

## Multi-Shot Sensor Unit

The Hasselblad 50c MS and 200c MS sensor units – The unique Hasselblad Multi-Shot technology (available in 50 and 200 megapixel resolutions) provides simply mind-numbing and matchless detail for studio still subject capture. For those who need highest detail product photography, our Multi-Shot solution is unsurpassed.

Apart from regular 1-shot captures, the 50c MS sensor unit also offers 4-shot captures while the 200c MS unit offers 4 or 6-shot captures. Multi-shot captures are made of the same scene with the sensor offset very slightly for each shot. The resulting image shows ultimate color definition and eliminates unwanted moiré and artefacts.

Both models produce undeniable and obvious improvements in technical quality in 4-shot mode while the 200c MS sensor unit raises the bar even further in 6-shot mode for special assignments.



The CMOS sensor allows for much faster operations than CCD sensors. This makes it possible to provide a much improved Live Video in Phocus but also Live View on the rear display. Both modes are perfect for composing and focus checking. The CMOS sensor measuring 43.8 × 32.9mm - is almost twice the physical size of the largest 35mm DSLR sensors. Basic ISO rating is from ISO 100 to ISO 6400.

### Main Features

- Entry point to Multi-Shot technology and quality for those with existing equipment ( H5X, H4X, H5D or technical cameras).
- No Moiré Interference patterns – MS images use real RGB data for images.
- Access to high quality large format lenses to complement the MS high quality capture.
- With the larger image circles afforded by the technical camera lenses users have much more flexibility when using camera movements such as tilt and shift than would be available via the Hasselblad HTS1.5.
- Will work as a integrated camera system when attached to a Hasselblad H4X, H5X & H5D.\*
- Single shot untethered use available using battery adaptor for field use.

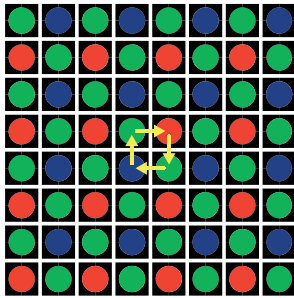
\* Please note that although the digital backs can be used on these camera bodies the systems will not be calibrated to align the back to the camera body to the same very high standard that would normally occur when a fully integrated camera body/back is purchased.

### 50c Multi-Shot

Professional Medium Format Digital back for studio photography featuring a 50 megapixel CMOS sensor. In addition to standard single-shot captures, multi-shot capture mode supports still photography with the most accurate colour rendering and resolution available in the market today.

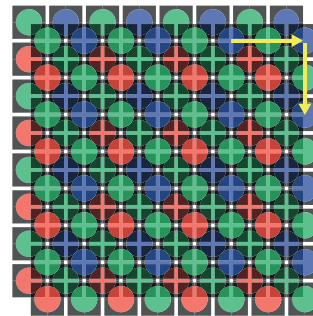
### 200c Multi-Shot

Based on the 50 megapixel CMOS sensor (8272 × 6200 pixels with a dimension of 43.8 × 32.9 mm), the 200cMS offers 1-, 4- and 6-shot capability. 6-shot will produce 8 bit TIFF files at 600MB each resulting in the most accurate colour rendering and resolution available on the market today in the medium format.



4-Shot

The red, green and blue information is captured individually by moving the sensor exactly 1 pixel at a time.



6-Shot

The same process as with the 4-shot is applied, with the sensor moving an extra 1/2 pixel in both directions.

Hasselblad's Multi-Shot technology allows owners to achieve true RGB data per pixel which allows the full range of tones and sharpness in the image to be captured. This technology is very rarely seen in DSLR cameras.

By utilising our patented piezo movement we capture true RGB data for each pixel (4 shot mode) effectively removing the Bayer array processing required. With our 6 shot captures we increase the effective resolution to 200 megapixels.

### Which large format camera systems can I use?

Connectivity is available with a wide range of large format cameras (Alpa, Linhof, Silvestri, Sinar, Arca Swiss, Cambo etc). For single shot use, all that is required is a Hasselblad H mount adaptor plate for your chosen large format camera brand and a sync cable from the shutter to the digital back for triggering.

### Do I need to use any particular lenses & shutter hardware?

To utilise the Multi Shot technology you will need to use an electronic shutter and controller (Rollei or Schneider systems).

### Which shooting modes are available?

Depending on the Multi-Shot product, single and Multi Shot options are available. (50c MS; single and 4 shot, 200c Ms; single, 4 shot and 6 shot).

For Multi-Shot shooting the digital back must be tethered to a computer running Phocus software.

### Are there any particular settings that need to be configured on the digital back for large format shooting?

Depending on the electronic shutter system in use you will need to change the "Camera" setting in the menu to the setting recommended by the manufacturer. If no setting is specified, select Flash sync or Pinhole.

### Can I use the digital back in the field?

Single shot untethered use is available using the optional battery adaptor kit (Item Numbers: 3053310- battery holder, 3053314 MS adaptor plate & 1x 7.2v Sony NP-FL type battery or equivalent).

**Flash Sync with electronic shutters**

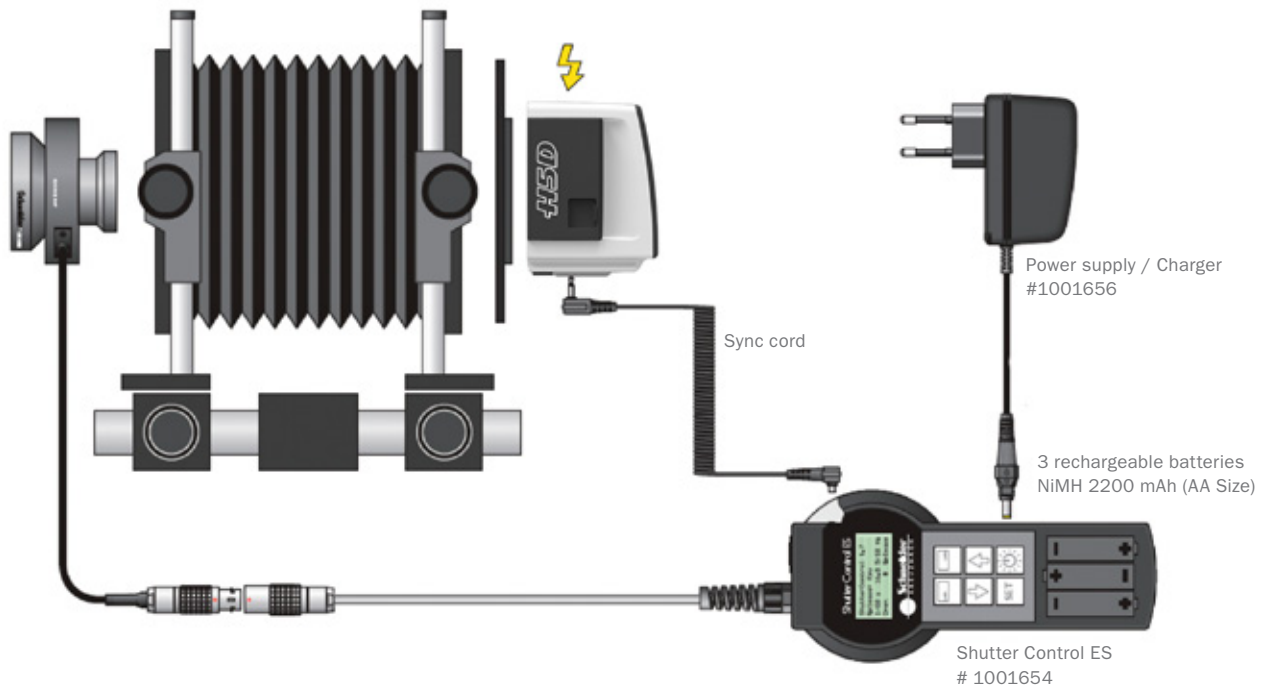
The use of an electronic shutter with a flash sync connection may be more convenient as it prevents the user disturbing the lens to adjust exposure settings or allow easier access to make these adjustments. Please note that using an electronic shutter in this way requires a control panel from the manufacturer to allow aperture selection, shutter Speed and capture control.

Two systems are supported by Hasselblad, from Schneider and Rollei.

Both of these systems comprise a battery or mains powered control unit, connection interface to the electronic shutter / lens connection interface to a digital capture unit (not used in this case) and flash synchronisation output. The control unit will allow the user to select aperture value, shutter speed and trigger the exposure.

Below are connectivity diagrams for Schneider and Rollei using Flash Sync connections. These use the Shutter Control ES and LensControl S respectively. The yellow flash symbol shows where external flash should be connected if needed (the Sync Out port on the sensor unit).

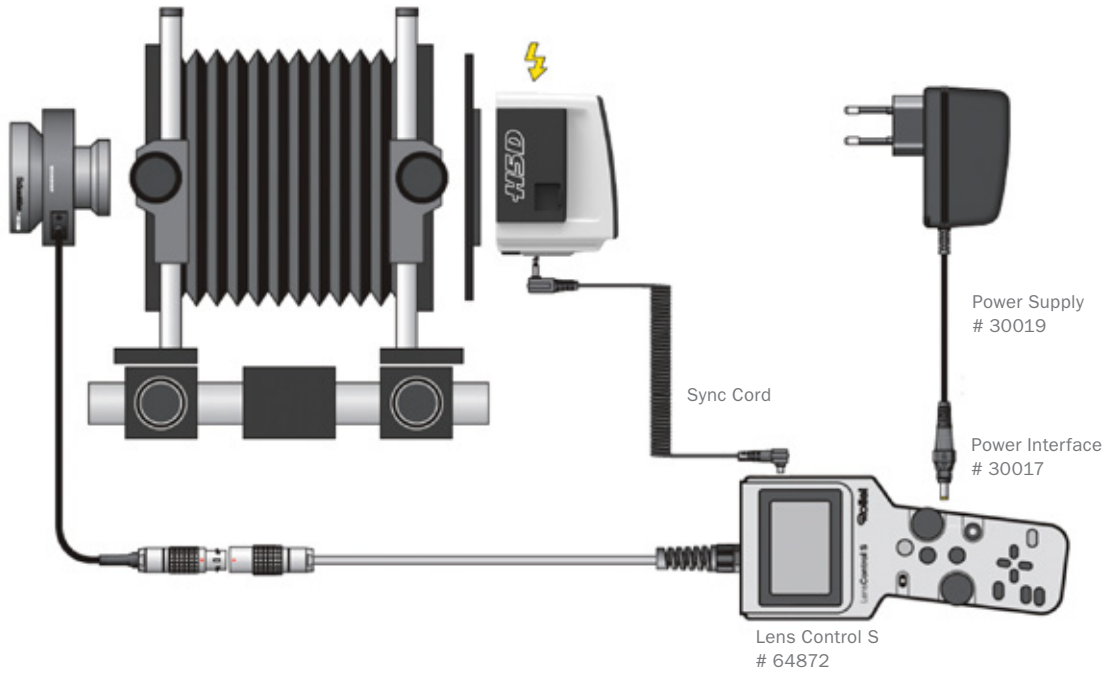
**Schneider – Shutter Control ES**



## Multi-Shot Sensor Unit

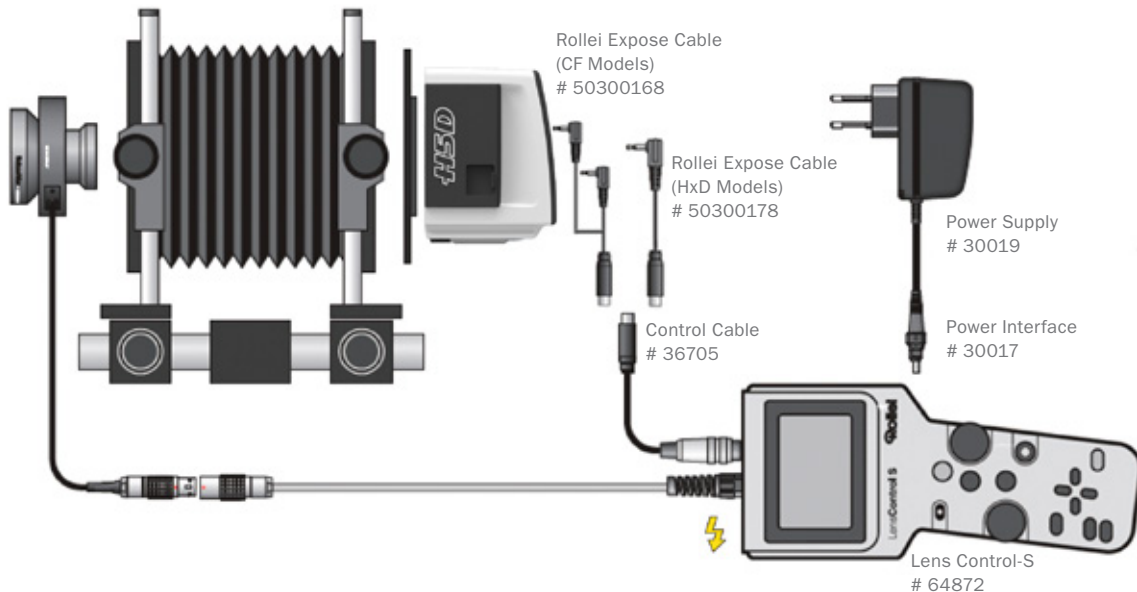
Schneider and Rollei (with the exception of the sync cord) supply all cables and equipment. A summary of all parts needed is at the end of this document.

### Rollei Lens Control S



### Rollei electronic shutter connections - Rollei lens control S

Unlike the Schneider system, the Rollei Lens Control - S must be used in conjunction with a control panel. This will allow use of a Hasselblad sensor unit in a studio or portable situation, either working tethered to a computer with Phocus running or working untethered capturing to Compact Flash media.

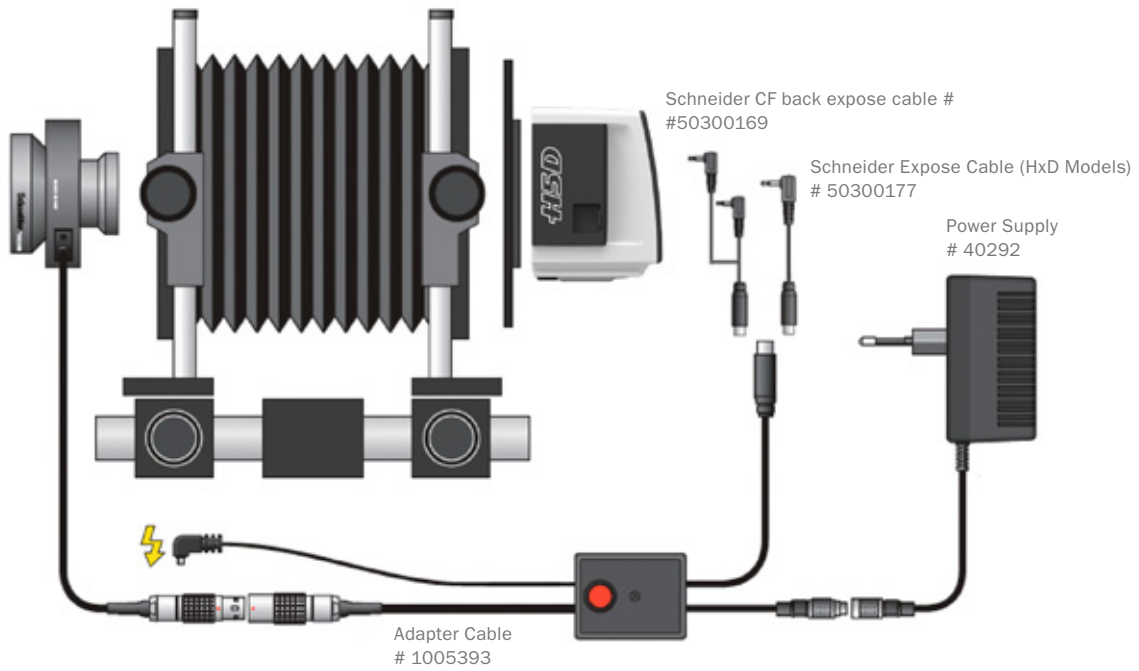


**Schneider Electronic Shutter Connections**

This system works with a simple cable connection and small control box.

This has a single red button that is only used for opening and closing the shutter for focus and composition.

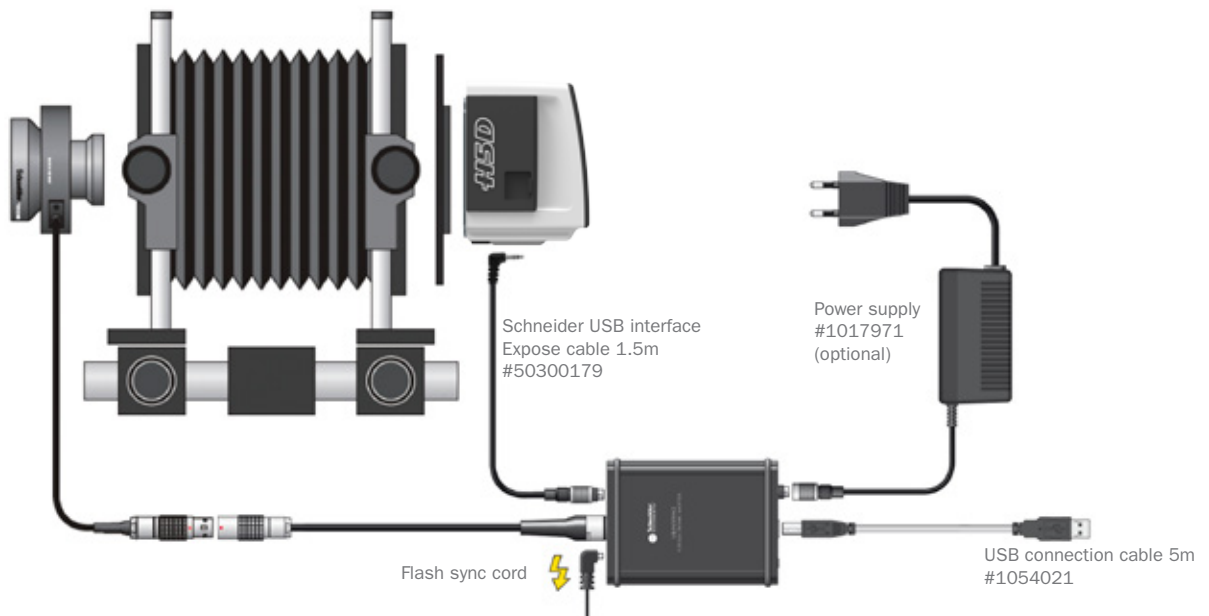
All aperture settings, shutter speeds and triggering capture are made from Phocus.



**Schneider – USB Interface**

The Schneider USB adapter is supported via a single cable connected to the Hasselblad sensor unit.

Aperture, shutter speed settings and capture are controlled via the Schneider software with 'Camera' on the sensor back menu set to 'Pinhole' mode. The exposure is then initiated via Phocus software. This also allows for multi-shot captures.



## Multi-Shot Sensor Unit

DATASHEET

6

### Parts Summary and Links

ITEM	ITEM NO.	SUPPLIER
<b>FLASH SYNC CONNECTION WITH MANUAL / COPAL SHUTTERS</b>		
Camera Sync Cable from lens to digital capture unit	50300122	Hasselblad
Flash generator Sync Cable with protecting fuse	50300136	Hasselblad

<b>FLASH SYNC CONNECTION WITH ELECTRONIC SHUTTERS – SCHNEIDER</b>		
Power Supply / Charger	1001656	Schneider
Shutter Control ES	1001654	Schneider
Camera Sync Cable from lens to digital capture unit	50300122	Hasselblad
3 x NiMH 2200mA (AA size)	N/A	By user

<b>FLASH SYNC CONNECTION WITH ELECTRONIC SHUTTERS – ROLLEI</b>		
Power Supply	30019	Rollei
Power Interface	30017	Rollei
Camera Sync Cable from lens to digital capture unit	50300122	Hasselblad
Lens Control SKL	64872	Rollei

<b>FULL CONTROL WITH ELECTRONIC SHUTTERS – SCHNEIDER</b>		
Adapter Cable	1005393	Schneider
Power Supply	40292	Schneider
HxD Expose Cable	50300177	Hasselblad
CF back Expose Cable	50300169	Hasselblad
Schneider USB Interface Expose cable	50300179	Hasselblad

<b>FULL CONTROL WITH ELECTRONIC SHUTTERS – ROLLEI</b>		
Lens Control-S	64872	Rollei
Power Supply	30019	Rollei
Power Interface	30017	Rollei
Control Cable	36705	Rollei
H3D Expose Cable	50300178	Hasselblad
CF back Expose Cable	50300168	Hasselblad

**Specifications**

Sensor type	CMOS, 50 Megapixels (8272 × 6200 pixels, 5.3 × 5.3 μm)
Sensor dimensions	43.8 × 32.9 mm
Image size	RAW 3FR capture 75/250/400 MB on average. TIFF 8 bit: 150/150/600 MB (1-shot/4-shot/6-shot)
File format	Lossless compressed Hasselblad 3FR
Shooting mode	Single shot
Color definition	16 bit
ISO speed range	ISO 100, 200, 400, 800, 1600, 3200 and 6400
Storage options	CF card type U-DMA (e.g. SanDisk extreme IV) or tethered to Mac or PC
Color management	Hasselblad Natural Colour Solution
Storage capacity	16 GB CF card holds 240 images on average
Capture rate	1.5 captures per second. 50 captures per minute (single shot mode)
Display	3 inch TFT type, 24 bit color, 460,320 pixels
Histogram feedback	Yes (on rear display )
IR filter	Mounted in front of sensor
Acoustic feedback	Yes
Software	Phocus for Mac and Windows
Platform support	Macintosh: OSX version 10.6. PC: XP/Vista/Windows 7 (32 and 64 bit)/8 <sup>1</sup>
Host connection type	FireWire 800 (IEEE 1394b)
View camera compatibility	Yes, Mechanical shutters controlled via flash sync. Electronic shutters can be controlled from Phocus
Operating temperature	0 - 45 °C / 32 - 113 °F
Wi-Fi	N/A
Dimensions	96 x 85 x 80 mm [W x H x D]
Weight	877g