## IQ Digital Back Overview

<table>
<thead>
<tr>
<th>Description</th>
<th>IQ180</th>
<th>IQ160</th>
<th>IQ140</th>
</tr>
</thead>
<tbody>
<tr>
<td>World leading image quality with 80 megapixel full-frame resolution. Switch to Sensor+ and get 20 megapixel full-frame images as well as a faster workflow and ISO sensitivity up to 3200. Enjoy also the new, intuitive touch screen.</td>
<td>The IQ160 digital back is the optimal solution for the demanding photographer, offering 60.5 megapixel full-frame captures and a new touch screen with a fast and intuitive zoom, pan and browse function.</td>
<td>The IQ140 digital back delivers the perfect combination of world leading image quality and a fast workflow. The new touch screen provides complete intuitive control on set.</td>
<td></td>
</tr>
</tbody>
</table>

### Sensors

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ180</td>
<td>53.7</td>
<td>41.0</td>
</tr>
<tr>
<td>IQ160</td>
<td>53.9</td>
<td>39.0</td>
</tr>
<tr>
<td>IQ140</td>
<td>43.9</td>
<td>35.0</td>
</tr>
</tbody>
</table>

### Lens Factor

<table>
<thead>
<tr>
<th>Lens Factor</th>
<th>IQ180</th>
<th>IQ160</th>
<th>IQ140</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CCD size effective

<table>
<thead>
<tr>
<th>Effective CCD size</th>
<th>IQ180</th>
<th>IQ160</th>
<th>IQ140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>53.7</td>
<td>53.9</td>
<td>43.9</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>41.0</td>
<td>39.0</td>
<td>35.0</td>
</tr>
</tbody>
</table>

### Active pixels full resolution

<table>
<thead>
<tr>
<th>Full resolution</th>
<th>IQ180</th>
<th>IQ160</th>
<th>IQ140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>10328</td>
<td>8984</td>
<td>7320</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>7760</td>
<td>6732</td>
<td>5484</td>
</tr>
</tbody>
</table>

### Active pixels Sensor

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ180</td>
<td>5162</td>
<td>3878</td>
</tr>
<tr>
<td>IQ160</td>
<td>4490</td>
<td>3054</td>
</tr>
<tr>
<td>IQ140</td>
<td>3658</td>
<td>2740</td>
</tr>
</tbody>
</table>

### Pixel size (micron)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2 x 5.2</td>
<td>10.4 x 10.4</td>
<td>6.0 x 6.0</td>
<td>12 x 12</td>
<td>6.0 x 6.0</td>
<td>12 x 12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Resolution (megapixels)

<table>
<thead>
<tr>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Exposure time</th>
<th>Light sensitivity (ISO)</th>
<th>Image quality</th>
<th>Capture time (frames per sec.)</th>
<th>Image buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>20</td>
<td>1/100,000 sec. – 2 minutes</td>
<td>35 – 800</td>
<td>16bit OptiColor+, 12.5 f-stops and Lens+ technology</td>
<td>0.7</td>
<td>1 GB Advanced high speed RAM</td>
</tr>
<tr>
<td>20</td>
<td>15</td>
<td>1/10,000 sec. – 1 minute</td>
<td>140 – 3200</td>
<td></td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>20</td>
<td>1/100,000 sec. – 2 minutes</td>
<td>50 – 800</td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>15</td>
<td>1/10,000 sec. – 1 minute</td>
<td>200 – 3200</td>
<td></td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>20</td>
<td>1/100,000 sec. – 2 minutes</td>
<td>50 – 800</td>
<td></td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>15</td>
<td>1/10,000 sec. – 1 minute</td>
<td>200 – 3200</td>
<td></td>
<td>1.8</td>
<td></td>
</tr>
</tbody>
</table>

### Display

| Display | 3.2” touch screen with 1.15 megapixels 290 ppi (dp); 10 million colors, 170° viewing angle |

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# World Leading Image Quality

Realize your vision. The Phase One IQ180 camera system is the world’s most powerful medium format camera system.

Created to satisfy the individual workflow and creativity of professional photographers, the new IQ180 digital back captures at full-frame 80 megapixel resolution and provides the finest detail, color rendition and sharpness possible.

Enjoy the seamless compatibility between Phase One digital lenses or Schneider Kreuznach leaf shutter lenses and the Phase One 645 DF camera body, which in conjunction with the IQ180 will provide the optimal solution for the demanding photographer.

The new 3.2” touch screen lets you check images fast and easily navigate between menus and features.

The wide format display allows for a full 4:3 aspect ratio preview image right next to important image information, such as the histogram.
### IQ180 Digital Back Specifications

- 80 megapixel resolution for extreme detail level
- 645 full-frame CCD
- 20 megapixel Sensor+ resolution for higher light sensitivity and faster workflow
- Extreme 12.5 f-stops dynamic range
- 1.15 megapixel resolution 3.2” display with vibrant colors
- Touch screen functionality to pan, browse and zoom up to 400%

**Imaging technology**

- CCD: Full frame CCD
- Lens Factor: 1.0 / Full frame
- Resolution: 80 megapixel
- Active pixels: 10320 x 7752 pixels
- CCD size effective: 53.7 mm x 40.4 mm
- Pixel size: 5.2 x 5.2 micron
- Image ratio: 4:3
- Dynamic range: 12.5 f-stops

#### IQ180 full resolution capture mode

- Resolution: 80 megapixel
- Pixel size: 5.2 x 5.2 micron
- RAW file compression: IQ large: 80 MB, IQ small: 54 MB
- ISO: 35, 50, 100, 200, 400, 800

#### Sensor+ capture mode

- Resolution: 20 megapixel
- Pixel size: 10.4 x 10.4 micron
- RAW file compression: IQ large: 20 MB, IQ small: 13.5 MB
- ISO: 140, 200, 400, 800, 1600, 3200

#### Output files (via Capture One)

- Color depth: 16 bit per color
- Image file formats: All output formats of Capture One are possible: TIFF-RGB, TIFF-CMYK, JPEG
- Color management: RGB, Embedded ICC profile, CMYK

#### LCD screen

- Size: 3.2”
- Resolution: 1,15 megapixel touch screen
- Viewing angle: 170°

#### Lighting

- Supports all photographic lights: Flash, tungsten, daylight, fluorescent, HMI

### 645DF Camera Body Specifications

- Open platform for maximum choice and compatibility
- Durable, proven platform for secure operation
- Ergonomic handling and ease of use
- Use Phase One digital lenses, Mamiya AF/AFD lenses or Hasselblad V lenses
- Exposures from 1/4000s to 60 minutes
- Flash synchronization up to 1/1600 sec.

#### Shutter speed

Shutter speed from 1/4000s to 60 minutes, extremely high flash synchronization up to 1/1600 second to stop action with fast shutter speed or flash.

#### The mirror and viewfinder

The mirror and viewfinder of the Phase One 645DF camera are almost three times larger than those of 35mm cameras, providing much greater control of focus and composition.

#### While hosting a complete list of features and custom functions, the Phase One 645DF camera is extremely easy to use. All settings important to the exposure are easily controlled by manual dials and soft buttons.

**Camera type**: Modular 645 AF SLR body

**Lenses**: Phase One Digital focal plane lenses, Schneider Kreuznach leaf shutter lenses and Mamiya 645 AFD lenses Compatible with Hasselblad V lenses

**Backs**: Open platform back mount

**Auto focus**: TTL phase-difference AF with 3 focus points Focus confirmation in manual mode Infraed AF assists for unlaking focus Auto focus lock for swift AF / M shift

**Shutter**: 1/4000s to 60 minutes Up to 2 fps Shutter speed bracketing

**Flash**: Focal plane shutter: Up to 1/125s Leaf shutter lenses: Up to 1/1600s1 1st and 2nd curtain flash synchronization X sync terminal and support for TTL flash

**Light Metering**: TTL metering (average, spot and auto) Programmable AEL button Exposure compensation: ±/- 5 EV

**Mirror-Up**: Electronically-activated by switch on grip

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**Operating conditions**

- Temperature: -10° to 50°C (14° to 122°F)
- Humidity: 15 to 80% RH (non-condensing)

**Computer minimum requirements**

- Mac: Intel Core™ 2 Duo or later CPU, 4 GB RAM, Fast HDD: RAID 0 configured systems for max performance, Nvidia 8800 series graphics card or newer
- PC: Intel® Pentium® 4, 4 GB RAM, 64bit, 10 GB free hard disk space, IEEE 1394 interface, Windows XP®, Service Pack 3 or Windows Vista®, Service Pack 1

**IQ back mounts**

- Phase One/ Mamiya: Phase One 645DF/AF Mamiya 645DF/ AFDII
- Hasselblad V: Hasselblad V55ELD, 553ELX, 503CW and 501CM Via adapter: Mamiya RZ67 Pro II Mamiya RB67
- Contax: Contax 645AF

**Wide angle & technical cameras**

- 4 x 5” via FlexAdaptor: Arca Swiss, Cambo, Linhof, Toyo, Sinar, Pentaet, Horseman.

**Storage files**

- Phase Ones IQ RAW file format speeds up the image capture and file transfer, it increases the storage capacity by turning the full 16 bit image data into a compact RAW file format. The default IQ RAW-large format is completely lossless.

**Software**

- Capture One 6.2 or later
- CE

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