OPMI® **pico** diagnostic microscope.

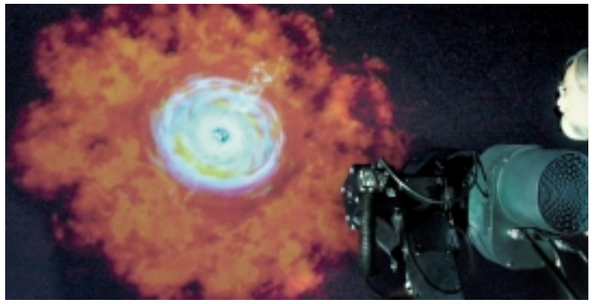
gy has been used, and operation of the camera functions is easy. Special accessories extend the application range of **OPMI® pico** for examinations performed in ENT. For optimum office integration, the **OPMI® pico** microscope can be combined with different suspension systems. The suspension system includes the power supply for the coaxial cold-light illumination and the integrated video camera.

Spectral Sensor Systems

The **CleanScan™** system permits highly sensitive, online measurement of absorption in the UV range, and at the same time direct analysis of traces of residues in the cleaning solution when cleaning processing equipment in pharmacy. The system meets the requirements of the US Food and Drug Administration (21 CFR, Part 11). The advantages of **CleanScan™** include shorter conversion times in the production process and, as a result, high production capacity and lower consumption of reactor cleaning agents. The system consists of a UV diode array spectrometer from Carl Zeiss which is connected to an external flow cell via fiber optics. The cell is either integrated in the bypass or mounted on the housing with an integrated industrial computer. Safe operation is therefore also guaranteed in the vicinity of the reactor. The portable system can be transported from one reactor to the next. The **CleanScan™** software supplies complete data for analysis and system management. It includes real-time presentation of concentration, absorption, diagnosis, reference libraries, online handbook and multi-point calibration. A special advantage of the software is the automatic selection of the absorption range. With this, the entire cleaning process can be monitored without changing the optical layer thickness of the flow cell.

Planetariums

The Zeiss Universal LaserImage Projector **ZULIP** is a projector for digital images (stills, videos, computer graphics, animations) specially developed for the use in planetariums on the basis of Laser Display Technology (LDT). Carl Zeiss has been working for years on the development of this innovative projection technology which avoids the current drawbacks of image projection onto a dome. Laser light provides brilliant colors with a high level of saturation, and the depth of focus is virtually unlimited. The combination of the laser with special scanning technology permits a high level of brightness and superb contrast. The laser and image sources are located outside the planetarium dome. The projector head is installed near the dome center and is rotatable through 260° in azimuth and 140° in elevation. Carl Zeiss has developed a special wide-angle zoom system for the projector, featuring projection angles between 30° and 90°. The projector sits on a 2.50 m high column and has a footprint of only 0.6 m in diameter. Not only can **ZULIP** replace conventional video projectors, but its functionality also permits a wide range of further applications such as astronomical simulations (animated and moving objects), computer animations (from science and technology), remote visualization (environment, medicine, space research, education), video conferences/remote control, cultural and artistic applications (media arts, music, theme projects, ...).



ZULIP Zeiss Universal LaserImage Projector. (Photo: Kasper).

Photogrammetry

The digital aerial survey camera of the joint venture company Z/I Imaging GmbH is the core element of the digital modular camera system (DMC) which ensures high-precision geometric imaging and provides an in-flight ground resolution of as high as a few centimeters. This performance level which must be maintained even in extreme flying conditions has already been demonstrated by the system in its first trial flights.

The prototype of the Digital Modular Camera System (DMC) has been subjected to extensive flight testing by the team of Z/I IMAGING GmbH in cooperation with the Institute of Photogrammetry of Stuttgart University and the company Hansa Luftbild.
In a detailed section of the original photo showing the large building site of the new Carl Zeiss lithography lens optics plant in November 2000, even the tire prints of the construction vehicles are discernible.

Industrial Measuring Technology

With mainstream **Contura®**, a coordinate measuring machine with **VAST®** scanning technology, Carl Zeiss offers a budget-priced high speed scanning system providing high accuracy and flexibility. It is suitable for very different applications such as the measurement of plastic materials, brake components, medical implants and instruments, wheels, casts and punching tools, for example. **Contura®** is delivered with the new **VAST®XT** probe based on **VAST®** probing technology and specially designed for this coordinate measuring machine. **VAST®** scanning technology opens up new possibilities when it comes to the measurement of form and location tolerances on coordinate measuring machines. It often eliminates the need for time-consuming form measurement on single-purpose instruments and, as a result, reduces inspection costs and throughput times.

VAST® XT probe on mainstream **Contura®** scanning coordinate measuring machine.

A new calibration technique has been developed for the **RDS** rotary dynamic sensor which greatly simplifies **RDS** handling and shortens the stylus calibration times required. Instead of calibrating every angular position needed – today's probes can be oriented in more than 20,000 different positions – the probe is calibrated in a few positions only and can then be used in all 20,736 angular positions. This simplifies not only the actual calibration procedure, but also the measurement itself. The **RDS** can now be turned into whatever the optimum position may be without having to consider which of the calibration positions can be used for measurement.

RDS Rotary Dynamic Sensor with new calibration procedure.

The easy-to-use, powerful **ScanWare**[PRO] software is now available for the **ScanMax®** coordinate measuring machine under a new-look Windows environment. With modern communication possibilities, it offers full integration into data processing and computer networks. It is designed to allow the operator to solve measuring problems by intuition, directly and quickly. All major function elements are available in pairs and easily identifiable: configurable function registers with icons, interactive graphics windows for the workpiece, easy to edit program list, configurable status information and measuring force display. **ScanWare**[PRO] also provides the measuring record as an additional HTML file.

ScanWare[PRO] software for **ScanMax®** coordinate measuring machine.

Camera Lenses

Four new lenses are now available for the 35 mm SLR **Contax®** N1autofocus camera.
The standard **50 mm Planar® T* f/1.4** lens is the fastest and at the same time the smallest and lightest lens for the **Contax®** N1. Special high-index optical glass ensures superb image quality, even at full aperture. The lens can be particularly

Contax® N1 autofocus camera with **24-85 mm Vario-Sonnar® T* f/3.5-4.5.**

recommended as an all-purpose lens for documentation, available-light photography, traveling, editorials and the flash-free photography of interiors. The compact **24-85 mm Vario-Sonnar® T* f/3.5-4.5** autofocus zoom lens provides the most popular focal lengths in 35 mm photography, even including extremely wide angles up to 84 degrees. Particular emphasis was placed on the very effective suppression of scattered light. The lens has a diameter of 87 mm and, depending on the zoom setting, a length of 96 to 125 mm. The lens weighs 610 g. The non-rotating filter thread has a diameter of 82 mm. It is possible to use high-quality optical filters and also a combination of two filters without vignetting.
The compact **70-300 mm Vario-Sonnar® T* f/4.5-6** autofocus zoom lens has been designed in such a way that it is suitable for most telephoto subjects. Its zoom range covers all focal lengths which normally allow good results to be obtained without the use of a tripod. The optical and mechanical designs provide high performance combined with small dimensions: diameter 88 mm, length 153 mm and weight 1.09 kg. The non-rotating filter thread has a diameter of 72 mm. Scattered light is effectively suppressed. The optical quality of the lens is such that it can be used for product photography.
First-class close-ups are possible with the **100 mm Makro-Planar® T* f/2.8** lens. The lens covers the full focusing range from infinity to 1 : 1 without any accessories. In addition, the lens features automatic correction compensation which adapts to the reproduction ratio set, maintaining image quality at a constantly high level throughout the focusing range. If used in slide duplication or similar applications, the lens provides results whose definition and brilliance are far higher than those obtained with commercial duplication equipment.
All Zeiss lenses supplied to Sony are now provided with T*-multicoating. The first is the **4.2-42 mm Vario-Sonnar® f/1.8** zoom lens in the digital DCR-PC 110 camcorder. Thus, the excellent brilliance and color rendition resulting from the anti-reflective multicoating system is now also available to the users of top-of-the-line digital still and video cameras from Sony.

DCR-PC 110 Camcorder with **4.2-42 mm Vario-Sonnar® f/1.8.**

Four new lenses are now available for Arriflex 35-mm-movie cameras. The **65 mm Planar® f/1.2** lens complements the line of super high-speed lenses and closes the gap between the **50 mm Planar® f/1.2** lens and the **85 mm Planar® f/1.2** lens. With the three new **28 mm Distagon® f/1.7**, **40 mm Distagon® f/1.7/** and **100 mm Sonnar® f/1.7** lenses, the ULTRA PRIME lens set now provides 12 different focal lengths from 10 mm to 135 mm.

ULTRA PRIME lenses for Arriflex 35-mm movie cameras.

Ophthalmic Products

The cold-light illumination system is now equipped with a liquid light guide which replaces the glass fiber bundle used until now. The higher transmission in the UV and visible spectrum yields "whiter light" and increased light intensity; the wear and tear caused by broken glass fibers is now a thing of the past. The light guide can be connected to different cold-light sources by means of an adapter. The almost 50% decrease in weight substantially increases wearing comfort. The new cold-light illumination system is compatible with the Head-worn Loupe **KS**, the Head-worn Loupe **KF**, and the Teleloupe Eyeglasses **G2**.

Cold-light illumination for magnifying visual aids.

The **Multi ET®** coating is now also available for glass eyeglass lenses. This is a multilayer antireflective coating with a lilac-colored residual reflection and a residual reflectance of only 1.2 %. This guarantees outstanding visual clarity, even in difficult light conditions. The **Multi ET®** for glass lenses also features Clean Coat for easier lens care. **Multi ET®** is available on all plastic lenses with the refractive index 1.5 and on all glass lenses with the indices 1.5 and 1.6. **Carat® Multi** is offered for all plastic single vision and progressive lenses with the refractive index 1.5 or 1.6.

Multi ET® coating now also on glass lenses.