

DCS Firmware ReadMe

PRO14N.bin Version 5.4.1

February 18, 2005

This firmware supports the following:

KODAK PROFESSIONAL DCS Pro 14n and DCS Pro 14nx Digital Cameras.

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1.1 DCS User Guide Information

A User Guide was included in the box with your camera.

An electronic User Guide including any updates is also available on the Kodak web site at:

<http://www.kodak.com/go/DCS>.

1.2 Compatible DCS Host Software

KODAK PROFESSIONAL DCS Photo Desk version 4.3 or newer, KODAK PROFESSIONAL DCS Camera Manager version 4.2 or newer, KODAK PROFESSIONAL DCS File Format Module version 4.2 or newer and KODAK PROFESSIONAL Extended Range Imaging Technology File Format Module (ERI FFM) version 1.0.0 or newer, support this firmware version.

For best performance and full functionality we recommend you download the latest versions of DCS Host Software. This software is available free of charge at <http://www.kodak.com/go/DCSsoftware>.

1.3 Issues Addressed in 5.4.1 Firmware

DCS Pro 14n and 14nx:

- Fixed a JPEG compression problem that could occasionally cause capture errors and loss of an image file. When capturing ERI JPEG images using firmware version 5.4.1, the burst depth may be slightly reduced by 1 or 2 images. Note: If your DCS Pro 14n camera has only 256MB internal memory, you may not be able to capture ERI JPEG images directly to a tethered computer via Camera Manager. This limitation is a result of the additional camera memory allocation needed for ERI processing. You may address this issue either by first capturing to an installed CF Card then using Camera Manager to transfer the image files, or by upgrading your camera's internal memory to 512MB.
- Fixed a camera "hang" problem that occurred if the IEEE 1394 cable was unplugged from the camera while Camera Manager was running. Note: if you unplug the IEEE 1394 cable when Camera Manager is running, you must wait 8 seconds before capturing images.
- Fixed a problem regarding focus point selection during boot up. Selection is now allowed earlier in the boot up process.
- Improved general CompactFlash memory card compatibility.

1.4 User Interface

Manual Mirror Prerelease (new in version 5.3.0)

When activated, the Manual Mirror Prerelease option uses the shutter button to raise the mirror and the OK button to open the shutter and capture the exposure.

Lens Optimization Feature

The updated User Guide now includes a section on the use of the new lens optimization feature. This new section refers currently to a setting of >85mm throughout the guide in both text and graphic menu examples. Please be advised that this setting was changed to >110mm after the publication of the updated User Guide. When available, the updated User Guide can be downloaded after selecting your camera model from the following link: <http://www.kodak.com/go/DCS>.

Lenses with a focal length greater than 110mm will default to Lens Optimization strength of 0 in Auto mode. If you have a lens requiring a stronger Lens Optimization setting at focal lengths exceeding 110mm you may need to use Manual Lens optimization.

Auto Lens Optimization is designed to yield pleasing results in most situations however it may be necessary to select your lens from the Lens Optimization table using method 2 as described in the Lens Optimization Overview document.

Long and Longer Exposure

The Longer Exposure feature was added to allow exposures from 2 seconds to 30 seconds with the DCS pro 14n or 2 seconds to 60 seconds with the DCS Pro 14nx. This feature differs from the Long Exposure feature in that the Long Exposure setting improves noise levels in images captured with shutter speeds between 1/8 second and 1/2 second. For the DCS Pro 14n, when the Long Exposure feature is **Off** a warning message will appear for any capture equal to or longer than 1/2 second for ISO 80-160, 1/4 second for ISO 200-320, and 1/8 second for ISO 400-800. For the DCS Pro 14nx, when the Long Exposure feature is **Off** a warning message will appear for any capture equal to or longer than 1/2 second for ISO 160, 1/4 second for ISO 200-320, and 1/8 second for ISO 400-1600. Longer Exposure does not persist through power cycles and will be automatically returned to the Long Exposure setting.

There are important operational differences when the camera is set to Longer Exposure mode. When the Longer Exposure mode (Figure 1) is selected the ISO and Shutter Speed will be controlled exclusively from the Longer Exposure Matrix (Figure 2a for the DCS Pro14n and Figure 2b for the DCS Pro14nx). The camera must be set to Manual "M" or Shutter Priority "S" exposure mode. Program "P" and Aperture Priority "A" exposure modes are not compatible with Longer Exposure. When you use M exposure mode with Longer Exposure you must manually select your aperture setting using the camera's body controls. When you use "S" exposure mode with Longer Exposure the camera's light meter will automatically select the aperture.

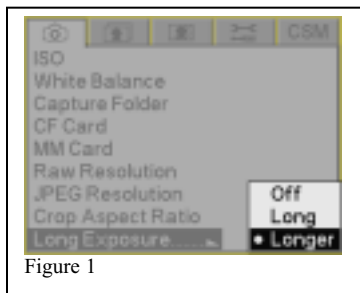


Figure 1

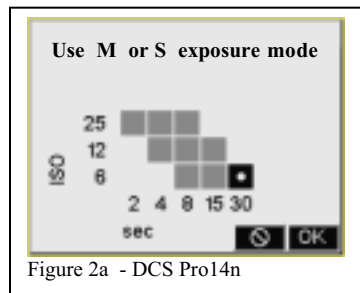


Figure 2a - DCS Pro14n

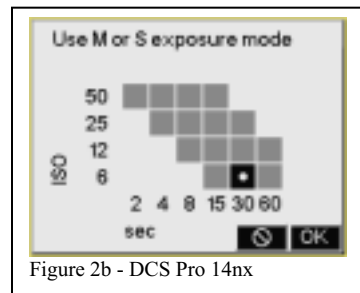


Figure 2b - DCS Pro 14nx

Longer Exposure Example:

1. Set your camera body to "M" or "S" exposure mode and select the Longer Exposure Matrix. Note that the ISO and shutter speeds settings are restricted to the combinations allowed on the Longer Exposure Matrix. *Changing the camera body ISO and shutter speed will have no effect.*
2. Set the ISO and Shutter Speed using the Longer Exposure Matrix. (Figure 2a is set to 6 ISO at 30 seconds.)
3. If you are using "M" exposure mode, select the desired Aperture using the camera's controls. The Aperture will be automatically set by the camera's light meter when "S" exposure mode is used.
4. Press the shutter release button to begin the capture. An audible delay between mirror and shutter actions is explained below.

Longer Exposure and Mechanical sounds:

The Longer Exposure feature utilizes an automatic mirror pre-release to reduce camera vibrations. This will result in 4 distinct mechanical sounds when capturing a Longer Exposure. After the shutter button is pressed you will hear the first sound of Camera Mirror rising and the viewfinder will go black. The second sound you will hear is the faint sound of the shutter opening for the duration of the selected shutter speed. The third sound will be the faint sound of the shutter closing (exposure complete). The fourth sound will be the mirror dropping back to the viewing position. *Note that the shutter will take 1/2 of the set Longer Exposure time to open after the mirror rises.*

Write Speed Measurement:

A "Write Speed" feature has been added to the CF Card option located on the Capture menu. Write speeds are measured in Megabytes per second (Mbytes/sec). Card write speeds measurement is defined as the speed at which the DCS camera will write data to the storage card. *This is not a statement about the speed capability of a storage card used in other devices or applications.* ***Note: Card write speeds are improved when capturing with the camera's color LCD off.**

For the most accurate card write speed results do the following:

- Set Auto Review feature to "OFF"
- Set CF card to RAW.
- Set RAW file type size to 13.5MP.
- If a Secure Digital card (SD) is inserted, set the SD card to standby and remove SD card.
- Set the image review mode to single image view.
- Deactivated the LCD before capturing using the Cancel button.
- Reactivate the LCD only after card activity has stopped and navigate to the Write Speed screen.
- The speed for the last saved image will be displayed.
- Take at least 3 measurements and average the results as reading can vary slightly between measurements.

1.5 Release History

- Version 4.0.0 February 28, 2003 (Initial Release)
- Version 4.0.2 March 3, 2003
- Version 4.1.2 March 21, 2003
- Version 4.2.2 April 23, 2003
- Version 4.2.3 May 16, 2003
- Version 4.3.1 June 26, 2003
- Version 4.3.3 July 15, 2003
- Version 4.4.3 October 29, 2003
- Version 4.5.5 March 2, 2004
- Version 5.0.1 May 5, 2004
- Version 5.0.30 June 15, 2004
- Version 5.1.2 August 3, 2004
- Version 5.1.5 August 13, 2004
- Version 5.2.1 September 10, 2004
- Version 5.3.0 December 1, 2004
- Version 5.4.1 February 18, 2005

1.6 Known Issues and Limitations

- **Important:** Never insert or remove storage cards while a red LED or the Card Icon on the Status screen is blinking. A possible side effect could be the corruption of memory card data.
- No more than a combined total of 2000 files, including hidden system files can be stored on memory cards inside the camera.
- Only cards that were last formatted in the camera can take advantage of the Recover feature.
- JPEG files can't be zoomed or used for in camera click white balance.
- When the video Format is set to PAL, the camera user interface will appear with a smaller font size. Deactivate PAL video to return to a larger user interface font size.
- Mirror Prerelease is limited to a maximum shutter speed of 125th second. Captures made using Mirror Prerelease in lighting conditions requiring faster shutter speeds will be overexposed.
- DTTL controlled flash photography is not possible when using the Camera's Mirror Prerelease feature. Use your strobes A mode to automatically control flash exposure.
- Automatically synchronized flash photography is not supported using Longer Exposure Mode. The use of other flash synchronization techniques may yield unpredictable results.
- Self Timer and Intervalometer do not function with Longer Exposure mode or Mirror Prerelease.
- Electronic remote shutter releases do not function with Longer Exposure mode or Mirror Prerelease. Use mechanical release on shutter button.
- Custom RGB slider values in DCS Photo Desk are not saved as part of DCS Photo Desk generated custom White balance files.
- Camera will only display the "Camera Recalibrating" message if the color LCD is active while the camera is recalibrating.
- **Pro 14nx only:** The camera will not retain lens data for the correct application of automatic lens optimization unless the cameras lens is mounted and at least one image is captured just prior to entering "Longer Exposure" or "Mirror up" exposure modes.

1.7 Firmware Installation Instructions for the DCS Pro 14n series Digital Cameras.

When available, newer versions of camera firmware can be installed if they are first copied to any folder on a storage card supported by the cameras file system or the root directory of a storage card. Firmware downloaded from the web will be in a compressed format and must be uncompressed before copying to a storage card. To copy firmware to a storage card and install new firmware in you camera, follow these steps:

1. Insert a **fully** charged battery into your camera.
Caution: A loss of power could corrupt the firmware. Do not connect the camera and your computer during the firmware update process.
2. Insert a storage card into the card reader on your computer.
3. On your computer, decompress the firmware file and copy the "PRO14N.bin" firmware file to root directory of the storage card. (The camera will automatically find the firmware file provided it was properly copied to any folder on the card which was previously created by the camera).
Important: The DCS camera will not locate file if it is copied to a folder that is not supported by the cameras folder/file system.
4. Insert the storage card into your DCS camera. *Note Make sure there is only 1 storage card in the camera.
5. Navigate to the Tools Menu Tab on the camera's LCD.
6. Select "Firmware" from the Tools Menu.
7. When the Firmware Item is highlighted press the right 4way switch and then select the Update option and press the OK button.
8. A confirmation screen appears displaying the version of firmware you are updating to and giving you two options. If you choose the option "Cancel", the firmware will not be updated to that version and it will automatically search for another version on the storage card. If no other versions exist on the card, you will return to the Main Menu. If you choose "OK", to the firmware version number displayed, the firmware update will continue for that version.
9. When the firmware has been updated, a screen appears indicating that the "Firmware update is complete".
10. Press the OK button and the camera will automatically restart.
11. Once the camera has restarted, a confirmation message appears, indicating that the new firmware successfully loaded.
12. **Repeat steps 5-10 to complete the Firmware update process. A second confirmation message from the previous step will NOT appear. Take care to reselect the same version when you repeat steps 5 – 10.**

1.8 Memory Cards

The DCS Pro SLR/c, DCS Pro SLR/n, DCS Pro 14nx and DCS Pro 14n Digital Cameras accept the insertion of Type I and II COMPACTFLASH cards, IBM/Hitachi MICRODRIVES (CF™+ Type II), Multi Media Cards (MMC) and Secure Digital (SD) Cards.

*The following storage cards have been tested in the DCS Pro SLR/c, DCS Pro SLR/n, DCS Pro 14nx and DCS Pro 14n Digital Cameras.

CompactFlash CF+™ Type II:

- LEXAR 4GB 40x
- IBM MICRODRIVE Now Hitachi (Hard Disk) - 1GB - 512MB - 340MB
- HITACHI MICRODRIVE (Hard Disk) 4GB - 2GB
- PRETEC 1.5GB, 3GB (3GB - PN:CPP03G)
- SILICONTECH 512MB
- HITACHI 448MB

CompactFlash Type I:

- LEXAR 8X, 12X, 16X, 24X, 32X 40X AND 80X
- **TRANSCEND 512MB 30x and 1GB 30x
- SANDISK ULTRA 256MB, 512MB, 1GB
- SANDISK EXTREAM 1GB
- INTEGRAL 1GB
- INTEGRAL 1GB i-Pro
- FLEXP 512MB and 1GB
- DELKIN eFILM PRO 640MB (DDCFCLS4-640)
- DELKIN eFILM 1GB (DDCFCLS2-1GB)
- PRETEC 512MB (PN:CFX512), 256MB (PN:CFX256)
- HAGIWARA SYS-COM 256MB
- KODAK 256MB (AR027nx CHINA) and (Taiwan)
- KODAK PROFESSIONAL 160MB

Secure Digital (SD):

- LEXAR 256MB, 512 MB
- LEXAR 32X
- SANDISK 256MB
- DELKIN 512MB (DDSDFLS1-512)
- SIMpletech 256MB

Multi-Media Card (MMC):

- PRETEC 1GB
- KODAK 128MB
- DELKIN 128MB (LPCA0134)

Adapters:

- PANASONIC SD-CF Adapter (model BN-CSDABP3).
Allows some SD and MMC cards to be used in the camera's CF card slot.

MagicStore CompactFlash CF+™ Type II cards are not compatible with the DCS Pro 14n, DCS Pro 14nx, DCS Pro SLR/n and DCS Pro SLR/c digital cameras at this time.

Pretec 6GB CompactFlash CF Type II cards are not currently compatible with the DCS Pro 14n, DCS Pro 14nx, DCS Pro SLR/n and DCS Pro SLR/c Digital Cameras "Secure Erase" feature.

* Storage cards not listed may be compatible but have not been tested.

** Transcend 30x cards manufactured before 06/01/03 may exhibit compatibility issues.

Storage card manufactures can sometimes alter products which render them incompatible with DCS cameras without making obvious changes to their product labeling.

1.9 DCS Firmware Availability on the Worldwide Web

As DCS camera firmware is updated, it is placed on the Kodak Worldwide Web site.

Use the following URL to locate your DCS camera firmware: <http://www.kodak.com/go/DCSsoftware>.

See additional information regarding DCS Host Software in the associated ReadMe files for the specific software solution or application.

1.10 Additional Support Information on the Worldwide Web

Use the following URL for additional camera support information regarding the DCS Pro 14n, DCS Pro 14nx, DCS Pro SLR/n and DCS Pro SLR/c digital cameras:

<http://www.kodak.com/go/DCS>

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