

## HASSELBLAD H3DII<sup>50</sup>

The H3DII-50 is the top model of Hasselblad's H3DII family, and as the fifth generation of our medium format DSLR camera system, sets a new standard for image detail. The 50Mpix sensor is implemented in the 48mm full-frame house also used for the renowned H3DII-39 camera. This 36mmx48mm sensor size has two advantages. It provides the basis for advanced and well balanced lens performance and it allows you to work with our revolutionary HTS 1.5 tilt/shift adapter which by enlarging the image circle make room for +/- 18mm shift and +/-10 degrees of tilt. With its unique large and bright viewfinders, its wide range of HC and HCD lenses, which match the best of the Hasselblad icon lenses from Carl Zeiss, and its wide choice of accessories, the H3DII-50 is the ultimate camera choice for the discerning professional photographer who will simply not settle for second best. In addition to the added-value options inherent in the Hasselblad camera system, it is Hasselblad image quality that stands out

the most. The H3DII-50 has been developed around a new digital camera engine, which delivers increased lens performance and a new level of image sharpness. By focusing on the integrated digital camera architecture, Hasselblad is able to offer the full benefits of professional medium-format digital cameras with the ease-of-use found in the best 35mm DSLRs. With the H3DII architecture as a base, Hasselblad has developed the ultra high-performing HCD 28mm lens, designed and optimized solely for digital image capture. Image quality is lifted to a level yet unseen in digital photography, including automatic digital correction for chromatic aberration, distortion and vignetting. Hasselblad's Natural Color Solution delivers out-of-the-box image quality only achievable in a true digital camera system. See for yourself by checking out the image quality at: <http://www.hasselblad.com/products/hasselblad-star-quality.aspx>



The H3DII-50 camera system has been especially designed to meet the demands of the high-end commercial photographer who demands both flexibility and ultimate image quality. The H3DII-50 includes:

- highest image resolution from 50Mpixel sensor
- the freedom to choose between eye-level and waist-level viewfinders
- the choice of combining point-and-shoot and tilt/shift to solve creative commercial challenges
- the ability to combine working tethered and un-tethered to get the most of your camera system both on location and in the studio
- the option of processing your images in Hasselblad's Phocus imaging toolbox, or working with your raw images directly in Apple's Aperture.

The H3DII camera system is available with three different sensor models, offering image capture with a sensor resolution of 31Mpixel, 39Mpixel or 50Mpixel.



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The H3DII-50 features Kodak's 50 Mpixel sensor, measuring 36x48mm, twice the physical size of the largest 35mm DSLR sensors. Basic ISO rating is from ISO 50 to ISO 400. Using H3DII-50 with Hasselblad's Phocus software, the ISO can be bumped further to ISO 800. As with its fellow H3DII models, the H3DII-50 makes use of a new high speed capture architecture capturing full size, compressed 65 Mbyte images at the rate of 1.1 seconds per capture, working either mobile or tethered to a computer.

The combination of these features makes the H3DII-50 the natural choice for the professional commercial photographer wanting to work with the highest image resolution within a camera system that supports ultimate creative expression in order to deliver outstanding image quality to satisfy the most demanding customer.

### Medium Format digital capture advantage

In digital photography, the advantages of large format cameras have become even more obvious. The 6x4.5 cm window allows the H3DII-50 to use the largest image sensors currently available in digital photography – up to more than twice the physical size of a 35mm camera sensor. Consequently the sensor holds more and larger pixels, which deliver the highest possible image quality in terms of moiré-free color-rendering without gradation break-ups in even the finest lit surfaces.

### An impressive lens line

The highly renowned HC/HCD lens line includes 10 Auto-Focus lenses, all with central shutters. Range is from 28mm to 300mm, 50-110mm zoom, and 1.7X converter. The HTS 1.5 tilt/shift adapter delivers an easy to use, portable tilt/shift solution for 4 HC/HCD lenses ranging from 28mm to 80mm. The CF adapter allows use of the classic CF-lenses from the Hasselblad V-camera, with full use of their central shutters, allowing flash to be employed at shutter speeds up to 1/800s. The central shutter also improves image quality by reducing camera vibration. And thanks to the large format of the H System cameras, there is a considerably shallower depth of field range, making it much easier to utilize selective focus to creative effect.

### A choice of large and bright viewfinders

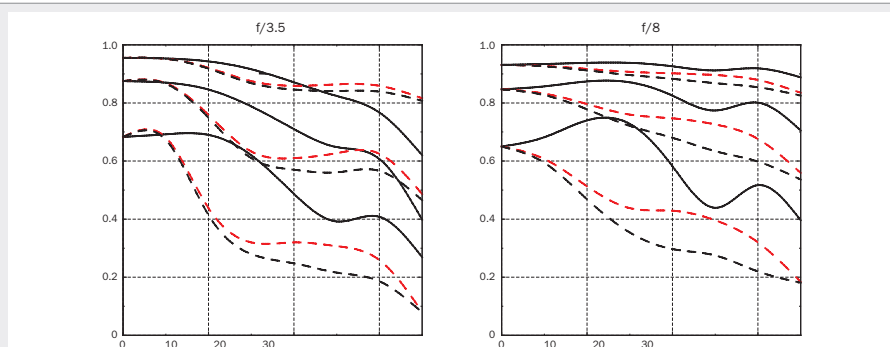
One of the important traditional advantages of the medium format is the extra-large and bright viewfinder image, enabling extremely precise compositions and easy operation in dim lighting. The H3DII-50 comes with the HVD 90x viewfinder designed for full performance over the large 36x48mm sensor. Hasselblad has added an interchangeable waist-level viewfinder, the HVM, for the entire range of H system cameras. The bright and large viewfinder image is ideal for creative composing and the photographer is able to shoot in the fashion that suits them most; maintaining eye contact with the model, or gaining impact by shooting from a point lower than eye-level, for example.



### MTF before and after DAC

The red dotted lines indicate the improvement made by the DAC chromatic aberration correction.

Example: HC 35mm



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## Phocus software for the professional

Phocus provides an advanced software toolbox that has been especially designed to achieve optimum workflow and absolute image perfection from Hasselblad raw image files.

With the H3DII-50 camera system Phocus provides:

- Uncompromising Image Quality
- Special extended camera controls with which to operate your H3DII-50 camera. These features, such as live video for easier shot set-up and workflow, or the ability to control the lens drive for focusing when the camera is in a remote position or when the digital capture unit is mounted on a view camera, bring an entirely new level of flexibility to the way you shoot.
- Moiré Removal Technology automatically applied directly on the raw data, leaving image quality intact and eliminating the need to carry out special masking selections or other manual procedures, saving hours of tedious post-production work.
- Flexible Workflow. The Phocus GUI features easy-to-use options that allow you to customize your set-up to suit a range of different workflow situations, such as choice of import source, browsing/comparison functions, file management, image export in a number of file formats, pre-setting of options for upcoming shoots, and much, much more.
- New Metadata (GPS, etc). The extended metadata included in all Phocus images provides for accurate and detailed cataloguing and indexing, easy image management, and includes added GPS data functionality in order to allow a range of new functions. Phocus links GPS data directly to Google Earth, for example, making geographic reference a snap and image storage and retrieval much easier.
- Perfect Viewing Quality. The Phocus Viewer delivers image viewing quality that matches every detail of what you will see later in Photoshop. In addition, the Phocus Viewer allows you to customize layout and composition to suit your current or desired workflow, providing a wide range of options including full view, compare, browse, horizontal, or vertical view, and so on. You can have multiple folders open simultaneously for side-by-side viewing, comparison, and selection.

## Ultra-Focus and Digital Auto Correction for image perfection

The H3DII-50 camera allows information from the lens and exact capture conditions to be fed to the camera processor for ultra-fine-tuning of the auto-focus mechanism, taking into account the design specifications of the lens and the optical specifications of the sensor. In this way the full HC lens program is even further enhanced, bringing a new level of sharpness and resolution. Digital correction for color aberration and distortion is also added. "Digital Auto Correction" (DAC), is an APO-chromatic correction of the images based on a combination of the various parameters concerning each specific lens for each specific shot, ensuring that each image represents the best that your equipment can produce.

Based upon these techniques, Hasselblad has been able to expand our lens program with a 28mm lens that has been especially developed for the H3DII product family. The design of this lens has been optimized for the actual 36x48mm area of the sensor to make it more compact and to work in conjunction with DAC. This is a critical part of the technology behind capturing perfect images with this extraordinary lens. The result is clear: DAC increases image resolution and delivers perfect pixels, thereby providing an ideal basis for optimal image rendering.

## Hasselblad's unique natural colors

Hasselblad's Natural Color Solution (HNCS) enables you to produce outstanding and reliable out-of-the-box colors, with skin tones, specific product colors and other difficult tones reproduced easily and effectively. In order to incorporate our new unique HNCS and DAC-features we have developed a custom Hasselblad raw file format called 3F RAW (3FR). This file format includes lossless image compression, which reduces the required storage space by 33%. The 3FR files can be converted into Adobe's raw image format DNG ('Digital Negative'), bringing this new technology standard to the professional photographer for the first time. In order to utilize DAC and optimize the colors of the DNG file format, conversion from 3FR must take place through Phocus.

## Model comparison

	Pixels	Sensor format	ISO range	Capture speed	HC lens factor	HCD28 Equivalent focal length
H3DII-31	31 million	33.1x44.2mm	ISO 100 - 800	1.2 sec/capture	1.3	31mm
H3DII-39	39 million	36.8x49.1mm	ISO 50 - 400	1.4 sec/capture	1.1	28mm (full-frame)
H3DII-50	50 million	36.8x49.1mm	ISO 50 - 400	1.1 sec/capture	1.1	28mm (full-frame)

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## GPS Recording Flexibility

Hasselblad's Global Image Locator (GIL) is an accessory for use with any Hasselblad H-System digital capture product. With the GIL device, all images captured outside are tagged with GPS coordinates, time and altitude. This data provides the key to a number of future applications involving image archiving and retrieval. One example is the direct mapping of images in Phocus software to the Google Earth application.

## Instant Approval Architecture

Building on the success of its Audio Exposure Feedback technology, Hasselblad has created Instant Approval Architecture (IAA), an enhanced set of feedback tools, designed to enable the photographer to focus on the shoot rather than the selection process. IAA triggers audible and visual signals for each image captured, notifying the photographer immediately of its classification status. The information is recorded both in the file and in the file name, providing a quick and easy way to classify and select images, in the field or back at the studio. IAA is a Hasselblad trademark and Hasselblad has a patent pending on the invention.

Extra large 3" display on the H3DII-50 provide a realistic, high quality and perfect contrast image view, even in bright sunlight.

## Three modes of operation and storage

The H3DII-50 offers a choice of storage devices: portable CF cards, the flexible ImageBank-II or a computer hard drive. With these three operating and storage options, you are able to select a mode to suit the nature of the work in hand, whether in the studio or on location.

## Options for working with tilt/shift

Two basic options are available for tilt/shift work with H3DII-50. A simple, portable adapter solution and the classic view camera solution.

The HTS tilt/shift adapter for H3DII-50 allows for portable tilt/shift with the HC/HCD lense range from 28mm to 80mm.

*Please refer to the separate datasheet on this product for details.*

To further increase usability, the H3DII-50 has been designed to allow the digital capture unit to be detached and used on a view camera by way of an adapter.

*Please refer to the separate datasheet on Hasselblad View Camera solutions for details.*



*H3DII with HTS 1.5 tilt/shift adapter and a HCD 28mm lens.*

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## Technical specification

SPECIFICATIONS DIGITAL FEATURES			
	H3DII-31	H3DII-39	H3DII-50
Sensor size	31 Mpixels (4872x6496 pixels)	39 Mpixels (5412x7212 pixels)	50 Mpixels (6132x8176 pixels)
Sensor dimensions	33.1x44.2 mm	36.8x49.1 mm	36.8x49.1 mm
Pixel size	6.8µm	6.8µm	6.0µm
Image size	RAW 3FR capture 40 MB on average. TIFF 8 bit: 93 MB	RAW 3FR capture 50 MB on average. TIFF 8 bit: 117 MB	RAW 3FR capture 65 MB on average. TIFF 8 bit: 150 MB
RAW file format	Lossless compressed Hasselblad 3FR		
Shooting mode	Single shot		
Color definition	16 bit		
ISO speed range	ISO 100, 200, 400 and 800	ISO 50, 100, 200 and 400	ISO 50, 100, 200 and 400
3 storage options	CF card type U-DMA (e.g. SanDisk extreme IV), ImageBank-II or tethered to Mac or PC		
Sensor size	31 Mpixels (4872x6496 pixels)	39 Mpixels (5412x7212 pixels)	50 Mpixels (6132x8176 pixels)
Sensor dimensions	33.1x44.2 mm	36.8x49.1 mm	36.8x49.1 mm
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RAW file format	Lossless compressed Hasselblad 3FR		
Shooting mode	Single shot		
Color definition	16 bit		
ISO speed range	ISO 100, 200, 400 and 800	ISO 50, 100, 200 and 400	ISO 50, 100, 200 and 400
3 storage options	CF card type U-DMA (e.g. SanDisk extreme IV), ImageBank-II or tethered to Mac or PC		
Color management	Hasselblad Natural Color Solution		
CF storage capacity	2 GB CF card holds 50 images on average	2 GB CF card holds 40 images on average	2 GB CF card holds 30 images on average
Capture rate	1.2 seconds per capture 42 captures per minute	1.4 seconds per capture 39 captures per minute	1.1 seconds per capture 33 captures per minute
Color display	Yes, 3 inch TFT type, 24 bit color, 230 400 pixels		
Histogram feedback	Yes		
IR filter	Mounted on CCD sensor		
Acoustic feedback	Yes		
Software, included	Phocus for Mac; FlexColor for PC		
Platform support	Macintosh: OSX version 10.5. Windows: NT, 2000, XP, XP64, Vista and Vista64.		
Host connection type	FireWire 800 (IEEE1394b)		
View camera compatibility	Yes, controlled via flash sync. Electronic shutters must be controlled from local panel.		
Operating temperature	0 - 45 °C / 32 - 113 °F		
Dimensions	Complete camera w. HC80 mm lens: 153 x 131 x 213 mm [W x H x D]		
Weight	2290 g (Complete camera w. HC80 mm lens, Li-Ion battery and CF card)		

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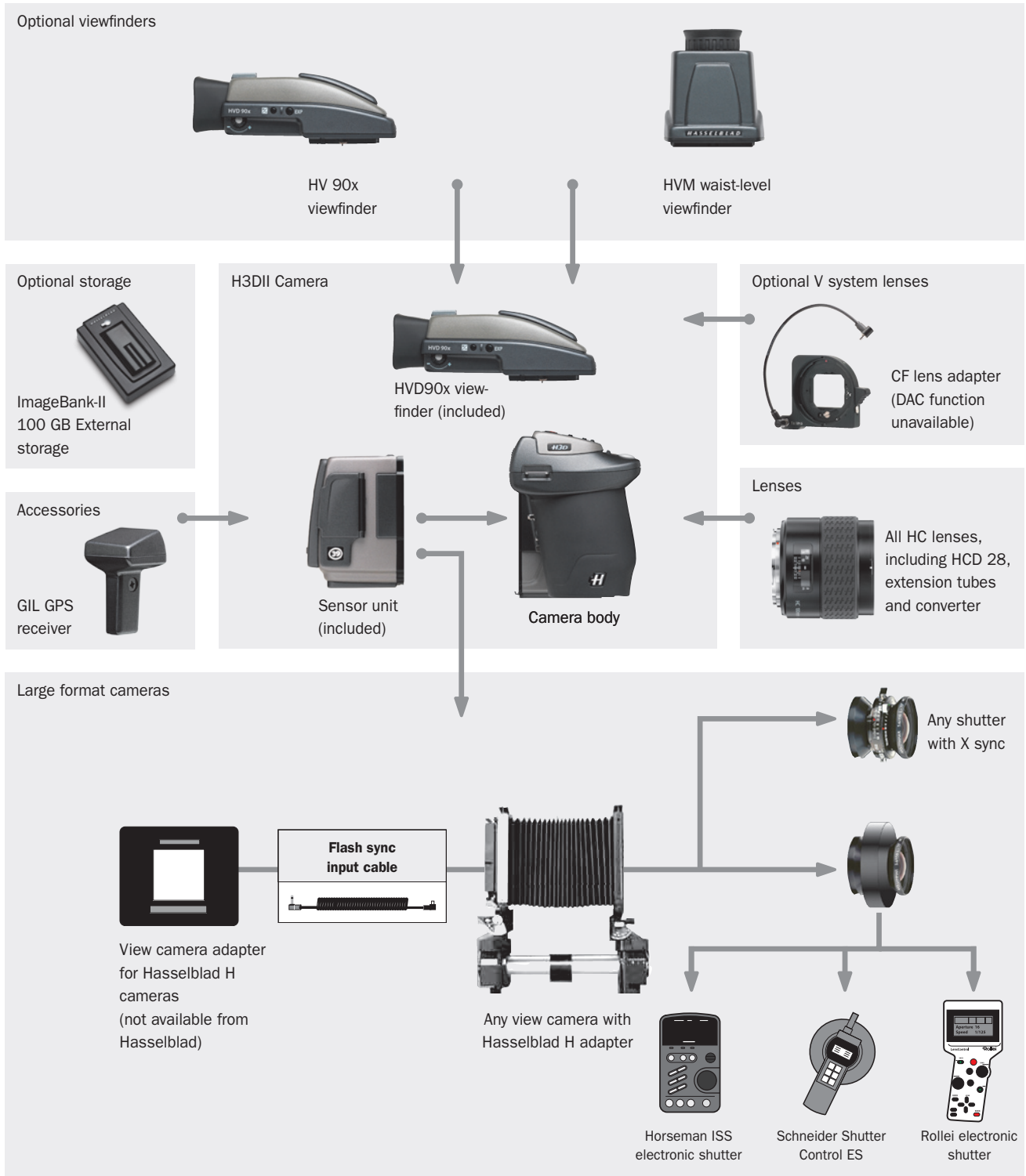
SPECIFICATIONS CAMERA FEATURES	
Lenses	HC / HCD auto-focus lens line with integral central lens shutter. All C-type lenses from V-camera system available via CF converter, with full central lens shutter operation
Shutter speed range	32 seconds to 1/800 second
Flash sync speed	Flash can be used at all shutter speeds.
Viewfinder options	<ul style="list-style-type: none"> <li>• HVD 90x: 90° eye-level viewfinder w. diopter adjustment (-5 to +3.5D). Image magnification 3.1 times. Integral fill-flash (G.No. 12 @ ISO100). Hot shoe for SCA3002-system flashes from Metz™.</li> <li>• HV 90x: 90° eye-level viewfinder w. diopter adjustment (-4 to +2.5D). Image magnification 2.7 times. Integral fill-flash (G.No. 12 @ ISO100). Hot shoe for SCA3002-system flashes from Metz™.</li> <li>• HVM: Waist-level viewfinder</li> </ul>
Focusing	Autofocus metering with passive central cross-type sensor. Ultra focus digital feedback. Instant manual focus override. Metering range EV 1 to 19 at ISO 100.
Flash control	Automatic TTL centre weighted system. Uses built-in flash or flashes compatible with SCA3002 (Metz™). Output can be adjusted from -3 to +3EV. For manual flashes a built-in metering system is available.
Exposure metering	Metering options: Spot, Centre Weighted and CentreSpot. Metering range Spot: EV2 to 21, Centre Weighted: EV1 to 21, CentreSpot: EV1 to 21
Power supply	Rechargeable Li-ion battery (7.2 VDC / 1850 mAh). Optional cassette for 3 CR-123 Lithium batteries included.
Film compatibility	No



*H3DII with the GIL GPS recording device attached.*

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## Connectivity diagram



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H3DII lens range

		
HCD 4/28mm	HC 3.5/35mm	HC 3.5/50mm
		
HC 2.8/80mm	HC 2.2/100mm	HC Macro 4/120mm
		
HC 3.2/150mm	HC 4/210mm	HC 4.5/300mm
		
HC 3.5-4.5/50-110mm	HC 1.7X converter	All C-type lenses from the V system with optional CF lens adapter