Files\BreezeSys\NKRemote\PhotoboothImages\ready.jpg. To enable this two values need to be stored in the Windows registry: PhotoboothStatusCmdEnable and PhotoboothStatusCmd (see below for details).

Running a command when the XML summary file is written

This allows a command to be run after the photobooth output has been saved or printed and the [XML summary file has](#) been written. The full pathname of the XML summary file is passed as a command line argument to the command. To enable this two values need to be stored in the Windows registry: PhotoboothStatusCmdEnable and PhotoboothStatusCmdXML (see below for details).

Windows registry settings

To enable the photobooth screen change or XML summary file commands the following REG_DWORD value in the Windows registry should be set to 1:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\PhotoboothStatusCmdEnable

The photobooth screen change command is defined using the following REG_SZ value:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\PhotoboothStatusCmd

The XML summary file command is defined using the following REG_SZ value:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\PhotoboothStatusCmdXML

Enter an empty string or delete the registry value for PhotoboothStatusCmd or PhotoboothStatusCmdXML if you want to run one command but not the other. The values can be edited using the Windows regedit utility or by creating a registry file like the one below, giving it a .reg file extension and then double clicking on the file in Windows Explorer to copy the settings to the registry:

Windows Registry Editor Version 5.00

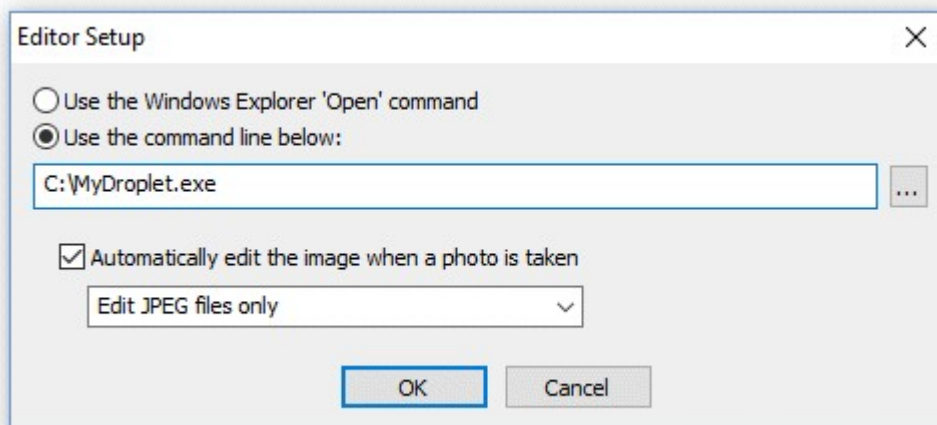
```
[HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100]
"PhotoboothStatusCmdEnable"=dword:00000001
"PhotoboothStatusCmd"="C:\\Program Files\\BreezeSys\\NKRemote\\PhotoboothImages\\status.exe"
"PhotoboothStatusCmdXML"="C:\\Program Files\\BreezeSys\\NKRemote\\PhotoboothImages\\statusXML.exe"
```

11.4 Modifying Photos Before Printing

Sometimes it is necessary to modify the photos using another application before they are printed by NKRemote. This could be to run a Photoshop droplet to apply a special effect or to produce a specific "look" to the photos or to run a green screen application to create high quality green screen images.

Step 1 - Run a command on each photo after it has been downloaded

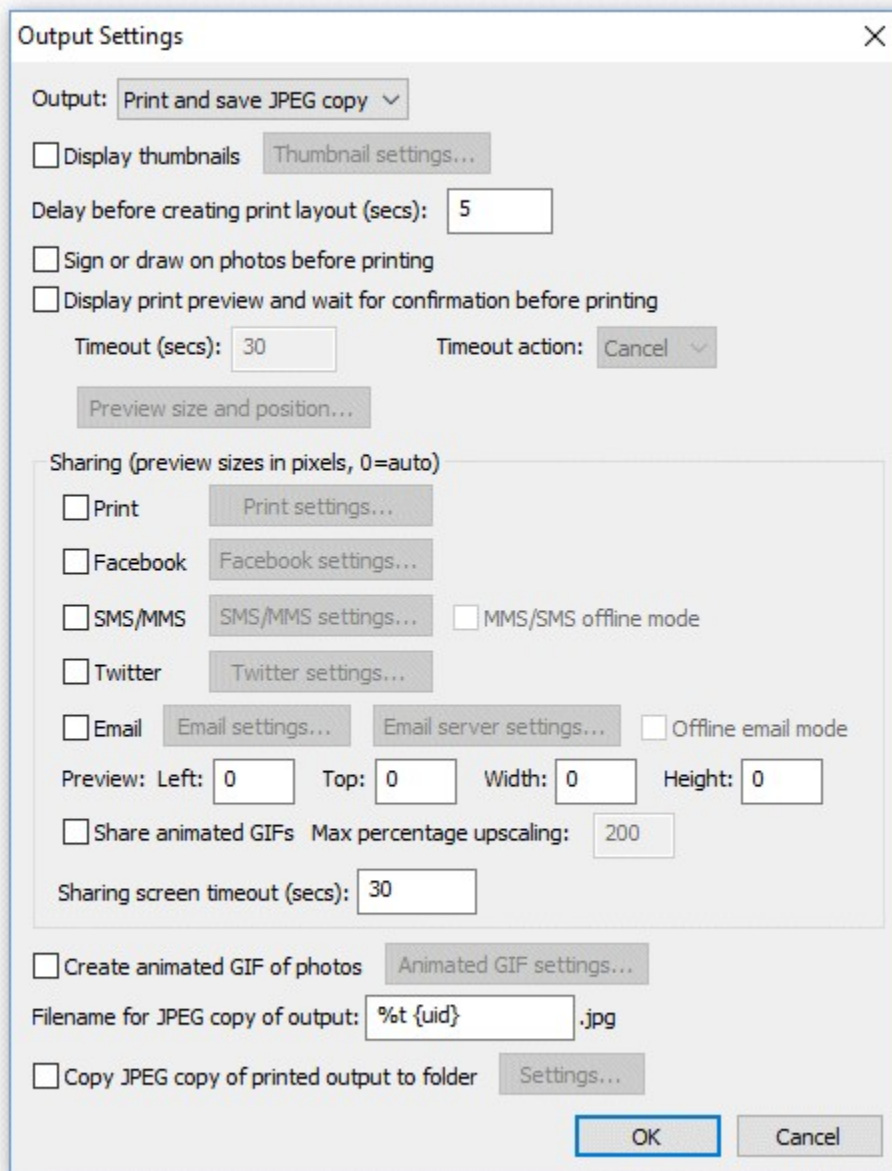
The Photoshop droplet or other command can be automatically run after downloading each photo using the [edit images option](#) by selecting "Setup Image Editor..." from the File menu:



Select the "Use command line below" option and enter the pathname of the command or script that should be run on each photo after it has been downloaded. Then select "Automatically edit the image when a photo is taken" option and select "Edit JPEG files only". This will run the command on every time a photo is taken and a JPEG image is downloaded to the computer. This can be disabled by unchecking "Automatically edit the image when a photo is taken".

Step 2 - Delay the printing of the photos to allow time for the photo to be processed

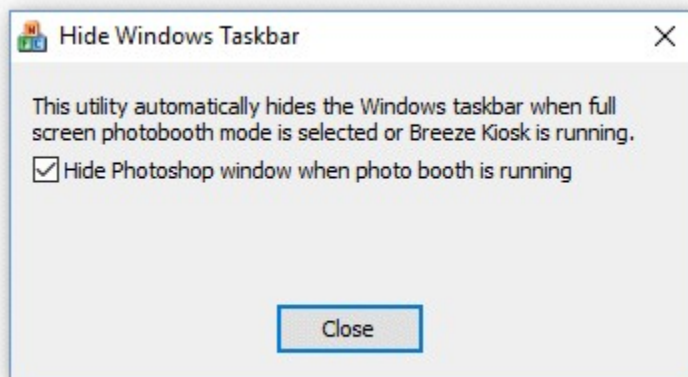
Normally NKRemote will start preparing the print layout immediately after downloading the last photo in the shooting sequence and this can result in the last photo not being modified before it is placed in the print layout if the command takes too long to process the photo. This problem can be avoided by setting a delay before printing in the "Output Settings" dialog:



Set the delay before printing to sufficient time to allow the command to modify the photo. After taking the last photo NKRemote will wait for the specified number of seconds before it starts to create the print layout. The delay can be cut short by sending the key sequence Ctrl+Z to NKRemote. This is useful if a script is used to run the command because the delay before printing can be set to a time that is guaranteed to always be long enough (e.g. 30 secs) and the script can send Ctrl+Z to NKRemote when the command to modify the photo has finished, thus minimizing the time NKRemote waits before printing the photos.

Running Photoshop Droplets

When a Photoshop droplet is run it will launch Photoshop if it is not already running and the Photoshop Window will appear on the photo booth screen. To avoid this happening run the "Hide Window Taskbar" utility. This can be run by double clicking on HideWindowsTaskbar.exe in the NKRemote installation folder (usually C:\Program Files (x86)\BreezeSys\NKRemote):



Select the option to "Hide Photoshop window when photo booth is running". The Hide Windows Taskbar utility will monitor NKRemote and when it is running in full screen photo booth mode the utility will hide the Windows task bar and the Photoshop window if Photoshop is running. When you exit full screen photo booth mode the utility will automatically restore the Windows taskbar and show the Photoshop window again.

Please make sure no tool windows are open in Photoshop otherwise these may appear on the photo booth screen when running the droplet.

The Hide Windows Taskbar hides the Windows task bar when full screen photo booth mode is selected to avoid problems with the taskbar appearing on screen during photo booth shooting on some computers. This function is deliberately not built into the main NKRemote program because if NKRemote exits prematurely (e.g. due to problems with the camera connection) it won't be able to restore the Windows taskbar which then makes it very difficult to control the computer. This problem is avoided by using a separate utility which is simple and very reliable.

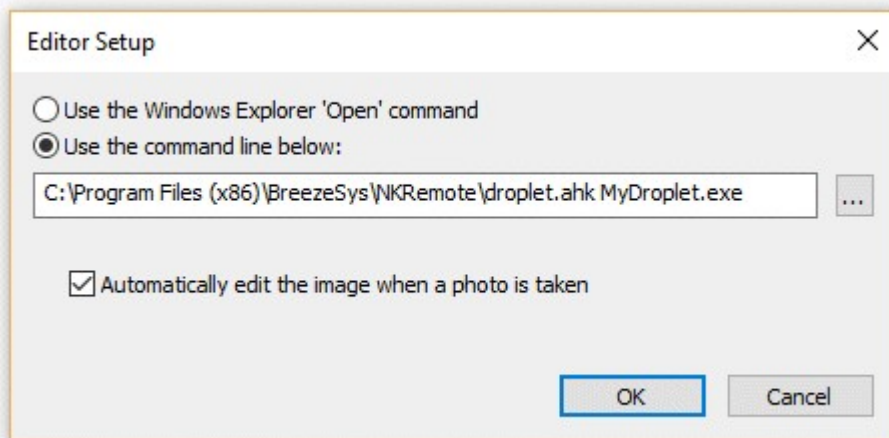
Running Different Photoshop Droplets using Profiles

Different droplets can be used for different profiles by placing the droplet in the photobooth images folder selected by the profile and running a script from the editor command. An example AutoHotKey script called droplet.ahk can be found in the installation folder (usually C:\Program Files (x86)\BreezeSys\NKRemote). When the script is run it looks for the droplet file in the current photo booth images folder and runs it to process the image. If the script cannot find the droplet in the current photo booth images folder it will look for it in the same folder as the script.

After running the droplet the script will send Ctrl+Z to the photo booth window if the processing screen is displayed so that NKRemote can start printing the photos.

AutoHotKey needs to be installed before using the script. This is a free download from <https://autohotkey.com>

Then select "Setup Image Editor..." from the File menu and set the command line to the pathname of the script followed by name of the droplet file e.g.



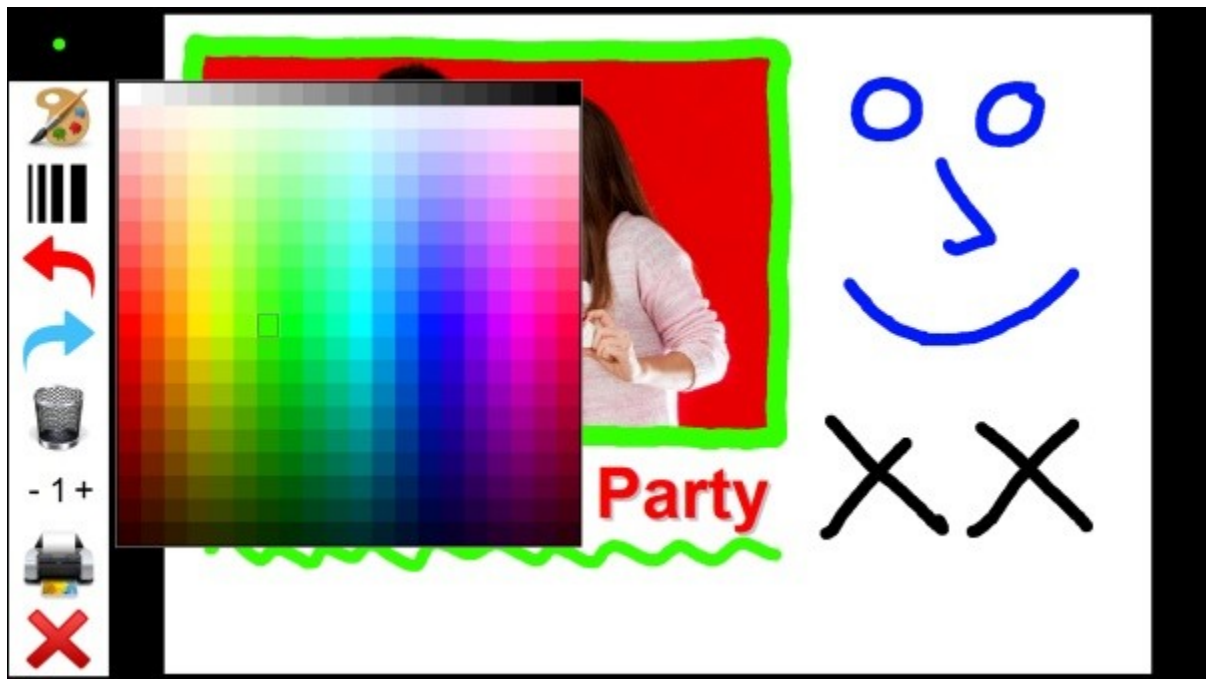
The pathname for the script needs to be enclosed by double quotes if it contains spaces e.g. "C:\Program Files (x86)\BreezeSys\NKRemote\droplet.ahk"

11.5 Signing or Drawing on the Prints

After taking the photos a screen allowing users to sign the prints or draw on them can be displayed by selecting the "Sign or draw on photos before printing" option in the ["Output Settings"](#) dialog.

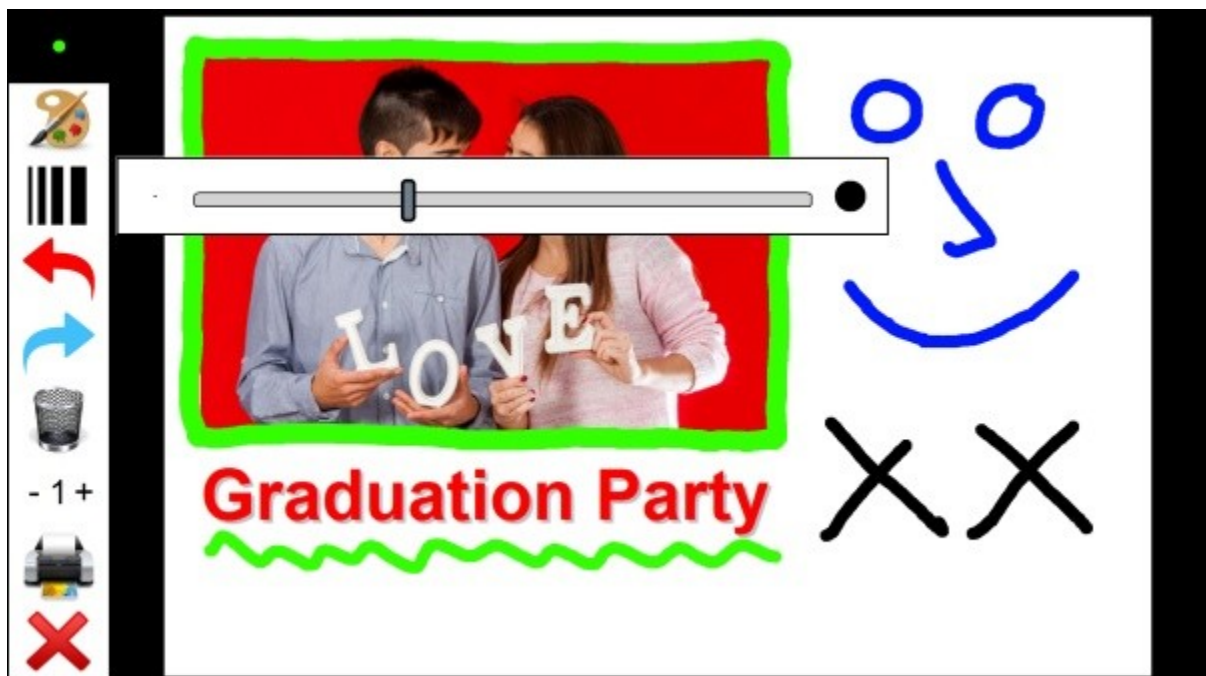


The print layout is displayed full screen with a menubar down the left hand side. The current line width and pen color is displayed in the top left hand corner. Users can sign their print or draw on it using a touchscreen or mouse. Tapping the color palette icon in the menubar will display a panel of colors allowing users to choose the pen color:



When the user taps on a color in the panel it is highlighted and the pen width and color indicator in the top left corner is updated to show the color. The color panel can be dismissed by tapping anywhere in the menubar or by drawing on the print.

Tapping the line width icon in the menu bar will display a slider allowing users to adjust the line width:



The pen width can be adjusted by moving the slider left or right and the pen width and color indicator in the top left corner is updated to show the new pen width. The pen width slider can be dismissed by tapping anywhere in the menubar or by drawing on the print.

If the user makes a mistake they can undo the last action by tapping the "Undo" icon (the red arrow in

the menubar). Alternatively they can start again by tapping the trashcan icon. Actions that have been undone by tapping on the undo or trashcan icons can be re-done by tapping the "Redo" icon (the blue arrow in the menubar).

The number of copies to print can be increased by tapping the + symbol to the right of the number of copies display in the menubar and decreased by tapping the - symbol.

Tapping the printer icon accepts the the photos together with any drawing added by the user and prints the selected number of copies.

Tapping on the cancel icon (the red cross in the menubar) will reject photos and the photo booth will return to the ready screen without printing the photos.

Modifying the appearance of the screen

The default screen appearance is a black background with a white menubar area. The icons for the actions in the menubar are defined using PNG files in the icons subfolder of in the installation folder:

- color.png - image used for the color palette icon
- width.png - image used for the pen width icon
- redo.png - image used for "Redo" icon
- undo.png - image used for the "Undo" icon
- clear.png - image used for the clear/trashcan icon
- print.png - image used for the print icon
- cancel.png - image used for the cancel icon

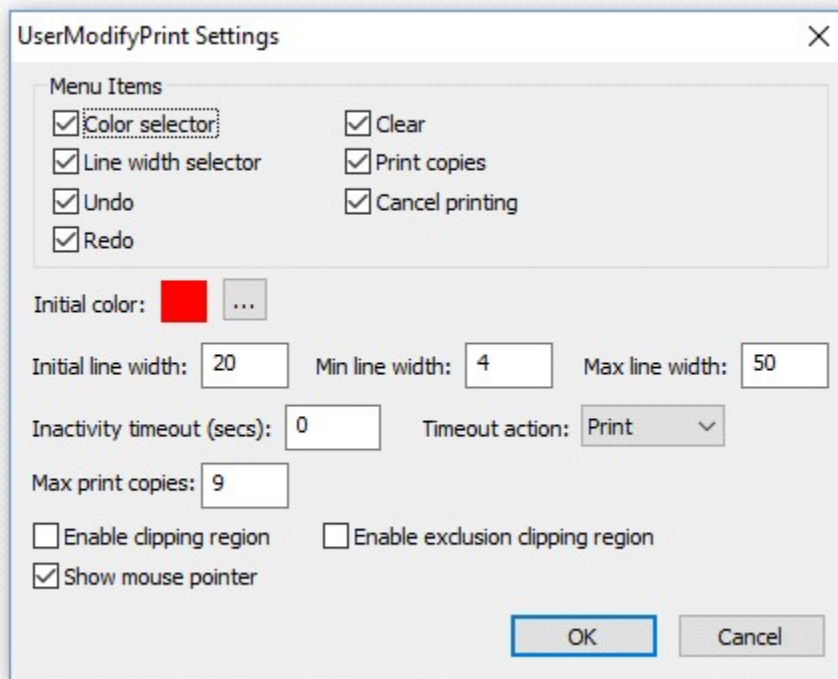
The appearance of the icons can be changed by replacing the PNG images in the icons subfolder with new images or by placing PNG images in the current photobooth images folder.

The appearance of the whole screen can be modified by creating a JPEG screen image named usermodifyprint.jpg and placing it in the current photobooth images folder. The screen image should be the same size in pixels as the screen on which the photo booth will be displayed.

An optional overlay can be placed on top of the background and print layout by creating a PNG screen image named usermodifyprint_overlay.png and placing it in the current photobooth images folder. The overlay image should be the same size in pixels as the screen on which the photo booth will be displayed and should contain transparency information in the alpha channel. The overlay can be used to display instructions to the user and will appear on screen but not in the final prints.

Editing the settings

Hold down the shift and ctrl keys and left click the mouse to display the settings dialog:



Use the checkboxes in the "Menu Items" area to select which actions should be made available to the user in the menubar area.

The initial color setting specifies the pen color that is selected when the screen is displayed. Click on the "..." button to choose a different color.

The initial line width specifies the line width in pixels of the pen when the screen is first displayed. The min line width and max line width settings specify the range of line widths the user can select if the "Line width selector" menu option is enabled.

The "Inactivity timeout (secs):" setting allows a timeout to be set. If the user does not touch the screen for a period longer than the timeout value the screen will be closed and the photos either printed or canceled depending on the timeout action setting. Setting the timeout to 0 will disable the timeout.

The max copies setting specifies the maximum number of print copies the user can select by tapping the + symbol in the menubar.

By default users can draw anywhere on the print, but this can be limited by enabling the clipping and exclusion clipping regions. The clipping region is used to specify a region where the user is allowed to draw. The exclusion region allows an area within the drawing area to be protected e.g. to stop people drawing on corporate logos. The clipping and exclusion clipping regions can be edited by clicking on the "OK" button. The clipping region will be displayed by a green rectangle and the exclusion clipping region by a red rectangle. Click on one of the rectangles to select it and then adjust its size and position by dragging its corners. Click in the menubar area to save the settings and return to drawing mode.

Select the "Show mouse cursor" to display the mouse cursor to allow users to draw on the prints using a mouse.

Implementation notes

The signing and drawing screen is implemented using a dynamic library named UserModifyPrint.dll

and saves its settings in the Windows registry using the following registry key:
HKEY_CURRENT_USER\SOFTWARE\BreezeSystems\NKRemote\100\UserModifyPrint
If different drawing and signing functionality is required it can be implemented by creating a new dynamic library to replace the default UserModifyPrint.dll library without requiring a custom build of NKRemote.

Copyright information for icons used by UserModifyPrint.dll:

Undo/Redo/Cancel icons: These icons are provided by icons8 as Creative Commons Attribution-NoDerivs 3.0. You can copy, use and distribute this icon, even for commercial purposes, all without asking permission provided you link to icons8.com website from any page you use this icon. You may not alter, transform, or build upon this work. <https://icons8.com>

Color Palette/Trashcan icons from <http://downloadicons.net>

Printer icon: royalty free icon purchased from <http://artistsvalley.com>. This icon may only be used with Breeze Systems' products unless a separate license is purchased from Artists Valey.

Line width: Copyright Breeze Systems Limited. This icon may only be used with Breeze Systems' products.

11.6 Touchscreen Keyboard

An optional touchscreen keyboard can be displayed at the start or end of the photo booth shooting sequence to allow users to enter information such as their email address. To enable the keyboard set the photo booth start options in the photo booth settings dialog to "Touchscreen" and click on the "Settings..." button. The touchscreen settings dialog will be displayed:

Touchscreen Settings

Select the action and coordinates of up to 18 areas on the touchscreen:

Action 1:	Start photobooth	Left: 0	Top: 0	Right: 191	Bottom: 191
Action 2:	Select color mode	Left: 0	Top: 192	Right: 191	Bottom: 383
Action 3:	Select B&W mode	Left: 0	Top: 384	Right: 191	Bottom: 575
Action 4:	Confirm printing	Left: 0	Top: 0	Right: 191	Bottom: 191
Action 5:	Cancel printing	Left: 0	Top: 192	Right: 191	Bottom: 383
Action 6:	Sharing: Facebook upload	Left: 0	Top: 0	Right: 191	Bottom: 191
Action 7:	Sharing: Email photos	Left: 0	Top: 192	Right: 191	Bottom: 383
Action 8:	Sharing: Close sharing screen	Left: 0	Top: 384	Right: 191	Bottom: 575
Action 9:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 10:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 11:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 12:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 13:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 14:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 15:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 16:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 17:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0
Action 18:	No action	Left: 0	Top: 0	Right: 0	Bottom: 0

Photo booth exit action password (leave blank for no password): breeze

Touchscreen keyboard: Not displayed Test keyboard... Timeout (secs): 30

Show/edit touchscreen areas... OK Cancel

Then select the required touchscreen keyboard option from the dropdown list:

"Not displayed" - the touchscreen keyboard is not displayed

"Email input at start of sequence" - the email input touchscreen keyboard is displayed when the user presses the start button before any of the photos are taken

"Email input at end of sequence" - the email input touchscreen keyboard is displayed after the photos have been taken and the optional print confirmation screen has been displayed (it isn't displayed if the user chooses not to print the photos)

"Email input after taking photos" - the email input touchscreen keyboard is displayed immediately after taking the photos before the optional print confirmation screen

"Message input at end of sequence" - the message input touchscreen keyboard is displayed after the photos have been taken and the optional print confirmation screen has been displayed (it isn't displayed if the user chooses not to print the photos)

The "Timeout (secs):" setting allows an inactivity timeout to be specified. If the user does not tap the touchscreen for a while the timeout will automatically close the touchscreen keyboard. This is useful if the user leaves the photo booth without using the touchscreen keyboard as it allows the booth to automatically close the touchscreen keyboard and display the ready screen ready for the next user.

The touchscreen keyboard can be tested by pressing the "Test keyboard..." button and selecting the keyboard type to test from the menu. The default keyboard layout will fill the screen and look similar to the screenshot below:



The text entered by the user is saved in the <user_data> tag (and the <user_data2> tag if two text fields are defined) in the XML file written at the end of the photo booth shooting sequence. If any checkboxes are defined (see below) their status will be saved in <checkbox1>, <checkbox2> etc. tags e.g. if the user selects the first checkbox the XML will contain <checkbox1>1</checkbox1>. The XML file is saved in the same folder as the photos downloaded from the camera (see [preferences](#)) e.g.

```
<?xml version="1.0" ?>
<breeze_systems_photobooth version="1.0">
<photo_information>
  <date>2011/01/26</date>
  <time>16:37:19</time>
  <user_data>sales@breezesys.com</user_data>
  <photobooth_images_folder>C:\Photobooth\PhotoboothImages</photobooth_images_folder>
  <photos>
    <photo image="1">20110126_163719_1.JPG</photo>
    <photo image="2">20110126_163719_2.JPG</photo>
    <photo image="3">20110126_163719_3.JPG</photo>
    <photo image="4">20110126_163719_4.JPG</photo>
    <output>prints\20110126_163719.jpg</output>
  </photos>
</photo_information>
</breeze_systems_photobooth>
```

There is a default timeout of 300 secs after which time the touchscreen keyboard will be automatically canceled. This timeout is stored in the Windows registry key:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\PhotoboothKeyboardTimeout

When the "Message input at end of sequence" touchscreen option is used the data entered by the user is also stored in the {message} token which can be used in the captions in the print layout or in email or Facebook messages when using the sharing options.

Customizing the keyboard

The layout of the keyboard can be customized by creating an XML settings file called keyboard.xml and putting this in the photo booth images folder. This gives control over the size and position of the keys, the background color etc. A series of keyboard images can also be used if you need more control of the appearance of the keyboard.

The easiest way to customize the keyboard is to save a copy of the XML file and TIFF screen images used to define the default keyboard layout and then edit them as required. The files can be saved by first displaying the keyboard by pressing the "Test keyboard..." button and then holding down both the Shift and Ctrl keys and pressing the left mouse button. The keyboard.xml file will look something like:

```
<?xml version="1.0" ?>
<breeze_systems_photobooth version="2.2">
<photobooth_settings>
  <keyboard>
    <text_point_size>480</text_point_size>
    <prompt1 rows="1">Please enter your email address:</prompt1>
    <text1_y>411</text1_y>
    <text1_x>50</text1_x>
    <text1_r>300</text1_r>
    <background_color>0x000080</background_color>
    <transparent_color>0x000080</transparent_color>
    <text_color>0xFFFFFFFF</text_color>
    <show_cursor>0</show_cursor>
    <show_mouse_cursor>0</show_mouse_cursor>
    <key>
      <left>58</left>
      <top>630</top>
      <width>112</width>
      <height>89</height>
      <legend>q</legend>
      <shifted_legend>Q</shifted_legend>
      <code>q</code>
      <shifted_code>Q</shifted_code>
    </key>
    <key>
      <left>186</left>
      <top>630</top>
      <width>112</width>
      <height>89</height>
      <legend>w</legend>
      <shifted_legend>W</shifted_legend>
      <code>w</code>
    </key>
    ...
    <key>
      <left>1296</left>
      <top>840</top>
      <width>160</width>
      <height>89</height>
      <legend>Shift</legend>
      <shifted_legend>Shift</shifted_legend>
      <code>Shift</code>
      <shifted_code>Shift</shifted_code>
    </key>
    <key>
      <left>400</left>
      <top>945</top>
      <width>368</width>
      <height>89</height>
      <legend>Send email</legend>
      <shifted_legend>Send email</shifted_legend>
      <code>OK</code>
```



```

    <shifted_code>OK</shifted_code>
  </key>
  <key>
    <left>784</left>
    <top>945</top>
    <width>368</width>
    <height>89</height>
    <legend>No thanks!</legend>
    <shifted_legend>No thanks!</shifted_legend>
    <code>Cancel</code>
    <shifted_code>Cancel</shifted_code>
  </key>
</keyboard>
</photobooth_settings>
</breeze_systems_photobooth>

```

The `<prompt1>` tag defines the text that is displayed above the user input area and defaults to "Please enter your email address:". The `<text1_x>` and `<text1_y>` tags specify the position of the user input area. This is specified as the number of pixels down from the top, left corner of the screen. The right hand side of the user input area can be specified using the `<text1_r>` tag.

Additional prompts can be added by including `<prompt2>`, `<text2_x>`, `<text2_y>`, `<text2_r>` etc. tags up to a maximum of 10 user input areas.

The prompt tags can have an optional password attribute which if set to "1" will display the text in the user input area as * characters e.g. `<prompt1 password="1">Please enter your password:</prompt1>`.

The prompt tags can have an optional mandatory attribute which if set to "1" means that the prompt must contain text e.g. `<prompt1 mandatory="1">Please enter your name:</prompt1>`.

The prompt tags can have an optional email_address attribute which if set to "1" will check that the text looks like an email address in the form name@domain.com e.g. `<prompt1 email_address="1">Please enter your email address:</prompt1>`. If the text does not appear to be an email address an error message saying "Please enter a valid email address in the form name@domain.com" will be displayed. The text of this error message can be changed in the [email settings dialog](#).

The input text area is normally on a single line. Multiple lines can be used by setting the prompt tag's rows attribute to 2 or more e.g. `<prompt1 rows="3">Please enter a message:</prompt1>`.

When more than one user input area is defined users can switch between the input areas by touching them. The currently selected input area is highlighted in red.

The optional `<text_point_size>` tag defines the size of the text font used in the user input area. This is specified in tenths of a point and defaults to 480 (a point size of 48).

The text entered by the user is stored in the `<user_data>`, `<user2_data>` etc. fields in the XML file saved with the photos.

Up to 10 checkboxes can be added using the `<checkbox1_prompt>`, `<checkbox1_x>`, `<checkbox1_y>`, `<checkbox2_prompt>`, `<checkbox2_x>`, `<checkbox2_y>` etc. tags. The `<checkbox1_prompt>` tag specifies the text displayed to the right of the text box and can include a value attribute to specify whether the checkbox is initially checked or not e.g. `<checkbox1_prompt value="0">Checkbox prompt (default off)</checkbox1_prompt>` or `<checkbox1_prompt value="1">Checkbox prompt (default on)</checkbox1_prompt>`. A checkbox can also be made mandatory (i.e. the user has to check the checkbox before pressing the "OK" button) by adding the mandatory attribute to the `<checkbox1_prompt>` tag e.g. `<checkbox1_prompt mandatory="1">I agree to the terms and conditions</checkbox1_prompt>`. The optional point_size attribute can be used to specify the point size of the legend and also the size of the checkbox box e.g. `<checkbox1_prompt point-size="240">Checkbox</checkbox1_prompt>` adds a checkbox with the legend displayed using 24 point text.

The `<checkbox1_x>` and `<checkbox2_y>` tags specify the position of the checkbox.

The checkbox status is stored in the `<checkbox1>`, `<checkbox2>` etc. fields in the XML file saved with the photos.

The `<background_color>` tag specifies the background color of the window and the `<key_text_color>` specifies the color for the prompt text and key legends.

The optional `<text_foreground_color>` tag specifies the foreground color for text displayed in the user input areas. The default value if this tag is omitted is black (0x000000).

The optional `<text_background_color>` tag specifies the background color for the user input areas. The

default value if this tag is omitted is white (0xFFFFFFFF).

The optional <transparent_color> tag specifies a color which will be made transparent when the keyboard is displayed.

All colors should be hexadecimal RGB values e.g. 0x000000 for black, 0xFF0000 for red, 0x00FF00 for green, 0x0000FF for blue, 0xFFFFFFFF for white.

The <show_cursor> tag specifies whether a gray cursor is shown in the user input area. Set this to 1 to display the cursor or 0 to hide it. The cursor display is useful if the keyboard allows the entry of spaces. The <show_mouse_cursor> tag specifies whether a the mouse cursor is displayed, The default setting is for the mouse cursor not to be displayed.

The <key> tag specifies the size and position of each key, its legends and what should be typed when it is pressed. The top left corner of the key is defined using the <left> and <top> tags and the width and height are specified using the <width> and <height> tags (all values are in pixels). The <shifted_legend> tag specifies what is displayed on the key when the shift key is pressed and the <legend> specifies the key legend when shift is not pressed.

The <shifted_code> tag specifies what is typed when the key is pressed when shift is pressed and the <code> tag specifies what is typed when the shift key is not pressed. The following codes have special values:

"Shift" - puts the keyboard into shifted mode (i.e. upper case) when pressed

"OK" - closes the keyboard window and returns the user input if at least one text input field contains text and all inputs marked as mandatory have been entered

"OK all" - closes the keyboard window and returns the user input if all the input fields contain some text

"OK none" - closes the keyboard window and returns the user input even if none of the input fields contain text provided all inputs marked as mandatory have been entered

"Cancel" - closes the keyboard window and cancels the user input

"Close" - closes the keyboard and returns to the ready screen when the "Email input at start of sequence" touchscreen keyboard option is used

International and special characters need to be added in UTF-8 unicode format e.g. the Euro symbol, €, is defined in UTF-8 as 0x20AC. This needs to be added to the XML file as € e.g.

```
<key>
  <left>58</left>
  <top>630</top>
  <width>112</width>
  <height>89</height>
  <legend>&#x20ac;</legend>
  <shifted_legend>&#x20ac;</shifted_legend>
  <code>&#x20ac;</code>
  <shifted_code>&#x20ac;</shifted_code>
</key>
```

The keyboard.xml can just include additional settings and the touchscreen keyboard will use the default layout (shown above) if it doesn't contain any <key> tags. For example you could use the default keyboard layout and add a checkbox to ask users whether they consent to their photos being uploaded to a website using the keyboard.xml file below:

```
<?xml version="1.0" ?>
<breeze_systems_photobooth version="2.3">
<photobooth_settings>
  <keyboard>
    <checkbox1_prompt value="0">I agree to my photos being posted on a web site</checkbox1_prompt>
    <checkbox1_x>38</checkbox1_x>
    <checkbox1_y>70</checkbox1_y>
  </keyboard>
</photobooth_settings>
</breeze_systems_photobooth>
```

When the Facebook upload option is used (see [Uploading to social networks...](#)) the touchscreen keyboard will look for a definition file named fb_keyboard.xml instead of keyboard.xml. If the fb_keyboard.xml file is not found the touchscreen keyboard will display two input areas to allow users to enter their Facebook username and password.

Keyboard images

Separate keyboard screen images can be defined if you need more control over the appearance of the keyboard. These images should be TIFF images the same size as the resolution of the screen and should be placed in the photo booth images folder. The keyboard images should be named as follows:

keyboard_uppercase.tif - keyboard image showing upper case key legends
keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed
keyboard_lowercase.tif - keyboard image showing lower case key legends
keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the keys pressed

If TIFF keyboard images aren't found the software will attempt to load JPEG images instead (keyboard_uppercase.jpg, keyboard_uppercase_pressed.jpg, keyboard_lowercase.jpg and keyboard_lowercase_pressed.jpg).

When the email option is used (see [Uploading to social networks...](#)) the touchscreen keyboard will look for the following keyboard xml definition file and keyboard images:

email_keyboard.xml - XML file defining the keyboard layout
email_keyboard_uppercase.tif - keyboard image showing upper case key legends
email_keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed
email_keyboard_lowercase.tif - keyboard image showing lower case key legends
email_keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the keys pressed

Please note that for compatibility with previous releases the email option will use the standard XML definition file and keyboard images if versions with an email_ prefix aren't found.

When the Facebook upload option is used (see [Uploading to social networks...](#)) the touchscreen keyboard will look for the following keyboard xml definition file and keyboard images:

fb_keyboard.xml - XML file defining the keyboard layout
fb_keyboard_uppercase.tif - keyboard image showing upper case key legends
fb_keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed
fb_keyboard_lowercase.tif - keyboard image showing lower case key legends
fb_keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the keys pressed

When the Twitter upload option is used (see [Uploading to social networks...](#)) the touchscreen keyboard will look for the following keyboard xml definition file and keyboard images:

twitter_keyboard.xml - XML file defining the keyboard layout
twitter_keyboard_uppercase.tif - keyboard image showing upper case key legends
twitter_keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed
twitter_keyboard_lowercase.tif - keyboard image showing lower case key legends
twitter_keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the keys pressed

When the send SMS/MMS option is used (see [Uploading to social networks...](#)) the touchscreen keyboard will look for the following keyboard xml definition file and keyboard images:

mms_keyboard.xml - XML file defining the keyboard layout
mms_keyboard_uppercase.tif - keyboard image showing upper case key legends
mms_keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed
mms_keyboard_lowercase.tif - keyboard image showing lower case key legends
mms_keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the

keys pressed

When the "Message input at end of sequence" option is used the touchscreen keyboard will look for the following keyboard xml definition file and keyboard images:

message_keyboard.xml - XML file defining the keyboard layout

message_keyboard_uppercase.tif - keyboard image showing upper case key legends

message_keyboard_uppercase_pressed.tif - keyboard image showing upper case key legends with the keys pressed

message_keyboard_lowercase.tif - keyboard image showing lower case key legends

message_keyboard_lowercase_pressed.tif - keyboard image showing lower case key legends with the keys pressed

Please take care that the keys are in the same positions in each of the keyboard images and that these also correspond to the values in the keyboard.xml file. The <background_color>, <text_color>, <prompt>, <legend> and <shifted_legend> tags in the keyboard.xml file are ignored when keyboard images are used to define the appearance of the keyboard.

Note: If you only need to change the keyboard layout and are happy with the default keyboard display you only need to create a keyboard.xml file in the photo booth images folder and can delete the keyboard screen images (keyboard_uppercase.tif, keyboard_uppercase_pressed.tif, keyboard_lowercase.tif and keyboard_lowercase_pressed.tif). If keyboard images are defined the <prompt> tags in the keyboard.xml file will be ignored.

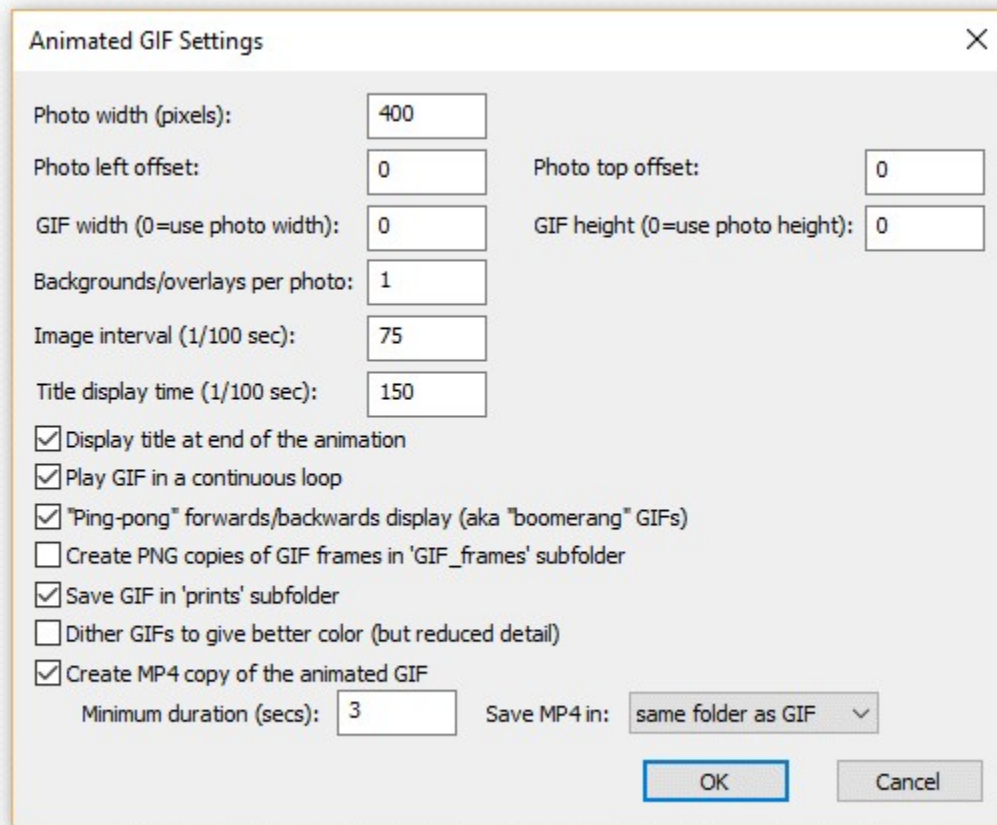
11.7 Animated GIFs

Animated GIFs provide a way of displaying a short slideshow of the photos in a continuous loop. The slideshow can have optional overlays and title pages which can be displayed at the start or end of the sequence.

The animated GIFs can be viewed using our [Breeze Kiosk software](#) and then shared by email, text (MMS in USA and Canada, SMS elsewhere) or uploaded to Twitter.

Creating Animated GIFs in Photo Booth Mode

Select "Create animated GIF of photos" on the "[Output Settings](#)" dialog and then click on the "Animated GIF settings..." button to configure the settings:



The animated GIFs will show the photos in the same orientation as the live view display. If the live view display is cropped or digitally zoomed the photos added to the animated GIF will be cropped and zoomed by the same amounts.

If green screening is enabled the green screened copy of the photos will be added to the GIF. The transparent background option is selected in the green screen settings the photo placed in the GIF will also have a transparent background.

If B&W mode, monochrome toning (e.g. sepia) or creative filters are used the photos will be added to the animated GIF with these effects applied.

Use the "Photo width (pixels):" setting to specify the width photos added to the animated GIF. The height of the photos will be calculated automatically in proportion to the width e.g. setting the width to 600 pixels will give a height of 400 pixels when the camera is horizontal or a height of 900 pixels if the camera is in portrait orientation.

The "Photo left offset:" and "Photo top offset:" settings specify the position the photos are added to the GIF. The offsets are measured in pixels from the left and top edges of the GIF.

The "GIF width" and "GIF height" settings specify the size of the animated GIF in pixels. If these settings are 0 the GIF will be created the same size as the photos.

An optional overlay can be displayed over each photo by placing a PNG file named GIF_overlay.png in the photo booth images folder. A different overlay can be used for each photo by naming the overlays GIF_overlay_1.png for photo 1, GIF_overlay_2.png for photo 2 etc.

An optional background can also be used for each photo by placing a JPEG image named GIF_background.jpg in the photo booth images folder. A different background can be used for each

photo by naming it GIF_background_1.jpg, GIF_background_2.jpg etc.

Background images can be used as a simple way to provide a background to the GIF when the GIF is larger than the photo. Background images can also be used to provide the green screen background when using the transparent background option when [shooting green screen](#). More interesting animations can be created by having multiple backgrounds per photo when shooting green screen with a transparent background.

Multiple overlays (and/or backgrounds) can be added to each photo by setting "Backgrounds/overlays per photo" to more than 1 e.g. to display two overlays per photo set "Overlays per photo" to 2 and name the files as follows: GIF_overlay_1.png for the first half of photo 1's display time, GIF_overlay_2.png for the second half of photo 1's display time, GIF_overlay_3.png for the first half of photo 2's display time, GIF_overlay_4.png for the second half of photo 2's display time etc.

The PNG overlay images can be made transparent or semi-transparent by adding an alpha channel. If overlay images are larger than the GIF width setting they will be resized to the same width. If an overlay is smaller than the GIF it will be displayed bottom right justified i.e. in the bottom right hand corner.

The image interval setting specifies how long each photo should be displayed and is in units of 1/100 sec. A value of 75 (3/4 sec) to 100 (1 sec) is probably a good starting point.

One or more optional title pages can be displayed at the beginning or end of the photo sequence. To add a single title page place a JPEG image named GIF_title.jpg in the photo booth images folder. To add multiple title pages to create a short animation place JPEG images named GIF_title_1.jpg, GIF_title_2.jpg, GIF_title_3.jpg etc. in the photo booth images folder

If the title page image is larger than the GIF width setting it will be resized to the same width. Use the "Title display time" to specify how long each title page should be displayed.

The title page or pages can be displayed before or after the photos. It probably makes more sense to display titles after the photos because browsers that display animated GIFs will normally show a thumbnail generated from the start of the animation. Putting the title at the end will mean that the thumbnail will show the first photo whereas if the title is at the start of the animation the thumbnail will show the title page.

Select "Play GIF in a continuous loop" if you want the GIF to loop indefinitely. If this option is not selected the GIF will loop once i.e. it will play the animation twice by running through it once and then looping a single time to play it again.

Select the "Ping-pong" option to play the photo sequence forwards and then backwards e.g.

4 photos with no title and the ping-pong option selected will display photo 1, photo 2, photo 3, photo 4, photo 3, photo 2, photo 1, photo 2 etc.

4 photos with no title and the ping-pong option not selected will display photo 1, photo 2, photo 3, photo 4, photo 1, photo 2, photo 3, photo 4 etc.

4 photos with a title at the end and the ping-pong option selected will display photo 1, photo 2, photo 3, photo 4, photo 3, photo 2, photo 1, title, photo 1, photo 2 etc.

When using overlays with the "ping-pong" option the overlay files should be named as follows:

Overlay files for 3 photos with no title, the ping-pong option selected and overlays per photo set to 1:

GIF_overlay_1.png for photo 1, GIF_overlay_2.png for photo 2, GIF_overlay_3.png for photo 3, GIF_overlay_4.png for photo 2

Overlay files for 3 photos with a title, the ping-pong option selected and overlays per photo set to 2:

GIF_overlay_1.png/GIF_overlay_2.png for photo 1, GIF_overlay_3.png/GIF_overlay_4.png for photo 2, GIF_overlay_5.png/GIF_overlay_6.png for photo 3, GIF_overlay_7.png/GIF_overlay_8.png for photo 2, GIF_overlay_9.png/GIF_overlay_10.png for photo 1

Select the "Create PNG copies of GIF frames in 'GIF_frames' subfolder" option to create PNG copies of all the frames that make up the animated GIF. This is useful if the frames are to be processed by other software.

Please note: It is not necessary to select this option to create MP4 copies of the GIFs.

Warning: The PNG files created when this option is selected can be quite large and may fill up the computer's hard disk.

By default the animated GIF will be created in a subfolder named GIF in the [download folder](#). If you are using our [Breeze Kiosk software](#) to display the animated GIFs you need to set it up to monitor the GIF folder.

Select the "Save GIF in 'prints' subfolder" option to save the GIF in the prints subfolder with the JPEG copies of the printed output. This is useful if you are using kiosk software and wish to display the GIFs and the prints.

Select the "Create MP4 copy of the animated GIF" option to automatically create an MP4 movie file of the animated GIF. Set the minimum duration of the movie in secs or set this to 0 to make the movie as short as possible. This option is useful if the movie file is to be uploaded to a site which has a minimum length requirement (e.g. videos posted to Instagram must be at least 3 seconds long). If the movie file will be shorter than the minimum length the GIF frames, but not the title frames, will be repeated until the movie is long enough.

Use the "Save MP4 in" checkbox to specify where the MP4 files should be saved:

"same folder as GIF" will save the MP4 file in the same folder as the GIF (either the GIFs subfolder or the prints subfolder depending on the "Save GIF in 'prints' subfolder" setting)

"MP4' subfolder" will save the MP4 file in a subfolder named MP4

"prints' subfolder" will save the MP4 file the prints subfolder (where the JPEG copies of the prints are also saved)

Please note: The output setting must be set to "Print only", "Print and save JPEG copy" or "JPEG copy only" in order to create the animated GIF. The GIF will not be created if the output is set to "None". You also need to create a print layout which includes all the photos taken otherwise an error will be displayed when the software tries to create the animated GIF.

Dithered vs Indexed Color

Animated GIFs can only display 256 different colors per frame which causes a problem when trying to display photos which typically have many more colors. There are two ways to handle this limitation:

- 1) Dithered color where the color of each pixel is represented by several pixels
- 2) Indexed color where the 256 most common colors in the photo are used

Dithered images can give a better representation of the colors in the original photo but will provide less detail for a given image size. Indexed colors give better detail and usually give adequate colors but may show some contouring or shimmering with some photos, particularly if there are areas of graduated color in the original photo.

Indexed color is recommended for most applications for animated GIFs and so the "Dither GIFs to give better color" option should normally be left unchecked.

11.8 Keyboard Shortcuts

The photobooth mode in NKRemote can accept the following key presses:

F2 - switch to B&W mode and start the photobooth sequence

F3 - switch to color mode and start the photobooth sequence

T - switch to B&W (toned) mode and start the photobooth sequence

F4 - start the photobooth sequence using the current B&W or color setting

F5 - same as F4

F6 - reactivate live view and display ready.jpg screen if previously canceled or cancel live view and display welcome.jpg screen if live view currently active

Ctrl+Alt+F6 - switch from standby to ready mode
Ctrl+F1 - select "Standard" camera Picture Control
Ctrl+F2 - select "Neutral" camera Picture Control
Ctrl+F3 - select "Vivid" camera Picture Control
Ctrl+F4 - select "Monochrome" camera Picture Control
Ctrl+F5 - select "Portrait" camera Picture Control
Ctrl+F6 - select "Landscape" camera Picture Control
Ctrl+A - activate contrast detect AF (only available when live view is enabled)
Ctrl+B - switch to B&W mode but don't start the photobooth sequence
Ctrl+C - switch to color mode but don't start the photobooth sequence
Ctrl+K - switch to color mode but don't start the photobooth sequence (alternative for Ctrl+C)
Ctrl+Alt+P - display the reprint selection dialog
Ctrl+R - reprint the last set of photos without displaying the touchscreen keyboard or print confirmation screens
Ctrl+Alt+R - reprint the last set of photos with touchscreen keyboard and print confirmation screens if enabled
Shift+Ctrl+R - fast reprint of the last set of photos (if output option is set to "Print and save JPEG copy")
Ctrl+T - switch to B&W (toned) mode but don't start the photobooth sequence
Ctrl+W - toggle between B&W and color modes
Ctrl+Z - take photo when the booth is running in clicker mode
A - Accept print when print confirmation window is displayed
W - cycle through color, B&W and B&W (toned) modes
X - Reject print when print confirmation window is displayed
Ctrl+1 - select one copy of prints
Ctrl+2 - select two copies of prints
Ctrl+3 - select three copies of prints
Ctrl+4 - select four copies of prints
Ctrl+5 - select five copies of prints
Ctrl+6 - select six copies of prints
Ctrl+7 - select seven copies of prints
Ctrl+8 - select eight copies of prints
Ctrl+9 - select nine copies of prints
Ctrl+Alt+1 - select profile 1 and start shooting sequence
Ctrl+Alt+2 - select profile 2 and start shooting sequence
Ctrl+Alt+3 - select profile 3 and start shooting sequence
Ctrl+Alt+4 - select profile 4 and start shooting sequence
Ctrl+Alt+5 - select profile 5 and start shooting sequence
Ctrl+Alt+6 - select profile 6 and start shooting sequence
Ctrl+Alt+7 - select profile 7 and start shooting sequence
Ctrl+Alt+8 - select profile 8 and start shooting sequence
Shift+Ctrl+1 - select profile 1
Shift+Ctrl+2 - select profile 2
Shift+Ctrl+3 - select profile 3
Shift+Ctrl+4 - select profile 4
Shift+Ctrl+5 - select profile 5
Shift+Ctrl+6 - select profile 6
Shift+Ctrl+7 - select profile 7
Shift+Ctrl+8 - select profile 8
Shift+Ctrl+9 - select profile 9
Shift+Ctrl+F1 - select profile 10
Shift+Ctrl+F2 - select profile 11
Shift+Ctrl+F3 - select profile 12
Shift+Ctrl+F4 - select profile 13
Shift+Ctrl+F5 - select profile 14
Shift+Ctrl+F6 - select profile 15
Shift+Ctrl+F7 - select profile 16
Shift+Ctrl+F8 - select profile 17

Shift+Ctrl+F9 - select profile 18
Shift+Ctrl+N - select next profile
Shift+Ctrl+P - select previous profile
Number pad '+' - increase the number copies of prints (up to a maximum of 9 copies)
Number pad '-' - decrease the number copies of prints (down to a minimum of 1 copy)
b - cycle through number of copies of prints: 1,2,3,4,5,6,7,8,9,1,2,3...

11.9 Using External Buttons for Photobooth Shooting

This page describes a number of different options for connecting one or more pushbuttons to a PC and use them to control the photobooth mode shooting mode.

Note: For a simple setup you can use the PC's mouse to control the photobooth by selecting the "Use mouse left button to start and right button to toggle between B&W and color" option in the [photobooth settings](#).

StealthSwitch

The StealthSwitch is a robust foot switch which plugs straight into a USB port and makes an ideal switch for photobooth operation. It is very simple to use: just plug it in to any spare USB port, wait a few seconds for Windows to recognize it and you're ready to go. In full screen photobooth mode pressing the StealthSwitch button will start the photobooth sequence - that's all there is to it.

Note: If you have already installed the "desktop cloaking" software that comes with the StealthSwitch you need to disable it otherwise every time you press the button the photobooth display will be hidden.



Arcade Style Buttons

There are several ways arcade style buttons can be connected to a PC and used to control the photobooth including the StealthSwitch 3 and the serial port method. The StealthSwitch 3 is simpler to setup than the serial port method but is a little more expensive. Both the StealthSwitch 3 and the serial port methods are described in detail below.

StealthSwitch 3

The StealthSwitch 3 is similar to the original StealthSwitch described above but has two important differences:

- 1) You can connect external buttons which simply plug into standard 3.5mm sockets (the same as used by most MP3 players)
- 2) Each button is programmable allowing it to send any key press or sequence of key presses you like



StealthSwitch 3 showing the five 3.5mm sockets for connecting external buttons on the front and the USB port on the side

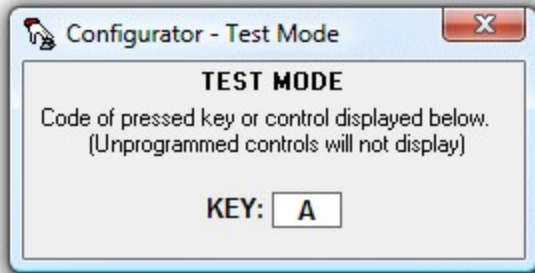
Please note: The StealthSwitch 3 is functionally identical to the StealthSwitch II which it replaces.

Instructions to add an arcade style button using the StealthSwitch 3:

These are the components required to add an arcade style button: the button, stereo cable with 3.5mm jacks and two female spade connectors



- 1) Cut off the jack plug from one end of the stereo cable and bare the wires
- 2) Plug the USB cable from the StealthSwitch II and plug the remaining 3.5mm jack from the stereo cable into one of the StealthSwitch sockets
- 3) Run StealthSwitch Configuration Utility and select "Keyboard test mode". When you press the each button you should see something like this:



- 4) Release the switch and identify the correct wires to use from the stereo cable by shorting two of them together. When the correct pair of wires are shorted together the keyboard test window will show A, B, C, D or E
- 5) Attach the spade connectors to each of the two wires identified in step 4. Use a crimp tool or solder them to ensure they are firmly attached
- 6) Connect the wire to the arcade switch using the spade connectors and press the button to check that the keyboard test window shows A, B, C, D or E

You should now have an arcade button attached to a cable with a 3.5mm jack plug which looks something like this:



Finally use the StealthSwitch Configuration Utility to program each of the buttons to send the required key strokes. The best way to do this is to right click on the required button in the main Configurator window and select "Macro 1", click on "1st KEY" and type the first key in the macro e.g. function key F4 to start the photobooth sequence. If the macro has more than one key, e.g. Ctrl+B to select black and white mode, click on "1st KEY" and press (and release) the Ctrl key then click on "2nd KEY" and press C. When you've finished press the Program button to program the StealthSwitch 3 (you only need to do this once - the StealthSwitch 3 will remember the settings and can be used on any computer). The StealthSwitch 3 is now ready to be used to control the photobooth.

Serial Port Method

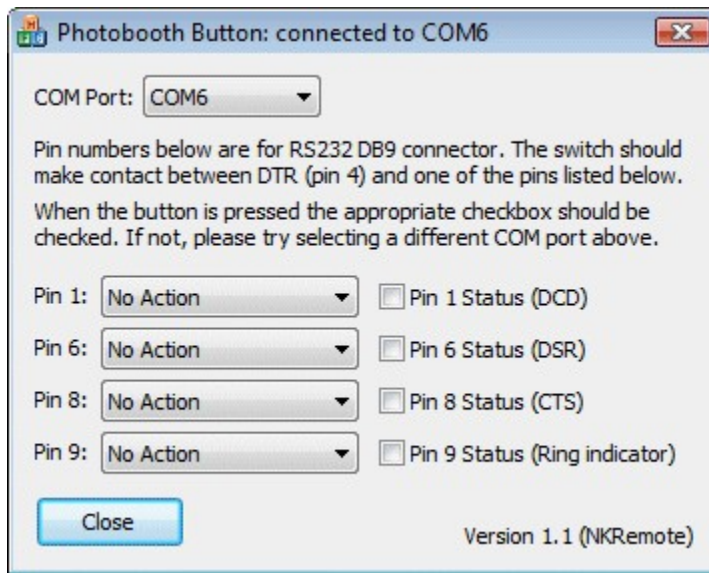
What you need

1. Unless the PC has a serial port you will need a USB to RS-232 adaptor such as the StarTech.com USB to RS-232 Serial DB9 Adaptor. This is not the cheapest adaptor available, but it does work on Windows XP and Windows Vista.
2. DB9 socket and wires or an old RS-232 cable with a DB9 socket
3. A suitable "push to make" button. The arcade style button below was purchased from [Gremlin Solutions](http://GremlinSolutions.com) in the UK. This site in the US has a good selection of buttons: www.happcontrols.com
4. Photobooth Pushbutton Utility, PhotoboothBtn_NKRemote.exe, which can be found in the NKRemote installation folder

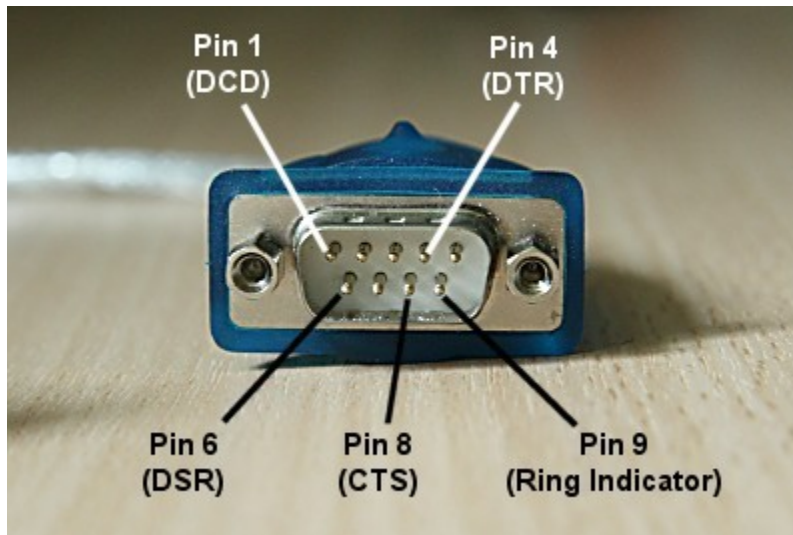


Connecting it up

First install the driver software that comes with the USB to serial to RS-232 adaptor and connect it to a USB port on your PC. Then run the Photobooth Pushbutton utility (PhotoboothBtn_NKRemote.exe):



Next identify the correct COM port for the serial port. This can be done by using a small piece of wire and connecting pins 1 and 4 on the DB9 connector (shown below). If the correct COM port is selected the "Pin 1" checkbox in the Photobooth Pushbutton utility should be checked when pins 1 and 4 are connected. If nothing happens try selecting a different COM port from the drop down list.

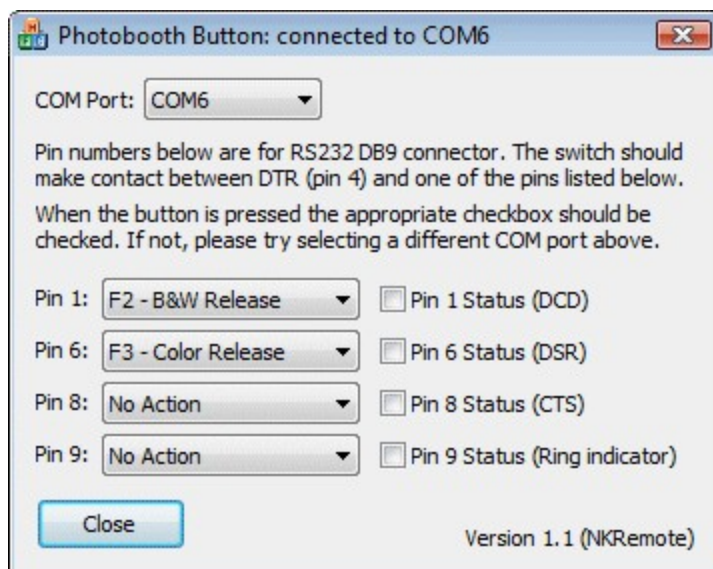


Now wire up the button or buttons to the appropriate pins on the DB9 socket e.g. if you're using two buttons pin 4 should be connected to the "common" connections of the two buttons and pin 1 should be connected to the "push to make" connection of one button and pin 6 to the "push to make" connection of the other button. Normally the connections would be made by soldering the wires to the DB9 connector but if you're not happy with soldering you can use an RS-232 cable instead and simply cut off one end, identify which wires to use and then connect them to the spade connections on the buttons using crimp connectors.

Once the buttons are connected they can be tested by observing whether the appropriate checkboxes are checked in the pushbutton utility app when each button is pressed.

Finally, select the required action for each button using the drop down lists in the pushbutton utility e.g.

for a two button setup with NKRemote where the user can select B&W or color prints you would use settings similar to those below:



In operation

Connect the USB to RS-232 adaptor to a USB port on the PC and, making sure no buttons are pressed, run the Photobooth Pushbutton utility. Before running NKRemote check that the buttons are working properly by pressing them and making sure the correct checkbox in the pushbutton utility is checked. It may be necessary to select a different COM port if the buttons don't work. Normally the same COM port is assigned provided the USB to RS-232 adaptor is connected to the same USB port each time.

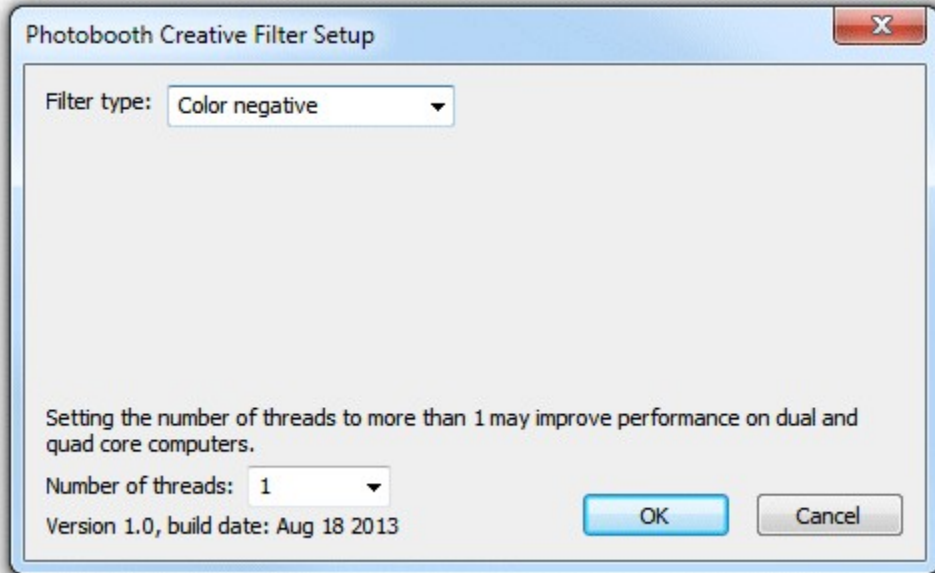
Next run NKRemote, select fullscreen photobooth mode and you should be able to use the buttons to trigger the photobooth sequence. The Photobooth Button utility needs to be running at all times during photobooth operation so that it can detect the button presses and forward them to NKRemote.

11.10 Creative Filters

The photobooth creative filters give the option of applying a variety of special effects to photobooth photos and to the live view images displayed before taking the photos. The default filters include color and monochrome negative images, color and monochrome posterization effects, desaturation and over saturation effects and selective saturation. The filters are applied using a DLL which means that experienced C or C++ programmers can write their own filters if required. A sample VC++ 2005 project can be downloaded from <http://www.breezesys.com/downloads/SampleCreativeFilter.zip>

Please note that some filters may produce different results in the live view and final photos if flash is used. This is because flash will probably give different highlight and shadow areas which will affect how the posterization effects are applied. This is less of a problem if continuous lighting is used.

To use creative filters you need put a copy of the PhotoboothCreativeFilter.dll file in your photobooth images folder. The PhotoboothCreativeFilter.dll file can be found in the installation folder (from the installation folder (normally C:\Program Files (x86)\BreezeSys\NKRemote)). Then when you enter full screen photobooth mode the software will automatically load the filter DLL and the live view images will display the default filter which is color negative. Type Ctrl+Shift+C to display the setup page to select a different effect or to configure the settings. The following settings dialog will be displayed:



The processing of the filters in real time for the live view display can put quite a load on the computer which may cause the live view refresh rate to slow down. On a dual or quad core computer the load can be shared between the processor cores by setting the number of threads to more than 1.

The filter type can be selected from the drop down list. The various filter types that are available with the PhotoboothCreativeFilter.dll that comes with the software are described below.

Color negative

This filter creates a negative color image e.g. yellow items will appear as blue and blue items will appear as red. There are no controls for adjusting how this filter behaves.



Original image



Image with color negative filter applied

Monochrome negative

This filter converts the image to grayscale and displays the negative e.g. dark items will appear light and light items will appear dark. There are no controls for adjusting how this filter behaves.



Image with the monochrome negative filter effect applied

Posterize

This filter produces a thresholding/posterization effect with an adjustable number of levels. The strength slider controls the size of each threshold with 0 having no effect and 255 producing an image just made up of fully saturated colors. The recommended range of settings is 10 to 100.

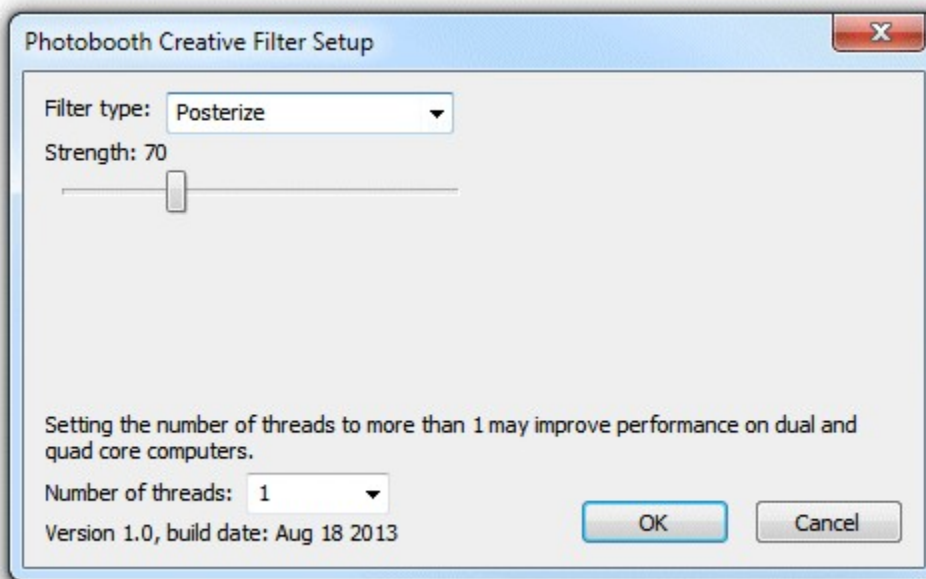
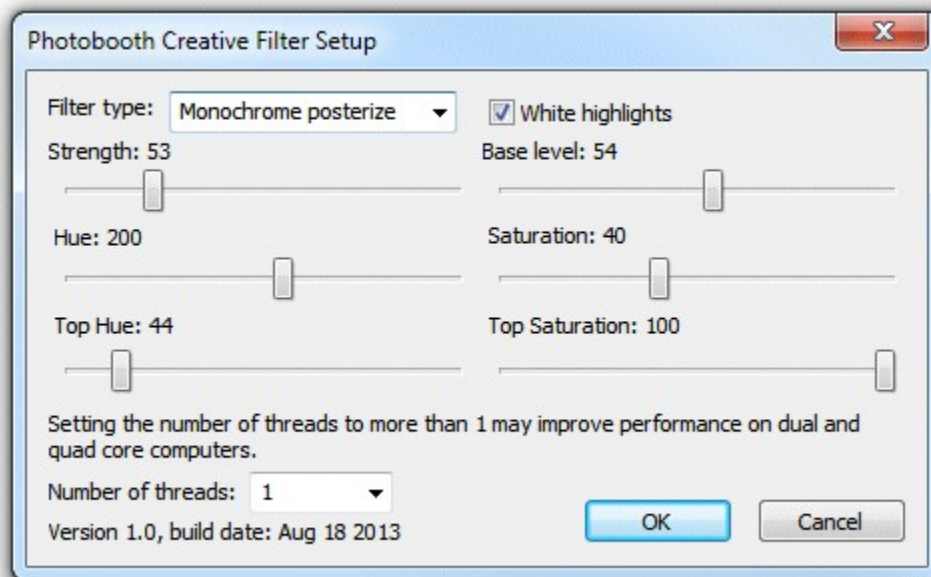


Image with the posterize filter applied with the strength set to 70.

Monochrome posterize

This is a highly configurable filter which converts the images to monochrome then posterizes it and colorizes with one or two colors. It's probably simpler to experiment with the different settings below and see their effect than to try explain how this filter works. The settings are shown below:



Strength - this controls the size of each threshold from 0, which has no effect, to 255 which gives only a few solid colors.

White highlights - this controls whether bright highlights appear as one of the colors (top or bottom color) or as white

Hue - this controls hue of the color displayed in the image

Saturation - this controls how strongly saturated the color is

Top Hue - this controls hue of the color displayed at the top of the image which randomly fades to the main Hue at the bottom of the image. If this is set to 0 only the main color is used.

Top Saturation - this controls how strongly saturated the bottom color is



Image with the monochrome posterize filter applied: strength=53, base level=54, hue=8, saturation=40, top hue=195, top saturation=100, white highlights=on



Image with the monochrome posterize filter applied: strength=53, base level=54, hue=193, saturation=40, top hue=0, top saturation=100, white highlights=on

Saturation

This filter allows the image saturation to be boosted to produce an over saturated image or reduced to produce a more subtle desaturated image. Setting the strength to 100 will leave the saturation unchanged.

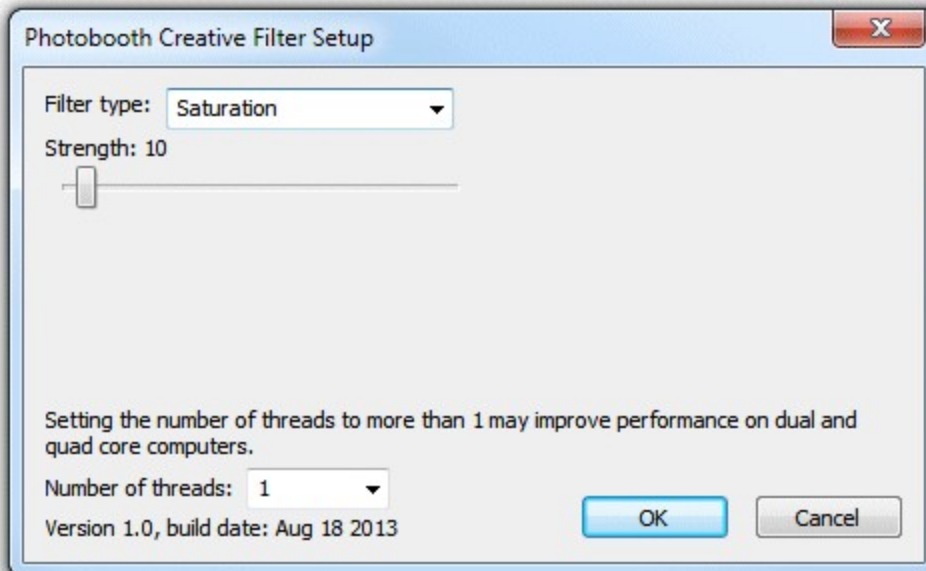




Image with the saturation filter applied: strength=200 (strongly increasing the saturation of the colors)



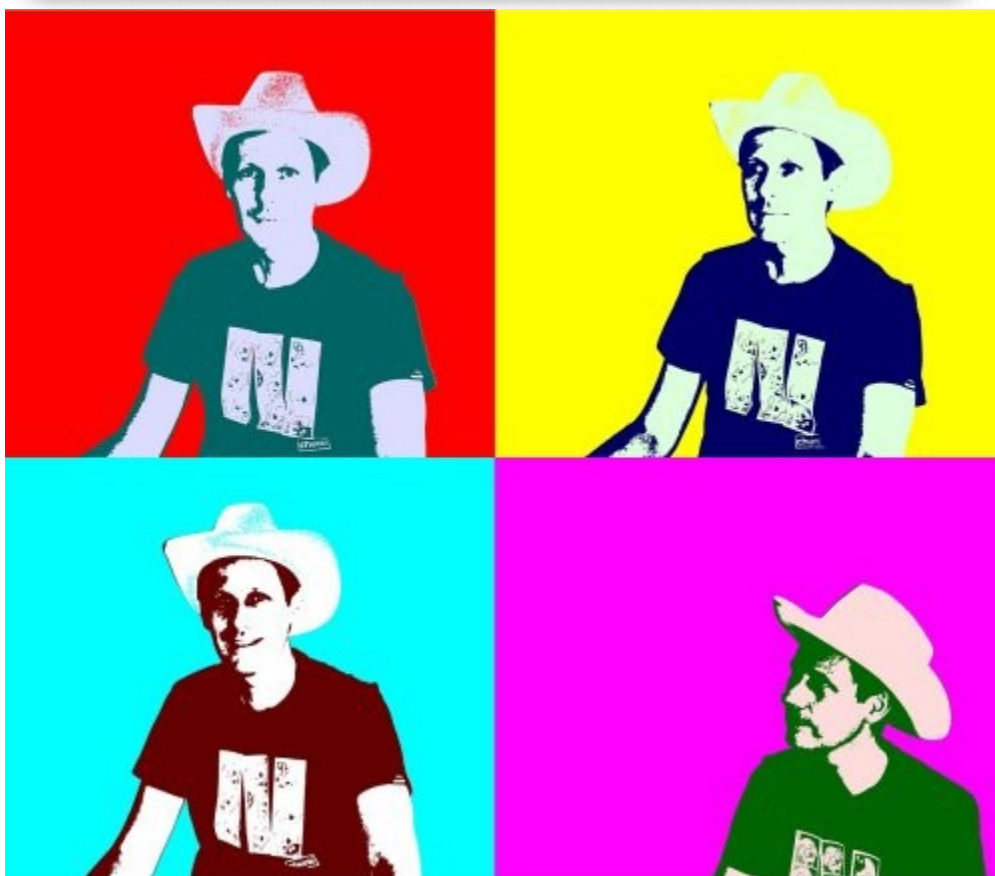
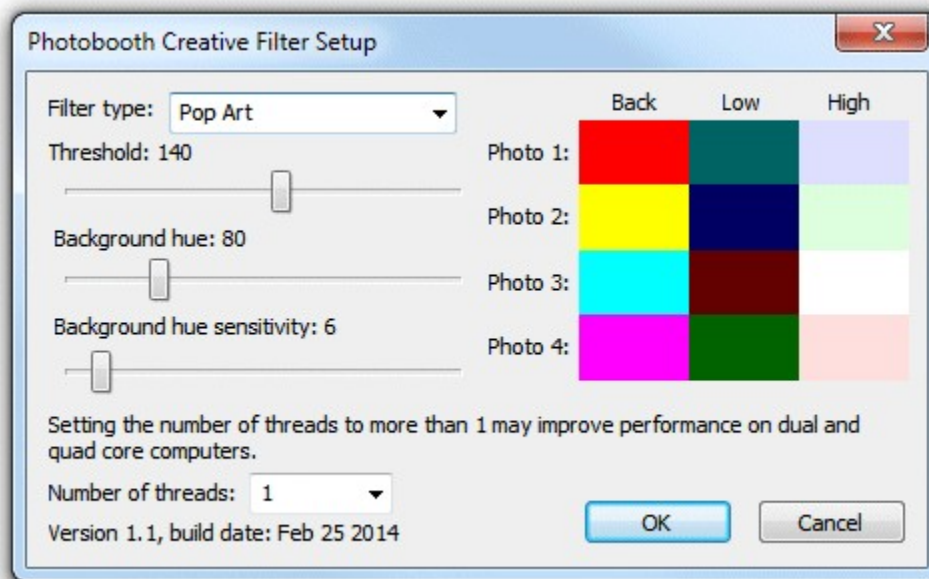
Image with the saturation filter applied: strength=10 (almost desaturating to grayscale)

Pop Art

This filter produces a three color "pop art" effect reminiscent of some of the work by Andy Warhol. The photo is reduced to three colors: the background, dark areas of the subject and light areas.

This filter requires a green or a blue background and works best with continuous lighting rather than flash. Set the threshold to a middle value (e.g. 140) and the sensitivity to a low value (e.g. 6) and then adjust the background hue slider until the background is replaced with the background color for the first photo (the default setting is red). A background hue setting of around 80 should be suitable with a green background.

Then adjust the threshold and sensitivity sliders to get the desired result. The background, low light and highlight colors used for each photo can be changed by clicking on them in the setup dialog.



Set of 4 photos shot using the pop art filter

User selection of different filter effects

The settings for the filter are saved using the name of the photobooth images folder which means that different effects can be applied in by using profiles to switch to different folders. For example users

could be given the choice between normal, over saturated and under saturated colors by creating three photobooth images folders:

C:\PhotoboothImages\normal

C:\PhotoboothImages\over

C:\PhotoboothImages\under

Then save the photobooth settings to three different settings files:

C:\PhotoboothImages\normal\settings.xml - with the photobooth images folder set to C:

\PhotoboothImages\normal

C:\PhotoboothImages\over\settings.xml - with the photobooth images folder set to C:

\PhotoboothImages\over

C:\PhotoboothImages\under\settings.xml - with the photobooth images folder set to C:

\PhotoboothImages\under

Please note: if you are using a touchscreen you need to create touchscreen actions to load profiles 1 to 3 before saving the settings.

Next create three profiles:

Profile 1 loads C:\PhotoboothImages\normal\settings.xml

Profile 2 loads C:\PhotoboothImages\over\settings.xml

Profile 3 loads C:\PhotoboothImages\saturation\settings.xml

Then copy the PhotoboothCreativeFilter.dll to the "over" and "under" folders (don't copy it to the normal folder). Now run the booth in full screen photobooth mode and select profile 2 to switch to the "over" photobooth images folder. Type Shift+Ctrl+C to display the settings and select "Saturation" from the filter type combo, set the strength to 200 and click on OK to save the settings. Next select profile 3 to switch to the "under" photobooth images folder. Type Shift+Ctrl+C to display the settings and select "Saturation" from the filter type combo, set the strength to 10 and click on OK to save the settings. Check everything is working by selecting profile 1 which should display normal live view images, profile 2 which should display over saturated live view images and profile 3 which should display under saturated images.

Please see the section on [Saving settings for future reference and using profiles](#) for more information on using profiles.

Saving a copy of each filtered photo

There isn't a direct way to make a full size copy of each photo with the creative filter applied, but the following trick can be used instead. In full screen photobooth mode type Ctrl+G to display the green screen settings dialog. An error dialog may be displayed if the photobooth images folder doesn't contain a greenscreen_background.jpg image. If this happens press OK and the green screen setting dialog will be displayed:



Select the "Enable greenscreen display" and "Save copy of greenscreened photos in photo booth mode" options. Then move the top slider to the right until the label displays "Green screening disabled" and click on the "OK" button. With the above settings the software won't attempt to green screen the images but it will save a full size copy of each photo in the greenscreen subfolder after applying the creative filter.

Please note: It isn't possible to green screen images and apply creative filters.

11.11 In Operation

In Operation

Once everything is setup simply run NKRemote and press Ctrl+F4 to enter full screen mode and display the ready screen. You probably don't want to have a keyboard on show otherwise users will be able to exit the photobooth mode and access your computer. There are a number of methods that can be used to start the photobooth shooting sequence:

1. The simplest option is to use a mouse and set the start option to "Left click to start, right click to toggle B&W mode" or one of the other left click options. Provided the keyboard is hidden away the users won't be able to access your computer but use the left mouse button to start the sequence and the right mouse button to toggle between B&W and color photos.
2. Alternatively you could use a programmable USB input device which can be setup to send an F4 key press to NKRemote:
 - a) The Powermate from Griffin Technology (<http://www.griffintechology.com/products/powermate/>) is an inexpensive and nicely made device which works very well.
 - b) The StealthSwitch (<http://www.stealthswitch.com>) is a very robust foot switch which simply needs to be plugged in to be used in fullscreen photobooth mode. No additional drivers need to be installed. The desktop hiding software that comes with the StealthSwitch should be disabled otherwise the photobooth screen will be hidden when the switch is pressed.
3. For a more professional setup you could use [external panel mounted buttons](#).
4. Use a touchscreen and one of the left click start options

If "auto reconnect" is selected from the "Camera" menu the camera can be turned off when not in use and then turned it back on again to automatically restart photobooth operation. When the camera is turned off the camera_not_connected.jpg screen is displayed and when it is turned back on again the ready.jpg screen is displayed.

The keyboard shortcuts Ctrl+1, Ctrl+2, Ctrl+3, Ctrl+4, Ctrl+5, Ctrl+6, Ctrl+7, Ctrl+8 or Ctrl+9 can be used to specify the number of copies of prints when running in full screen photobooth mode. The number pad "add" and "subtract" keys can also be used to increase or decrease the number of copies. A small confirmation message is displayed for approximately 2 seconds in the bottom right corner of the display when the number of copies is changed.

A [default profile](#) can be used to reset the photobooth to a known state after each shooting sequence.

To exit fullscreen photobooth mode either press the Esc key or hold down the SHIFT key and press the left mouse button.

The camera should be set to JPEG or raw+JPEG when using photobooth mode. Photobooth shooting only uses JPEG images from the camera, but you can also save raw files for manual post processing after the event by setting the camera to one of its raw+JPEG settings.

Reprints

The last print layout can be reprinted by typing Ctrl+R in full screen photobooth mode. Alternatively select the output option to also save a JPEG copy and then use a browser or image editor to select and print the required layout.

Reprint Selection Screen

A reprint selection screen is available from the ready screen which allows users (or the photobooth operator) to quickly select a set of photos to be reprinted. The reprint selection screen can be displayed by typing Ctrl+Alt+P or by using the "Display reprint screen" touchscreen action. This will display a screen showing thumbnails of the JPEG copies of prints stored in the prints subfolder. The user can select the photo to be reprinted using the touchscreen or by using the cursor keys or mouse if no touchscreen is available. After selecting the photo it can be printed by pressing the Enter key or typing A or by clicking on the printer icon in the center bottom of the screen. The user can also cancel the reprint selection screen and return to the ready screen by typing Esc or X or by clicking on the cancel icon at the right bottom of the screen. The reprint selection screen will also cancel automatically if a timeout occurs.

Please note: The reprint selection screen is experimental in NKRemote v3.2 and may change in future releases. The following settings can be adjusted using values stored in the Windows registry (please exit NKRemote before changing these settings):

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailWidth - the width of the thumbnails (default=300)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailHeight - the height of the thumbnails (default=300)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailSpacing - the spacing between thumbnails (default=10)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailFontSize - the size of the caption font (default=140 for 14 point font)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailTextColor - the color of the caption font when not selected (default=0 for black)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailSelectedTextColor - the color of the caption font when selected (default=0 for black)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailSelectedOutlineColor - the color of the thumbnail outline when selected (default=0x000000ff for red)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailSelectedBackgroundColor - the color of the thumbnail background when selected (default=0x00b4b4b4 for light gray)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailTimeout - the

timeout for automatically closing the screen (default=30 seconds)

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\ReprintThumbnailShowMouse - specifies whether the mouse pointer should be visible (default=0 hide mouse pointer)

The bottom area of the reprint selection screen defaults to the Windows default background color with a printer icon and a red cross to cancel the screen. The icons can be replaced by putting PNG images named Printer-icon.png and Cancel-icon.png in your photobooth images folder. Alternatively you can use create screen image named reprint.jpg in your photobooth images folder (please note that only the bottom portion of the reprint.jpg screen will be visible).

Reprinting after an Event

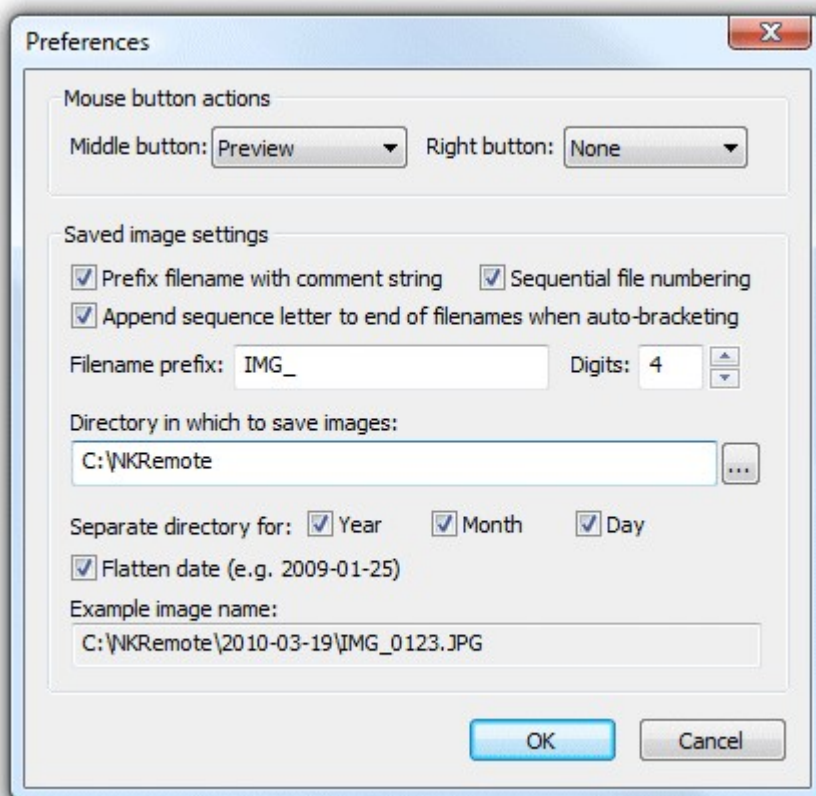
If the output option was set to "Print and save JPEG copy" or "JPEG copy only" when the photos were taken a JPEG copy of the printed output will be saved in the prints subfolder. The JPEG copies of the printed output can be reprinted after an event by selecting "Print selected photobooth photos..." from the File menu and then selecting one or more JPEGs for printing.

If a JPEG copy of the printed output is not available or you want to reprint the photos using a different layout you can do it as follows:

1. Setup the printer and photobooth print layout as required
2. Use Windows Explorer to drag and drop the first set of photos into the NKRemote main window
3. Type Shift+Ctrl+R or select "Reprint photos" from the File menu and the photos will be printed
4. Repeat steps 2 and 3 to as required

Where Photos and GIFs are Saved

Photos taken by the camera are downloaded to the PC and saved in the download folder. The location of the download folder is set in [File->Preferences](#):



The settings shown above will save photos and videos in a separate subfolder of C:\Photos for each date.

e.g. photos and videos captured on June 15, 2016 are saved in:

C:\Photos\2016-06-15

The XML shooting information file (see below) is also saved in the download folder.

If the output is set to "Print and Save JPEG copy" or "Jpeg copy only" the JPEG copy of the printed output will be saved in a subfolder of the download folder named "prints"

e.g. the JPEG copy of prints from photos taken on June 15, 2016 are saved in:

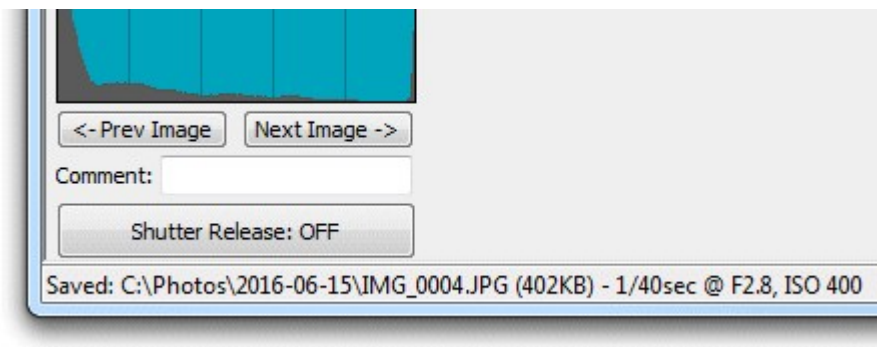
C:\Photos\2016-06-15\prints

If the option to create [an animated GIF](#) is selected the animated GIFs are saved in a subfolder of the download folder named "GIF"

e.g. GIFs created on June 15, 2016 are saved in:

C:\Photos\2016-06-15\GIF

A quick method of showing where the photos are being saved is to exit full screen photobooth mode and take a photo by pressing the shutter release on the camera or by pressing the "Release (F8)" button in the main NKRemote window. When the photo is taken it is automatically downloaded to the PC and saved on the hard disk in the download folder. The full pathname (i.e. download folder name and image filename) will be displayed in the status line at the bottom of the main NKRemote window:



XML Shooting Information

After each set of shots an XML file containing information about the set of photos is written to the folder where the photos are downloaded from the camera. The XML file has the same filename as the first shot in the sequence (but with a .XML file extension). An example XML shooting information file is shown below:

```
<?xml version="1.0" ?>
<breeze_systems_photobooth version="1.1">
<photo_information>
  <date>2011/01/26</date>
  <time>16:37:19</time>
  <user_data>sales@breezesys.com</user_data>
  <photobooth_images_folder>C:\Photobooth\PhotoboothImages</photobooth_images_folder>
  <caption1>First caption</caption1>
  <caption2>Second caption</caption2>
  <photos>
    <photo image="1">20110126_163719_1.JPG</photo>
    <photo image="2">20110126_163719_2.JPG</photo>
    <photo image="3">20110126_163719_3.JPG</photo>
    <photo image="4">20110126_163719_4.JPG</photo>
    <output>prints\20110126_163719.jpg</output>
  </photos>
</photo_information>
</breeze_systems_photobooth>
```

The <date> and <time> tags contain the date and time of the first shot in the sequence. Please note that the date and time will only be correct if the camera's clock is set correctly. The camera's clock can be automatically synchronized with the PC's time when it connects to the PC by selecting the automatic synchronization option in the [camera settings dialog](#).

The <user_data> tag contains the text entered by the user if the [touchscreen keyboard option](#) is used.

The <photobooth_images_folder> contains the full pathname of the photo booth images folder.

The <caption1> and <caption2> tags contain the text used for the captions printed on the photos or empty strings if these are not defined.

The <photo> tags contain the filenames of the photos taken in the shooting sequence.

The <output> tag contains the filename of the JPEG copy of the printed output (if selected).

The writing of the XML shooting information file can be suppressed by setting the following value in the Windows registry to 1:

HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100\PhotoboothSuppressXml

This can be done by creating a text file named SuppressXML.reg containing the following and then double clicking on the file in Windows Explorer to copy the information to the registry:

Windows Registry Editor Version 5.00

```
[HKEY_CURRENT_USER\Software\BreezeSystems\NKRemote\100]
"PhotoboothSuppressXml"=dword:00000001
```

Please note that this setting will be ignored and the XML will be written if the touchscreen keyboard option is used.

11.12 Green Screen Shooting

The photobooth mode in NKRemote v2.0 introduces green screen shooting. Green screen photography works by taking photos of the subject in front of a green background and then automatically replacing the background with a background image. The background image can be anything you like such as an exotic location, a cityscape or even a photo of the President of the United States.

NKRemote also supports blue screen shooting. This works in exactly the same way but uses a blue background instead of a green background. To enable blue screen shooting select the "Blue screen mode" checkbox when the green screen settings dialog is displayed.

NKRemote will automatically replace the green background with the chosen background when using live view in photobooth mode and also when using the [live view window](#). This means that the users will see what the final picture will look like with the new background as opposed to the green background that the cameras sees.

A basic green screen setup is shown below:



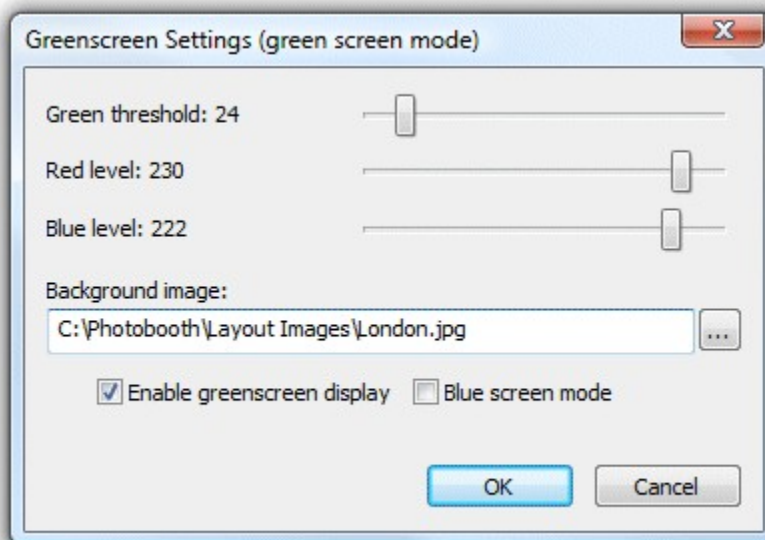
Basic green screen setup with green screened live view images displayed on the monitor

When the images are printed out as a double strip they look like this:



Live view settings

To enable green screen shooting in normal live view mode first connect a camera and then select live view from the Camera menu or by typing Ctrl+L. Then type Ctrl+G or right click on the live view display and select "Green screen settings..." to display the green screen setup dialog:



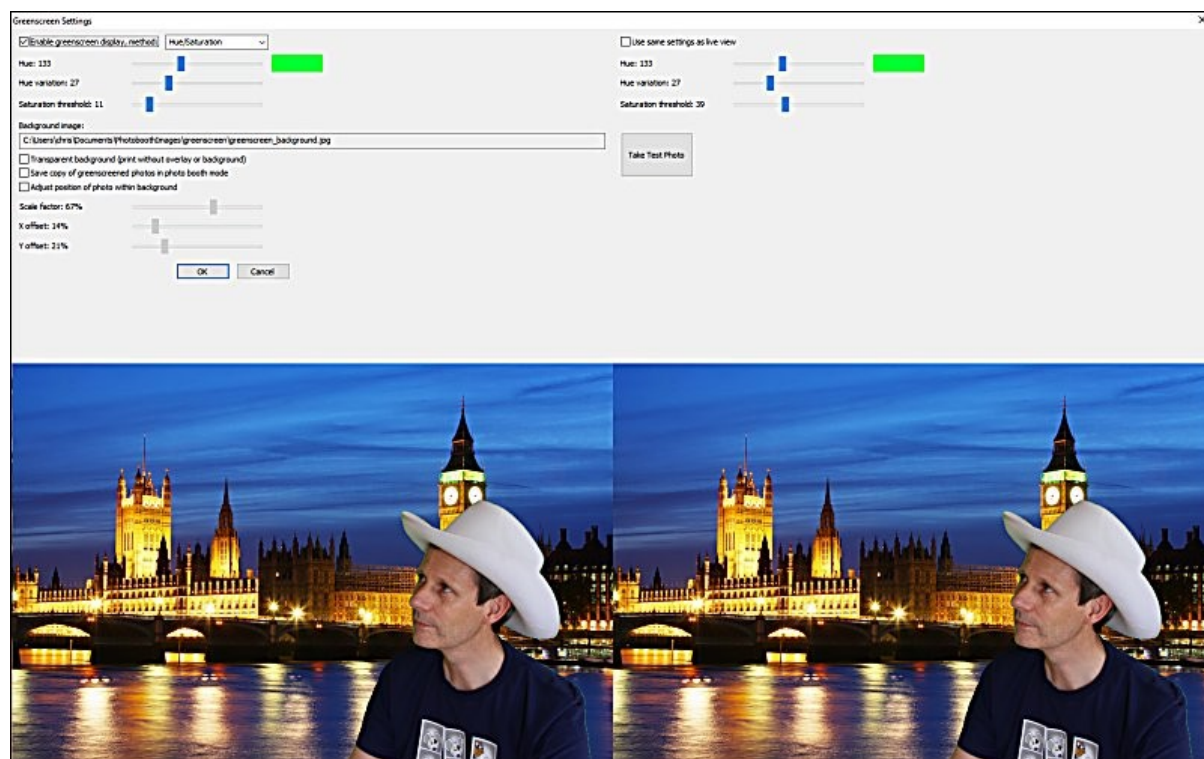
First select the background image by pressing on the "..." button then click on the checkbox to enable green screen display (not required in photobooth mode). Then adjust the sliders so that all of the green screen background is replaced with the background image but the foreground subject is unaffected.

The easiest way to do this is to move the "Green threshold" slider to the left until most of the background is replaced and then fine tune the settings by moving the "Red level" and "Blue level" sliders to the right. The best settings to use will depend on the lighting conditions and the quality of the green background. If areas of the subject show the background the settings are too strong and should be reduced by moving the red and blue sliders to the left of the green slider to the right. For best results the avoid green background should be evenly lit and the subject should be positioned to minimize shadows falling on the background.

Please note: The greenscreening is optimized for speed not quality in order to be able to display the greenscreened images in the live view window in realtime. The quality should be good enough for small photos and prints, but if you want large high quality results you may need to use specialist green screen software such as FxHome PhotoKey.

Green Screen Shooting in Photo Booth Mode

To display the green screen settings in photo booth mode first connect a camera and then select full screen photo booth mode. Then type Ctrl+G to display the green screen settings:



The left hand side of the screen shows the live view display and the right hand side shows a green screened copy of the last photo taken by the camera. Press the "Take Test Photo" button to take a test photo if no photo is displayed on the right.

If continuous lighting is being used the same settings can be used for the live view and the final photos and the "Use same settings as live view" checkbox can be selected. When the "Use same settings as live view" checkbox is selected any adjustments made to the green screen settings for live view will also be applied to the photos.

If flash is being used it is likely that the lighting for live view is not the same as that for used for the actual photos and the "Use same settings as live view" checkbox should be unchecked so that

different adjustments can be used for the live view images and the actual photos.

Select the "Enable green screen display" checkbox to enable green screen shooting. Then adjust the sliders so that all of the green screen background is replaced with the background image but the foreground subject is unaffected. Please see the section headed "[Adjusting the green screen settings](#)" below for information on how to adjust the settings to get the best results.

Select the "Save copy of greenscreened photos in photo booth mode" option to save a copy of the photo downloaded from the camera with the green background replaced with the background image. The greenscreened copies are saved in the "greenscreen" subfolder of the folder where the images from the camera are saved. The greenscreened copy will be saved as a JPEG image unless the transparent background option is selected in which case it will be saved as a PNG file.

Select the "Transparent background (print without overlay or background)" option to save the photos as a PNG image with a transparent overlay. When this option is selected the images displayed in the live view will be shown against the selected background image but the photos added to the print layout will have a transparent background.

By default the photos taken by the camera will fill the green screen background. Select the "Adjust position of photo within background" option if you want to place the photos in just one part of the background. Use the "Scale factor" slider to adjust the size of the photo and the "X offset" and "Y offset" sliders to adjust the position.

In full screen photo booth mode the green screen background and overlay images are loaded from the photo booth images folder. The background image should be named greenscreen_background.jpg and the overlay image should be named greenscreen_overlay.png. Different overlays and backgrounds can be used for each shot by appending the shot number to the filenames e.g.

Shot 1: background filename: greenscreen_background_1.jpg, overlay filename: greenscreen_overlay_1.png

Shot 2: background filename: greenscreen_background_2.jpg, overlay filename: greenscreen_overlay_2.png

Shot 3: background filename: greenscreen_background_3.jpg, overlay filename: greenscreen_overlay_3.png

Shot 4: background filename: greenscreen_background_4.jpg, overlay filename: greenscreen_overlay_4.png

A different overlay and background file can be displayed in the live view by appending _live_view to the filename. This is useful if the background or overlay contains text and the live view is mirrored because it means versions of the background and overlay with no text can be used for live view instead of displaying mirrored text. Example filenames:

Shot 1: live view background and overlay filenames: greenscreen_background_1_live_view.jpg, greenscreen_overlay_1_live_view.png

background and overlay files applied to the prints: greenscreen_background_1.jpg, filename: greenscreen_overlay_1.png

Shot 2: live view background and overlay filenames: greenscreen_background_2_live_view.jpg, greenscreen_overlay_2_live_view.png

background and overlay files applied to the prints: greenscreen_background_2.jpg, filename: greenscreen_overlay_2.png

Shot 3: live view background and overlay filenames: greenscreen_background_3_live_view.jpg, greenscreen_overlay_3_live_view.png

background and overlay files applied to the prints: greenscreen_background_3.jpg, filename: greenscreen_overlay_3.png

Shot 4: live view background and overlay filenames: greenscreen_background_4_live_view.jpg, greenscreen_overlay_4_live_view.png

background and overlay files applied to the prints: greenscreen_background_4.jpg, filename: greenscreen_overlay_4.png

Backgrounds and overlays can also be switched by saving a number of different profiles each using a different photo booth images folder containing different greenscreen_background.jpg and greenscreen_overlay.png images. The user can then select the different backgrounds using the profile shortcut keys. You can also switch green screen backgrounds and overlays by copying the new greenscreen_background.jpg and greenscreen_overlay.png images into the photo booth images folder while the booth is running.

Please note: Green screen should be enabled before saving the settings to file when using profiles to switch backgrounds. If green screen is not enabled when the settings are saved green screen will be disabled when the saved settings are loaded using a profile.

Adjusting the green screen settings

To get the best results you need a non-reflective background which is pure green. Try to keep the lighting of the background as even as possible and avoid shadows cast by the people standing in front of the background. If you are using a cloth background try to avoid creases as these will result in an even green background.

Three different chroma keying methods are available:

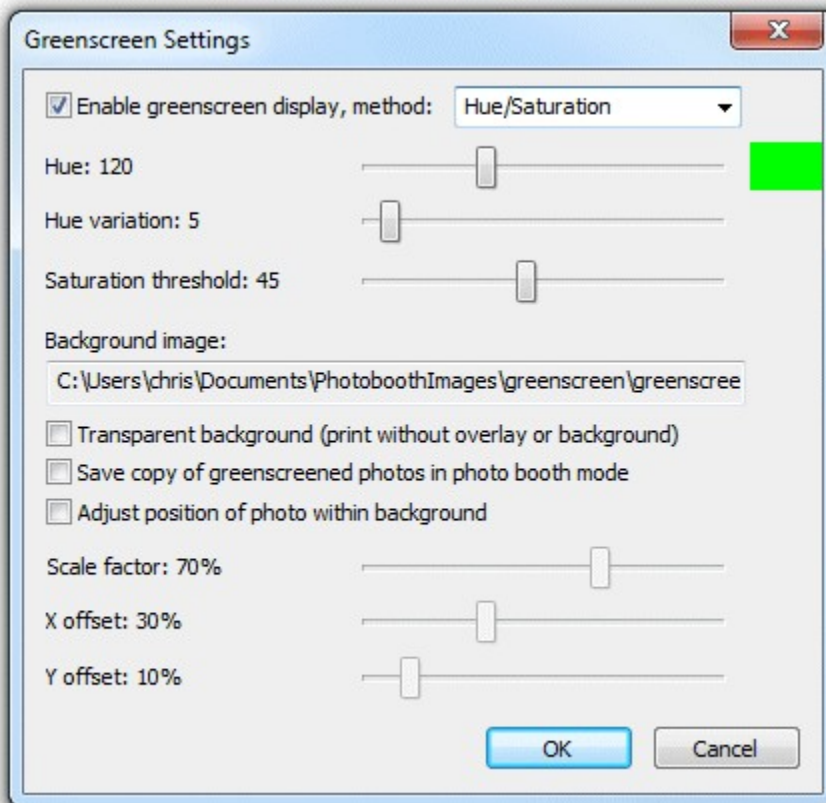
1. Hue/Saturation - this method is suitable for both green screen and blue screen shooting and gives the best results under good lighting conditions
2. RGB Green screen - this method is only suitable for shooting green screen. It can give better results than the hue/saturation method if the lighting is poor
3. RGB Blue screen - this method is only suitable for shooting blue screen.

Which method works best may depend on your lighting setup and background. Under most lighting conditions the "hue/saturation" method should give the better results, particularly if the background isn't pure green.

The "RGB Green screen" and "RGB Blue screen" methods are the same methods as used in versions of NKRemote up to version v3.4.

Adjusting the settings when using the "Hue/Saturation" method

First select "Hue/saturation" from the "Method:" dropdown list at the top of the green screen settings dialog:



Then set the "Hue:" slider to 120 (or 240 if shooting against a blue background), the "Hue variation:" slider to 5 and the "Saturation threshold:" slider to 45

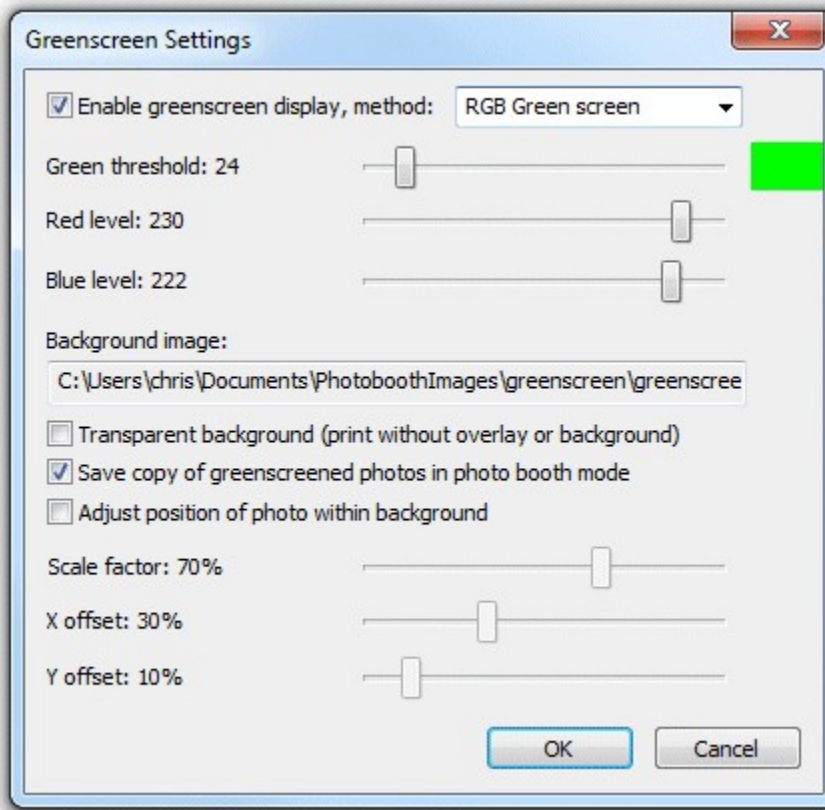
Next adjust the "Hue:" slider until most of the background is replaced. The selected color is displayed to the right of the slider.

Then adjust the "Hue variation" and "Saturation threshold" sliders until all of the green background is replaced. Ask someone to stand in front of the green background to check the settings (or take a test photo when using photo booth mode). If parts of their clothing are being replaced by the background it may mean that the hue variation setting is too high and should be reduced. Normally the "Hue variation" slider can be set to 20 or less.

The "Saturation threshold" slider sets the minimum saturation level that will be treated as background. Normally the background will be pure green or pure blue and will be highly saturated and the "Saturation threshold" slider can be set to 45 or more. Using a higher value will reduce the chances of dark areas (e.g. black clothing) from being replaced with the green screen background.

Adjusting the settings when using the "RGB Green screen" method

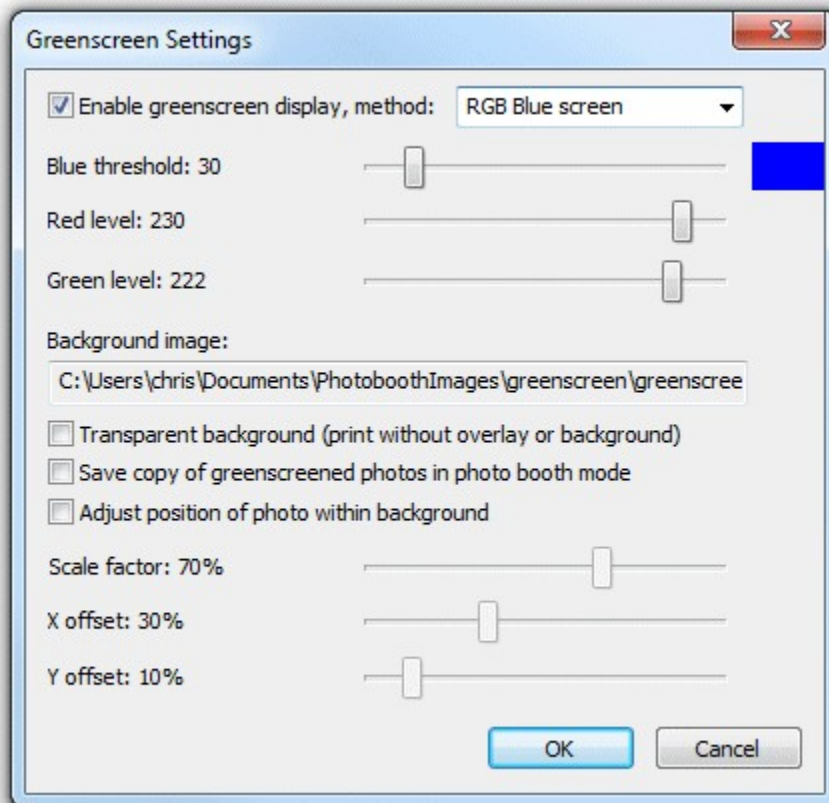
This method is only suitable for shooting against a green background. First select "RGB Green screen" from the "Method:" dropdown list at the top of the green screen settings dialog:



Start by setting the green threshold to 30, the red level to 230 and the blue level to 222. Then move the "Green threshold" slider to the left until most of the background is replaced. Fine tune the settings by moving the "Red level" and "Blue level" sliders to the right. The best settings to use will depend on the lighting conditions and the quality of the green background. If areas of the subject show the background the settings are too strong and should be reduced by moving the red and blue sliders to the left or the green slider to the right.

Adjusting the settings when using the "RGB Blue screen" method

This method is only suitable for shooting against a blue background. First select "RGB Blue screen" from the "Method:" dropdown list at the top of the green screen settings dialog:



Start by setting the blue threshold to 30, the red level to 230 and the green level to 222. Then move the "Blue threshold" slider to the left until most of the background is replaced. Fine tune the settings by moving the "Red level" and "Green level" sliders to the right. The best settings to use will depend on the lighting conditions and the quality of the blue background. If areas of the subject show the background the settings are too strong and should be reduced by moving the red and green sliders to the left or the blue slider to the right.

11.13 Live View Overlay

Photo Booth Mode

An optional overlay image can be displayed over the live view images in fullscreen photobooth mode to add fun effects such as superimposing a body builder's body with the user's head. It can also be used to create fancy borders for the live view images to give the booth a more custom feel.

The overlay image should be a PNG file with transparency information in the alpha channel. It should be in landscape orientation with an aspect ratio of 3:2 e.g. 1056x704 pixels in size. If the aspect ratio of the overlay image isn't the same as the live view images it will be stretched to fit and may appear distorted.

The overlay file should be named `live_view_overlay.png` and saved in the photobooth images folder.

Please note: The live view overlay image only affects the live view images displayed to the user and won't appear in the printed output. To overlay the images in the printed output create a copy of the `live_view_overlay.png` file called `image_overlay.png` and save it in the the photobooth images folder.

Overlays can also be used in conjunction with [green screen shooting](#) to provide effects such as foregrounds or overlays to mock up a magazine cover.

11.14 How to create PNG images using Photoshop

How to create PNG images using Photoshop

First create a new image with a transparent background. Then create a mask by clicking on the "Add layer mask" in the layers palette.

Next add the graphics such as text overlays and picture frames to the image layer and use the layer mask to control the transparency. In the layer mask white represents opaque, black represents fully transparent and values between white and black represent increasing transparency.

Save a copy of the image as a PSD file for future reference and then save the image as a PNG file named overlay.png.

An existing PNG image containing transparency information in the alpha channel can be edited in Photoshop by loading it into Photoshop. The layer mask containing the transparency information can be recreated by selecting Layer->Layer Mask->From Transparency.

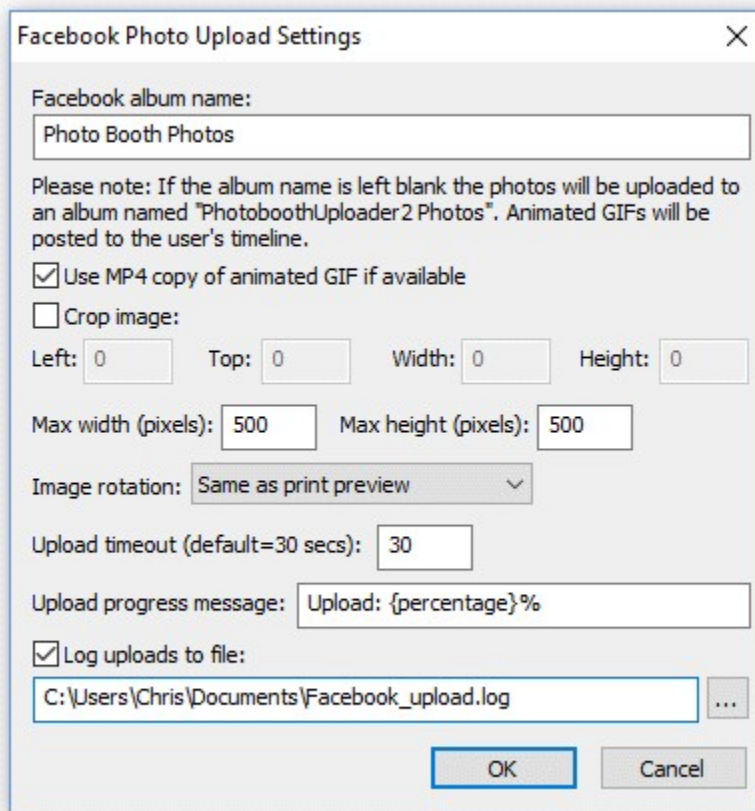
Photoshop Elements

First create a new image with a transparent background. Next add the graphics such as text overlays and picture frames and use the opacity slider for the layers to control opacity. To get a simple fade effect, you can also use the gradient tool. Once you're happy with your image, save a copy as a PSD file for future reference and then save the image as a PNG file named overlay.png.

11.15 Uploading to Social Networking and Photo Sharing Sites

Uploading photos to the user's personal Facebook page

Users can upload photos to their personal Facebook page directly from the photo booth if it has an internet connection and either a touchscreen or a keyboard to enter their Facebook login information. The simplest way to set this up is to use the [photo booth setup wizard](#) and then adjust the settings if required. After running the photo booth setup wizard the Facebook settings can be edited using the dialog below. This dialog can be opened by opening the "Photobooth Settings" dialog (File->Photobooth Settings... or Ctrl+S) then opening the "Output Settings" dialog clicking on the "Settings..." button to the right of the output options and then clicking on the Facebook upload "Settings..." button.



The album name setting specifies the name of the album that will be created on the user's Facebook page. Tokens for the date and time can be included in album name and will be replaced with the date or time the photos were taken when they are uploaded e.g.

%L will be replaced with the long date representation for your computer's locale e.g. Wednesday, June 08, 2015

%I will be replaced with the long date and time representation for your computer's locale e.g.

Wednesday, June 08, 2015 20:23:56

Please see the [tokens section](#) for a list of available tokens.

Please note: It is no longer possible to specify the album or photo description when uploading photos to Facebook. This option was removed in NKRemote v3.3 to comply with current Facebook policy: Facebook Platform Policy 2.3. This states that an app can only populate the user message with content manually entered by the user. The user can enter a message by using the keyboard.xml file to add prompt3 when the touchscreen keyboard is asking the user to their Facebook username (prompt1) and password (prompt2). Only the text entered by the user will be used for the photo description. Please see the "[Touchscreen Keyboard](#)" section for information on customizing the touchscreen keyboard.

The photo that is uploaded to the user's Facebook page is based on the JPEG copy of the printed output. You can crop, resize and rotate the image before uploading it to Facebook.

To crop the image first check the "Crop image:" checkbox and then specify the left offset and top offset in pixels for the top left corner of the cropped image. Then specify the width and height of the image in pixels. For example if the photo booth is setup to print a double strip of 4 images on 6"x4" paper you may wish to crop the image uploaded to Facebook so that only a single strip is sent. If the printer is set to a resolution of 300 dpi the image will be 1200 pixels wide (4" x 300 dpi) by 1800 pixels high (6" x 300 DPI) and so to crop it into a single strip you need to set left=0, top=0, width=600 and height=1800.

You can also specify a maximum size for the image being uploaded using the "Max width (pixels):" and "Max height (pixels):" settings. The JPEG copy of the printed output will be resized so that it is no bigger than these settings before it is uploaded to Facebook. Keeping these values relatively small, e.g. 500 x 500 pixels, will reduce the time it takes to upload the file.

Depending on your printer page settings the JPEG copy of the printed output may not be saved in the correct orientation. If this is the case it can be rotated using the "Image rotation:" dropdown list. If you are also using print preview (the "Confirm before printing" option in the "Photobooth Settings" dialog) this can be set to "Same as print preview" and it will use the same rotation settings as the print preview.

Please note that the image is cropped first, then resized and finally rotated before being uploaded to Facebook.

[Animated GIFs](#) can be uploaded directly to the user's Facebook time-line (the GIFs are hosted on [Giphy.com](#) and a link is placed in the Facebook post). However, animated GIF files can be very large and so an optional script can be used to create an MP4 copy of the GIF and the MP4 file can be loaded instead. Select the "Use MP4 copy of animated GIF if available" option to enable the uploading of MP4 files instead of GIFs. Please see the [animated GIF section](#) for details of how to create animated GIFs.

GIFs and MP4 files will be sent without being resized or cropped.

Select the "Log uploads to file:" checkbox to log Facebook uploads to a CSV file. Then either type in the filename of the log file in the editbox or click on the "..." to open a file browser. The log file contains a line for each Facebook upload attempt containing the following comma separated values: the date in the format YYYYMMDD, the time in the format HHMMSS, the Facebook username prefixed with FACEBOOK_USERNAME: and with @ characters replaced by _ , the status (1=success, 0=failure) and the filename of the image file e.g.

20140114,174842,FACEBOOK_USERNAME:test_gmail.com,1,C:

\\Users\\Chris\\Documents\\PhotoboothImages\\2014-01-14\\prints\\140114_174826.jpg

Please note: The log file only contains the date/time, username, filename and whether the upload was successful. The user's password is **NOT** recorded and therefore the log file cannot be used to upload photos to Facebook after the event.

In Operation

When the photo booth is run and the photos have been taken the print preview screen will be displayed first (if "Confirm before printing" is selected) and then when the user selects "Print" the sharing screen (share.jpg) will be displayed. If the user selects "Cancel" in the print preview screen the sharing screen won't be displayed and the booth will return to the ready screen (ready.jpg). If the "Confirm before printing" option is not selected the sharing screen will be displayed after taking the photos.

When the sharing screen (share.jpg) the user has the option to upload the photo to Facebook by touching the Facebook button on the touchscreen or by typing F if they are using a normal keyboard. The sharing screen can be exited by touching the "Cancel" button on the touchscreen or by typing X or Esc on a normal keyboard. The sharing screen will also exit automatically if the user does nothing and the screen timeout occurs. The sharing screen timeout can be specified in the "Output Settings" dialog.

When the user selects Facebook upload the touchscreen keyboard will be displayed allowing them to enter their Facebook user name and password. The user can enter their user name and password by tapping on the touchscreen keyboard or by typing them in using a normal keyboard. The user can then either tap on the "Cancel" button (or type Esc) to cancel the upload or tap on the "Upload photo" button (or press the keyboard Enter key) to start the upload. The touchscreen keyboard will cancel automatically if the user doesn't tap the touchscreen or type anything and the keyboard timeout occurs. The keyboard timeout can be specified in the "Touchscreen Settings" dialog which can be displayed from the "Photobooth Settings" dialog.

When the user has entered their Facebook user name and password and selected "Upload photo" the

Facebook login screen (fb_login.jpg) will be displayed together with a small web browser window showing the Facebook login page. The user must tap the "Ok" button or press the Enter key on the keyboard to login to Facebook. If this is the first time the user has uploaded a photo they will need to authorize the PhotoBoothUploader app by tapping the "Ok" button (or pressing the Enter key on the keyboard) when the next two Facebook screens are displayed. If the user decides not to authorize the PhotoBoothUploader app by tapping the "Cancel" button the upload will be aborted and the login failure screen (fb_login_failure.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen.

After the user has logged in and authorized the PhotoBoothUploader app the upload will start and the Facebook upload screen (fb_upload.jpg) will be displayed. If the upload is successful the Facebook success screen (fb_success.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen. If there is an error (e.g. the internet connection was lost) the Facebook error screen (fb_error.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen.

If there is a timeout waiting for the user to login and authorize the PhotoBoothUploader app the upload will be aborted and the timeout screen (fb_timeout.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen.

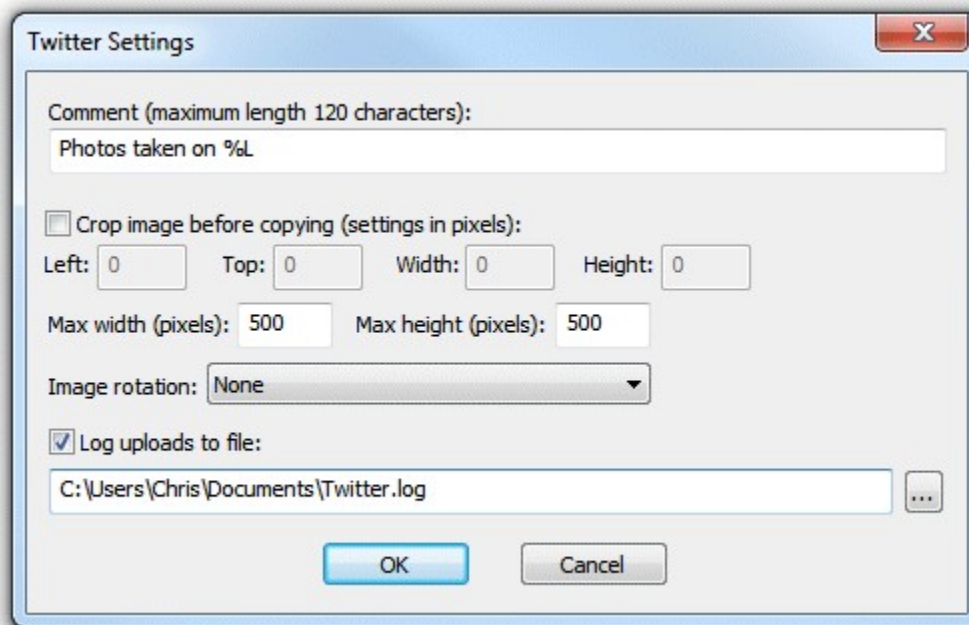
The sharing screen can also be displayed from the ready screen using the keyboard shortcut Shift+Ctrl+S or the "Display sharing screen" touchscreen action.

If you have problems with the Windows Taskbar appearing when uploading photos to Facebook you can run the HideWindowsTaskbar.exe utility to hide the Windows taskbar. HideWindowsTaskbar.exe will automatically hide the Windows taskbar when NKRemote is running in full screen photo booth mode. HideWindowsTaskbar.exe can be found in the NKRemote installation folder (usually C:\Program Files (x86)\BreezeSys\NKRemote on 64-bit Windows).

Please note: The user's Facebook username and password are private and are not saved by the photo booth software. There is no offline option for Facebook uploads because users need to enter both their username and password to allow uploading to their Facebook account and no system should ever keep a record of users' passwords.

Posting photos to the user's Twitter account (tweeting)

Users can post photos to their personal Twitter account directly from the photo booth if it has an internet connection and either a touchscreen or a keyboard to enter their Twitter login information. The simplest way to set this up is to use the [photo booth setup wizard](#) and then adjust the settings if required. After running the photo booth setup wizard the Twitter settings can be edited using the dialog below. This dialog can be opened by opening the "Photobooth Settings" dialog (File->Photobooth Settings... or Ctrl+S) then opening the "Output Settings" dialog clicking on the "Settings..." button to the right of the output options and then clicking on the Twitter "Settings..." button.



The comment setting specifies text that will be used in the tweet. Twitter limits messages to 140 characters but approximately 20 characters are required for the URL when posting photos and so the maximum usable message size is 120 characters. Tokens for the date and time can be included in text and will be replaced with the date or time the photos were taken when they are uploaded e.g. %L will be replaced with the long date representation for your computer's locale e.g. Wednesday, June 08, 2015

%l will be replaced with the long date and time representation for your computer's locale e.g. Wednesday, June 08, 2015 20:23:56

Please see the [tokens section](#) for a list of available tokens.

The photo that is tweeted is based on the JPEG copy of the printed output. You can crop, resize and rotate the image before it is tweeted.

To crop the image first check the "Crop image:" checkbox and then specify the left offset and top offset in pixels for the top left corner of the cropped image. Then specify the width and height of the image in pixels. For example if the photo booth is setup to print a double strip of 4 images on 6"x4" paper you may wish to crop the image uploaded to Facebook so that only a single strip is sent. If the printer is set to a resolution of 300 dpi the image will be 1200 pixels wide (4" x 300 dpi) by 1800 pixels high (6" x 300 DPI) and so to crop it into a single strip you need to set left=0, top=0, width=600 and height=1800.

You can also specify a maximum size for the image being uploaded using the "Max width (pixels):" and "Max height (pixels):" settings. The JPEG copy of the printed output will be resized so that it is no bigger than these settings before it is tweeted. Keeping these values relatively small, e.g. 500 x 500 pixels, will reduce the time it takes to upload the file.

Depending on you printer page settings the JPEG copy of the printed output may not be saved in the correct orientation. If this is the case it can be rotated using the "Image rotation:" dropdown list. If you are also using print preview (the "Confirm before printing" option in the the "Photobooth Settings" dialog) this can be set to "Same as print preview" and it will use the same rotation settings as the print preview.

Please note that the image is cropped first, then resized and finally rotated before being tweeted.

Select the "Log uploads to file:" checkbox to log tweets to a CSV file. Then either type in the filename of the log file in the editbox or click on the "..." to open a file browser. The log file contains a line for each tweet attempt containing the following comma separated values: the date in the format YYYYMMDD, the time in the format HHMMSS, the Twitter username prefixed with

TWITTER_USERNAME: and with @ characters replaced by _ , the status (1=success, 0=failure) and the filename of the image file e.g.

20151214,174842,TWITTER_USERNAME:test_gmail.com,1,C:

\Users\Chris\Documents\PhotoboothImages\2015-12-14\prints\151214_174826.jpg

Please note: The log file only contains the date/time, username, filename and whether the upload was successful. The user's password is **NOT** recorded and therefore the log file cannot be used to tweet the photos after the event.

In Operation

When the photo booth is run and the photos have been taken the print preview screen will be displayed first (if "Confirm before printing" is selected) and then when the user selects "Print" the sharing screen (share.jpg) will be displayed. If the user selects "Cancel" in the print preview screen the sharing screen won't be displayed and the booth will return to the ready screen (ready.jpg). If the "Confirm before printing" option is not selected the sharing screen will be displayed after taking the photos.

When the sharing screen (share.jpg) the user has the option to tweet the photo by touching the Twitter button on the touchscreen or by typing T if they are using a normal keyboard. The sharing screen can be exited by touching the "Cancel" button on the touchscreen or by typing X or Esc on a normal keyboard. The sharing screen will also exit automatically if the user does nothing and the screen timeout occurs. The sharing screen timeout can be specified in the "Output Settings" dialog.

When the user selects the Twitter option the touchscreen keyboard will be displayed allowing them to enter their Twitter user name and password. The user can enter their user name and password by tapping on the touchscreen keyboard or by typing them in using a normal keyboard. The user can then either tap on the "Cancel" button (or type Esc) to cancel the upload or tap on the "Upload photo" button (or press the keyboard Enter key) to start the upload. The touchscreen keyboard will cancel automatically if the user doesn't tap the touchscreen or type anything and the keyboard timeout occurs. The keyboard timeout can be specified in the "Touchscreen Settings" dialog which can be displayed from the "Photobooth Settings" dialog.

When the user has entered their Twitter user name and password and selected "Upload photo" the Twitter login screen (twitter_login.jpg) will be displayed together with a small web browser window showing the Twitter login page. The user must tap the "Ok" button or press the Enter key on the keyboard to login to Twitter and give the application to tweet the photo.

After the user has logged in and authorized the PhotoboothUploader app the upload will start and the Twitter upload screen (twitter_upload.jpg) will be displayed. If the upload is successful the Twitter success screen (twitter_success.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen. If there is an error (e.g. the internet connection was lost) the Twitter error screen (twitter_error.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen.

If there is a timeout waiting for the user to login and authorize the PhotoBoothUploader app the upload will be aborted and the timeout screen (fb_timeout.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen.

The sharing screen can also be displayed from the ready screen using the keyboard shortcut Shift+Ctrl+S or the "Display sharing screen" touchscreen action.

If you have problems with the Windows Taskbar appearing when uploading photos to Facebook you can run the HideWindowsTaskbar.exe utility to hide the Windows taskbar. HideWindowsTaskbar.exe will automatically hide the Windows taskbar when NKRemote is running in full screen photo booth mode. HideWindowsTaskbar.exe can be found in the NKRemote installation folder (usually C:\Program Files (x86)\BreezeSys\NKRemote on 64-bit Windows).

Please note: The user's Twitter username and password are private and are not saved by the photo

booth software. There is no offline option for Twitter tweets because users need to enter both their username and password to allow posting to their Twitter account and no system should ever keep a record of users' passwords.

Emailing photos

Users can email photos directly from the photo booth if it has an internet connection and either a touchscreen or a keyboard to enter their email address. If an internet connection is not available at an event the email addresses can be saved and the emails sent later by selecting the offline email mode. The simplest way to set this up is to use the [photo booth setup wizard](#) and then adjust the settings if required. After running the photo booth setup wizard the email settings can be edited using the dialog below. This dialog can be opened by opening the "Photobooth Settings" dialog (File->Photobooth Settings... or Ctrl+S) then opening the "Output Settings" dialog clicking on the "Settings..." button to the right of the output options and then clicking on the email photo "Settings..." button.

Email Settings

Subject: Photo booth photos

Message (plain text):
Your photo booth photos taken on %L

Message (HTML format):

```
<html><body>
<p>Your photo booth photos taken on %L</p>
<p></p>
</body></html>
```

☐ Crop image:
Left: 0 Top: 0 Width: 600 Height: 1800
Max image width (pixels): 500 Max image height (pixels): 500
Image rotation: None
☒ Use MP4 copy of animated GIF if available
Invalid email address error message:
Please enter a valid email address in the form name@domain.com
OK Cancel

The "Subject:" text box defines the text in the subject line of the email.

The body text of the message can be specified in plain text or in HTML format to provide more control over its appearance. When using the HTML format the token {image} represents the URL of the photo

to be emailed and can be used with HTML tag e.g. .

Tokens for the date and time can be included in the email subject and message text fields and will be replaced with the date or time the photos were taken when they are uploaded e.g.

%L will be replaced with the long date representation for your computer's locale e.g. Wednesday, January 08, 2014

%l will be replaced with the long date and time representation for your computer's locale e.g. Wednesday, January 08, 2014 20:23:56

{sharingMessage} is replaced with contents of the second text entry field (if defined) in the touchscreen keyboard used for entering the user's email address. This allows the user to enter an optional message when emailing photos.

Please see the [tokens section](#) for a list of available tokens.

When sending photos the photo that is emailed is based on the JPEG copy of the printed output. You can crop, resize and rotate the image before it is emailed to the user.

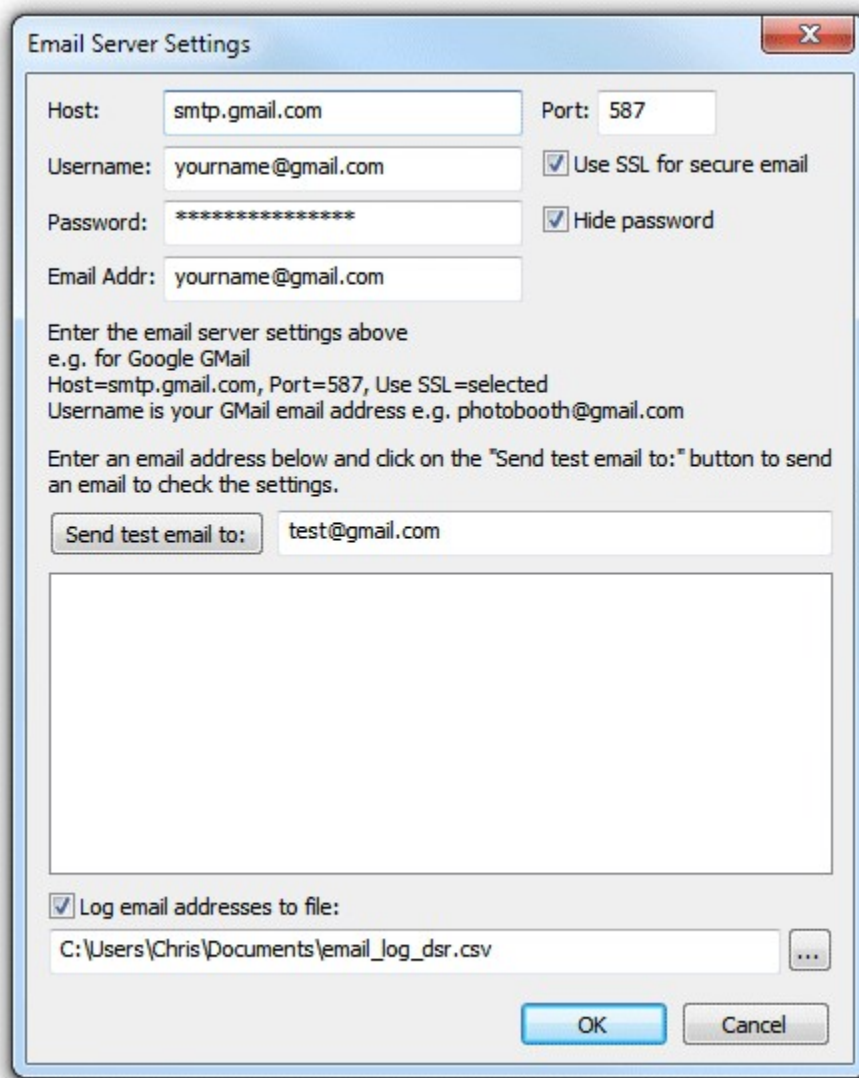
To crop the image first check the "Crop image:" checkbox and then specify the left offset and top offset in pixels for the top left corner of the cropped image. Then specify the width and height of the image in pixels. For example if the photo booth is setup to print a double strip of 4 images on 6"x4" paper you may wish to crop the image so that only a single strip is emailed to the user. If the printer is set to a resolution of 300 dpi the image will be 1200 pixels wide (4" x 300 dpi) by 1800 pixels high (6" x 300 DPI) and so to crop it into a single strip you need to set left=0, top=0, width=600 and height=1800. You can also specify a maximum size for the image being uploaded using the "Max width (pixels):" and "Max height (pixels):" settings. The JPEG copy of the printed output will be resized so that it is no bigger than these settings before it is emailed. Keeping these values relatively small, e.g. 500 x 500 pixels, will reduce the time it takes to send the email.

Depending on your printer page settings the JPEG copy of the printed output may not be saved in the correct orientation. If this is the case it can be rotated using the "Image rotation:" dropdown list. If you are also using print preview (the "Confirm before printing" option in the "Photobooth Settings" dialog) this can be set to "Same as print preview" and it will use the same rotation settings as the print preview.

Please note that the image is cropped first, then resized and finally rotated before being emailed to the user.

Select the "Use MP4 copy of animated GIF if available" option to enable the uploading of the MP4 copy of animated GIFs. Please see the [animated GIF section](#) for details of how to create animated GIFs. GIFs and MP4 files will be sent without being resized or cropped.

The email server settings also need to be setup so that the program can email the photos. The "Email Server Settings" dialog can be opened by selecting "Email Server Settings..." from the File menu or by clicking on the "Email server settings..." button in the "Output Settings" dialog. The "Email Server Settings" dialog shown below will be displayed:



The dialog box is titled "Email Server Settings" and contains the following fields and options:

- Host:** smtp.gmail.com
- Port:** 587
- Username:** yourname@gmail.com
- Password:** *****
- Email Addr:** yourname@gmail.com
- ☒ Use SSL for secure email
- ☒ Hide password
- Instructions: Enter the email server settings above e.g. for Google GMail Host=smtp.gmail.com, Port=587, Use SSL=selected Username is your GMail email address e.g. photobooth@gmail.com
- Instructions: Enter an email address below and click on the "Send test email to:" button to send an email to check the settings.
- Send test email to:** test@gmail.com
- ☒ Log email addresses to file:
- File path: C:\Users\Chris\Documents\email_log_dsr.csv
- Buttons:** OK, Cancel

To send an email you need to specify the host name and port number of your email server. Most email servers also require a username and a password to prevent unauthorized users from sending spam emails. For additional security select the "Use SSL for secure email" option to send the email using SSL. The port number should normally be set to 587 when using SSL secure email or 25 otherwise (please check the port numbers used by your ISP). Google's free GMail service is a convenient way to send emails and can be set up using the settings shown above and replacing yourname@gmail.com with your GMail email address and entering your password.

Set the "Email addr:" to the sender's email address. To include the name of the sender with the email address enter it as the name followed by the email address enclosed in angle brackets e.g. "Acme Photo Booth <photobooth@acme.com>". Most free email services require the sender's email address to be the same as that of the email account specified by the username and password.

Please note: If you are using GMail to send emails you need to go to your Google account settings and set the "Access for less secure apps" option to "Turn on" otherwise GMail will refuse to send the email.

The settings can be verified by sending a test email by entering the destination email address and then clicking on the "Send test email to:" button. The email status and any error messages will be displayed in the status area at the bottom of the dialog.

Select the "Log email addresses to file:" checkbox to log the email addresses to a CSV file. Then either type in the filename of the log file in the editbox or click on the "..." to open a file browser. The log file contains a line for each email containing the following comma separated values: the date in the format YYYYMMDD, the time in the format HHMMSS, the email address, the status (1=success, 0=failure) and the filename of the image file e.g.

20140114,174842,test@gmail.com,1,C:\Users\Chris\Documents\PhotoboothImages\2014-01-14\prints\140114_174826.jpg

In Operation

When the photo booth is run and the photos have been taken the print preview screen will be displayed first (if "Confirm before printing" is selected) and then when the user selects "Print" the sharing screen (share.jpg) will be displayed. If the user selects "Cancel" in the print preview screen the sharing screen won't be displayed and the booth will return to the ready screen (ready.jpg). If the "Confirm before printing" option is not selected the sharing screen will be displayed after taking the photos.

When the sharing screen (share.jpg) the user has the option to email the photo by touching the email button on the touchscreen or by typing E if they are using a normal keyboard. The sharing screen can be exited by touching the "Cancel" button on the touchscreen or by typing X or Esc on a normal keyboard. The sharing screen will also exit automatically if the user does nothing and the screen timeout occurs. The sharing screen timeout can be specified in the "Output Settings" dialog.

When the user selects email photo the touchscreen keyboard will be displayed allowing them to enter the email address. The user can enter the email address by tapping on the touchscreen keyboard or by typing it in using a normal keyboard. The user can then either tap on the "Cancel" button (or type Esc) to cancel the email or tap on the "Send email" button (or press the keyboard Enter key) to start the upload. The touchscreen keyboard will cancel automatically if the user doesn't tap the touchscreen or type anything and the keyboard timeout occurs. The keyboard timeout can be specified in the "Touchscreen Settings" dialog which can be displayed from the "Photobooth Settings" dialog.

When the user has entered their email address and selected "Send email" the email upload screen (email_photo.jpg) will be displayed and the photo will be emailed. If the email is successful the email success screen (email_success.jpg) will be displayed for a few seconds and then the screen will return to the sharing screen. If there is an error (e.g. the internet connection was lost) the email error screen (email_error.jpg) will be displayed together with an error message in the bottom right hand corner. After a few seconds the screen will return to the sharing screen.

The sharing screen can also be displayed from the ready screen using the keyboard shortcut Shift+Ctrl+S or the "Display sharing screen" touchscreen action.

Email "Offline Mode" and sending emails after an event

If no internet connection is available at an event you can save user's email addresses and send the emails later when an internet connection is available. To do this you need to enable "Email photo" in the "Sharing" section of the "Output Settings" dialog and also select the "Offline mode" option. You also need to select the "Log email addresses to file" in the "Email Server Settings" dialog - this will save the user's email address together with the filename of their photos.

The emails can be sent when an internet connection is available by selecting "Send emails..." from the "File" menu in the main window. When you select this you will be asked the log file to read (this defaults to the email log file specified in the "Email Server Settings"). The "Unsent Emails" dialog will be displayed listing the date/time, email address and photo for unsent emails found in the log file. Select the emails you wish to send and then press the "Send" button to send them.

Please note: The email and text log files have the same formats and so email addresses and cellphone numbers can be saved in the same log file.

Sending an MMS (or SMS)

MMS messages can be sent in the US and Canada using a web-based service called Twilio (www.twilio.com). In other countries the message can be sent as an SMS message with a link to the photo. Most cellphones should recognize the link as a link to a web server and open a web browser on the user's cellphone to view the photo. Please note that the image link in an SMS will only be valid for 7 days.

To use this service you need an account with Twilio and enter your Twilio account details in the MMS setting dialog. Twilio charge for each MMS or SMS message sent using their service. Please see their website for pricing information.

The maximum image file size that can be sent is 1 MB, but Twilio may resize the image file to conform to the cellphone service provider's size requirements.

When the user taps the MMS icon in the sharing screen a touchscreen keyboard will displayed to allow the user to enter their cellphone number. Please see the [touchscreen keyboard section](#) for information on how to customize its layout and appearance.

The MMS settings need to be setup so that the program can send the texts via Twilio. The "MMS Settings" dialog can be opened by clicking on the "SMS/MMS settings..." button in the "Output Settings" dialog. The "MMS Settings" dialog shown below will be displayed:

MMS Settings

To send MMS messages you need an account with Twilio (www.twilio.com) who make a charge for each MMS or SMS message. MMS messages can only be sent in the US and Canada. In other countries an SMS message with a link to the photo will be sent instead.

Twilio messaging phone number: +123456789

Twilio AccountSID: 34dACa1b83c2b6d9898329e787aacc6c19

Twilio AuthToken:

Country prefix (e.g. +1 for the US): +1

MMS/SMS message:
Your photo booth photos taken on %L

Message type: MMS Maximum message length (0=no limit): 0

Photo upload timeout (default=30 secs): 30 Progress message: Uploading: {percentage}%

☐ Crop image before copying (settings in pixels):

Left: 0 Top: 0 Width: 0 Height: 0

Max image width (pixels): 500 Max image height (pixels): 500

Image rotation: None

☒ Use MP4 copy of animated GIF if available

☒ Log uploads to file:
d:\mms_log.csv

OK Cancel

Enter your Twilio message phone number, AccountSID and AuthToken in the "MMS Settings" dialog. You can find your Twilio message phone number, AccountSID and AuthToken by logging into your Twilio account.

Set the country prefix to your country prefix e.g. +1 for the US and Canada, +44 for the UK, +49 for Germany etc. When users enter their cellphone numbers they can either enter the number with their country prefix e.g. +1234567890 or without it e.g. 23456789 and the country prefix will be added automatically before sending the text.

Select the message type from the "Message type:" dropdown list. The available options are:

1. MMS - send the message as an MMS with the image attached to the message. Currently Twilio only supports MMS messaging in the US and Canada. If this option is used in a country which doesn't support MMS messaging through Twilio the message will be sent as an SMS + image.
2. SMS - send the message as an SMS. You will need to include a link to a website in the message text so that the user can view their photos e.g. <http://mywebsite.com/photos/{fullFilename}>
3. SMS + image - send the message as an SMS with a link to the photo. The photo will only be available for viewing for 7 days. Use the {url} token to include the URL to the image in the text message. If the {url} token is not included in the message the URL will be appended to the end of the message.

Photos sent using the "MMS" and "SMS + image" options must be no more than 1MB in size after resizing and cropping. An error message will be displayed if the 1MB file size limit is exceeded. Twilio may resize the photo to conform with the cellphone service operator's MMS size limits. Photos sent using the "SMS + image" option will be hosted on the Breeze Systems' website for 7 days.

You can specify a maximum message length to ensure the 160 character SMS message length is not exceeded. In some countries SMS messages of more than 160 characters may be sent as multiple SMS messages and will cost more. In other countries the SMS message will be truncated to 160 characters.

You can crop, resize and rotate the photos before they are sent to the user.

To crop the image first check the "Crop image:" checkbox and then specify the left offset and top offset in pixels for the top left corner of the cropped image. Then specify the width and height of the image in pixels. For example if the photos are from a photo booth which is setup to print a double strip of 4 images on 6"x4" paper you may wish to crop the image so that only a single strip is emailed to the user. If the printer is set to a resolution of 300 dpi the image will be 1200 pixels wide (4" x 300 dpi) by 1800 pixels high (6" x 300 DPI) and so to crop it into a single strip you need to set left=0, top=0, width=600 and height=1800.

You can also specify a maximum size for the image being uploaded using the "Max width (pixels):" and "Max height (pixels):" settings. The JPEG copy of the printed output will be resized so that it is no bigger than these settings before it is emailed. Keeping these values relatively small, e.g. 500 x 500 pixels, will reduce the time it takes to send the email.

If required, the photo can be rotated using the "Image rotation:" dropdown list.

Please note that the image is cropped first, then resized and finally rotated before being sent to the user.

Select the "Use MP4 copy of animated GIF if available" option to enable the uploading of the MP4 copy of animated GIFs. Please see the [animated GIF section](#) for details of how to create animated GIFs. GIFs and MP4 files will be sent without being resized or cropped.

You can specify a timeout for uploading the photo to prevent a slow or broken internet connection from jamming the photo booth.

By default the screens displayed when sending an MMS or SMS will have a simple status message shown on a black background. This can be overridden by placing the following JPEG screen images in the screen images folder:

mms.jpg - screen displayed when sending an MMS

mms_success.jpg - screen displayed after an MMS has been sent successfully

mms_as_sms.jpg - screen displayed if MMS isn't supported and SMS is being used instead

mms_error.jpg - screen displayed if there is an error when sending an MMS

MMS/SMS "Offline Mode" and sending texts after an event

If no internet connection is available at an event you can save users' cellphone numbers and send the texts later when an internet connection is available. To do this you need to enable "SMS/MMS" in the "Sharing" section of the "Output Settings" dialog and also select the "Offline mode" option. You also need to select the "Log uploads to file" in the "MMS Settings" dialog - this will save the user's cellphone number together with the filename of their photos.

The texts can be sent when an internet connection is available by selecting "Send emails and MMS/SMS messages..." from the "File" menu in the main window. When you select this you will be asked the log file to read (this defaults to the email log file specified in the "Email Server Settings"). The "Unsent Emails and MMS/SMS Messages" dialog will be displayed listing the date/time, cellphone number and photo for unsent texts found in the log file. Select the texts you wish to send and then press the "Send" button to send them.

Please note: The email and text log files have the same formats and so email addresses and cellphone numbers can be saved in the same log file.

Notes on using a normal keyboard for Facebook uploads, tweets, texts and emailing photos

The Facebook upload, Twitter tweet, texting and email photo options are designed to be used with a touchscreen, but can also be operated using a normal keyboard. Please note that if you give users access to a keyboard you need to prevent them from causing problems by exiting out of the photo booth program (e.g. by typing Ctrl+Alt+Delete, Ctrl+tab or pressing the Windows key). One way to do this is to take a basic USB keyboard and either wedge or glue the Ctrl, Alt, Win etc. keys so that they can't be pressed.

The following keys can be used to navigate the print preview, sharing and Facebook login screens:

Print preview:

Type A to print the photos

Type X or Esc to cancel printing

Sharing screen:

Type F to upload to Facebook

Type E to email the photos

Type M enter user message

Type P to print the photos

Type S to send an SMS or MMS text message

Type T to tweet the photos on Twitter

Type X or Esc to exit the sharing screen and return to the ready screen

Touchscreen keyboard:

Type in the user name and password using the normal keyboard keys

Type Tab to switch between the username and password input

Type Enter to start logging in to Facebook after entering the username and password

Type Esc to exit and return to the sharing screen

Facebook login and PhotoBoothUploader app authorization screens:

Type Enter to login to Facebook and Enter again to authorize the PhotoBoothUploader app

Uploading photos to your personal or business Facebook page

There are a number of free tools for automatically uploading photos to your personal or business Facebook page or to other social networking or photo sharing sites:

1. **Dropbox** - Dropbox is a free service for synchronizing files across multiple computers and devices. When a file is copied into the Dropbox folder on your computer it is automatically uploaded to online storage in the Cloud. If a photo is copied to a subfolder in the Photos Dropbox folder it will automatically create an online gallery which can be viewed using a web browser. Dropbox comes with 2 GB of free online storage which can be increased for a monthly fee. Please visit the [Dropbox website](#) for more details.
2. **IFTTT + Dropbox/Box/Google Drive**- IFFT (If This Then That) is a free web based automation tool that works in conjunction with free online storage services such as Dropbox, Box and Google Drive. It uses "recipes" to perform actions when files are added to your online storage. It can link to many services including Facebook (to access your personal Facebook page), Facebook pages (to access a business Facebook page), Flickr, YouTube and Twitter. The recipes are run every 15 minutes and can upload a maximum of 15 photos each update. Please visit the [IFTTT website](#) for more details

3. **Wappwolf + Dropbox/Box/Google Drive** - Wappwolf offers a similar service to IFFT and can also to many services including Facebook (to access your personal Facebook page), Facebook pages (to access a business Facebook page), Flickr, Picassa/Google+ Upload, YouTube and Twitter. Please visit the [Wappwolf website](#) for more details

All of the above services work by monitoring a folder on you PC and automatically uploading the photos to the Cloud or directly to a Facebook album. The output options in NKRemote can be used to automatically crop and resize the prints from the photo booth and copy the image to the folder being monitored for uploading to the Cloud and/or Facebook. The output settings dialog can be displayed by setting the output option in the photo booth settings to "Print and save JPEG copy" or "JPEG copy only" and pressing the "Settings..." button:

Output Settings

Output: **Print and save JPEG copy** ▾

☐ Display thumbnails **Thumbnail settings...**

Delay before creating print layout (secs):

☐ Sign or draw on photos before printing

☒ Display print preview and wait for confirmation before printing

Timeout (secs): Timeout action: **Cancel** ▾

Preview size and position...

Sharing (preview sizes in pixels, 0=auto)

☐ Print **Print settings...**

☐ Facebook **Facebook settings...**

☐ SMS/MMS **SMS/MMS settings...** ☐ MMS/SMS offline mode

☐ Twitter **Twitter settings...**

☒ Email **Email settings...** **Email server settings...** ☐ Offline email mode

Preview: Left: Top: Width: Height:

☒ Share animated GIFs Max percentage upscaling:

Sharing screen timeout (secs):

☒ Create animated GIF of photos **Animated GIF settings...**

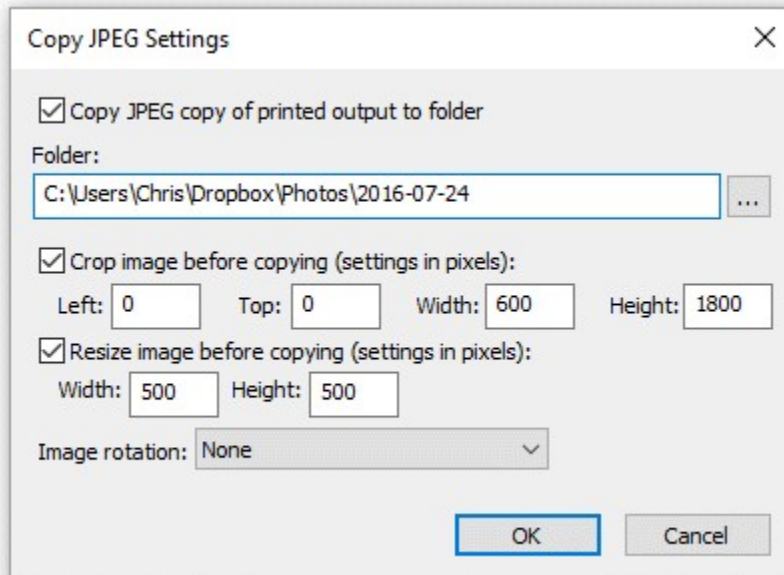
Filename for JPEG copy of output: .jpg

☒ Copy JPEG copy of printed output to folder **Settings...**

OK **Cancel**

Select the "Copy JPEG to folder:" option and enter the name of the folder where the JPEG copy of the

printed output should be copied to. This should be the folder that is being monitored by your the online storage service. The JPEG copy of the printed output is formatted for sending to a printer and may be larger than you want for uploading to Facebook. For example a typical double strip of 4 images printed at 300 DPI on 4"x6" paper will be 1200 x 1800 pixels in size and will show two strips of 4 photos side by side. You may want to limit the size for faster uploading and viewing on guests' cell phones etc. and to crop the image so that it only shows a single strip of 4 photos. You can do this using the "Crop image before copying" and "Resize image before copying" options as shown below:



If you need more control over the layout...

Please take a look at our [Hotfolder Prints](#) software if you need more control over how the photos are formatted before being uploaded to Facebook and other social networking sites. [Hotfolder Prints](#) allows you to create a completely new layout optimized for uploading (e.g. formatting on a 452x440 pixel page to look great in Facebook's timeline) and to add logos or other information that doesn't appear in the printed strips. [Hotfolder Prints](#) can also email photos to users (using the email address entered using the [touchscreen keyboard](#)) and run a slideshow which is automatically updated as new photos are taken.

Summary Online Storage Services

The free IFTTT and Wapwolf web automation tools can be used in conjunction with the following free Cloud based online storage services:

- [Dropbox](#): 2 GB of free online storage, more available for a monthly fee
- [Box](#): 5 GB of free online storage, more available for a monthly fee
- [Google Drive](#): 5 GB of free online storage, more available for a monthly fee

Please note the information above was correct at the time of writing but may have changed since. Please check the relevant websites for the latest information about the various services described on this page.

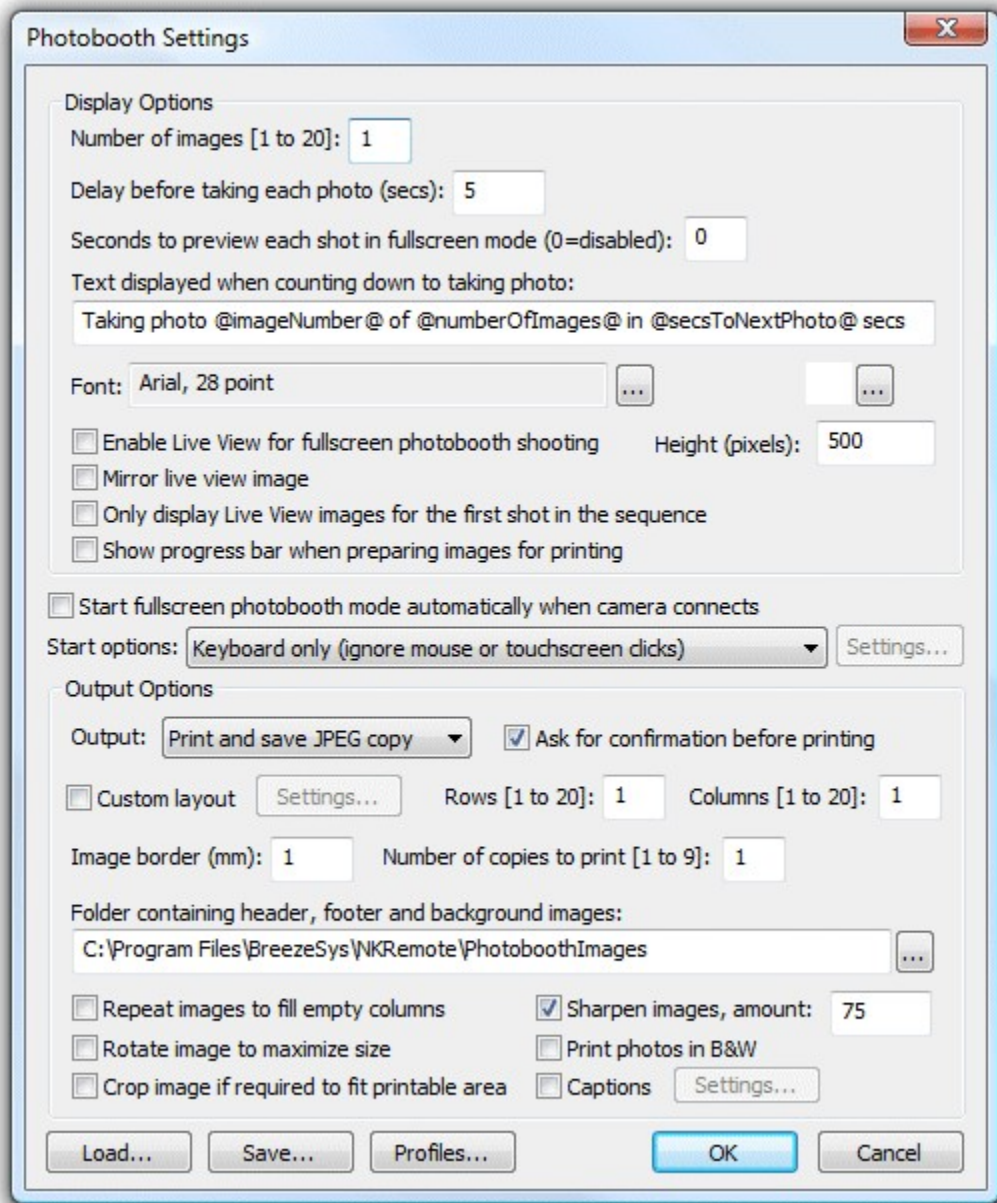
12 Automatic Printing of Photos

[Photobooth mode](#) can also be used for automatically printing out photographs as they are taken.

When this is setup you can take a picture with the camera using the normal camera controls and it will be automatically downloaded to the PC and printed out using the current photobooth layout settings.

An optional confirmation screen can also be displayed allowing the photographer to decide whether to print each photo. Applications include school and portrait photography, Santa's Grotto shots and id photographs.

To use this mode set the number of photos in photobooth mode to 1, design the print layout (e.g. set the number of rows and columns to 1, add headers, footers, captions and overlays as required) and then select fullscreen photobooth mode. Then simply take each photo and it will be downloaded to the PC and printed automatically. If the option to ask for confirmation before printing is selected the display will show a print preview and ask for confirmation before printing each shot. Reprints of the last shot can be made by typing Ctrl+R.



Sample photobooth settings for automatically printing images as they are taken.

13 Setting Camera Date and Time

Click on the Camera menu and select "Set Camera Date/Time..." to set the camera's clock to the same value as your PC.



The dialog shows the current setting for the camera's clock and the PC's clock. Click on the "Synchronize with PC clock" button to set the camera's clock using the PC's date and time.

If the "Automatically synchronize clock when camera is connected" checkbox is selected NKRemote will automatically set the camera's clock using the PC's date and time each time it connects to a camera.

14 Running NKRemote from other programs

Overview

NKRemote includes an interface library called NKRemoteLib.dll which can be used by other applications to control NKRemote. Also included is a simple command line application called NKRemoteLibTest.exe which can be used to control NKRemote from a command prompt or a batch file. For example a batch file could be written to take a series of photos using different apertures and shutter speeds to bracket the exposure.

NKRemoteLib.dll

NKRemoteLib.dll is a library that can be used by other programs to control NKRemote. It can be found in the main folder where NKRemote is installed (usually C:\Program Files\BreezeSys\NKRemote). Please see the NKRemoteLibTest\ReadMe.txt and NKRemoteLib.h files for details.

Files included:

NKRemoteLibTest.exe - compiled console application

NKRemoteLib.dll - DLL used by NKRemoteLibTest.exe to interface with NKRemote

NKRemoteLib.lib - lib for apps to link to the DLL

NKRemoteLib.h - header file for C applications using the DLL

NKRemoteLibTest - directory containing a VC++ 2005 project and source code for NKRemoteLibTest.exe

NKRemoteLibTest.exe

NKRemoteLibTest.exe is a simple command line application that communicates with NKRemote and allows the shutter to be released and some of the camera settings to be changed. NKRemoteLibTest.exe and complete source code to build it using Visual C++ .Net can be found in the NKRemoteLibTest folder where NKRemote is installed (usually C:\Program Files\BreezeSys\NKRemote).

Please note: NKRemoteLibTest.exe only shows some of the commands available using

NKRemoteLib.dll. Please see the NKRemoteLib.h header file for a complete list of available commands.

To run NKRemoteLibTest.exe first run NKRemote and then open a command prompt window and change directory to the NKRemote installation folder. The run NKRemoteLibTest.exe -h to get a list of the available commands.

Here is the output from a simple session where the output directory is set and the shutter is released (commands typed in by the user are shown in bold):

```
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Users\Chris>cd C:\Program Files\BreezeSys\NKRemote\NKRemoteLib

C:\Program Files\BreezeSys\NKRemote\NKRemoteLib>NKRemoteLibTest.exe -h
Usage: NKRemoteTest <options>
-h                print this usage information
?                display camera info
-w <shots>        run camera as a webcam for <shots> shots
                  images are saved as webcam.jpg in the current directory
-t <interval>     specify the number of seconds between shots when
                  used as a webcam
-C <connect>      connect or disconnect from the camera
-a <aperture>     set the aperture, 0 = widest aperture
-b <WB>           set the white balance or kelvin color temp
-e <mode>         set the exposure mode
-s <shutter>      set the shutter speed, 0 = longest shutter speed
-x <comp>         set the exposure compensation
-i <size>         set the image size
-Q <quality>      set the image quality
-I <ISO>          set the ISO
-L <enable>       display/hide live view window
-f <step>         focus lens: step range -32767 (close) to 32767 (far)
-c <comment>      set comment to be added to images (max 255 chars)
-o <directory>    set the output directory
-p <prefix>       set the filename prefix (max 255 chars)
-P <action>       Photobooth action: 0=start, 1=stop, 2=release, 3=BW
release,
                  4=color release, 5=BW mode, 6=color mode, 7=1 print, 8=2 prints, 9=3
prints,
                  10=4 prints, 11=5 prints, 12=increase copies, 13=decrease copies,
                  14=profile 1, 15=profile 2, 16=profile 3, 17=profile 4,
                  18=profile 5, 19=profile 6
-q               query output directory
-n               don't release shutter
-X               exit NKRemote

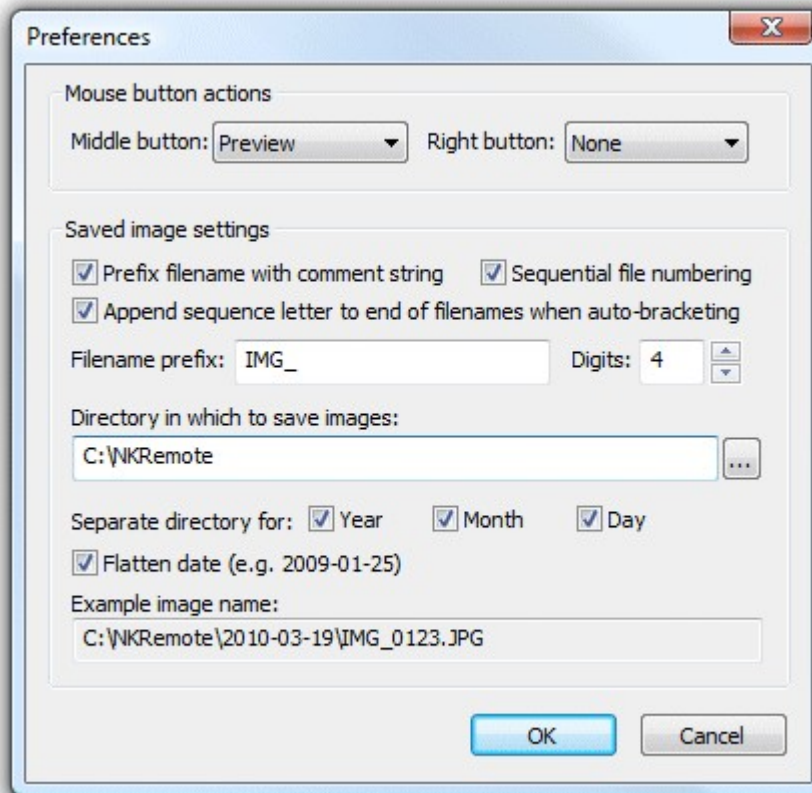
C:\Program Files\BreezeSys\NKRemote\NKRemoteLib>NKRemoteLibTest.exe -n -q
Output directory: C:\NKRemote

C:\Program Files\BreezeSys\NKRemote\NKRemoteLib>NKRemoteLibTest.exe
Success, image saved as: C:\NKRemote\2009-10-14\0001.JPG

C:\Program Files\BreezeSys\NKRemote\NKRemoteLib>
```


15 Preferences

Click on "File->Preferences" to display the preferences dialog:



Mouse Button Actions

The middle and right mouse buttons can be assigned to release the shutter or take pictures in preview mode. This allows you to use the mouse like a simple cable release.

Note: This only works if the mouse pointer is over the main window and is not over one of the controls.

Specifying the output directory

These settings control where images are stored on the computer's hard disk. The edit box displays the base directory for images and can be changed by typing directly into the edit box or by clicking on the "..." button and using the directory browser. If the Year, Month and Day checkboxes are not checked this will be the directory in which all images are stored.

Note: If the directory does not already exist it will be created when the photo is saved.

The Year, Month and Day checkbox control the automatic generation of subdirectories according to the computer's date. The example image name shown at the bottom of the dialog shows how the various settings are combined. Select the "Flatten date" checkbox to combine the year, month and day into a single subdirectory e.g. in the example above:

January 14, 2009 with "Flatten date" unchecked gives "C:\NKRemote\2009\01\14"

With "Flatten date" checked it gives "C:\NKRemote\2009-01-14"

You can also use the [tokens](#) to when specifying the output directory e.g. "C:\%Y\%T" would give the year followed by the camera model.

Image Filenames

When the "Sequential file numbering" checkbox is set NKRemote stores images using a numeric sequence number when they are saved to the PC's hard disk. It scans the output directory for existing images and uses the lowest available sequence number e.g. if the output directory already contains the image 0123.JPG NKRemote will save the next image as 0124.JPG. NKRemote will then continue numbering from that point even if the images are removed from the directory while it is running. This is to prevent duplicate filenames when images captured by NKRemote are immediately removed from the output directory e.g. when using a program to automatically send the images to a picture desk using FTP.

When the "Sequential file numbering" checkbox is not set NKRemote scans the output directory for existing images and uses the lowest available number to give a unique filename e.g. if the output directory already contains the image 0123.JPG NKRemote will save the next image as 0124.JPG.

JPEG images are saved with a .JPG file extension e.g. 0001.JPG, 0002.JPG etc.

Raw images are saved with a .NEF file extension. If raw+JPEG mode is selected the JPEG image will be saved as the same filename as the raw file but with a .JPG file extension e.g. 0001.NEF and 0001.JPG.

You can specify an optional prefix to be added at the start of each image's filename e.g. the prefix "studio shoot " would result filenames like "studio shoot 0001.JPG", "studio shoot 0002.NEF" etc.

You can also use [tokens](#) when specifying the output directory e.g. "C:\%Y\%T" would give the year followed by the camera model.

When "Append sequence letter to end of filenames when auto-bracketing" is selected auto-bracketed filenames have the same image number and a sequence letter added to each shot for easy identification. e.g. a 3-shot sequence might give filenames 0001a.JPG, 0001b.JPG and 0001c.JPG as opposed to 0001.JPG, 0002.JPG and 0003.JPG when this option is switched off.

The image number is padded with leading zeroes to match the number of digits value (the default setting is 4). For example image number 6 would have the following values:

Digits=1: 6.JPG
 Digits=2: 06.JPG
 Digits=3: 006.JPG
 Digits=4: 0006.JPG

Special case: Using the shutter activation count for filenames

To use the shutter activation count for the filename without adding the image number set the filename prefix to {imageCounter} and the number of digits to 0.

16 Tokens

Date and time tokens

%a	Abbreviated weekday name	e.g. Fri
%A	Full weekday name	e.g. Friday
%b	Abbreviated month name	e.g. Jun

%B	Full month name	e.g. June
%d	Date in the form YYMMDD (equivalent to %y%m%D)	e.g. 080611 for June 11, 2008
%D	Day of the month (01 to 31)	
%H	Hour (00 to 23)	
%I	Hour (01 to 12)	
%j	Day of the year (001 to 366)	
%l	Long date/time representation of locale	e.g. Wednesday, December 17, 2008 19:03:47
%L	Long date representation for locale	e.g. Wednesday, December 17, 2008
%m	Month (01 to 12)	e.g. 06 for June
%M	Minutes (00 to 59)	
%p	am/pm indicator	e.g. PM
%S	Seconds (00 to 59)	
%t	Time in the form HHMMSS (equivalent to %H%M%S)	
%W	Week number (00 to 53)	
%x	Date representation for locale	e.g. 06_11_08 for June 11, 2008
%X	Time representation for locale	e.g. 14_39_29
%y	Year without century	e.g. 03
%Y	Year with century	e.g. 2009
%z	Time zone name	e.g. GMT Standard Time
%Z	Time zone offset wrt UTC	e.g. +0100 for GMT during DST
{yearNow}	Year 'now' in the form YYYY	e.g. 2009
{monthNow}	Month 'now' (01 to 12)	
{dayNow}	Day 'now' (01 to 31)	
{yearLess8h}	Year with century 8 hours ago - useful when shooting events which continue after midnight	
{monthLess8h}	Month (01-12) 8 hours ago - useful when shooting events which continue after midnight	
{dayLess8h}	Day of the month (01-31) 8 hours ago - useful when shooting events which continue after midnight	

Shooting data tokens

%c	Camera serial number	
%e	File extension (without the '.')	e.g. JPG for IMG_4567.

		JPG
%i	ISO value read from the shooting data	
%o	Image filename without extension	e.g. IMG_4567
%O	Owner string (Canon cameras only)	
%T	Camera model name starting from the first word containing digits	e.g. D7000
%T1	Same as %T, but '-' are treated as spaces	e.g. D7000
%T2	Full camera model name	e.g. Nikon D7000
{orientation}	Image orientation: L for landscape or P for portrait	
{orientationAngle}	Image orientation in degrees: 0, 90 or 270	

Tokens for modifying strings

The tokens below can be used to modify tokens or strings:

Token	Description	Example
{left,n,str}	Extracts the first n characters from str (which can be a string or token).	{left,4,{filename}} for filename IMG_1234.jpg would give IMG_
{mid,n,m,str}	Extracts m characters starting from the n'th character from str (which can be a string or token).	{mid,5,4,{filename}} for filename IMG_1234.jpg would give 1234
{right,n,str}	Extracts the last n characters from str (which can be a string or token).	{right,3,{filename}} for filename IMG_1234.jpg would give .jpg

Other tokens

{comment}	The value of comment entered in the main window	
{artist}	Artist string stored in the camera {newer camera models only}	
{author}	Same as {artist}	
{copyright}	Copyright string stored in the camera {newer camera models only}	
{copy}	Same as {copyright}	
{photoboothNumImages}	Number of shots defined in photobooth mode	e.g. 4
{photoboothImage}	Shot number in photobooth shooting sequence	e.g. first photo returns 1
{photoboothDateTime}	Date and time at the start of the current photobooth shooting sequence	e.g. 20110126_190509
{photoboothDate}	Date at the start of the current photobooth shooting sequence	e.g. Jan 26, 2011 returns 20110126
{photoboothTime}	Time at the start of the current photobooth shooting sequence	e.g. 7:05:09 pm returns 190509

{photoboothDir}	The value of the full pathname of the photobooth images folder	e.g. C:\Photobooth\Profile1
{photoboothSubdir}	The value of the photobooth images subfolder	e.g. C:\Photobooth\Profile1 gives Profile1
{photo1}, {photo2} etc.	Filename (without file extension or directory path) of each photo in photobooth mode	
{imageCounter}	Shutter activation count (the total number of pictures that have been taken with the camera)	e.g. 1234
{imageCounter5}	Same as {imageCounter} but padded with leading zeroes to give a 5 digit number	e.g. 01234
{imageCounter6}	Same as {imageCounter} but padded with leading zeroes to give a 5 digit number	e.g. 001234
{filename}	Filename of the saved print layout in photobooth mode (only available for captions used in photobooth prints)	
{uid}	Unique id in the form ABC12345 updated at the start of each photobooth shooting sequence. Can be used in captions and the filename prefix. The id is guaranteed not to repeat within 72 hours and is very unlikely to repeat within 10 years.	
{message}	Message entered by the user when using the "Message input at end of sequence" touchscreen keyboard option	
{sharingMessage}	Optional message entered by the user when sending emails or uploading to Facebook	

17 Release History

21 December 2016: v3.5

- Added support for [drawing on or signing the print layout](#) before printing or sharing
- Improved support for [modifying photos before printing](#) e.g. using Adobe Photoshop droplets
- New touchscreen actions added for increasing or decreasing the number of copies to print in the print confirmation screen. The print confirmation screen now uses different backgrounds according to the number of copies e.g. confirm_printing_1.jpg, confirm_printing_2.jpg etc.
- Improved green screen setup in photo booth mode
- Added the ability to share animated GIFs or MP4 video files by email, text, Facebook and Twitter. Animated GIFs shared on Facebook are hosted on giphy.com
- Added the option to crop the print preview display in photo booth mode
- Reprint selection screen now allows multiple files to be selected and the number of copies to be printed to be specified

26 July 2016: v3.4

- Added support for posting photos to Twitter
- Added support for sending photos by MMS (US and Canada only) or SMS via Twilio.com
- Added the option to create an [animated GIF slideshow](#) of photos taken in the photo booth shooting sequence
- Added the option to only display live view in the ready screen and to hide it during the countdown
- Added additional photo booth shortcut buttons for taking a test photo and loading profiles

- Added the option to hide the camera controls normally displayed on the left side of the main window to provide a simplified interface for photo booth operators
- Now supports MP4 or MOV files for animated screens and countdowns in photo booth mode
- Movie file display no longer uses Apple's QuickTime libraries
- Minor changes to the way checkboxes are displayed in touchscreen keyboards
- The printing option in the sharing screen now has the option to limit the number of prints
- Added a "Close" action for touchscreen keyboards to allow a terms and conditions page to be displayed at the start of the shooting sequence
- Fixed a problem with bright live view/AF mode not being selected when loading a profile if the default profile has live view disabled

15 December 2015: v3.3.3

- Fixed a problem with image attachments not displaying in emails sent to Outlook.com
- Replaced %1, %2, %3, %4, %5, %6 tokens with {yearNow}, {monthNow}, {dayNow}, {yearLess8h}, {monthLess8h}, {dayLess8h} to avoid problems with unwanted substitutions in emails
- Fixed a typo in the default text for HTML emails: correcting <image src="{image}"> to

30 November 2015: v3.3.2

- Fixed a problem with photobooth previews not being displayed on some computers
- Fixed a problem with adjusting the print preview size in photobooth mode

15 October 2015: v3.3.1

- Fixed a problem loading Type0016.md3 and Type0017.md3 on some computers
- Fixed a problem with downloading photos from the Nikon D7200
- Fixed a problem with the focus point overlay display when using a Nikon D7200

29 September 2015: v3.3

- Added support for the Nikon D5500, Nikon D7200 and Nikon D810A
- Added new [touchscreen action editor](#)
- Added "Message input at end of sequence" touchscreen keyboard option to allow users to enter a message which can be added to the printed output (using the {message} token)
- Added an option to print photos from the sharing screen (this can also be selected when running the photobooth setup wizard)
- Added optional password to protect "[exit photobooth mode](#)" touchscreen action
- Added touchscreen actions and keyboard shortcuts to select a profile and start the shooting sequence (profiles 1 to 8 only)
- Added the option to log Facebook uploads to file
- Added the ability to position the photo within the background when shooting [greenscreen in photobooth mode](#)
- The default touchscreen keyboard for entering the user's Facebook login name and password now displays punctuation characters when the shift key is pressed (US keyboard layout)
- Email message text can now be specified in HTML format and plain text format
- Added mandatory option to <prompt> tag in touchscreen keyboard XML definition to indicate that an input field must contain text
- Inactivity timer now loads default profile, if defined, before switching to standby mode
- Now supports up to 12 captions in the print layout, options to change the caption display order and the option to right justify the caption text

9 December 2014: v3.2

- Added support for the Nikon D750
- Added RGB display of pixels for images displayed in the main window
- Now supports hashtags when uploading to Facebook
- Added offline email mode and the ability to send unsent emails later

- Added reprint selection screen available from the ready screen
- Added inactivity timeout and auto standby options to photobooth mode
- Added the ability to shoot raw+JPEG images in photobooth mode

9 October 2014: v3.1

- Added support for the Nikon D810
- Added the option to crop the photo before uploading to Facebook or sending by email
- Added "Single strip of 2" preset layout option
- Fixed a possible problem where uninstalling a printer driver could cause the program to crash
- The body text for emails now allows return characters
- Improved error reporting when testing and sending emails and improved support for services such as free email services like yahoo.com

18 July 2014: v3.0

- Added [interactive editor for photobooth print layouts](#)
- Added the importing and exporting of photobooth print layouts
- Added the ability to print QR codes on photobooth prints
- Added "[Pop art](#)" creative filter in photobooth mode
- Added optional [thumbnail display](#) in photobooth mode
- Added new photobooth dashboard to provide quick access to the main photobooth settings
- Increased the number of photobooth profiles from 8 to 18
- Increased the number of photobooth captions from 2 to 8
- Added support for the Nikon D4S

20 February 2014: v2.7

- Added the ability to [upload photos to a user's Facebook page](#) in photobooth mode
- Added the ability to [email photos](#) in photobooth mode
- Added "Confirm printing (no JPEG copy)" print option in photobooth mode
- Added support for the Nikon D5300

28 November 2013: v2.6.1

- Added support for the Nikon D610
- Added a single photo layout option in the photobooth setup wizard and preset layouts tool
- Improved the performance of printing custom layouts in photobooth mode when images are printed multiple times e.g. the double strip of four layout
- Now disables touchscreen edge gestures when running in full screen photobooth mode on Windows 8 and Windows 8.1 systems

30 August 2013: v2.6

- Added new [photobooth creative filter option](#) which can apply a variety of different effects to both the live view and the final photos.
- Added "bright live view/AF mode" option in photobooth mode to avoid problems with dark live view images from recent Nikon cameras and to allow AF to be used in photobooth mode
- Added the option to rotate as well as crop and resize the additional JPEG copy of the printed output
- Added optional validation of email addresses entered using the touchscreen keyboard

14 May 2013: v2.5.3.2

- Fixes a problem with Nikon D700 live view that affected versions 2.5.1 through 2.5.3.1
- Improved support for angled multi-line captions in photobooth mode

3 May 2013: v2.5.3.1

- Maintenance release which fixes a memory leak in NKRemote v2.5.3

25 April 2013: v2.5.3

- Added support for Nikon D7100
- Adding [focus peaking](#) option in live view display
- Added [clicker mode](#) where the photographer or users choose when to take each photo in photobooth mode

29 January 2013: v2.5.2

- Added support for Nikon D5200
- Fixed a problem with cropping and resizing the JPEG copy of the printed output in photobooth mode
- Fixed a problem with the fast reprint option not working in photobooth mode

18 December 2012: v2.5.1

- Added the ability to set the artist and copyright information in camera models that support it (e.g. D7000, D800, D800E, D600, D4)
- Added [electronic level display in live view](#) for camera models that support it (e.g. D7000, D800, D800E, D600, D4)
- Fixed a problem with AF area display in live view when using Nikon D600 and other recent camera models
- Fixed error loading Type0008.md3 problem which affected some systems

22 November 2012: v2.5

- Added support for Nikon D600
- Added the ability to use [movies to animate photobooth screens](#)
- Added next/previous profile keyboard shortcuts and touchscreen actions in photobooth mode
- Added two new preset photobooth layouts: double strip of 3 photos and single strip of 3 photos

8 November 2012: v2.4.2

- Added fast resize option in photobooth mode - provides faster print processing with minimal reduction in image quality
- Added [post processing options](#) in photo booth mode for easier website and social networking site uploads
- Added options to [reprint photo booth photos after an event](#)

5 July 2012: v2.4.1

- Fixes live view for the Nikon D800E

16 May 2012: v2.4

- Added support for Nikon D800, Nikon D800E and Nikon D4
- Added [Photobooth Setup Wizard](#) which automatically creates all the screens and the print layout for common photobooth configurations
- Added an option to include the current printer settings when saving the photobooth settings to file
- Added a quick reprint option (keyboard shortcut: Ctrl+Shift+R) when the output option is set to "Print and save JPEG copy"
- Added {uid} token which generates a unique id for filenames and captions when shooting in photobooth mode

3 February 2012: v2.3.2

- Added <caption1> and <caption2> tags to the XML photobooth summary file
- Added an option to the touchscreen keyboard to hide text when entering a password
- Greenscreen backgrounds can now be replaced by copying the new greenscreen_background.jpg image into the photo booth images folder while the booth is running
- Fixed problems using 8 profiles in photobooth mode

11 January 2012: v2.3.1

- Added timeouts in photobooth mode for print confirmation and touchscreen keyboard input

- Displays optional reprinting.jpg screen image and skips the print confirmation screen when reprinting photobooth images
- Added contrast AF keyboard shortcut and touchscreen action in photobooth mode
- Added optional checkboxes to the [touchscreen keyboard](#) in photobooth mode
- Improved noise reduction in photobooth live preview when displaying black and white images

8 November 2011: v2.3

- Added the ability to specify a horizontal offset for the live view display in photobooth mode
- Added the option to use {photoboothSubDir} or {photoboothDir} tokens when specifying the profile pathname to allow the use of more than 8 photobooth profiles
- Added a separate delay for the first photo in the stills photobooth shooting sequence
- Added optional [color management](#) of printed images
- Fixed a problem with incomplete screen refreshes when switching photobooth profiles

4 August 2011: v2.2.3

- Added preset layouts when using the custom layout option to help design popular layouts using four photos

13 June 2011: v2.2.2

- Added support for Nikon D5100

4 May 2011: v2.2.1

- Added [blue screen shooting](#)
- Added [default profile](#) option to reset the photobooth to a known state after each shooting sequence
- Enhanced touchscreen keyboard in photobooth mode to allow multiple input fields and the use of a normal keyboard

8 February 2011: v2.2

- Added confirm_printing.jpg and printing_confirmed.jpg screens when using the print confirmation option in photo booth mode
- Added optional [touchscreen keyboard](#) in photo booth mode
- Green screen shooting in full screen photo booth mode now has the ability to use different backgrounds and overlays for each shot and to save a green screened copy of each photo

7 January 2011: v2.1

- Added support for Nikon D7000
- Photobooth mode now has the option to specify the vertical positioning of the live view display and countdown text
- Photobooth mode now has the option to disable live view during printing
- Photobooth previews are now green screened and look like the final output when green screen shooting
- Fixed a problem with raw images being saved when taking preview shots with RAW+JPEG image quality selected

27 August 2010: v2.0

- Added green screen shooting overlay in main live view window and in [photobooth mode](#)
- Added [optional overlay image](#) for live view display in photobooth mode
- Photobooth timings changed so that countdown text now counts down to 1 instead of stopping at 2
- Added image overlay option for live view

26 May 2010: v1.4.1

- Fixed a problem that caused the error message "An Invalid Argument Was Encountered" to be displayed on some systems when selecting full screen photobooth mode

24 May 2010: v1.4

Added the following enhancements to photobooth shooting:

- New, more flexible custom layout of prints including image rotation. Please note that custom layouts from previous versions of NKRemote will need to be updated if they use the "Copy left half of page to right to create a double strip" option
- Captions can now be rotated
- Live view is hidden when displaying the release.jpg image to avoid confusion caused by the live view freezing just before the picture is taken
- Added an optional minimum duration before closing the processing.jpg screen to allow a 'Please leave the booth now' message to be displayed for several seconds at the end of the sequence
- Improved handling of external button presses in photobooth mode to prevent a new shooting sequence from being started before the current one has finished printing

11 February 2010: v1.3.1

- Added support for Nikon D3S

24 November 2009: v1.3

- Added support for Nikon D80 and Nikon D300S
- Automatically restarts live view display if it is canceled by the camera
- Added more [flexible touchscreen options](#) to photobooth mode and the ability to [switch between different sets of photobooth settings](#)
- Added optional release.jpg screen which is displayed immediately before taking a picture in full screen photobooth mode
- Added Ctrl+R keyboard shortcut in full screen photobooth mode to reprint the last print
- Fixed a display problem in live view when loading a previously saved onion skinning backgrounds in portrait mode
- Added [NKRemoteLib.dll interface library](#) which allows other apps and scripts to control the camera via the main NKRemote window
- Added different sizes for zooming the live view window

5 August 2009: v1.2

- Added support for Nikon D3X
- Added custom layout option for photobooth prints and the ability to load and save photobooth settings

1 July 2009: v1.1

- Added support for the Nikon D5000
- Added the ability to adjust the size of focus steps in live view on a per lens basis
- Minor improvements to the focus_stacking AutoHotkey script.

11 March 2009: v1.0.3

- Added the ability to play .wav sound files when displaying photobooth prompt screens
- Added the ability to specify the number of copies of photobooth prints
- Added additional start options for fullscreen photobooth mode to facilitate the use of touchscreens
- Added support for the StealthSwitch in fullscreen photobooth mode

2 February 2009: v1.0.2

- Fixed a problem with displaying NEF images in portrait orientation which caused them either not to fill the available display area or to be cropped
- Removed 1st February 2009 program expiry accidentally left in from the pre-release version

20 January 2009: v1.0.1

- Fixed problems with repeated error messages when the camera connection is lost and auto-reconnect is not selected

- Added a workaround for an intermittent bug in the D300 which resulted in incorrect shutter speeds being listed in shutter priority and manual exposure modes
- Added a workaround for a bug in the D90 which caused problems when auto updating the onion skinning background in live view
- Added a warning message when auto-bracketing using an auto exposure mode when the auto-bracketing range exceeds the exposure compensation range
- Fixed problems with auto-bracketing when shooting using image formats other than JPEG
- Fixed a problem selecting focus points from the PC when using the D300, D700 and D3 with the AF Point selection set to AF11

14 January 2009: v1.0

- First full public release with support for Nikon D90, Nikon D200, Nikon D300, Nikon D700 and Nikon D3 cameras