Production of Carl Zeiss Cine Lenses Drastically Up Over Last Year

Cine Lenses are a very particular breed of optics. The image they produce on film is less than one inch wide (in the case of feature films, that are usually shot on 35 mm stock) but will later be projected onto screens up to 30 feet wide. So, enlarging ratios in the region of 500x are not unusual. Very high demands of imaging performance are placed on film stock and lenses alike.

Different from professional still photography, where focusing is normally done on a ground glass or focusing screen with special focusing aids like split field indicator or microprism arrays, focusing in motion picture production is not performed visually, even though cameras with reflex viewfinders are industry standard, but by using individually calibrated scales on the lenses. Providing those scales with the lens barrels is a quite demanding task both from a series production and logistics point of view.

Due to their stunning sharpness combined with extreme speed of up to T 1.3 Carl Zeiss lenses have been the premium choice for the motion picture industry’s most demanding directors of photography. However, these lenses had been in short supply.

Now, with reengineered logistics and after sizable investment, Carl Zeiss has overcome a bottleneck that, in the past, severely limited the production of cine lenses. Monthly lens shipment figures to Carl Zeiss’s partner in the motion picture business, Arnold & Richter (ARRI) in Munich, have recently gone up by more than 30% over last year’s numbers, giving ARRI’s sales a significant boost.

Carl Zeiss CB Lenses for Hasselblad – Made in Germany?

During PMA (Photo Marketing Association) exhibition in New Orleans, Feb. 12–15, industry gossip had it that the new lower priced CB lenses in the Hasselblad program were made somewhere in Asia. Otherwise lower prices for medium format lenses could not be imagined. Fact is, as everybody knows who visited the Carl Zeiss camera lens production facility in Oberkochen, Germany, lately: “The CB lenses are made by the dedicated workers of Carl Zeiss in Oberkochen along with the new Tele-Superachromat T* 5,6/350 CFE and all the CF lenses for Hasselblad.” Just as CLN reported in the no. 2 issue.

Hologon Ultra Wide Angle Lens – No End!

Gossip has been spread widely in recent months by photo dealers and via the internet, saying the unique Carl Zeiss Hologon 16 mm f/8 ultra wide angle lens for the Contax G-series system was being discontinued.

Fact is: The Hologon will continue to be part of the Contax G-series range of exceptional lenses. It is currently produced in larger numbers than Rolls Royce cars!

Carl Zeiss Planar CF 80 mm f/2.8 for Hasselblad elected “Best Medium Format Lens '97”

11,487 readers of “Color Foto” elected the Carl Zeiss Planar CF 80 mm f/2.8 the best lens in medium format photography. “Color Foto” is one of the two big monthly German photo magazines with roughly 100,000 copies in print. “Color Foto” conducts an annual contest where readers can choose from a preselection of more than 400 products grouped into 31 categories “the best” photo product of the year in each category.

In the medium format lens category the Carl Zeiss Planar CF 80 mm f/2.8 for Hasselblad cameras turned out winner in a field of 21 competing lenses. Following on no. 2 came another Carl Zeiss lens for Hasselblad, the Sonnar CF 150 mm f/4.

Carl Zeiss Tele-Superachromat 350 mm f/5.6 in High Demand

Introduced only a few months ago the new Carl Zeiss Tele-Superachromat T* 5,6/350 CFE has gained
Zeiss Goes Digital!

Sony PC 10 with Carl Zeiss Vario-Sonnar 1,8/4,4 - 52,8, the Top Selling Digital Handycam in Japan

A new product from the cooperation of Carl Zeiss and Sony turns out a real success. It gained no. 1 position of all digital camcorders selling in Japan within just a few weeks after market introduction. CLN will bring details on the Sony PC 10 in the next issue.

Contax Tix,
First ‘Advanced Photo System’ Camera With Carl Zeiss T* Lens

Carl Zeiss’s first step into the Advanced Photo System (APS) is the Sonnar 28 mm f/2.8 T* in Kyocera’s Contax Tix.

APS introduces a new smaller film format for still photography that enables camera manufacturers to produce much more compact and lightweight cameras than traditional 35 mm, responding precisely to a demand long voiced by a majority of camera buyers. And they are actually putting their money where their mouth is: APS cameras are currently the fastest growing product segment in the photo market with growth rates in the magnitude of several hundred percent per year, according to GfK market research data.

APS technology brings along many convenience features never available before, like easy drop-in film loading with automatic winding, positive film status indication on the cassette itself (unexposed, partially exposed, completely exposed, processed), three different picture aspect ratios (C like classic 35 mm’s 3:2, H like HDTV 16:9, P like 3:1 panorama) to choose from with a fingertip. The camera also can record magnetic information onto the APS film which comes with an optically transparent magnetic layer for that purpose. The information recorded is used by the lab machines to improve print quality and do text printing on the image side or the back side of each print. Index prints for easy archiving and retrieval are also benefits originally invented with APS.

The Contax Tix is a fully automatic top class APS camera with an all metal housing, containing everything a demanding snapper usually needs, like automatic exposure control (aperture priority with user-selectable aperture, or fully programmed), automatic film advance, autofocus, data imprint, text imprint in one of six languages, built-in automatic flash with four different operating modes. Strong and durable materials were chosen to make the Contax Tix a camera to last: The housing is made of highly corrosion-resistant titanium alloy, the viewfinder windows are made of super-hard sapphire, making them virtually scratchproof, and so is the shutter release button. The shutter itself is the fastest of any APS compact camera currently on the market, featuring 1/1000 of a second.

The big film manufacturers have introduced special new emulsions for APS with remarkably increased sharpness and reduced graininess. Adequate optics capable to exploit the qualities of the new emulsions need to be designed with particular emphasis on sharpness and resolution, not just come as variations of existing design concepts for 35 mm.

This is a perfect challenge for Carl Zeiss, and the new Sonnar 28 mm f/2.8 T* is exactly the type of high performing lens well suited for the small APS frames of 16.7 x 30.2 mm (the 35 mm frame is 24 x 36 mm in size). The Sonnar 28 mm f/2.8 T* was developed with this small APS frame in mind. The smaller negative requires approximately 20-30% more enlargement in the lab than the corresponding 35 mm frame. So special efforts were made by Carl Zeiss to achieve excellent correction of distortion and image flatness over a wide field, eventually modifying the 5-element Sonnar basic design, chosen for its compactness, into a 6-element/4-group configuration very similar to the classic Planar design. Particular attention was also paid to the close-up performance, since the Contax Tix can focus from infinity down to 0.35 m (about 1 foot).

Another important design goal was to maintain the Tix’s compactness while providing sufficient specc for most photographic needs, which means nothing less than f/2.8! Other wise the range of the built-in compact and sufficiently fast electronic flash would be too limited. Zoom lens concepts with adequate compactness result in a maximum aperture of around f/5.6 – even with extensive use of aspheric lens elements. f/5.6, however, was clearly unacceptable for the Contax Tix concept.

The Carl Zeiss Sonnar 28 mm f/2.8 T* is probably the highest performing lens currently available for the new APS format. Its resolution goes far beyond the level that can be utilized with handheld photography and thus begs for tripod usage – at least occasionally. So the camera comes with a tripod thread benefiting from the strength of the titanium housing.

In recent Carl Zeiss applications tests with modern 200 ISO films and subjects usually taken by snaphoschers, printed to postcard size the Contax Tix delivered razor sharp results and performed on the same high level as a Contax AX SLR with Planar 50 mm f/1.4, Distagon 35 mm f/1.4 and Planar 100 mm f/2. In this test it clearly outclassed several contemporary 35 mm snapshot camera: proving the high class of the new Contax Tix.
How To Determine the Resolution Actually Reached in a Photograph - A Practical Example

Let us assume we are about to take a photo of a landscape. Somewhere there is a farm. And a wooden fence. Its white painted vertical slats, each about two inches wide (which we will convert to 50 mm) and spaced with about two inches distance to the next slat (we may have to go there and measure these values), stand clear against some darker background. This wooden fence represents a structure of dark and bright lines similar to those in resolution test targets. Let us further assume that we are using a Carl Zeiss 50 mm Planar standard lens and a Contax SLR camera. The fence may be a quarter of a mile away (as a map can tell us or a binocular with a distance measuring device).

Now, let’s make a rough calculation of the resolving task facing our imaging system: From a quarter mile distance, which is about 400 meters, the reduction ratio, let’s call it “r”, for the fence to be imaged on film with the 50 mm lens, is as follows: r = focal length divided by object distance, expressed in the same unit. This gives: 50 millimeters/400 x 1000 for a ratio of 1/8000.

So the original subject, the farm and the fence, and every detail will appear at 1/8000th of its original size in the negative (or slide, whichever you prefer). One slat plus one space, both representing one line pair in the original subject, are 4 inches wide. This equals roughly 100 millimeters. Reduced by the reduction ratio of 1/8000 it should appear on film with this width: 100 millimeters/8000 = 1/80 of a millimeter. So 80 fit into 1 millimeter, which means, we are about to resolve 80 line pairs per millimeter.

Can our imaging system handle this task? For a Zeiss Planar in a Contax camera and any modern 100 ISO film, 80 line pairs per mm is an easy challenge, if we focus precisely and avoid unwanted vibrations (by using a good tripod). So let’s go ahead and take the picture. The fence should be well resolved in our photo.

Or, the other way round: If we took the photo and later found the fence resolved, then we knew we did achieve at least 80 line pairs per millimeter.

Why Carl Zeiss Lenses for Contax are Made in Japan

It was not long after Zeiss Ikon AG of Dresden introduced the Contax – the most ambitious and most exclusive 35 mm precision camera of its day in 1932, when the first Contax club of the world was founded. This memorable event took place not in Dresden, not in Jena nor Berlin, – but in Tokyo! Ever since that time Contax enthusiasm remained fascinatingly strong in Japan.

While post World War II Zeiss Ikon AG in Stuttgart ceased to exist in 1972, and with it, Contarex, Contaflex, Icarex, and Hologon Ultra-wide cameras disappeared from dealer’s shelves, the strong Contax enthusiasm was still alive in Japan. Talks took place between officials of Carl Zeiss of Oberkochen, owner of former Zeiss Ikon AG, and officials of the Japanese camera industry about a joint development and production of a modern 35 mm camera, which had already been envisioned by Zeiss Ikon’s engineers, equipped with the latest electronic features and with high quality lenses from Carl Zeiss.

These talks led to a cooperation between Yashica, at that time Japan’s leading manufacturer of modern cameras with electronic features and Carl Zeiss. The outcome was the Contax Real Time System (RTS). It turned out to be an instantaneous success, especially in Japan! Soon it became apparent that the majority of Contax RTS products, lenses in particular, were sold in Japan.

In a time, when the cost of manufacturing high quality optics in Germany was on the rise, but was flat in Japan, lens price became the limiting factor for the success of the new Contax. To free the young system of this limit, Carl Zeiss transferred the production of lenses for the Contax system to the country that was buying most of them anyway. In favour of this decision was the fact that Japan has, as well as Germany, a very mature infrastructure regarding the production of photo optics. Also, Carl Zeiss has a strong presence there already. So Carl Zeiss transferred machinery, know-how, and personnel to Japan and built up a lens production facility that could produce Contax lenses in accordance with Carl Zeiss quality standards.

In recent years the cost advantage of quality optics production in favour of Japan has decreased. Top quality optics made in Japan are no longer really cheaper than those made in Germany. Today, manufacturing costs alone could not justif the move from Oberkochen to Oume. But the strong demand from the Japanese market for Contax lenses would again lead to the decision, to manufacture them where most of the customers are anyway.