XF Camera System - Feature Update #1   *October 21, 2015*

The firmware of the XF camera system enhances the core functionality of the XF camera system. The firmware keeps the XF camera system moving forward by implementing new and clever feedback from the market, and it utilizing the camera system hardware with the latest advances to deliver improved stability and performance.

The XF Feature Update #1 delivers the latest XF camera system functionality, including:
1. Focus confirmation with the Waist Level Finder shown on the XF OneTouch UI
2. Seismographic monitoring in Low Vibration mode: capture is delayed until zero vibration is recorded within the set maximum delay.
3. BullsEye Level tool on the XF OneTouch UI. This provides easy leveling of the camera in horizontal position.
4. Histogram on XF OneTouch UI.
5. New setup and calibration of the Hyperfocal point.
6. XF Live View focus step from Capture One.
7. IQ language localization of the user interface to cover:
    a. Chinese (simplified)
    b. English
    c. French
    d. German
    e. Italian
    f. Japanese
    g. Korean
    h. Russian
    i. Spanish
    j. Swedish
8. IQ Digital Back input of copyright information for RAW file metadata
9. General stability and bug fixing

The Feature Update #1 is delivered as firmware divided into two parts: one part for the XF Camera and one part for the IQ Digital Back. The two firmware halves are delivered as so called "fwr files" to be downloaded from the following:
https://www.phaseone.com/en/Downloads/Materials/Camera-Firmware/XF-Firmware.aspx

The two firmware parts required are:
Firmware for the XF Camera Body   1.04.4.fwr

- combined with and one of the following Firmwares to match your system configuration:
Firmware for IQ3 80MP and IQ3 60MP Digital Back: 1.06.5.fwr
Firmware for IQ3 50MP, IQ250, and IQ150 Digital Back: 3.02.5.fwr
Firmware for IQ280, IQ260, IQ260 Achromatic Digital Back: 6.06.5.fwr
Firmware for IQ180, IQ160, and IQ140 Digital Back: 6.06.5.fwr

How to update your XF camera system to Feature Update #1:

Step 1: Check the firmware status on your XF camera system
Check your current firmware status using the "About" menu on both the Digital Back and XF Camera:
- For the XF Camera: Menu > XF Menu > About System (at bottom of listing)
- For the IQ Digital Back: Menu > About (at bottom of listing)

Step 2: Compare with the newest available firmware versions
Go to the Phase One download site:
https://www.phaseone.com/en/Downloads/Materials/Camera-Firmware/XF-Firmware.aspx

If there is newer firmware version available, please read the release note and decide if you want to take advantage of the new features.

To proceed with updating, do the following:
Step 3: Download the new firmware for your XF Camera
Find the download entry for the XF Camera, and initiate the download. Place the downloaded fwr file on a recently formatted CF-card, in the root folder.

Step 4: Update your XF Camera
Make sure that your Digital Back is attached to the XF Camera.
Place the CF-card in the CF compartment of the IQ Digital Back, and continue on the IQ Digital Back to select: Menu > XF Menu > Update Firmware
The firmware update can take several minutes, and must not be interrupted – the camera will check firmware after install and let you know that the update has been successful.
In the event the update fails, please repeat above procedure.

Step 5: Download the new firmware for your Digital Back
Find the download entry matching your Digital Back, and initiate the download. Place the downloaded fwr file on a recently formatted CF-card, in the root folder.

Step 6: Update your Digital Back
Detach your IQ Digital Back from the XF Camera.
Place the CF-card in the CF compartment, and select: Menu >Firmware > Update Firmware

The firmware update can take several minutes, and must not be interrupted – the Digital Back will check firmware after install and let you know that the update has been successful.
In the event the update fails, please repeat above procedure.

Step 7: Verify the new firmware status
Repeat Step 1 by checking the "About" menus in their respective locations.

Known issues with this firmware release

1. IIQ S file format have been temporary disabled on IQ3 50MP, IQ250 and IQ150, due to last minute changes to provide for future improvement.
2. OS X 10.11 'El Capitan' introduces an issue with tethering via USB3 for the following Digital Backs: IQ140, IQ160, IQ180, IQ260, IQ260 Achromatic, IQ280.

   To address this issue: Please use a USB2.0 cable to tether the above backs and use Capture One 8.3.4, or a newer version.
   IQ3 50MP, IQ 250 and IQ150 are NOT affected.

3. *The IXR camera is not supported with this firmware update.*

The way it works…

1. *Focus confirmation when working with Waist Level Finder*

The XF OneTouch UI can be configured to display focus confirmation when working with the XF Waist Level Finder. To activate this function please do as follows: Press the Rear Key on the XF OneTouch UI and from the menu select UI Setup > Layout > toggle to "Waist" (between Classic, Simple, and Waist).

The focus confirmation tool-bar, known from the prism viewfinder, now appears on the OneTouch UI and guides you to finding the best focus. The focus confirmation complements the exposure feed back also shown on the XF OneTouch UI, and provides for full capture control when working with the Waist Level Finder. Focus confirmation is invoked by half-pressing the shutter release button. It is active for 6 seconds for every half press.

2. *Low vibration mode using Seismographic data*

The XF camera system uses data from its seismographic sensor to monitor vibrations where a capture delay secures stability for the capture. The maximum capture delay is set using a long press of the Vibration Delay icon in Drive screen or by pressing the Rear Key on the XF OneTouch UI and from the menu: select Capture Setup > Vibration and then toggle the rear dial to the wanted delay.
When the Vibration delay maximum reached the camera will always capture the initiated shot regardless of vibrations present.

3. *BullsEye Level tool*

The XF camera includes a BullsEye Level tool. To activate it press the Rear Key of the XF OneTouch UI and from the menu select: Tools >BullsEye (select using the rear dial and the

rear key). The BullsEye tool is calibrated to match the levelling tool found in the Digital Back's tool display in Play mode.
To work correctly the BullsEye must be invoked from within the limits of +/-20 degrees from level.

4. Histogram on XF OneTouch UI

To monitor the exposure of your images a histogram tool is available on XF. It displays the histogram of your last capture on the OneTouch UI for 3 sec. To activate it: Press the Rear Key on the XF OneTouch UI and from the menu select UI Setup > Histogram > toggle to "On" (between On and Off).

5. XF live view focus step from Capture One

Setup your XF camera system to work tethered with Capture One. From the Capture One Camera tool press the Live View button to enter Live View. In this mode the Live View Controls tool offers control of the focus by using the shown arrows.

6. Language localization for an IQ Digital Back

The user interface of the IQ3 Digital Back is available in the following languages:
Chinese, English, French, German, Italian, Japanese, Korean, Russian, Spanish, Swedish.
To select a particular language: select Menu > Language (scroll to) > choose your language.

7. Enter Copyright information for the RAW file metadata on an IQ Digital Back

On the IQ Digital Back you can enter and store your copyright data, which is copied into the RAW file metadata for all images shot.
To enter your copyright data: select Menu > Copyright > and use the keyboard to spell out the data. Only text characters and numbers are accepted.

8. Working with Hyperfocal distance on the XF camera system

What it is
An important element of landscape photography is ensuring that all of the key elements within your composition are sharp. This can often include foreground objects that are a matter of meters from your camera, as well as background elements that can be kilometres away. One way to ensure that the entire frame is in 'acceptably sharp' focus, is to ensure that the depth of field extends from the foreground to infinity. To do this, you need to focus at the proper 'Hyperfocal Distance'. For a given focal length and aperture, there will be a distance where setting your point of focus closer than infinity results in the entire scene being within the depth of field. This is the Hyperfocal focus point.

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How you set it per tradition
For many photographers the best way to optimize the point of focus is visually. Try first focusing on the most distant object within your scene. Then manually adjust the focusing point as close as possible while still retaining an acceptably sharp background using depth of field.
Many use a rule of thumb, which states that you should focus roughly 1/3 of the way into your scene in order to achieve maximum sharpness at an appropriate aperture. While this is sometimes helpful, it is rarely optimal; the precise distance actually depends on many factors, including subject distance, aperture and focal length.

Hyperfocal distance on the XF camera system
The XF camera system can store one specific focus distance for each lens. An obvious use of this functionality is to store the hyperfocal distance for the lens, at your preferred working aperture. This focus distance can be re-called at your convenience.
On the XF camera system this hyperfocal distance is represented by a "Hyperfocal point" corresponding to the physical point or marker many photographers set on their lens to easily adjust focus to the hyperfocal distance. The XF hyperfocal point is measured in absolute XF "Motor-Control-Units" MCUs, calibrated to the accuracy of the geared lens focus mechanism (this is specific to each lens).

Saving an XF hyperfocal point:
When entering the XF Hyperfocal Point mode - via the OneTouch UI, the selection within the XF Menu of Tools > Hyperfocal Point - the focus is automatically driven to the current Hyperfocal Point. Please NOTE that this always assumes that the lens is in AF mode.
The very fist time Hyperfocal Point is accessed, it focuses at the focus position found by the last Auto Focus operation of the camera.

– *Use dials and save an XF hyperfocal point:*

In the HyperFocal Point tool, now use the front and rear dials to fine-tune your focus and depth of field for your scene. The front dial and the rear dial control the focus movements measured in MCUs. The front dial: +/-1 MCU, the rear dial: +/-10 MCUs. The electronic control of the lens movements secures optimal positioning accuracy. Please NOTE that it is important NOT to manually touch the focus ring of the lens in this mode, as this will interfere with the precision of the electronically controlled focus mechanism.

When you have reached an optimal hyperfocus point, it is saved by pressing the save icon of the Hyperfocal Point screen.

– *Use focus bracketing and save an XF hyperfocal point:*

To assist you in finding the Hyperfocal Point, a special focus bracketing function is available. It allows for capturing a sequence of 5 shots: the base shot focussed at your current Hyperfocal Point, complemented by four extra shots, focussed using the hyperfocal increment "Step" of your selecte MCUs, multiplied by -2, -1, +1, +2.

It is strongly recommended to work tethered to Capure One: both to accurately inspect each image for focus and depth of field, and to get the absolute MCU value for each of the images in the capture sequence. The MCU value is found in the image metadata.

When you have selected the image, which has the focus and the depth of field best covering your scene, then:
- log the MCU value of the image from the Capture One metadata, and
- dial it in from the XF Hyperfocal Point screen, and
- store the Hyperfocal Point by pressing the save icon of the Hyperfocal Point screen.

You may continue the process with a finer increment, now working from each optimal image as the base shot.

The captured images can also be inspected on an iPad, connected to an IQ2 or IQ3 XF camera system via wifi and Capture Pilot. The images can also be inspected on the XF rear screen. However, neither the iPad-monitor nor the IQ rear screen holds the absolute MCU values for the images. These must then be calculated manually.

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