

sinar

INFO 44

Contemporary Studio Photography



"Digital Sinarcam" captured with a Sinar p2/Leaf digital camera and a 55 mm Sinaron Digital Lens by Dennis Savini.

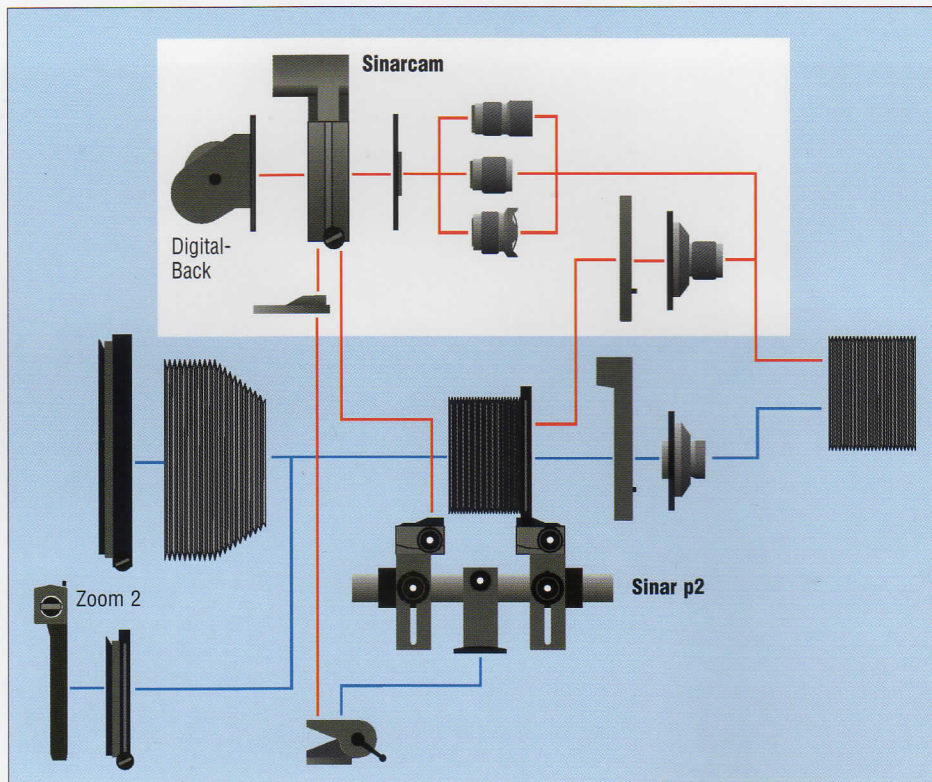
Nothing can stand in the way of progress

Every innovation changes equipment and methods that have been in productive use for hundreds of years. The pace of innovation grows faster with each new invention. Nearly 5000 years elapsed from the onset of handwriting to printing with hand-made printing plates. Another 300 years had gone by when the production of plates was mechanized with lead typesetting machines. 50 years after that, phototypesetting conquered the pre-press phase, and it took only 15 more years for that to be replaced by fully digital layout programs and film exposers. The lively history of the image is quite similar, especially because electronic innovations have brought significant simplifications and greater speed to the working process. Desktop publishing, digital printing and the world wide web are but a few examples.

The ramifications and business possibilities with new technologies are often underestimated, even by professional experts. Such was the case with Western Union, once the leading telegraph service in America, where the following internal memo is said to have been circulated in 1876: "This new 'Telephone' is fraught with too many shortcomings to be considered as a practical means of communication. This invention is potentially useless to us." No wonder that nowadays hardly anybody thinks of Western Union in connection with the subject of telecommunications.

Digital effects on studio photography

The expansion of possibilities generated new services, professions and specialty markets. Especially in the field of studio photography, the game plan has changed because of the simplified workflow from an original photograph to a printed reproduction. With the new digital capabilities, it has become lucrative for former suppliers of individual segments of the conventional process to become fully integrated digital suppliers by extending their range of services thanks to the new technologies. In doing so, they gain control over the important part of the work pro-



Example of a modern Sinarp2 equipment: for chemical pictures in the formats 4,5x6 cm through to 8x10" and digital images in 25 MBytes sized HDR files. Thanks to the Sinar System of components an existing Sinarp2 camera with the respective accessories can take on virtually any assignment. The Sinarcam fits precisely into the Sinar System.

cess (quality assurance), and this enables them to please the print buyer with an attractive, uncomplicated quotation for the entire job that passes along a good portion of the savings in the prepress phase.

Very complex or small-scale productions (in-house publications, etc.) however can seldom be delegated economically to a Digital Imagist. In such cases, it makes more sense for the client to purchase individual parts of the work flow from appropriate specialists working in the respective niche markets. For instance from a photographer who "only" works on the subject with camera and lighting. Because the basic rule for success still stands: the better the subject is rendered in the original photograph, the better, faster and more efficient will be its path to the finished printed reproduction. This means that in our modern, ever more digitized world there is definitely a place for specialized skilled photographers.

They must, however, remain competitive with Digital Imagists, since the latter can also offer individual parts of their digital work capabilities. In terms of the mood and creative quality of the image, the step of photography (= painting with light) however, is and will continue to be the most important and decisive element in the work sequence, regardless of whether the image is recorded chemically or digitally.

When Digital, when Chemical?

Considering the increased expectations placed on photographic studios, it would be imprudent as a specialized photographer to leave the advantages of a given technology to other suppliers. Disappointed clients explore the competition faster than you think!

Digital photography has matured into an efficient means of production for series of photographs and for originals for multiple applications, offering copy for even demanding applications, as proven by the poster in this issue of Info. The wondrous variety of possibilities provided by the immediately accessible digital image in the matter of contrast range, multiple exposures, color corrections, special effects, composing, retouching, filing, transmission and print-out opens the doors to entirely new creative and financial opportunities.

Digital workflow opens new opportunities

Photography	Image Manipulation, Typesetting, Layout	Prepress Work	Printing
Digital Imagist			Printer
Photographer	Advertising Agency	Color Separator	Printer

But general standards for colors in digital images in the various phases of the work process are still in their infancy. The required complex calibrations of systems in the prepress stage that is accustomed to transparencies and prints are hardly worthwhile for small individual assignments. For such limited productions, transparencies and reflection copy continue to be the most cost-effective input. Therefore, there is a strong demand for each technology, depending on the assignment.

The contemporary camera system is flexible

It stands to reason that today's successful studio photographer has to be versatile

technically in order to survive in tough competition. He cannot afford to replace his cameras every few months in order to keep pace with the very latest technical innovations. Only a cleverly thought-out, lasting component system that can be configured into an optimal outfit for every application can lead to success in today's and future studio photography. What could satisfy this requirement better than the proven Sinar System, with its eight digital backs, ten film formats, four camera models and more than 600 accessories?

Sinarcam: Digital camera without compromises

Over the last 150 years, cameras evolved for the exposure of photographic films. As

the years went by, most of the technical limitations disappeared with the constantly improving interplay between camera and picture-taking material.

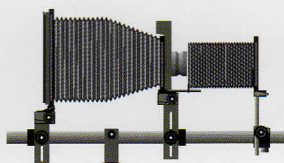
In the most recent five years, digital photography began to penetrate a photographic world that was hitherto based on chemical film. The results and the operating convenience obtained with digital photography during these pioneer years were often less than satisfactory. The blame lay with the unsuited cameras that were designed purely for use with chemical film, and which were not equipped for the requirements of CCD arrays. Sinar took these new requirements into account from the very beginning, thanks to its own innovations (like the Sinar e CAPCam) and the component system which allowed the use of adapters and special lenses.

Sinar: the ideal camera configuration for each job.

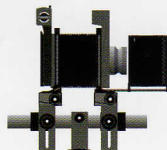
Assignment:

Appropriate camera configuration:

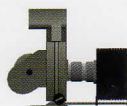
A reproduction of a painting on 8x10" transparency film.



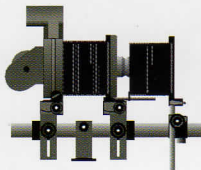
15 photographs for an instruction booklet in black-and-white, format: 6x9 cm (2 3/8 x 3 1/2").



50 different bicycle helmets, freestanding, each in the form of a 7 MBytes TIFF file in RGB stored on Photo CD.



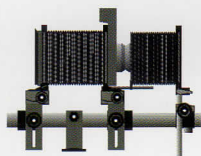
A creative photograph of a watch for billboard advertising and possibly for media ads; file size: 12 MBytes TIFF on SyQuest disc.



10 photographs of model buildings from an architectural competition, with corrected perspectives, for 1 m² (10.76 ft²) inkjet prints for an exhibition, in the form of 25 MBytes HDR files for the lab, and as 14 KBytes JPG file for an Internet page of the organizer of the competition.



12 food photographs for a calendar, on 4x5" transparency film.

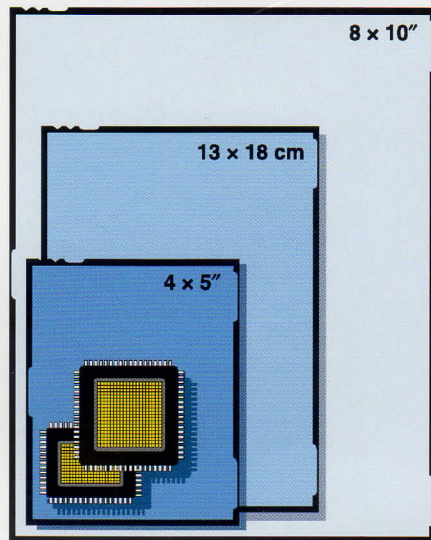


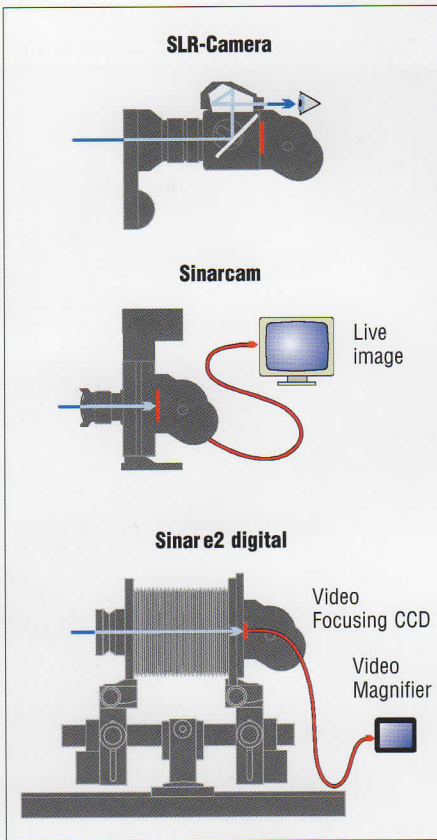
The CCD area chip in the studio

By now, digital studio cameras based on high-definition CCD chips that supply sufficient data for high quality printed reproductions in sizes up to A3 (approximately 11 3/4 x 16 1/2") are well established in practice. Creative photographers appreciate the freedom that the area chip gives them to use any light source that most enhances the features of the subject. The high output of modern electronic flash units permit razor-sharp images, even when lenses have to be stopped way down. The area CCD chip allows a hitherto unattained working pace for series of photographs, especially when a One-Shot Digital Back is used.

The relatively small area of CCD chips differs from chemical films in their formats. Also the reaction of pixels to light is different than the reaction of crystals to light. For that reason, digital photography

Size comparison between current sheet films and current professional CCD area chips.



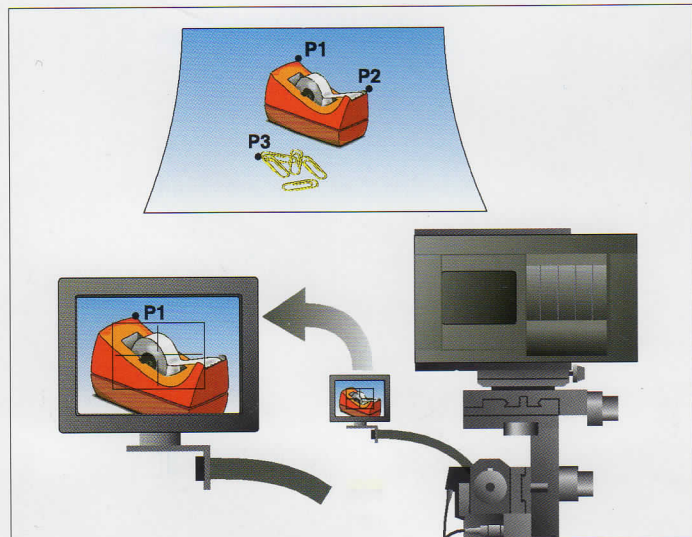


places very high demands on the resolving power of lenses and on focusing accuracy.

Focusing the image

Focusing the image is an important part of the creative process. The photographer compresses three-dimensional reality into a two-dimensional image. Sharpness, unsharpness, perspective and the relationships of the various elements in the picture are established. Always cons-

Focusing with the Sinare CAPCam: Focus on the picture points of your choice: P1, P2, P3, etc. The Sinare computes the required settings. Adjusting – and you are ready for the capture!

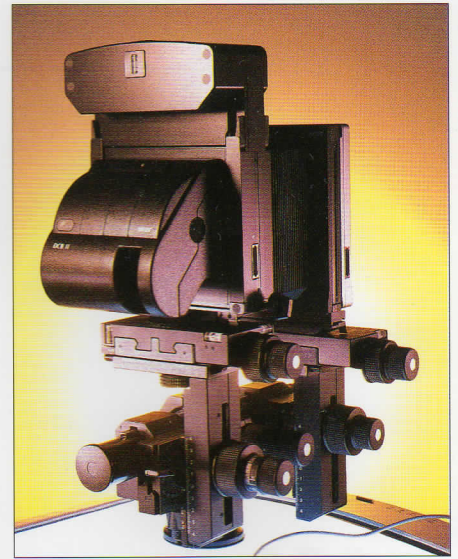


Sinar: Optimal image setting without unnecessary detours bearing potential sources for focusing errors.

cious of the fact that the quality of the focused image is the most important determinant of the quality level of the end result. It is eminently worthwhile to be as perfect as possible at this stage in order to avoid complications in the workflow that follows.

With a camera designed only for chemical film, the image is viewed in the size of the actual photograph on a focusing screen or through a viewfinder. With the smaller sizes of area chips, the use of unmodified conventional cameras leads to very small and hard-to-evaluate focusing images. When the optomechanical elements of a viewing system such as mirror and focusing screen are not accurately matched to one another, there will be further systematic focusing errors in addition to the normal operating inaccuracies. The required focusing accuracy increases considerably as the degree of enlargement of the original image increases, as any focusing error is magnified correspondingly.

With these small formats, focusing errors can only be eliminated by selectively enlarging individual picture elements. Focusing precision becomes particularly important when specific individual picture elements are to be used for positioning the plane of sharpness in accordance with the Scheimpflug principle. The electronic video magnifier on the Sinare CAPCam proved particularly effective in the automatic computation of complex three-dimensional object spaces. The live focusing image on the Sinarcam permits the evaluation of individual picture elements enlarged with the



When a digital camera with movements is required, the Sinarcam can quickly and easily be mounted on the bearer of a Sinar p2 camera.

Leaf capturing software. Because the image is projected directly, without any deviation, on to the recording medium for evaluation, any adjustment error is eliminated from the outset.

Many images can become considerably more interesting by the judicious interplay of sharpness and unsharpness through the application of the Scheimpflug principle. The Sinare CAPCam provides optimal creative freedom by permitting the selection of the desired points of sharpness, which the software translates into a plane. By means of the Sinarcam, the mechanism of the Sinarp2 camera (with its asymmetrical swing and tilt axes) can be adjusted precisely, without any loss, via the focusing screen adapter or via the computer monitor with its large live image.

Focusing with the Sinarcam on a Sinarp2: Point H1 on the axial interface, focus on points H2 and V3, transfer to the front standard, adjust the focus – presto, you are ready for the capture!





With the Sinarcam a wide range of lenses can be used. Example: The picture left was taken with a 24mm- and the picture right with a 180mm Sinaron Digital Lens.

Both the video image on the electronic viewing aid (Sinar Viewer) that fits every Sinar Digital Adapter, and the Leaf software itself on the Sinarcam permit the evaluation of the image with both eyes. The possibility of using additional branch monitors is particularly helpful, especially with complex set-ups.

Lenses

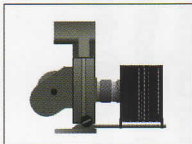
Compact studio cameras are often used when adjustments are not very important for certain photographs, but when high quality is still required. In such cases,

great importance is placed on a versatile selection of lenses. Very short focal lengths with shifting capabilities permit creative interior photographs, while a handy zoom lens enables you to work quickly on a photographic series. The range of high-quality Sinaron Digital Lenses for the DCS 465 and for the Sinarcam are all optimally tailored to meet the requirements for resolving power and color correction for digital imaging. Existing lenses for medium format cameras and for 35 mm cameras can be integrated seamlessly into the Sinarcam System by means of lens board adapters. The image

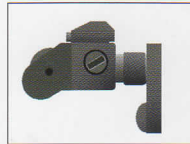
circle of lenses for medium format cameras even permits the use of a shift plate.

Stray light

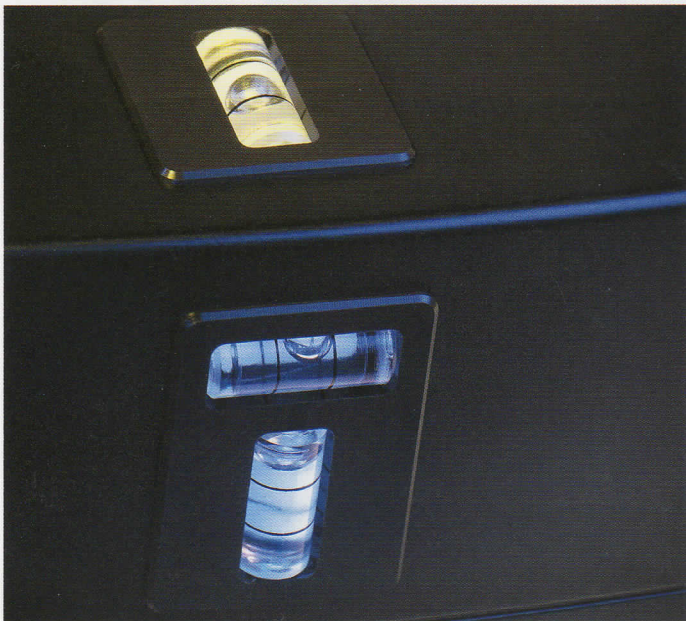
The effects of stray light are especially strong when filters are being used. All CCD area chips are fitted with infrared filters. Three-shot cameras employ color separation filters for their photographs. That is why CCD cameras are so susceptible to the effects of stray light. Only by consistently protecting these filters from stray light and dust can good detail be preserved in the dense tones of the

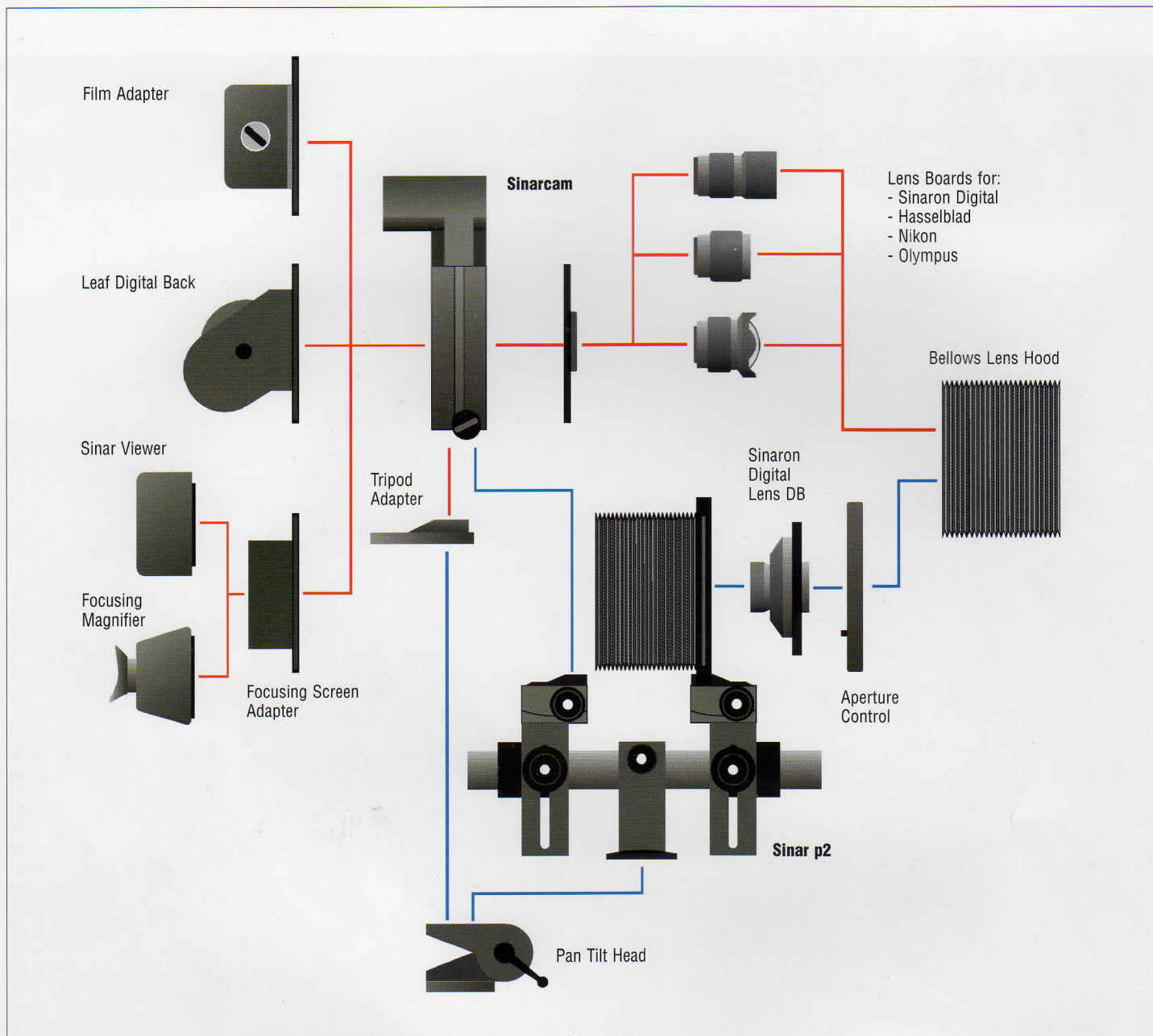


Picture taken with a Sinarcam with a bellows lens hood. The colors are well saturated.



Picture taken without a bellows lens hood. Colors are fading and slightly changed.





A System within a System: The Sinarcam fits precisely into the Sinar System.

image. The glass separation filters in the Sinarcam and Expolux bodies are safely protected. The use of a bellows lens hood reduces the effect of stray light on the surfaces of the lens.

The future

"Nothing is as constant as change" is a fitting statement by an American philo-

sopher, and this is particularly pertinent to digital photography. In true Sinar tradition, the Sinarcam was deliberately designed to be adaptable to improvements on all sides. That is why it is already equipped with mechanical and electronic interfaces for future innovations in order to continue providing flexible studio photography in the future as well. But one thing is certain: for those who want to

make progress in their professional photographic activities, the time when it might be worthwhile to wait for something better and less expensive has passed.

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