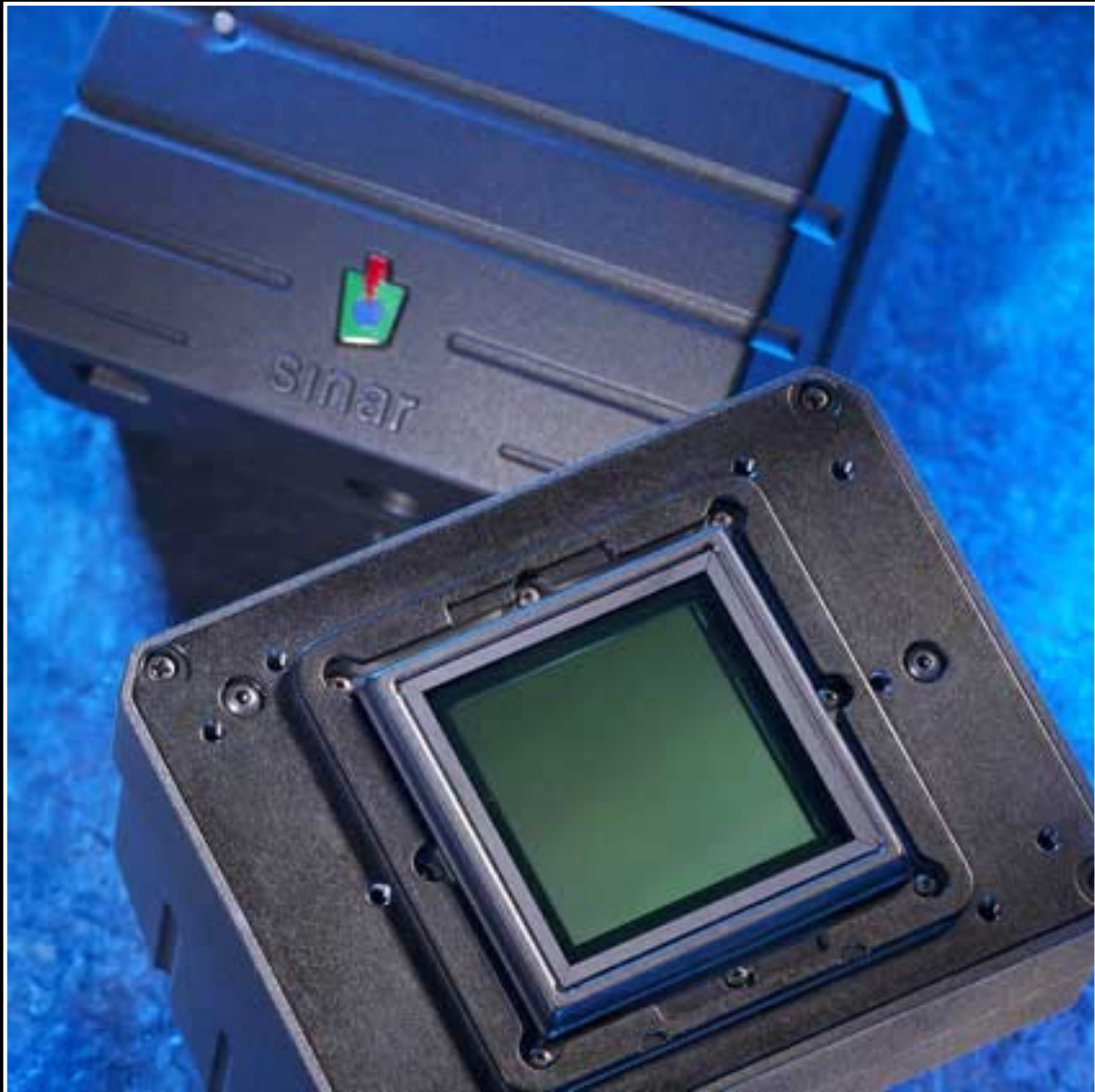


sinar



Sinarback

The Versatile Digital Camera System

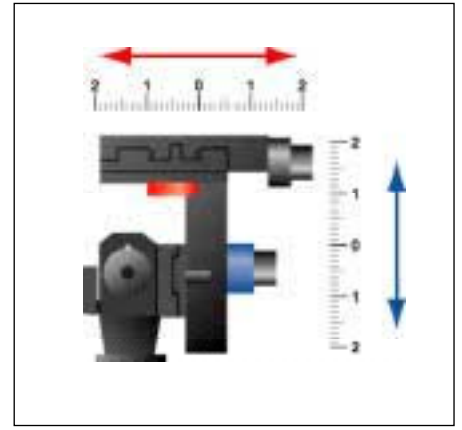


Sinarcam 2 on a Sinar p2 camera

The Sinarback in Versatile Combination with...

...Sinar p2:
Everything under control

The Sinar p2 view camera with asymmetrical swing and tilt axes is the leading camera system in modern digital studios. Its high-precision, self-locking microdrives are a must in digital photography, which requires very precise settings. In combination with the yaw-free Sinar p2 and the Sinarcam 2, the Sinarback forms a superbly matched system.



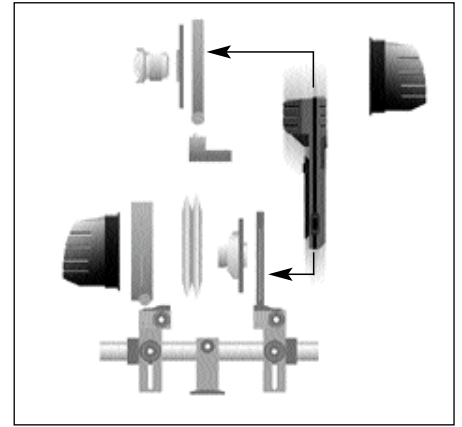
Sinar p2: Pixel-accurate focusing



Sinarcam 2 Compact

...Sinarcam 2:
Powerful in a system and on its own

Automatic aperture control, vibration-free electronic shutter and a razor-sharp live color video image for pixel-accurate focusing on the image plane – these are just a few of the advantages of the Sinarcam 2. In conjunction with the Sinar p2 view camera and the large selection of Sinaron Digital lenses in DB auto-aperture mounts, it produces superb images. More than 300 lenses from various manufacturers of quality 35 mm and medium-format cameras can be used on the Sinarcam 2 by means of adapters. This provides even more great opportunities for creativity.



Sinarcam 2: Systematic compatibility



Sinarback on a medium-format camera for ...

...Medium format:
Action in the studio

The high-resolution Sinarback digital backs are used more and more also for portrait- and fashion shots in the studio. Sinar offers adapters for practically all models of medium-format cameras from Contax, Fuji, Hasselblad, Mamiya, Rollei, Zenza Bronica, and also for the Horseman Digiflex cameras. The loss-free data transfer via the 10 m (33 ft) fiber optics cable ensures total mobility in the studio.



... portrait and fashion in the studio



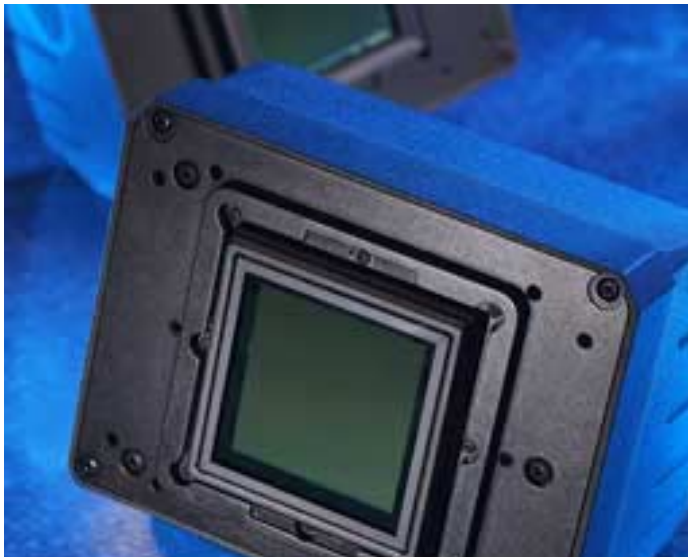
Sinarback with Sinar Cyber Kit for ...

...Medium format:
Mobility on location

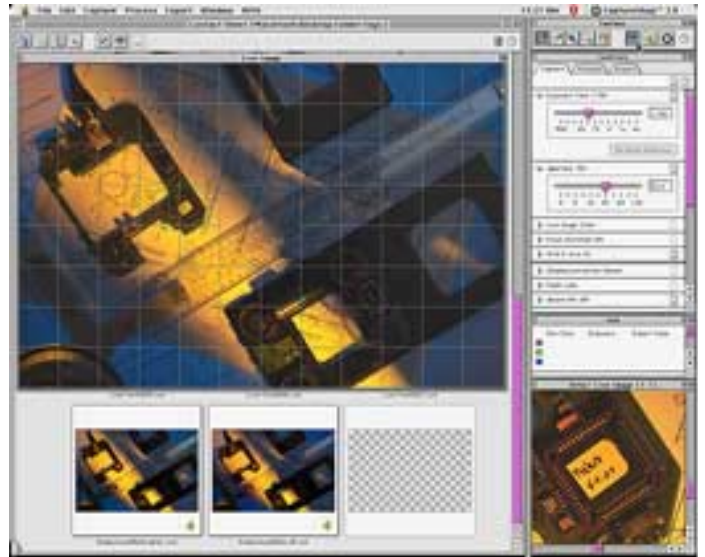
No other digital system offers so many opportunities for applications as the Sinarback. For mobile applications on location, the combination with the Sinar Cyber Kit is particularly efficient, allowing uninterrupted sequences of more than 1600 exposures with intervals of approximately 1.5 seconds per image. It is also ideal for use in combination with auto focus cameras (such as Contax, Mamiya, and others) or in combination with a Horseman Digiflex with very fast lenses.



... mobile digital high-end photography



Sinarback 44: High resolution with perfect handling



Razor-sharp, color live video focusing image

Sinarback: Cool Quality Characteristics

In both the 1-shot mode (for action shots) and the 4-shot mode (for tabletop shots with true color rendition) as well as in the 16-shot microscan mode (for very high detail resolution), the Sinarback delivers needle-sharp images with full color fidelity. All the CCD area sensors used in the Sinarback are cooled thermo-electrically for optimal results. This reduces noise to a minimum and the 14-bit color depth is achieved in every color channel. The contrast range achieved by this means amounts to more than 11 aperture stops. These are the best conditions for subsequent high-quality image processing. Data transmission via fiber optics cables is absolutely loss-free and stable, making the Sinarback optimally suited for digital high-

end photography. With the unique Sinar Hardware Anti-Moiré System, even critical photographs of textile fabrics are reproduced with perfection.

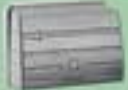
quality characteristics. The Sinarback Light is available with 6 million pixel (Sinarback 23 Light) or with 16 million pixel (Sinarback 44 Light).

Sinarback Light: Attractive Entry

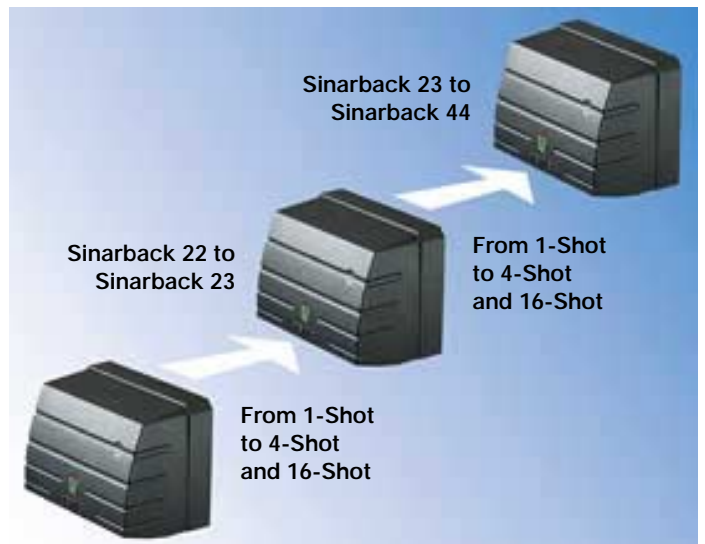
Photographers who use medium-format cameras for portrait- and fashion photography appreciate the high contrast range and the Anti-Moiré of the Sinarback. In these applications, the photographer works in the 1-shot mode exclusively. Photographers who initially wish to dispense with the 4-shot- and the 16-shot modes can avail themselves of the more affordable alternative of the Sinarback Light 1-shot digital back, which can later be upgraded to full 1-shot-, 4-shot- and Microscan capability at any time. Of course, the Sinarback Light also incorporates all the technical

Sinarback HR: The Tiniest Details

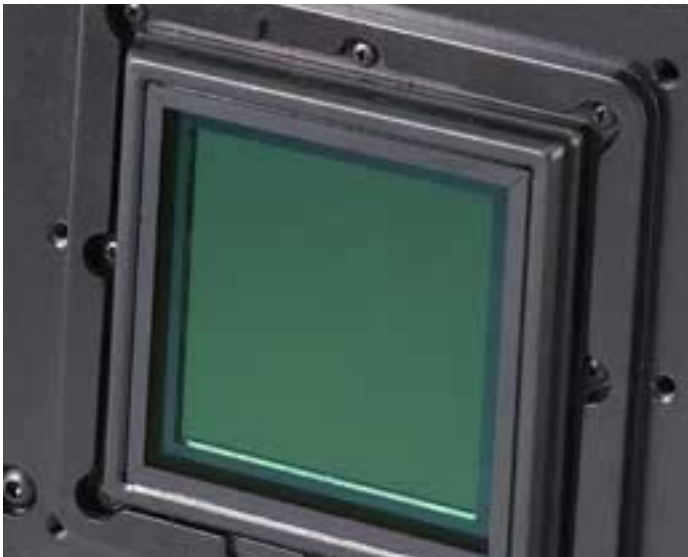
With the Sinarback 23 HR and the Sinarback 44 HR, Sinar introduces perfected microscanning: The sensor is shifted with the greatest precision by half-pixel widths in 16 exposures, so that the spaces between individual pixels are also made to contain information and every pixel is subdivided into four sub-areas. Like the 4-shot technique, microscanning records – unlike 1-shot technique – complete color information in every pixel. By means of the quadrupled image data information available for each exposure, the resolution and thus the sharpness can again be increased significantly.

	<p>Sinarback 44 HR</p> <ul style="list-style-type: none"> • Digital back for 1-shot, 4-shot and 16-shot, for action- and still pictures • Area sensor with 4080 x 4080 pixels
	<p>Sinarback 44 Light</p> <ul style="list-style-type: none"> • Digital back for 1-shot action pictures. Upgradable to 1-/4-/16-shot at any time • Area sensor with 4080 x 4080 pixels
	<p>Sinarback 23 HR</p> <ul style="list-style-type: none"> • Digital back for 1-shot, 4-shot and 16-shot, for action- and still pictures • Area sensor with 3072 x 2048 pixels
	<p>Sinarback 23 Light</p> <ul style="list-style-type: none"> • Digital back for 1-shot action pictures. Upgradable to 1-/4-/16-shot at any time • Area sensor with 3072 x 2048 pixels
	<p>Sinarback 22</p> <ul style="list-style-type: none"> • Digital back for 1-shot and 4-shot, for action- and still pictures • Area sensor with 2048 x 2048 pixels

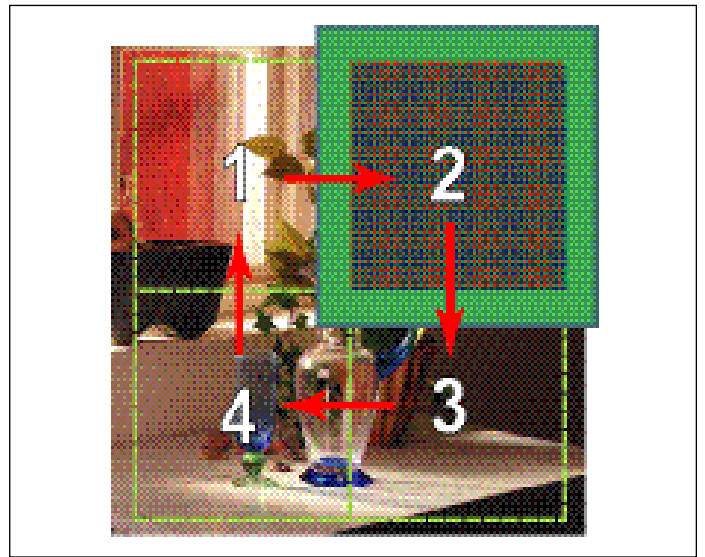
The right Sinarback for every application



Sinar upgrade warranty: Always at the latest state of technology



Sinarback 44: Top resolution from 1-shot to Macroscan exposures



Sinar Macroscan: For highest resolution

The combination of Micro- and Macroscan, available exclusively in the Sinarback System, ultimately results in images with absolute brilliance, sharpness and an astounding resolution of more than 160 million pixels – with file sizes up to 1 Gbyte (with Sinarback 44 HR).

Sinarback 22, 23 or 44: Exactly Your Size

Whether it is the affordable entry model represented by the Sinarback 22 with its 4 million pixels or the Sinarback 44 with the sensational resolution of 16 to 66 million pixels – Sinar offers the right solution for every need. All Sinarbacks feature the same high quality characteristics, such as active sensor cooling for a 14 bit color depth and a contrast range of 11 aperture stops. With the purchase of a Sinarback you have the opportunity to upgrade your digital back in the future

or to trade it in for a fair price. Thus you can invest in a system today that will still be up-to-date after many years of service and that will, thanks to its modern technology, always reward you with optimal results. The SINAR brand has been standing for modular design and for the highest quality “Made in Switzerland” for more than 50 years.

The Sinarback 22 with 4 million pixels is suitable for all applications up to a DIN A3 (297x420 mm/approx. 12x16”) image output size. For larger print sizes we recommend an expansion with a Sinar Macroscan or an upgrade to a Sinarback with higher resolution.

The Sinarback 23 has 6 million pixels in the 1-shot mode, 25 million pixels in the Microscan mode and up to 75 million pixels with combined Micro-/Macroscanning. All images have a rectangular format. By means of a loss-free and stable fiber optics cable, this amount of data can quickly be transferred to the Sinar CaptureShop™ software

or, in the 1-shot mode, also to the mobile exposure unit of the Sinar Cyber Kit.

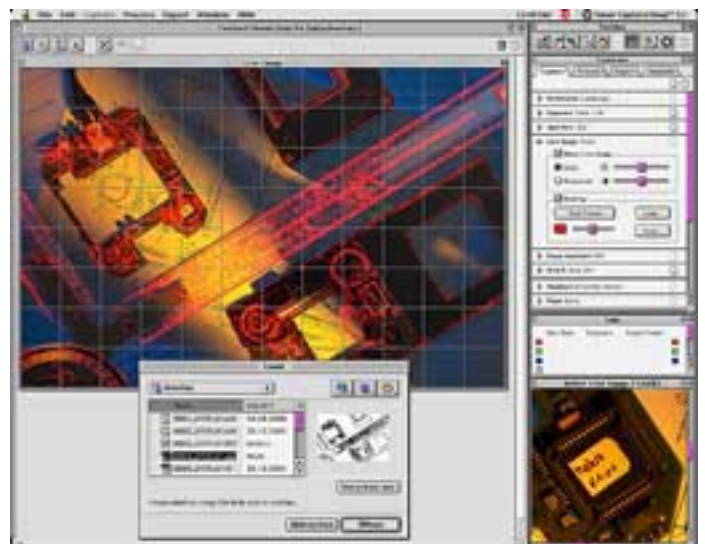
With 16 million pixels in the 1- or 4-shot mode, 66 million pixels with Microscanning, or 160 million pixels with Micro-/Macroscanning, the Sinarback 44 HR features the highest resolution of any digital back. And with the award-winning ColorCatcher Engine, Sinar succeeded in maintaining the highest color quality with the new digital back as well.

Sinar CaptureShop™: Everything at Your Fingertips

Accurate and natural colors are computed from the raw data produced by the CCD sensor by means of the Sinar ColorCatcher Engine, which is an integral part of the Sinar CaptureShop™ software. Further important



Efficient shooting with the Contact Sheet



Mock-ups can be superimposed on the live image



Sinar Macroscan: High resolution for all applications at high contrast



Micro-/Macroscan: Best detail rendition and color fidelity

functions of the Sinar Capture-Shop™ software are: adaptive unsharp masking, scaling, exposure control, filing, batch processing, export, contact sheets, navigator and color management tailored to the needs of the photographer, with ICC profiling to support the ICC workflow. In the "Merge" function, a double exposure can be achieved by the stepless merging of two exposures. The latest version of the Sinar CaptureShop™ can be downloaded from the Internet www.sinarcameras.com at any time, free of charge.

Contact Sheet, Live Video: Overview at a Glance

The Contact Sheet is a further practical tool provided by the Sinar CaptureShop™ software. When used as a browser, it provides the photographer with a quick overview of all the photographs contained in a file.

Photographs can quickly be selected, titled and exported to an arbitrary file without having to leave the contact sheet. By means of double clicking, stored images can be called up directly from the contact sheet for preview or as a perfect picture. The image navigator and the color info pipette permit an exact control of the image, during which each color channel can be examined individually. With the Overlay feature, a previously stored sketch can be superimposed on the live image for convenient control of subject composition.

Sinar CeMagYK: Images Ready For Printing

Photographers are increasingly being asked to deliver their photographs either in RGB or in CMYK – in other words, in the form of images ready for the printing press. For color separations of RGB to CMYK, the Sinar

CeMagYK offers several tools optimally tailored to Sinar CaptureShop™ data files. The Sinar CeMagYK delivers outstanding and true-to-life results, especially in the reproduction of skin tones and saturated colors. The award-winning color rendition of the Sinar ColorCatcher Engine is maintained all the way to the end result.

Sinar Macroscan: For Large Calibers

Photographers occasionally have to deal with tasks that require very high resolution, such as photographs for posters, reproductions of works of art, photographs of trade show stands, etc. Every Sinarback can be upgraded by means of the Macroscan option, an adapter for the Sinar p2. With the motorized shifting of the Sinarback and pixel-accurate, software-controlled stitching of the image tiles, an astounding reso-



Sinar CeMagYK: Perfect workflow all the way to print



Sinar CeMagYK: Color separations with perfect colors



Sinaron Digital HR Lenses: Highest resolving power

lution of up to 40 million pixels can be achieved. All this without compromising image quality due to noise, resolving power of the lens, type of light source or color depth. Even the incorporation of partial images of moving subjects is possible without any problems.

High-Res Digital Lenses: Sharpness You Can See

In order to achieve optimal sharpness, a lens must match or exceed the resolution limit (Nyquist) defined by the pixel size. Only then will the finest image structures be depicted on the image sensor with sufficient modulation (contrast). With the introduction of Microscanning, the halving of the pixel edge length requires lenses with significantly higher resolving power. At the working aperture, Sinaron Digital HR lenses resolve over 100 line pairs per mil-

limeter in the center of the image. Even at the edges of the image, they resolve at least 60 Lp/mm. Only when such lenses are used does the complete system achieve optimal results in combination with the Microscanning technique.

Sinar Cyber Kit: Mobile High-End Photography

In combination with the Sinar Cyber Kit, the use of the Sinarback digital back for fashion- and people pictures on location becomes a real delight. The small computer unit with batteries that can be recharged separately and the optional battery change while the kit is in use make the Sinarback the most mobile high-end digital back of all. With picture sequences from 1.5 seconds per image and with more than 1600 pictures in uninterrupted succession (Sinarback 23), even the most demanding shooting ses-

sions can be executed perfectly. The Sinar Cyber Kit, too, incorporates the exclusive Sinar Hardware Antimoiré. A contact sheet and large previews with zoom capability permit a fast evaluation of the images.

Two-Year Warranty

The legendary reliability of Sinar Camera Systems is backed up by generous warranty terms. Like all other Sinar products, the Sinarback too, is covered by a two-year warranty according to the European Union guidelines, which is provided without additional cost. SINAR provides replacement parts and service for a minimum of 10 years. This provides photographers with the assurance that the Sinarback will remain functional for many years and that service will remain available.



Sinar Unplugged Case: Mobile solutions for every need



Sinar Cyber Kit: Mobile exposure unit for more than 1600 pictures



Sinar Cyber Kit: Highest image quality on location



Sinarback digital backs produce not only high-quality stills, they also produce razor-sharp action shots. In combination with the Sinar Cyber Kit, they offer complete mobility – ideal for portrait- and fashion photographs.



Modular Sinar System: A camera for all applications

Technical Data

Sinarback Digital Backs

- Digital camera back for exposures with all types of light sources:
 - Sinarback 44 HR: 1-/4- and 16-shot
 - Sinarback 44 Light: 1-shot
 - Sinarback 23 HR: 1-/4- and 16-shot
 - Sinarback 23 Light: 1-shot
 - Sinarback 22: 1- and 4-shot
- Sensor resolution:
 - Sinarback 44: 4080 x 4080 pixels
 - Sinarback 23: 3072 x 2048 pixels
 - Sinarback 22: 2048 x 2048 pixels
- Sensor size:
 - Sinarback 44: 36.7 x 36.7 mm
 - Sinarback 23: 36.8 x 24.5 mm
 - Sinarback 22: 24.5 x 24.5 mm
- File size (raw data, 14 bit):
 - Sinarback 44:*
 - 1-Shot 34 MB; 4-Shot 98 MB;
 - 16-Shot 386 MB; Macroscan 240 MB;
 - Micro-/Macroscan approx. 1 Gbyte
 - Sinarback 23:*
 - 1-Shot 12 MB; 4-Shot 36 MB;
 - 16-Shot 150 MB; Macroscan 108 MB;
 - Micro-/Macroscan approx. 450 Mbyte
 - Sinarback 22:*
 - 1-Shot 8 MB; 4-Shot 24 MB;
 - Macroscan 86 Mbyte
- Full color information without color interpolation in the 4-shot- and 16-shot exposure mode
- Exposure intervals:
 - Sinarback 22: < 1 second
 - Sinarback 23: approx. 1.5 seconds
 - Sinarback 44: approx. 2 seconds
- Shutter speeds: ≤ 1/4000 to 4 seconds; long time exposures: 4 to 32 seconds
- Dynamic range (contrast) of more than 11 aperture stops
- Digitizing at 14 bit per color channel (RGB)
- Suppression of threshold noise by means of active cooling

- Nominal sensitivity: ISO 25 (adjustable from 25 to 100, 200 with Cyber Kit)
- Perfect edge sharpness thanks to patented, precisely controlled two-dimensional Piezo shifting
- Compatible with Sinarcam 2; Bronica SQ-A, ETR-Si; Contax 645; Fuji GX 680; any Hasselblad medium-format camera; Mamiya RZ 67, RB 67, 645 Super, Pro, Pro TL, AF; Rolleiflex 6001, 6003, 6008; Horseman Digiflex. Additional adaptations upon request.
- Macroscan option (sliding adapter)

Sinar CaptureShop™

- User-friendly user interface, customizable thanks to the plug-in structure
- Three different live video viewing modes with up to 7 images per second (depending on the model of Sinarback and light conditions)
- Live color video magnifier with full resolution for pixel-accurate focusing
- Easy-to-view, multi-functional and printable Contact Sheet
- Multiple exposure option (merge)
- Layout overlay
- Various data file export formats, such as Photoshop, TIFF, JPEG, etc.
- True-to-life color rendition thanks to the Sinar ColorCatcher Engine
- Integrated color calibration and color management for application-specific color optimizing
- Display of the various color channels with info-picker for the display of input- and output values
- Integrated camera control (flash, exposure time, aperture)

Sinar CeMagYK

- Separations with freely selectable settings
- Scaling with adaptive unsharp masking
- Histogram optimizing for best printing results

- Output in TIFF, EPS, DCS and DCS 2 file formats
- Reproduction in CMYK of practically all color nuances (no "out-of-gamut" with natural colors)

Sinarcam 2 Digital Camera

- Compact digital studio camera
- Integrated into the modular Sinar camera system
- Integrated LCD shutter for pixel-accurate live video viewing capability
- Precise, electronically controlled rotating-blade shutter
- Shutter speeds from 1/30 to 32 seconds
- Flash synchronization at all shutter speeds
- Integrated automatic aperture control

Lenses

The following types of lenses can be used on the Sinarcam 2 Compact:

- Sinaron Digital, Leica-R, Nikon, Olympus, Hasselblad, Mamiya 645

This constitutes the largest selection of lenses for a digital camera.

The following lenses can be used on the view camera version (Sinarcam 2 on a Sinar p2 or x camera):

- High-resolving-power Sinaron Digital 35 mm to 210 mm lenses and Sinaron Digital HR lenses (for microscanning) in DB auto-aperture mounts

For focal lengths greater than 210 mm, Sinaron large format lenses in DB mounts (SE-type) can also be used.

Computer

Apple Power Macintosh with:

- OS 8.6 or higher
- A free PCI socket
- 256 Mbyte RAM (Sinarback 23) resp. 1 Gbyte RAM (Sinarback 44)
- 24-bit graphic card
- 4 Mbyte VRAM (min.)
- 20" monitor

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