HASSELBLAD

CREATE TO INSPIRE

A5D

Since the beginning Hasselblad cameras were born from a love for photography and the desire of a man to give photographers the technical excellence needed to realise their creative vision. That man was Victor Hasselblad.

For over fifty years now, Hasselblad has been devoted to a very simple task: to produce the finest camera equipment known to man. And for over fifty years, we have succeeded in doing just that. In making the tools that will enable us to live up to the Hasselblad brand proposition, “Visionary instruments from the masters of photography”

Victor Hasselblad
Founder

AERIAL HERITAGE

There are a lot of reasons why Hasselblad cameras are used so often in aerial and industrial applications. Outstanding image quality first among them. Hasselblad has a long history of working with speciality photography and challenging segments in developing new technologies. In fact, the very first Hasselblad camera was developed as an aerial camera!

During the Second World War, Victor Hasselblad was asked by the Swedish Air Force if he could produce a copy of a surveillance camera found on a downed German spy plane. Victor is reported to have replied: “No, but I can make a better one!” The result was the HK-7. In the decades since, we have produced a great number of customised cameras, designed to fit specific tasks or overcome specific challenges.

Perhaps the most spectacular of these projects was the development of the Hasselblad Space cameras in collaboration with NASA. Hasselblad Space cameras were used both in space and on the moon to capture some of the most spectacular and memorable images ever taken.

NASA/Hasselblad

The A5D Camera System

Today’s aerial photography is more demanding than ever and Hasselblad continues to rise to the occasion, introducing more and more advanced products and applications for this exciting segment.
This is especially true of the Hasselblad A5D, the latest evolution of Hasselblad aerial cameras designed for these special applications.

The new camera has been designed to deliver the image quality and reliability required by our surveying and mapping customers. Listening to their feedback we have developed a camera to encompass these needs and more.

IMPORTANT FEATURES

- Reduced footprint designed to fit existing POD mountings
- Up to 14 stops Dynamic range (depending on sensor)
- Improved external connectivity via LEMO connections for DC power, FMS and multiple camera synchronisation
- Secure camera mounting via 4x M4 screws*
- Choice of on-board CF storage or external storage via Firewire 800 connection

*Optional mounting plate may be required to fit existing hardware

Phocus SDK by Hasselblad

– the final step towards uncompromising image quality.

Photo: Armin Zogbaum

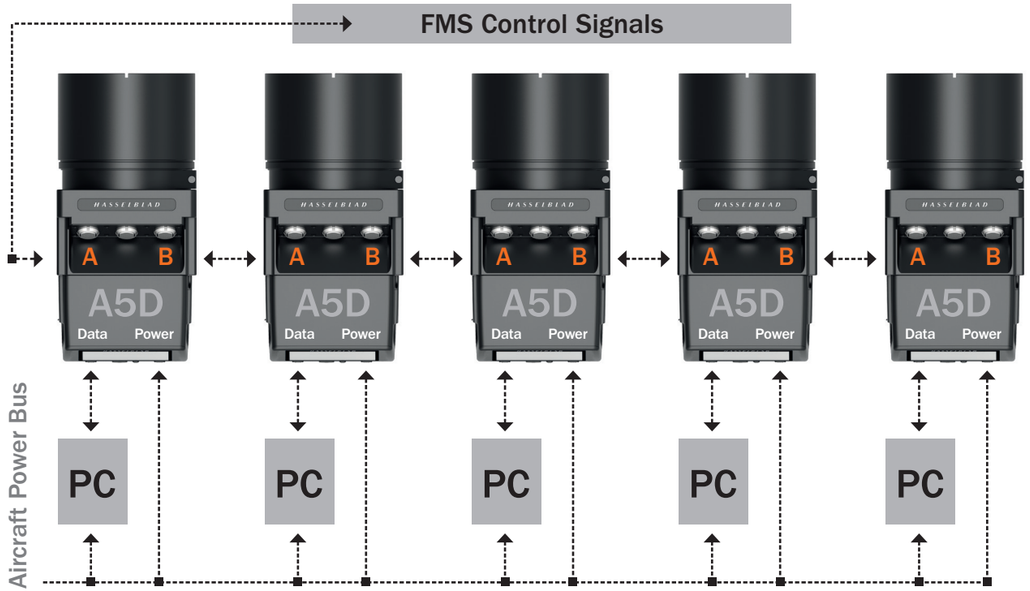
To facilitate the development of user specific software Hasselblad offers a complete Software Developers Kit (SDK) which allows full control of camera and image processing from the users own software. To quickly get started using the A5D aerial cameras for photography we have created a simple but effective PC application which can capture and store RAW files coming from the camera.

Basic camera control and exposure settings can be performed directly from this application. With a GPS device connected to the PC, GPS position data can be tagged into the metadata of the images. The application will show the latest captured image together with the histogram and GPS data. The SDK contains a compiled version of the program as well as the source code.

System requirements: Windows XP (32 and 64 bit), Vista (32 and 64 bit), Windows 7 (32 and 64 bit)

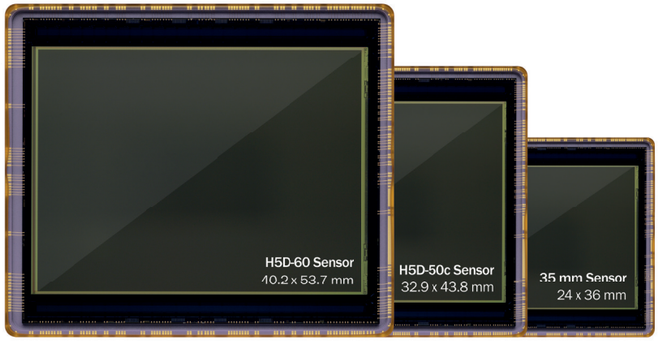
Multiple Camera Configuration

When using multiple cameras to capture high definition images of Earth for mapping purposes, it is extremely important that all cameras expose the sensor at precisely the same time. If exposure synchronization is slow and/or varying from capture to capture, it becomes much more difficult to merge images in post processing.
The A5D Aerial includes a feature that allows up to 8 cameras to be synchronized within 20 µs. A simple bus-type cable connection is required between all cameras in the set-up. This feature completely eliminates any problems in post production caused by unsynchronized exposures.



10 Features of the A5D

The A5D line of cameras combines world's best optics and sensors with a modern, compact design, resulting in a system that will ensure that you attain the highest possible image quality. Hasselblad aerial cameras provide a range of important features that help to deliver your imaging requirements, including:

1	Reduced camera footprint The camera body has been redsigned to reduce the space required when mounting in survey pods.
2	Sensor Hasselblad cameras use sensors that are almost twice the size of those used in today's best 35mm DSLRs, and our optical system is designed to provide the largest light path possible in order to provide these massive sensors with as much information as possible. 
3	LEMO Connectors The camera connections for DC power, FMS (flight management system) and camera synchronisation have been changed to LEMO self-locking connectors to ensure connection reliabillity even in high vibration enviroments.

4	Aerial System Lens Range 24mm, 28mm, 35mm, 50mm, 80mm, 100mm, 150mm, 210mm and 300mm.
5	Matched camera body and sensor unit A5D camera body and sensor unit are calibrated as a matched pair to put the sensor in the optimum position for the image plane.
6	Hasselblad Natural Colour Hasselblad's Natural Colour Solution (HNCS) enables you to produce outstanding and reliable colours, so that skin tones, specific product colours, and difficult gradations reproduce beautifully every time, straight out of the box.
7	Phocus & Phocus SDK by Hasselblad Phocus, Hasselblad's powerful, free image processing software, has both brains and brawn. Brains in its attractive working environment and in the advanced tools that form the core of this amazing program, and brawn in its sheer power and performance. An SDK is available to interface with your prefered FMS.
8	Improved weather & dust sealing The A5D system in common with the H5D platform has improved seals on the camera body and sensor unit preventing dust in the optical system.
9	Locking Firewire connection The Firewire 800 connection has a locking mechanism to ensure a stable data connection even in high vibration enviroments.
10	Improved Lens & Camera Body Locking System The lens locking system has been improved to allow simple lens replacement in the field without having to access the camera body.

The A5D Camera Range

– available in a range of sensor sizes (50c and 80 megapixels).

Near Infra-Red Photography: The A5D camera is available with or without Infra-Red filter to allow infra-red captures from 750nm to 1000nm to serve the special needs of aerial analysis, such as enviroment surveying and crop management.

A5D-50c

Due to the lower noise levels in the A5D-50c, you will be able to shoot at higher ISO values up to ISO 6400 and achieve incredible image clarity with perfect colours in any light.

Camera Type	Description	Item Number
A5D-50c	50 megapixel cmos unit	3014500
A5D-50cNIR	50 megapixel cmos unit with NIR capture capabillity	3014501

A5D-80

This huge capture area boasts unsurpassed levels of image quality with its 80 megapixel CCD sensor.

Camera Type	Description	Item Number
A5D-80	80 megapixel ccd unit	3014510
A5D-80NIR	80 megapixel ccd unit with NIR capture capabillity	3014511

A5D Specifications

Models	A5D-50c	A5D-80
Sensor size	50 megapixels (8272 x 6200)	80 megapixels (up to 10320 × 7752)
Sensor dimensions	43.8 × 32.9mm	53.7 × 40.3mm
Image size (RAW 3FR capture)	65MB on average. TIFF 8 bit: 154MB	130MB on average. TIFF 8 bit: 160MB
RAW File Format	Lossless compressed Hasselblad 3FR	
Shutter Speed Range	34 minutes to 1/800 sec.	1/2 to 1/800 sec.
ISO Speed Range	100, 200, 400, 800, 1600, 3200 & 6400	80, 100 & 200
Colour Definition	16 bit	
Colour Management	Hasselblad Natural Colour Solution	
Focusing	Autofocus locked at infinity	
Capture Rate: (Based on SanDisk Extreme UDMA7 120 MB/s)	1.5 frames per second. 50 per minute	1.8 frames per second. 30 per minute
CF Storage Capacity (16GB CF card)	Holds 240 images on average	Holds 130 images on average
Storage Options	CF card type U-DMA (e.g. SanDisk Extreme Pro) or tethered to Mac or PC	
Software	Phocus for Mac and Windows (included). Phocus SDK (available as a cost option)	
Tethered Operation	Supported in Phocus and Phocus SDK	
Platform Support	Macintosh: OS x 10.5 and later. Windows: XP, Vista, Windows 7 (32/64 bit), Windows 8	
Host Connection Type	FireWire 800 (IEEE1394b). Thunderbolt supported via optional adapters. LEMO connectors for FMS and multiple camera synchronisation	
Exposure Metering	None	
Power Supply	12-24 VDC required via LEMO connector	
Operating Temperature	0 - 45°C/32 - 113°F	
Dimensions (Complete camera with HC 80mm lens) (W x H x D)	100 x 100 x 151mm	
Weight (body & sensor unit only)	1315g	1360g
Approval	FCC (Class B), CE, RoHS	FCC (Class A), CE, RoHS

Specification subject to change without notice.

Hasselblad Accessories

Item Description	Item Number
Control Cable	3012424
Power Cable	3012425
Multi Sync Cable	3012426
Hand Release Cable	3012427
Firewire 800 Cable 4.5m	3012428
Firewire 800 Cable 10m	3012429
Lens Protection Tube for 35mm Lens	3014521
Lens Protection Tube for 50mm Lens	3014522
Lens Protection Tube for 80 & 100mm Lens	3014523
Adaptor Plate (P1)	3014520
Hardcase	3014631
Hasselblad Warranty Options	**Item Number**
Additional 1Year Full Warranty	3014635
Additional 1 Year Warranty inc loan Unit	3014636
Loan Unit Only	3014640

H System Lenses

Today's H System lenses are the culmination of over 60 years of experience, gained from producing over one million lenses. This experience, combined with vastly improved design and production techniques, enables us to produce lenses that could not even be imagined when Victor Hasselblad first began producing cameras over half a century ago. Simply put, today's Hasselblad H System lenses out-perform any lens on the market today - even our own much loved V System Zeiss lenses.

All 9 focal lengths below are available in aerial versions with secure locking mounts to minimise vibration, flexing and ensuring the image plane and sensor stay parallel at all times. These units ship with focus fixed at infinity and firmware to close the shutter and aperture to their working positions when power is applied to the camera.

Lenses	Angle of View (Diagonal)	Equivilent 35mm focal length on		Dimensions Length x Diameter	Weight	Filter Thread	Item Number
		40 & 50c megapixel	60 megapixel				
HCD 4,8/24mm	104 Degrees	20mm	16mm	99mm x 100mm	810g	95mm	3014601
HCD 4/28mm	95 Degrees	24mm	19mm	102mm x 100mm	850g	95mm	3014602
HC 3,5/35mm	89 Degrees	29mm	24mm	124mm x 100mm	975g	95mm	3014603
HC 3,5/50mm-II	70 Degrees	42mm	34mm	116mm x 85mm	975g	77mm	3014604
HC 2,8/80mm	46 Degrees	68mm	55mm	70mm x 84mm	475g	67mm	3014605
HC 2,2/100mm	38 Degrees	82mm	67mm	80.5mm x 87.5mm	780g	77mm	3014606
HC 3,2/150(N) mm	26 Degrees	123mm	101mm	124mm x 86mm	970g	77mm	3014607
HC 4/210mm	19 Degrees	174mm	142mm	165mm x 85mm	1320g	77mm	3014608
HC 4,5/300mm	13 Degrees	240mm	196mm	198mm x 100mm	2120g	95mm	30144609

HASSELBLAD

CREATE TO INSPIRE