FIXED EXPOSURE COMPENSATION SETTING

1 Press the AE-L Button (A) on the Camera.
2 Turn the Front Scroll Wheel (B) to change the Flash compensation and the Rear Scroll Wheel (E) on the grip to increase or decrease the amount of Exposure Compensation in 1/3 EV steps.
3 The amount is displayed as both an EV figure complete with a ‘minus’ or ‘plus’ prefix, and as a marker above a ‘minus’ to ‘plus’ scale,
4 Press AE-L Button (A) to reset any compensation back to zero.
5 The settings are saved.
6 A ‘±’ symbol is then displayed between the aperture and shutter speed setting as confirmation of the setting.

EXPOSURE COMPENSATION / QUICK ADJUST

The exposure compensation function, for both manual and automatic modes can be set from -5 to +5 EV, in 1/3, 1/2 or 1 EV increments and is visible above the scale in the viewfinder and as a ± symbol on the Touch Display Control Screen.

The quickest way to make an adjustment in auto exposure mode is to use the Rear Scroll Wheel (B).
Temporary compensation setting in an auto-exposure mode using the Quick Adjust function:

1 Select Auto Exposure Mode (A).
2 Turn the rear scroll wheel (B) to select the chosen amount of compensation.

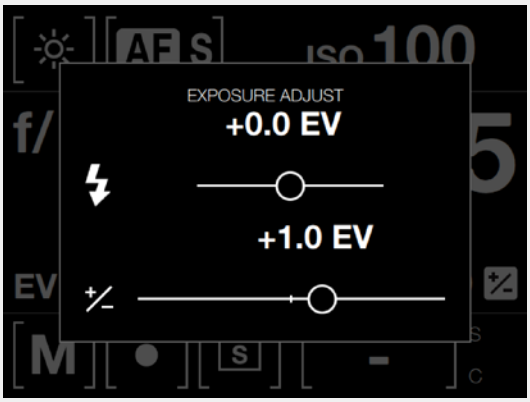
   The amount is displayed as both an EV figure complete with a ‘minus’ or ‘plus’ prefix and as a marker above a ‘minus’ to ‘plus’ scale.

Default settings provide 1/3 EV compensation and an immediate clearing of the setting after capture.

Adjust the Exposure on the Control Screen

1 Swipe Down on the Touch Display to access the Control Screen.
2 Select Exposure Adjust.
3 Adjust sliders to the left or right to change values.
4 Close the Exposure Adjust pop up by clicking outside of it
5 Swipe Up to exit Control Screen and return to Main Menu.

Control Screen View
Exposure Adjust.

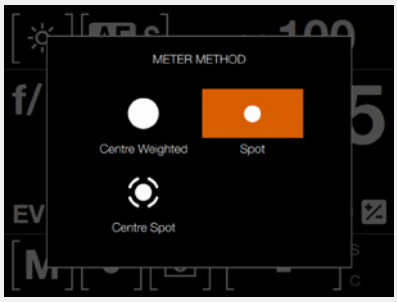


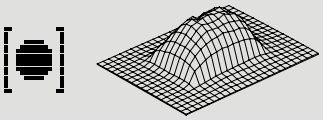
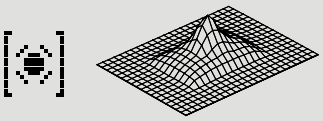
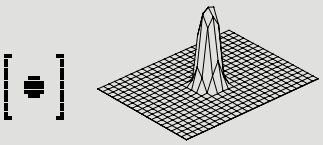
3.10 LIGHT METER EXPOSURE MODE

The Light Meter Exposure Mode can be changed on the Control Screen. Use the Rear Wheel to select.

Different Light Metering Modes
There are three reflective metering modes available, Center Weighted, Center Spot and Spot Metering.

Metering Modes



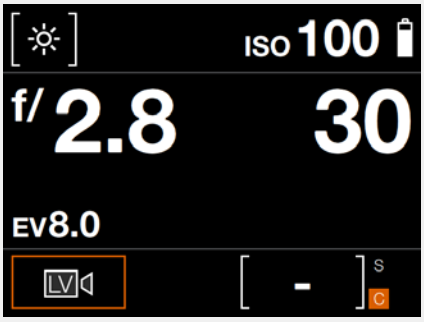
Light metering modes	Symbol	Description
Center Weighted		Used for light situations where there is no particular dominance of light or dark areas across the tonal range. Takes into account approximately 25% of the image seen in the viewfinder.
Center Spot		Emphasizes the central section of the focusing screen equivalent to approximately 25% of the image. This provides a balanced assessment and is a typical choice where the main subject is in the centre of the image.
Spot		The sensitive area is equivalent to approximately 2.5% of the image area (the central spot on the viewfinder screen). Any parts of the image outside of this area will not affect the exposure reading. This provides a very accurate measurement of specific tones. Typically used in the zone system and similar light measuring situations where maximum control is required. Also excellent for tonal comparison measurements. The spot mode can display ‘zones’ instead of EV's in the viewfinder display.

3.11 VIDEO RECORDING

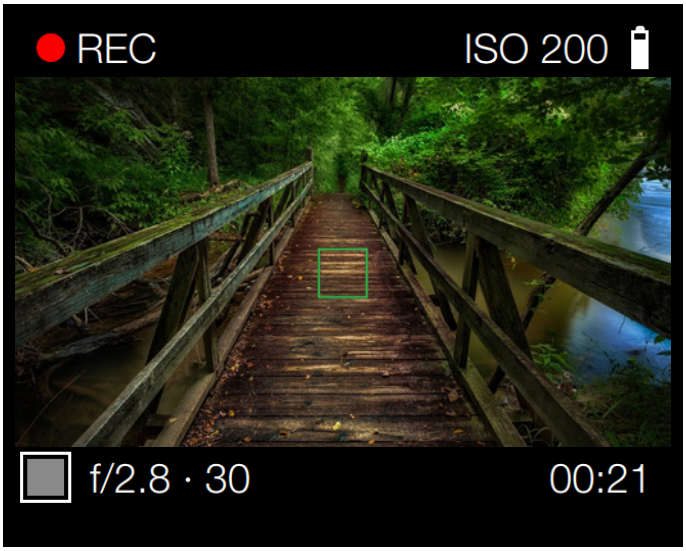
To Record Video

1 Enter Video mode by rotating the Mode Dial (1) until the Video Icon aligns with the line mark to the left of the Mode Dial Selector.
2 The Video Control Screen is displayed on the Touch Display.
3 Start the Live Video Stream by pressing the Live Video icon.
4 The Video Stream is displayed on the Touch Display.
5 Start Recording by pressing the Shutter Release Button (2) or by pressing the red recording icon on the Touch Display.
6 Stop the Recording by pressing the Shutter Release Button (2) or by pressing the stop icon on the Touch Display.

Video Control Screen



Video Display when capturing video



3.12 CONNECTOR PORTS

1 **SD Card Port 1**
Port for the SD Card no 1.

2 **SD Card Port 2**
Port for the SD Card no 2.

3 **HDMI**
Connector for Mini HDMI plug.

4 **Audio in**
Connector for Audio In Microphone 3.5 mm stereo plug.

5 **USB 3 Tethering plug**
Connector for USB 3 plug.

6 **Audio Out**
Connector for external 3.5 mm Stereo Audio Out Plug.

3.13 MEMORY CARDS

There are only one type of memory cards that can be used with the X1D camera, SD cards. There are two SD Card slots on the X1D Camera, slot no 1 and slot no 2.

When using a SD card, the X1D is completely self contained. No additional wires or connectors need to be attached.

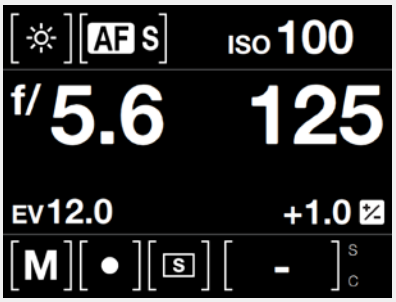
The recommended type is UDMA/type 4 /60MBs (400x) or better. Please see the Appendix in this manual for a list of recommended cards.

The X1D is shipped with a 16 GB SDXC SD card, which is capable of holding approximately 75 – 150 captures (according to model).

Note!
All cards should be formatted in the camera before first use!

SD Memory Card Status Display

S = Inserted, non active.
S< = Inserted, active.
S[0] = Full.
S! = Card Error.
Lock Symbol = Card Write Protected.
No Symbol = No Card inserted.



INSERT A MEMORY CARD

There are one type of Memory Cards that can be used with the X1D Camera, SD Cards. There are two slots for SD Cards, slot no 1 and slot no 2.

Insert SD card

1 Open the Memory Card Slot Cover by sliding it towards the back of the Camera and then rotate it counter clockwise.
2 When the card slot cover door is opened, mount the SD card in the SD card slot no 1 (A) or no 2 (B).
3 Close the slot cover by rotating it back and pushing it in place towards the front of the camera (C) to lock it into position.

REMOVE SD MEMORY CARDS

Remove SD card

1 Open the memory card slot cover on the sensor unit (A).
2 Press the SD card no 1 (B) or no 2 (C) a little way in and then release it. The SD card will then move out from the SD card slot.
3 Grab the card and pull it away from the sensor unit.
4 Close the slot cover (D) by rotating it back and pushing it in place towards the front of the camera to lock it into position.

Note!

Do not remove a memory card from the Camera if the 'ready' light is blinking (placed in the lower right corner on the Touch Display), as this will corrupt the files on the card and result in data loss. The card will also need to be reformatted.

FORMAT SD CARDS

MAIN MENU > GENERAL SETTINGS > STORAGE > FORMAT

The camera is only able to read and write to storage media that have been formatted correctly. New cards sometimes have no formatting, or you might want to convert a card that is currently using a format that the camera cannot read. In either case, you must reformat both SD cards within the X1D Camera to be able to use the SD Cards.

FORMAT MEMORY CARDS VIA TOUCH DISPLAY

MAIN MENU > GENERAL SETTINGS > STORAGE > FORMAT

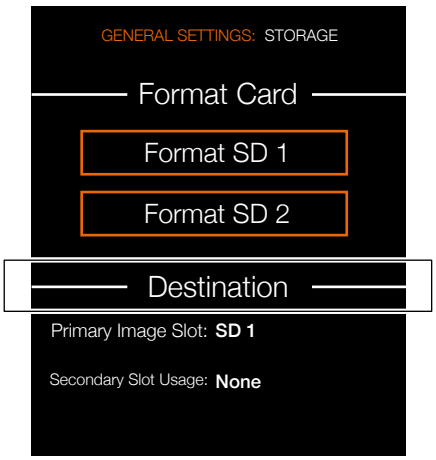
Use the Rear Scroll Wheel or navigate via the Touch Display and the dedicated 5 buttons to the right of the Touch Display.

1 Press MENU.
2 Navigate to Storage
3 Navigate to Format
4 Navigate to Format SD card.
5 Confirm by pressing OK (Display button).

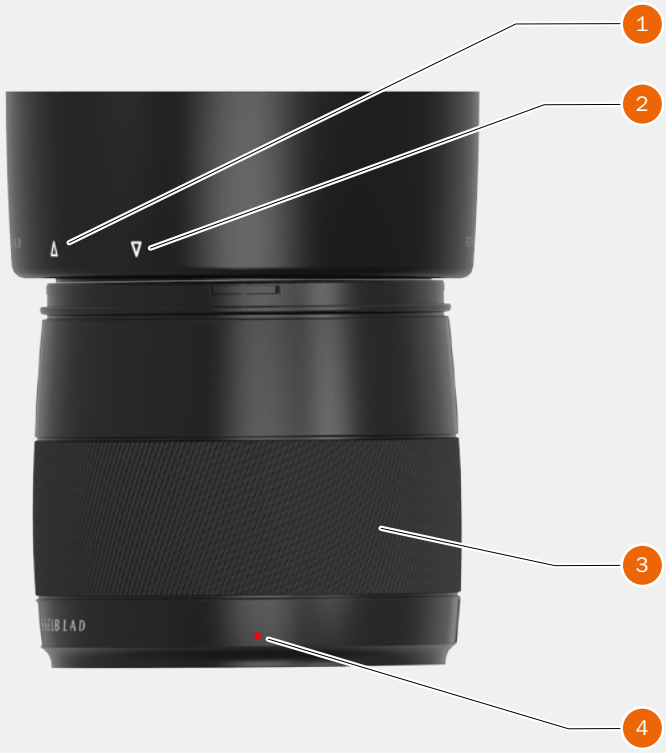
Note!
The X1D Camera is capable of writing 78 MB/s to SD cards.

Note!
All SD Memory Cards should be formatted in the X1D Camera before using them the first time.

Storage Menu



3.14 XCD LENSES



1 Lens shade index for reverse mount
2 Lens shade index
3 Focusing ring
4 Lens index

HASSELBLAD XCD 45 LENS, 45 MM

HASSELBLAD XCD 90 LENS, 90 MM

You can download technical data sheets from the Hasselblad website, www.hasselblad.com.

3.15 REMOVE AND ATTACH A LENS

REMOVE THE LENS

Caution!
Be careful when you attach/remove the components to/from the camera. This will help prevent damage to the databus connections.

Caution!
Do not insert fingers into the camera body. This can cause damage to the equipment.

1 Hold the lens (C) with one hand and hold the camera body (A) still.
2 Push the lens removal button (B).
3 Rotate the lens counter clockwise.
4 Push the lens (C) away from the camera body.
5 Attach the protection cover lid (D) on the camera body directly.
6 Attach a lens protection lid on the detached lens to prevent damage.
7 Store the lens with both lens protection lids on and the lens hood inverted over the lens instead of in front of the lens.

ATTACH THE LENS

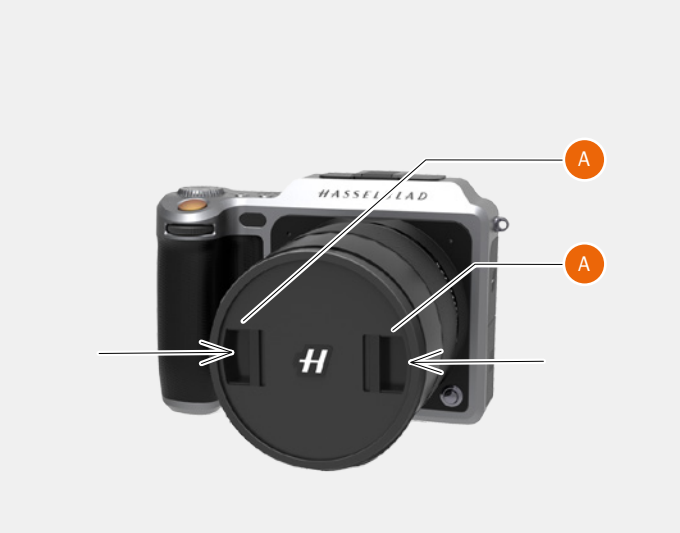
Caution!
Be careful when you attach/detach the components to/from the camera. This will help prevent damage to the data bus connections.

Caution!
Do not insert fingers into the camera body. This can cause damage to the equipment.

1 Push the lens removal button (A) and remove protection cover lid (B) from the camera body.
2 Rotate the lens so that the red mark on the lens (C) lines up with the red mark (D) on the camera body.
3 Mount the lens (E) into the camera body (F) and then turn the lens clockwise to lock its position.
4 Make sure the lens is locked to the camera body before using or moving the camera.

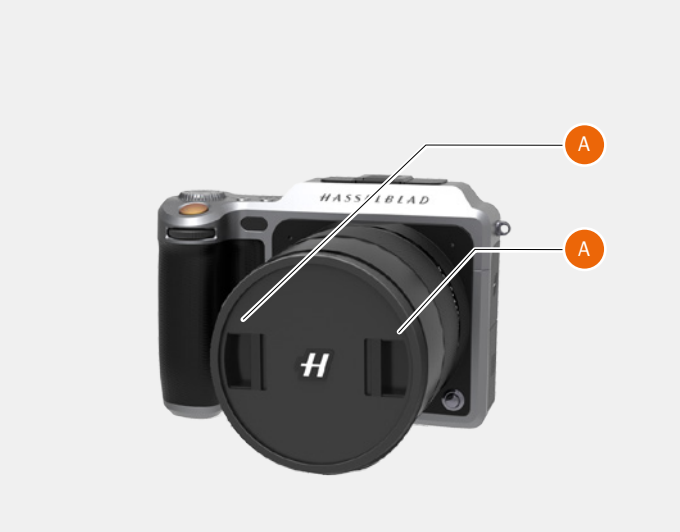
REMOVE THE LENS CAP

1 Insert thumb and index finger into the recesses (A).
2 Pinch the recesses (A) together.
3 Remove the front lens cap.



ATTACH THE LENS CAP

1 Insert thumb and index finger into the recesses (A).
2 Attach the front lens cap on the lens until it snaps into place.



REMOVE THE LENS SHADE

All lenses are supplied with lens shades that additionally provides extra protection for transport and storage when mounted in reverse.

1 Turn the lens shade (A) counter-clockwise.
2 Remove the lens shade (A).

ATTACH THE LENS SHADE

All lenses are supplied with lens shades that additionally provides extra protection for transport and storage when mounted in reverse.

1 Place the lens shade on the lens.
2 Make sure that the index on the lens shade (A) aligns with the index on the front of the lens (B).
3 Turn the lens cap clockwise until it snaps into place.

FILTERS

The filters have a threaded fitting (67/77 mm, according to lens) and are rotated clockwise into place. As there is no rotation of the front section of the lens when the focus is changed, the filter do not rotate either. This is particularly useful when using polarizing or graduated filters where the orientation is critical.

3.16 DISPLAY INFORMATION

Viewfinder information

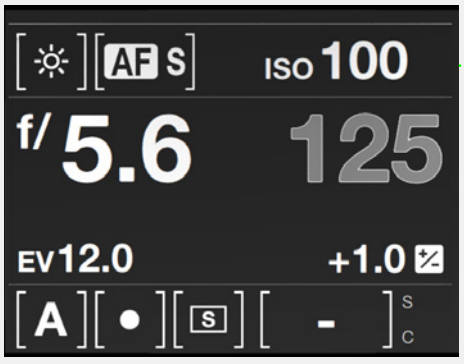
ISO (100)
Battery Status
Exposure compensation EV
Aperture setting (f/11)
Shutter speed (1/1000)
Remaining Capture counter (621)

PHOCUS / PHOCUS MOBILE INFORMATION

Metering method
Aperture setting
Shutter speed
Exposure method
ISO
White Balance
Flash indication
Focus
Drive
EV

Touch Display information Control Screen

Exposure (Daylight)
ISO (100)
Aperture (f/5.6)
Shutter (1/125)
EV (12.0)
Exposure Compensation (+1.0)
Exposure Mode, Aperture priority (A)
Focus Setting (Center Spot)
Focus Method (Single)
Capture Counter
Storage medium (SD1)



3.17 TOUCH DISPLAY AND CONTROLS

When shooting, the X1D Touch Display can display the information most often required for a quick settings check. The Front and Rear Scroll Wheels and Camera Buttons together with the Touch Display are used to navigate the Main Menu and change settings.

The Touch Display can show all saved captures on SD card 1 and 2. You can Browse and Zoom in the Captures for detailed inspection.

When shooting, you can control the amount of information visible together with the current preview by choosing various modes.

Buttons and Scroll Wheels
In Browse mode, the Scroll Wheels and AE-L buttons are used for navigation.

Activate Browse mode by a single Press on the top button to the right of the Touch Display.

Here you see the Main Menu on the Touch Display. Swipe Down to display the Control Screen.

Control Screen with Settings and Information
The Control Screen is interactive. Swipe down to display the Control Screen. Select any of the settings to change the value. Aperture setting, shutter speed, focus setting, drive, EV, battery status, exposure method, capture counter, ISO and white balance can simultaneously be displayed and changed in the Control Screen on the Touch Display. Swipe Up to close the Control Screen and see tha Main Menu.

3.18 ELECTRONIC VIEWFINDER DISPLAY EVF

TYPICAL VIEWFINDER DISPLAY

Touch Display

Electronic Viewfinder Display EVF visual user interface

VIEWFINDER DISPLAY SETTINGS

AF indicator
The square AF indicator in the middle of the Electronic Viewfinder displays if the Autofocus is ok or not. Start the Autofocus function by pressing the AF Drive button (AF-D).

White - Normal mode. Autofocus is not analysing the subject.
Orange - Autofocus is analysing the subject.
Green - Autofocus performed and focus is set correct.
Red - Autofocus failed to focus and is not set correct.

ISO indicator
Displays the selected ISO setting (ISO 100).

Battery indicator
Displays the Battery level.

Exposure compensation setting
Displays the EV compensation setting (+0.0).

Aperture setting
Displays the selected Aperture Setting (f/11).

Shutter Speed setting
Displays the selected Shutter Speed setting (1/1000 sec).

Frames Counter
Displays remaining Frames (621 left).

White AF indicator. Normal mode.

Orange AF indicator. AF analysis ongoing.

Green AF indicator. AF set correct.

Red AF indicator. AF analysis failed to focus.

3.19 FOCUS

FOCUS ASSIST

The X1D amera also features a LED focus assist. Two arrowheads are displayed to the right of the viewfinder display (except for lenses with a maximum aperture of f/6.7 or smaller). The arrowheads provides confirmation of a precision focus setting and are a useful aid when making a setting with eyesight only.

Manual focus setting
When the left arrowhead appears alone it means the focus setting is too far beyond the chosen distance (the area framed within the central zone in the viewfinder) and when the right arrowhead appears alone it means the focus setting is too close. Focus is correct when both arrowheads appear together. If the focus cannot be established, then both arrowheads flash.

Automatic focus setting
Focus is correct when both arrowheads are visible together. Focus is incorrect if only one arrowhead is visible. If the focus cannot be established, then both arrowheads flash.

Note!
The autofocus range on the HC 4/120 Macro lens can be limited by a specific setting on the camera allowing for near range, far range or full range. This information is displayed on the grip display together with that particular lens, in the Sensor Unit Display and in the Viewfinder Display. Further information can be found in the “H-system Lenses & H-system Lens Accessories” booklet that accompanies each lens. The booklet can also be downloaded from the Hasselblad website. Also, see note here regarding HCD lenses!

Note!
HCD lenses were formulated for use with the smaller size sensors in the H-series, resulting in a reduced coverage for the larger sensors used in some models. So, if you use HCD lenses, be aware of the restrictions (vignetting and diminished quality at the edges). As notification of this situation, an auto crop function is employed and an HCD crop icon appears on the right hand side of the viewfinder display when an HCD lens is fitted. When in Phocus, however, the auto crop function can be turned off in Preferences if you wish.

Note!
Lens corrections can be applied when captures are imported into Phocus. Guided by the information in the meta data included with each individual capture, the DAC (digital lens correction) tool uses lens-model specific calculations to adjust for chromatic aberration, distortion and vignetting. Not only model specifications but also capture parameters are taken into consideration for analysis. This extremely capable refinement of captures should not be overlooked when processing files! See Phocus user manual for details.

Info!
For users who prefer manual focus control but would like the benefits of autofocus, one method is to set the AE-L button to AF (Single) drive. The main subject can then be centered and the AE-L pressed, to ensure correct focus. The camera reverts immediately to manual focus control when the button is released. Therefore, you can recompose the picture without having to maintain pressure on the release button in order to retain the newly automatically made focus setting (AF-T can also be used).

Info!
The True Focus function can also be combined with other autofocus modes for specific situations.

Info!
To expand your range of lenses, consider using a CF adapter to allow you to use most of the lenses from the Hasselblad V-system.

Note!
The autofocus function is not possible with certain combinations of lenses and accessories. However, a warning is displayed which disappears after confirmation.

MANUAL FOCUS

There is both a Manual focus mode setting and a manual override capability.

In Manual focus mode, focusing is carried out by rotating the focus ring on the lens. The focus setting remains until changed as with a conventional non-autofocus lens. This means that pressing the shutter release button will not activate a focus setting change as it does in autofocus. To change back to autofocus, press the AF / MF button (B) and select AF-S, AF-C or AF-T.

MANUAL OVERRIDE IN AUTOFOCUS MODE

Manual override is always possible in automatic focus mode without any need to make a new setting. Just rotate the focusing ring in the conventional manner. As the lens barrel does not rotate in autofocus mode, you can hold the focusing ring for instant manual adjustments. However, to retain the new manual focus adjustments, you must maintain the pressure on the shutter release button. You can instantly return to the automatic focusing mode by releasing the pressure on the shutter release button first and then pressing the release button halfway again. The instant manual override function produces a convenient way of working. You can take advantage of autofocus while retaining an instantly adjustable manual focus check if preferred for pin-point accuracy without making any changes in the settings.

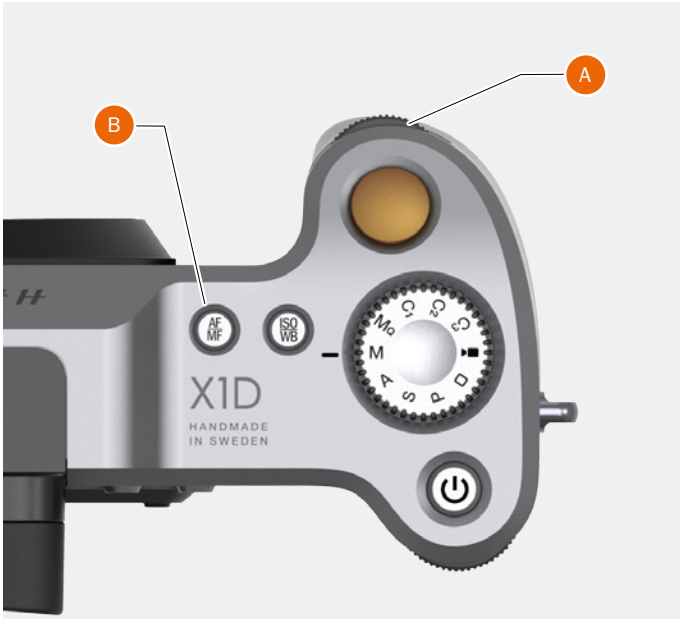
With manual override in autofocus mode you can manually alter a focus setting that has been made, by rotating the lens barrel and without having to change modes. As long as the shutter release button is kept at the half-press position, the new focus setting is maintained.

To reactivate the autofocus function, release the shutter release button and press again.

AUTO / MANUAL FOCUS SETTING

1 Press AF Button (B).
2 Turn the Front Scroll Wheel (A) to select Manual, Single Shot, Continuous, True Focus..
3 Press AF Button (B) to Save.

Note!
In manual focus, the infinity and closest distance marks on the lens scale can appear to be positioned beyond the central index. This is only an apparent effect and does not change the focusing range of the lens.



A Front Scroll Wheel
B AF / MF Button

AUTOFOCUS

Autofocus modes Single Shot or Continuous are activated by pressing the shutter release to the half-press position.

The operative range is from EV 1 to EV 19 at ISO 100.

The point of focus is determined according to the vertical and horizontal areas (see illustration) within the central rectangular zone on the focusing screen.

Alternatively, an attached flash unit that has a similar facility (a Metz 54/70, for example) can also be used. This feature can be altered in settings.

True Focus is also classified as an autofocus function and is normally activated by its own button on the grip. See later section.

AF Assist light
When light levels are too low or the contrast of the subject is too low, AF assist light (1) is automatically activated if selected. The operative distance is approximately up to six metres from the camera.

SINGLE SHOT FOCUS

At Single Shot setting (AF S), the shutter release will be blocked until the camera finds the optimum focus setting. This ensures that no captures are made that are not finely focused. However, this delay is normally only a fraction of a second in good lighting conditions with a clear focusing pattern.

Note though that in this mode the lens will focus at one distance and will remain focused at that distance while pressure remains on the shutter release button. In this way, you can focus on a nearby object, temporarily positioned within the focusing zone on the viewing screen and then without releasing pressure on the shutter release button, recompose knowing that the focus remains on the object chosen even though it is now outside the focusing zone. Releasing the pressure on the shutter release button and pressing again half way would now change the focus setting to the distance of the object within the focusing zone.

See Manual override in autofocus mode for a useful way of working with manual and autofocus settings in a combined manner.

AF-S Single Shot Mode

CONTINUOUS FOCUS

At Continuous setting (AF C), the shutter can be released rapidly before the lens is focused in order to capture a split-second shot (in Single Shot, a capture cannot be made until the camera has had time to focus). However, the camera will continue to focus if a moving subject is within the focusing zone or if you recompose, even though the shutter release button is half pressed.

One method to use this feature when photographing in fast changing situations is to keep the shutter release button pressed down. The lens focus continuously, and by momentarily releasing the pressure on the shutter release and then immediately pressing again, you minimize the amount of time needed for the lens to check focus ensuring a split second shot with optimum focus.

AF-C Continuous Mode

3.20 STOP DOWN BUTTON

STOP DOWN / DEPTH OF FIELD PREVIEW

A visual depth-of-field preview can be made by pressing the STOP DOWN button (B).

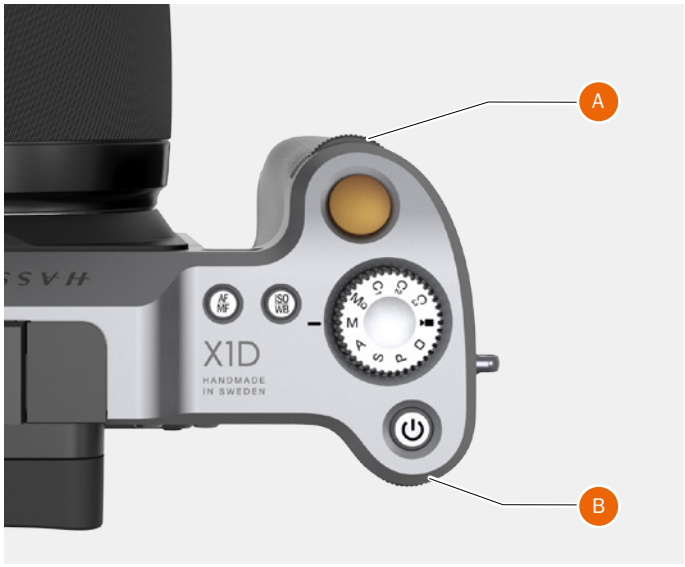
Depth-of-field is calculated as follows:

1 Focus the lens as required.
2 Make an exposure reading (auto or manual) and note the aperture setting.
3 Find the markings on either side of the central index that correspond to the chosen aperture.
4 From these two markings, read off on the required lens distance scale the two corresponding distances.
5 The depth-of-field (at that particular aperture and focus setting) is the area included between these two distances.

In the example given here, the focusing distance is set at nearly 3 metres. At an aperture of f/22, the depth-of-field would therefore extend from just over 2 m to approximately 4.5 m. Note that depth of field is not an absolute. Perception of it depends on several factors and so it should be seen only as a rough guide.

3.21 CHANGE SETTINGS ON THE GRIP

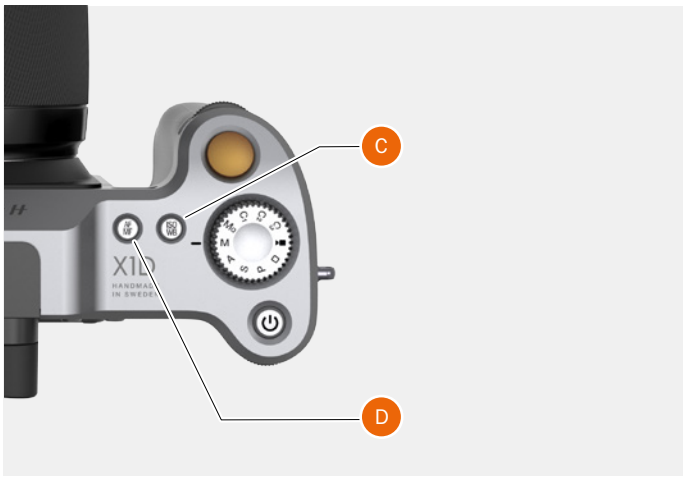
How to change AF/MF and ISO/WB settings



AF / MF modes

1 Select AF/MF (D) on top of the Camera Grip.
2 Press once on the AF/MF button to select AF.
3 Press twice to select MF.
4 Press a third time to exit.

AF Mode	Change AF mode (D) by scrolling the Front Scroll Wheel (A) left or right.
MF Mode	Change MF mode (D) by scrolling the Rear Scroll Wheel (B) left or right.



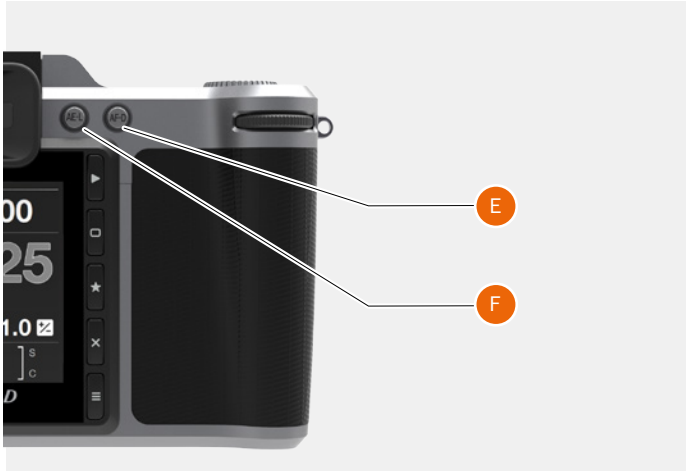
ISO / WB modes

1 Select ISO/WB (C) on top of the Camera Grip.
2 Press once on the ISO/WB button to select ISO.
3 Press twice to select WB.
4 Press a third time to exit.

ISO	Change ISO mode (C) by scrolling the Front Scroll Wheel (A) left or right.
WB Mode	Change WB mode (C) by scrolling the Front Scroll Wheel (B) left or right.

Mode Dial

M	= Manual Mode
Mq	= Manual Quick Mode
A	= Aperture Priority Mode
S	= Shutter Priority Mode
P	= Program Mode
C1	= Custom Program 1
C2	= Custom Program 2
C3	= Custom Program 3
Video	= Video Mode
Rectangle	= Automatic Mode (ISO and WB are also automatically set)



Manual Quick Mode

When selecting the Manual Quick Mode the Shutter is closed and the Aperture is set to selected value. The Live View is turned off. This results in the shortests possible reaction time.

Custom Modes

C1, C2 and C3 are Custom Modes that can save the complete Camera settings in the Camera Memory for quick access to favourite settings.

TO ADJUST SHUTTER AND APERTURE ON GRIP

Note!
In manual mode both the shutter and aperture are electronically controlled and are adjusted by the Scroll Wheels on the grip.

Note!
There are no separate manual setting rings on the lenses or camera body. The settings are displayed in the viewfinder display.

How to adjust shutter and aperture

1 Turn the front scroll wheel (A) to adjust the shutter and aperture.
2 Turn the rear scroll wheel (B) to adjust the shutter and aperture.

In Manual mode (M):
Front wheel = Aperture.
Rear wheel = Shutter speed.

In Aperture priority (A) mode:
Front wheel = Aperture.
Rear wheel = Quick exposure adjustment of Shutter speed.

In Shutter priority (S) mode:
Front wheel = Shutter Speed.
Rear wheel = Quick exposure adjustment of Aperture.

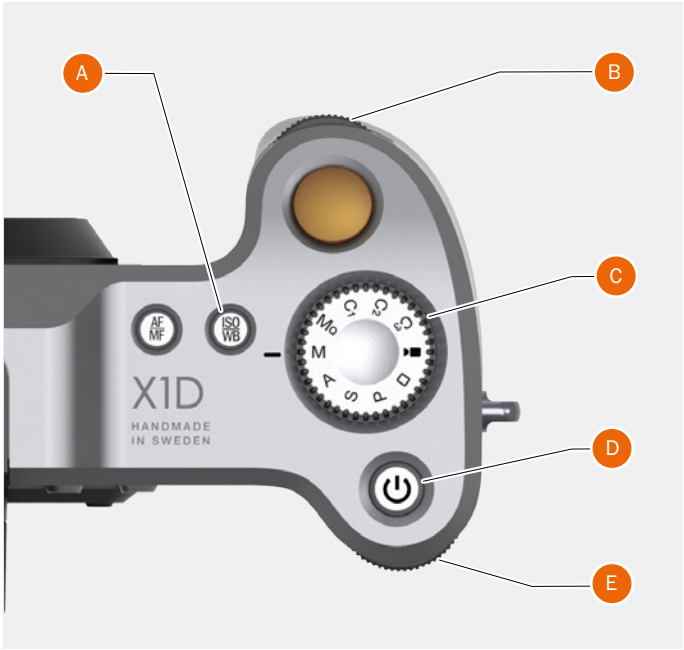
In P mode:
Front wheel = Aperture/shutter speed combination.
Rear wheel = Quick exposure adjustment.

ISO AND WHITE BALANCE

ISO and White Balance are set either via the Camera Grip, the Touch Display or, when tethered, via Phocus.

- On the Camera Grip, the ISO / WB Button (A) provides immediate access to ISO and White Balance settings. The front scroll wheel (B) and rear scroll wheel (E) are used to make the desired changes. These appears on the Touch Display and in the Electronic Viewfinder (EVF).
- For the Touch Display, settings are changed on the Touch Display or via the soft buttons next to the display.
- In Phocus there is a specific tool to control all Camera settings.

The settings are automatically and simultaneously adjusted within the Camera and changes display on both the Touch Display and in the Electronic Viewfinder.
Please note that the changes are only displayed on the Touch Display after the settings have been saved. See more information about making manual White Balance settings in the 'Touch Display Settings' section.



ISO

1 Press ISO / WB button (A).
2 Turn the Front scroll wheel (B) to select ISO setting.

White Balance WB

1 Press ISO / WB button (A).
2 Turn the Front scroll wheel (B) to select WB (Daylight, Shade, Cloudy, Flash, Fluorescent or Tungsten).
3 To set the Colour Temperature manually, scroll the Front Scroll Wheel (B) until "M" is displayed. Then the Colour Temperature value is displayed at the bottom of the screen.

Note!
White Balance settings are technically not necessary for 3F/3FR files. The raw format files contain all the information required for correction in Phocus and/or other software, regardless of the original colour temperature of the light source or colour temperature setting of the camera at the time of exposure.
If you intend to shoot RAW & JPEG or use Phocus for JPEG production and plan to deliver or print the JPEG files directly, then you should make a White Balance setting.

Note!
ISO and White Balance settings are made either on the Camera Grip or the Touch Display. The settings are automatically updated on both the Touch Display and the Electronic Viewfinder.

3.22 BROWSING, PREVIEW AND HISTOGRAM

BROWSE CAPTURES

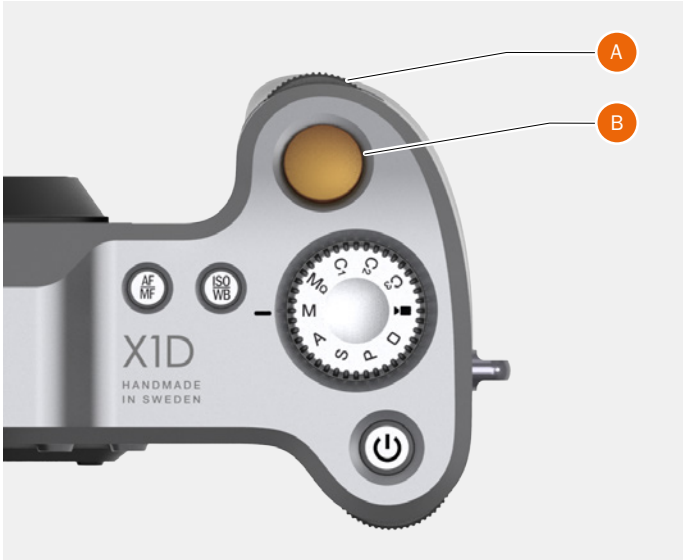
Press Play button (C) next to the Touch Display to enter Browse mode.

In Browse mode use the Front Scroll Wheel (A) on the Camera Grip to Browse captures in a folder.

In Browse mode on the Main Menu, swipe right or left to Browse captures.

Delete Capture with the Soft Button (D).

Zoom out to Folder View to select another folder to Browse.



Browse button (C) and (G)
Starts display and shows the last image. The user can review images, browse and zoom. Preview images and zoom in to view close-ups of previews for focus checking. Zoom out to view several at once and finally to view and select folders and media.

This is also a selection button for value setting in the Main Menu.

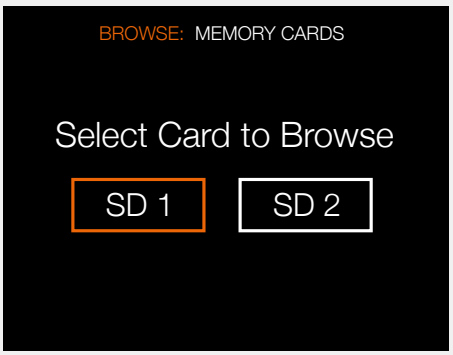
Image rating button (E)
Rate image 1-5 stars or green/yellow/red. Also works as soft button.

Press Menu button (G) to return to Main Menu.

SELECT CARD TO BROWSE

You can select SD 1 Card or SD 2 Card to Browse Captures.

Select Card to Browse



STANDARD PREVIEW

The Standard Preview is displayed when you first turn on the camera and is probably the view you will use most often.

It displays a preview of your most recent capture and basic information about the settings.

1 Card (S for SD)
2 Capture Date
3 Capture Time
4 Aperture (f/8)
5 Shutter Speed (60)
6 ISO Setting (100)
7 +/- Exposure Adjust Indicator
8 Exposure Adjust (0.0 EV)

9 VIEW MODE

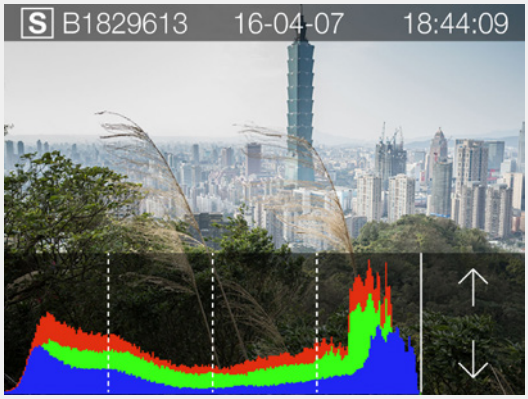
To display 9 View Mode, press the AE-L button when in Browse Mode. In this Mode you can see an overview of up to 9 captures. If you have more than 9 captures, swipe down at the right side of the Display to scroll through all captures. Select one capture for further information.

HISTOGRAM TYPES

There are different types of Histogram representations available. Histogram Mode, Capture Details Mode, Combined Histogram Mode and Separate Histogram RGB Mode.

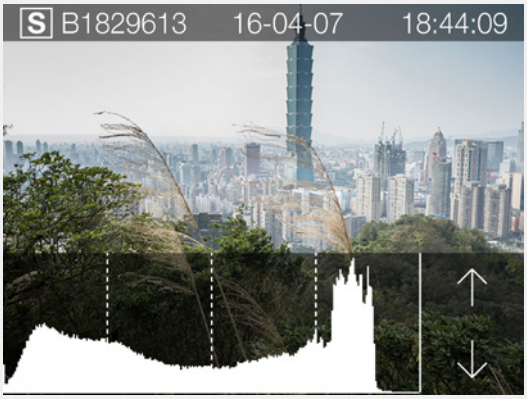
HISTOGRAM MODE

Histogram mode displays RGB Histogram with separate RGB channels visible. The RGB details are stored with the capture file, and can be referred to in Phocus and other applications.



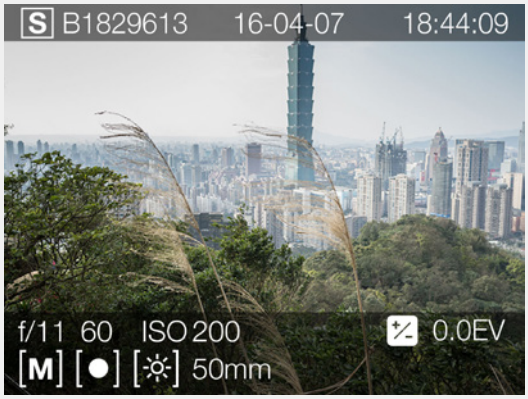
LUMINANCE HISTOGRAM MODE

In Luminance Histogram mode, the RBG channels displays the the luminosity Histogram. The RGB info is represented by a White Combined RGB Graph.



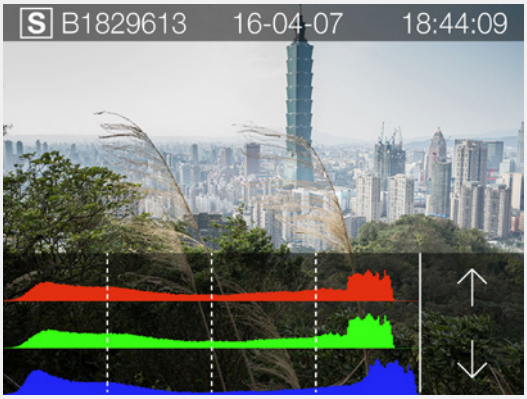
CAPTURE DETAILS MODE

This mode displays SD Card (S), Date (16-04-07), Time (18:44:09), selected Aperture (f/11), Shutter Speed (60), ISO (200), EV Settings (+/- 0.0), Mode (M), Focus Method (Spot), White Balance (Daylight) and Lens info (50mm).

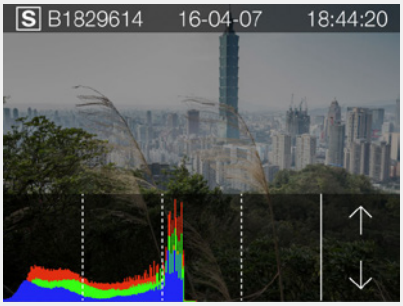


SEPARATE HISTOGRAM RBG MODE

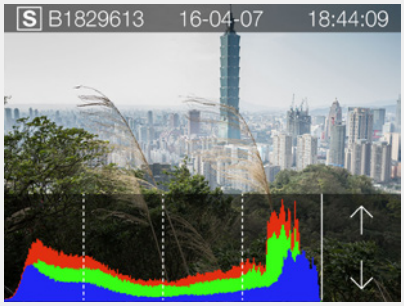
In Separate Histogram RGB Mode, the individual RBG channels are displayed. The Red R channel first, the Green G channel in the middle and the Blue B channel below the Red and Green channels.



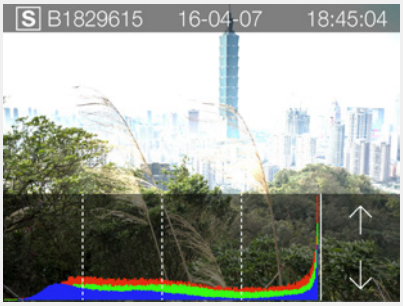
HISTOGRAM MODE - EXPOSURE



Underexposure



Even exposure



Overexposure

Histogram Exposure
The Histogram provides a graph that indicates the total number of pixels at each brightness level, with brightness in range from black on the left to white on the right. It is a valuable tool for evaluating captures.

A well exposed shot usually has a full range of levels, while underexposed and overexposed Captures tend to show levels concentrated at the left or right part of the scale.

The histogram is only an indicator that should be interpreted. There are several situations in which a ‘bad’ histogram will match an exposure that could be perfect for the intended effect.

Study the Histogram examples and the explanations below.

Underexposure
Histogram display concentrated on the left with few pixels elsewhere indicates a likely underexposure. Many details will be lost in the shadows.

Even exposure
Histogram display spread across the full range indicates a likely good exposure. There may still be a few pixels at the extremes, indicating a few spectral highlights and saturated shadows, but this is often normal in a good exposure.

Overexposure
Histogram display concentrated on the right with few pixels elsewhere indicates a likely overexposure. Many details will be lost in the highlights.

3.23 PHOCUS OVERVIEW

Phocus
Phocus is the Capture Processing and File Management application aimed primarily at Hasselblad 3F file handling. Phocus is available for both Mac and Windows.

Professional Image Quality
Phocus combines Hasselblad Natural Colour Solution (HNCS) with Digital Auto Correction (DAC) to provide high digital image quality in the images you create. With Phocus, the moiré effect that can occur on even extremely high resolution images is effectively removed automatically and directly on the raw data, leaving the image quality intact and saves time in post production work. Tethered shooting is efficient with Phocus Remote camera controls providing a number of remote functions. For example remote focusing, live view, aperture and exposure time controls.

Phocus Mobile
Phocus Mobile is available for iPhone® , iPad® and iPod Touch® . It enables you to connect wireless to a computer running Phocus and to remotely browse your high-resolution RAW, JPEG and TIFF images. This provides a solution for working with clients in the studio, enabling each person to view images on an individual iOS device, rather than all gathering around a

single computer. Phocus Mobile also allows users to remotely operate and trigger a tethered camera, giving control of many parameters, all neatly presented in a virtual camera display. This feature is very convenient for remote control of the camera when it's located in a difficult to access position.

Phocus Mobile is available for free download in the Apple App Store. www.apple.com.

3.24 PHOCUS

Phocus is the Capture Processing and File Management application aimed primarily at Hasselblad 3F file handling.

Phocus Mobile offers remote viewing and control when shooting tethered. Phocus mobile is free to download at the APPLE App Store for both iPhone and iPad.

FEATURES IN PHOCUS

Professional Image Quality

- Hasselblad Natural Colour Solution (HNCS).
- Lens corrections for H and V system lenses (DAC).

Specialized Tools

- Advanced Tethered Camera Controls.
- Phocus Mobile*.
- Scene calibration & reproduction tools.
- Leading edge Moiré removal.
- Highlight recovery, shadow fill, clarity and dust spot removal tools.
- Camera Configuration and Capture Sequencer.
- Easy-to-use interface.
- Extensive customization options for individual work flow scenarios.
- Import/Export of Image Adjustments, Keywords, Work flow settings.
- High quality printing.
- Slide show.
- RAW file support from more than 150 DSLR cameras.

Any File from Anywhere

Phocus allows you to import image files and work in the same intuitive processing environment, no matter where your files are coming from. You can browse, handle, adjust, and process all kinds of RAW and non-RAW formats.

Phocus supports RAW files from more than 150 cameras, including Canon, Nikon, Leica, Sony, Fuji, Olympus **. The most common file formats can be processed for example TIFF, JPEG, DNG, and PNG.

Ultimate Image Quality

Phocus combines Hasselblad Natural Colour Solution (HNCS) with Digital Auto Correction (DAC) to provide high digital image quality in the images you create. With Phocus, the moiré effect that can occur on even extremely high resolution images is effectively removed automatically and directly on the raw data, leaving the image quality intact and saves time in post production work. Tethered shooting is efficient with Phocus Remote camera controls providing a number of remote functions. For example remote focusing, live view, aperture and exposure time controls.

PHOCUS MOBILE

Phocus Mobile is available for iPhone® , iPad® and iPod Touch® . It enables you to connect wireless to a computer running Phocus and to remotely browse your high-resolution RAW, JPEG and TIFF images. This provides a solution for working with clients in the studio, enabling each person to view images on an individual iOS device, rather than all gathering around a single computer. Phocus Mobile also allows users to remotely operate and trigger a tethered camera, giving control of many parameters, all neatly presented in a virtual camera display. This feature is very convenient for remote control of the camera when it's located in a difficult to access position.

* Phocus Mobile is available for free download in the Apple App Store.
** Full list available at http://www.apple.com/aperture/specs/raw.html

Note!

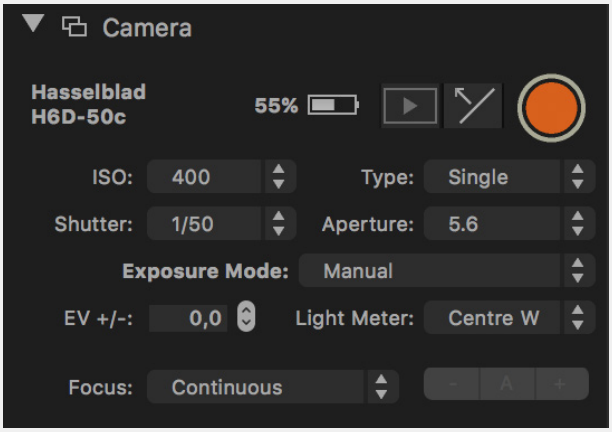
Phocus is a license free software with unlimited installations and there is no registration needed.

3.25 CONNECT TO A COMPUTER

1 Connect a USB 3 cable to the USB port on the computer.
2 Open the hinged cover on the camera.
3 Connect the USB 3 cable to the USB port on the camera.

Note!
When connected to a computer, the following applies:

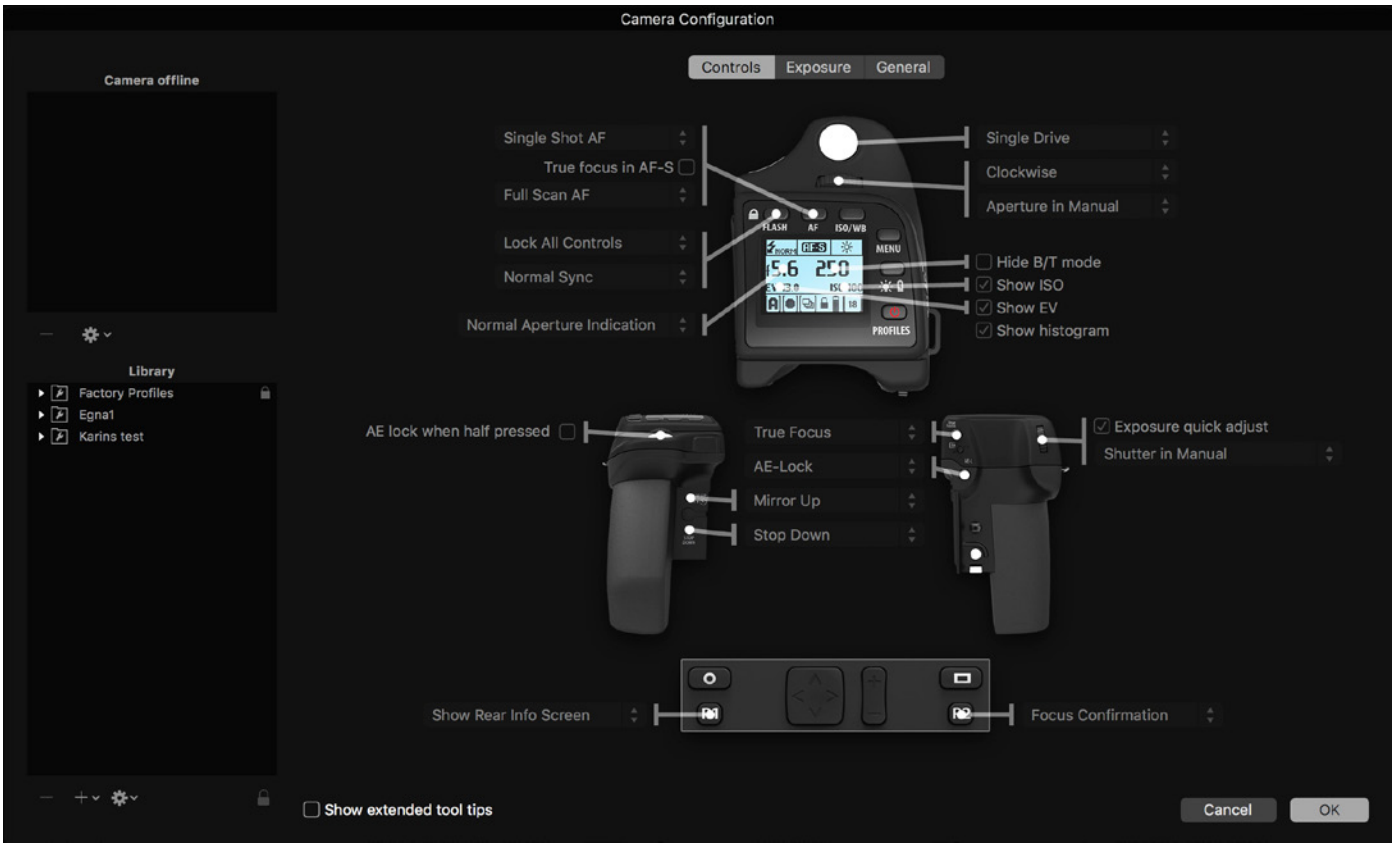
- The destination medium and location are controlled from Phocus.
- All exposure settings, including ISO, aperture and exposure time, are controlled from Phocus if you choose to expose from Phocus. In addition extra tools such as Live Video, remote focus control etc. are available. See Phocus user manual for full description.



Note!
Please note that the buttons on the unit have no function in this mode.

When initiating a shot from Phocus, the Computer sends a signal to the X1D Camera, which triggers the shutter (and strobe/flash, if any). The Camera then sends the capture over the USB connection to the Computer, where it is displayed on the Computer Screen and saved as a 16-bit 3F file in the currently selected folder on the Computer hard disk.

3.26 CAMERA CONFIGURATION IN PHOCUS



The Camera Configuration tool in Phocus offers a very thorough and secure way of creating comprehensive profiles for the X1D. There are three windows – Controls, Exposure and General – that present virtually all parameters to enable total control at the press of a button. This means that separate and specific custom profiles created in advance can cover a number of shooting scenarios.

In addition these profiles can be easily imported and exported. For instance, you can create a special profile to suit a specific type of shoot and keep it on a memory stick or laptop. So, when renting an X1D for example, you only have to upload the saved profile to ensure that all parameters have been reset without you having to go through each detail – simple and secure.

The interface has three tabs at the top, Controls, Exposure and General, that access the windows. Descriptive information appears as you mouse over the various menus and extra tool tips are additionally available as an option. To take an example, the Controls window is illustrated here. On the left are two lists: Camera and Library. The Camera list includes the various available configuration profiles already stored in the camera – the profile currently in use as well as the default settings and those you have created or imported from other sources. Library contains the factory pre-sets stored on disk.

Creating a profile

1 Open Camera Configuration located under the Windows menu.
2 Connect the camera and in the Camera list click on a profile you want to change or a spare pro le and name it.
3 Cycle through the three windows, Controls, Exposure and General, making the appropriate selections that you require. When complete, select the new pro le and drag and drop or right click it to store in the Library.
4 Right click the Library version of the profile to access the Transfer Profile Set to Camera option then click on OK to complete the action. This causes the new profile to appear on the grip display for selection when you click on the Profiles button.

Right click a profile in Library to access the Rename, Reset to Standard, Delete and Export options if required. Import, Export, Transfer, Add Profile etc. tools are also available.

PHOCUS AND HASSELBLAD CAPTURE FILES

The X1D can capture files and store them as Hasselblad RAW format files or Hasselblad RAW + JPEG formats simultaneously. (not applicable to 60 Mpix / 50MS/200MS models).

Hasselblad RAW files are initially stored in the 3FR format which is a proprietary Hasselblad format for the temporary storage of captures. A 3FR file contains the complete digitized raw image exactly as it was captured by the camera. 3FR information requires further computing power (typically by way of Phocus) to obtain complete development. If developed in Phocus, 3FR files become Hasselblad 3F files – denoted by each file now bearing the suffix ".fff". If developed by other RAW processors, the 3FR files are not converted to 3F but can be exported directly to TIFF, PSD etc. according to requirements. However, when working tethered – which necessitates using Phocus – 3FR files are automatically processed and stored in the background on a computer appearing as 3F files on the hard disk ready for selective adjustment and export. 3FR files stored on a CFast card can be processed to completion using:

Hasselblad Phocus
Adobe Camera Raw
Adobe Lightroom
Apple Aperture

Capture files can be stored as 3FR files (from a CFast or SD card) for later processing in Phocus or other software, or they can be stored as 3F files (as a result of tethered shooting or 3FR files processed and converted in Phocus). In all cases if you keep the original 3FR/3F files, you will also retain the possibility of reprocessing them in the future in later versions of Phocus or other software to take advantage of eventual improvements and developments.

Mixed formats
Phocus can also process most other capture formats, generic and proprietary. This means you can include other formats in your normal Phocus work flow if you choose. Or if you prefer, you can include Hasselblad files in Adobe / Apple work flows as stated above.

Note!
Using Phocus is the most comprehensive method. The Phocus and Adobe methods can produce almost identical results (in most cases, but not all) regarding RAW conversion so it is a matter of personal choice regarding which method would best suit your preferred ways of working. Alternatively you can use Apple Aperture though you should take note that the benefits of DAC and HNCS etc., will be lost in this case.

3.27 BATTERY

Rechargeable Battery

The environmentally approved Battery (Li-ion 3043357) is the standard power source for the X1D camera. The X1D requires a power supply for all actions as there is no mechanical reserve facility. It is therefore advisable to keep a reserve rechargeable battery grip at hand. As is the case with most batteries, problems might be encountered when used in very low temperatures. In this situation it is advisable to keep the reserve battery in an inside pocket, for example, to maintain it near body temperature.

Remove a Battery

Remove the Battery from the camera (1) by rotating the Battery Lever (2). The Battery will move up a bit (3) automatically. Then press the Battery in a bit (4) to release it from Camera completely and then remove it (5).

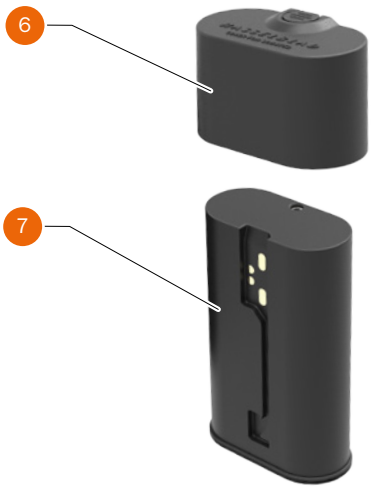
Mount the Battery Protection Cover (6) to protect the Battery (7)and prevent short circuit.

Mount a Battery

Push the Battery (1) into the Camera Battery Compartment until it locks into place.

Store a Battery

If you intend to store the battery separate from the camera, ensure the Battery Protection Cover is mounted over the electric connections on the battery to prevent short-circuiting.



BATTERY CHARGER

The battery charger BCX-1 (3053573) is supplied with a number of plug attachments to suit various types of domestic electrical sockets available worldwide. Other types of socket will require a domestic socket converter.

Attach the chosen plug by sliding it into position as in the diagram. Removal is by the reverse procedure.

CHARGE THE BATTERY

With the battery (3054752) removed from the camera, insert the jac plug from the battery charger into the socket on the battery (1). Insert the battery charger into a standard (100–240V~ /50–60 Hz) domestic socket.

During the charging procedure, the lamp on the charger signifies the following:

Steady Green light:	Standby (no battery connected)
Steady Yellow light:	Charging
Steady Green light:	Ready!

NOTE!
It can take about 6 hours to charge the battery completely up to 100% the first time.

See next page for more details and precautions.

Connect battery to charger
Mount the charger plug in the plug connector on the inside of the battery (1).

See next page for more in depth information.

RECHARGEABLE BATTERY SPECIFICATION

LI-ION/ BATTERY CHARGER 3053573 BCX-1
– PRECAUTIONS and GENERAL

The battery should be charged for approximately 6 hours before first time use.

The battery must be charged at room temperature.

Maximum battery capacity is reached only after the battery has been charged and discharged several times.

Avoid frequent full discharges (a full discharge is signalled by the appearance of the Replace battery warning). As the battery is a Li-ion type, it has no ‘memory effect’ of practical importance and therefore frequent recharges will cause no problems such as loss of capacity or poor performance. It is therefore better policy to recharge the battery at very regular intervals, regardless of use.

Remove the battery if you intend to store the camera for some while as it will eventually become completely drained, even though the camera is turned off. Mount the Battery Protection Cover when storing the Battery.

The battery has an integrated ‘fuel gauge’ capability that supports the Replace battery and Battery status functions. As with most Li-ion batteries, this capability should be occasionally calibrated, depending on how much the battery is used. To do this, leave the camera on (or use it), until the Replace battery warning appears. Then, recharge the battery for 6 hours. This will improve the accuracy of the measurements.

When removing a battery from the charger and immediately replacing it with another, allow a few seconds to elapse so that the charger can automatically reset for the next charging procedure.

It is perfectly normal for the battery to become warm when being charged.

A slight temporary loss of battery performance might be noticed at very high or low temperatures. Take the appropriate measures if this is the case.

If you do not intend to use the battery for a while, it is best to store it at room temperature with an approximate 30 to 40% charge. You can check the percentage level on the status screen.

The battery should have a usable service life of around 400 recharge/discharge cycles.

Connect the battery to the camera correctly.

Keep the Battery Protection Cover in place when not in use. (Short circuiting across keys in a pocket, for example, could cause a risk of fire).

Do not immerse the battery in liquids.

Do not incinerate the battery.

Please recycle or discard in an environmentally approved manner.

Use indoors only (protect against moisture).

Do not short circuit the jack plug.

Do not alter the charger in any way other than changing the plug attachment.

Note!
You can save battery consumption by changing the Display Off / Power Off settings as well as the Brightness settings of the display.

BATTERY LIFE AND BATTERY WARNING

Battery life is dependent on a number of variable factors and therefore cannot be exactly predicted. If the camera is left in the active state instead of Display Off or Sleep modes for long periods, for example, then the battery will become exhausted much faster. A low camera battery state is indicated by a symbol on the display, as well as in the viewfinder In addition, an audible signal sounds. When the battery is almost completely exhausted, a warning message “Replace battery” will appear on the grip display.

3.28 TEMPERATURE WARNING

Many rapidly taken captures make heavy demands on the processor in the Camera which in turn produces heat. This, particularly in combination with high ambient temperature, can result in noise in the image files. To prevent this, the Camera unit displays a warning icon when the temperature rises.
At ca. 60° C a warning dialogue appears notifying that the sensor unit is temporarily shutting down to allow the unit to cool.

3.29 STORE THE CAMERA

Caution!
Before you connect the sensor unit to the X1D camera after storage, always replace the protective CMOS/filter cover. This will prevent damage to the equipment.

Caution!
If you leave the camera unused for a long period, remove the batteries. This will prevent damage to the equipment.

Caution!
Keep camera and equipment away from moisture. If your camera becomes wet, disconnect from electric power and let camera dry before further use. This will help prevent damage to the equipment.

Caution!
Store the equipment in a dry environment. This will help prevent damage to the equipment.

3.30 CARRYING STRAP

ATTACH THE CARRYING STRAP

1 First withdraw the safety collar.
2 The hook is then freed and can be attached to the strap lug.
3 Slide back the safety collar to ensure the hook remains in the locked position between the small protruding lugs.
4 The collar is purposely a tight fit to avoid unintentionally slipping back and therefore might need some effort to slide.