ZEISS HISTORICA

Journal of the Zeiss Historica Society • Volume 30 • Number 2 • Fall 2008

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The Zeiss Historica Society of America is an educational, non-profit organization dedicated to the exchange of information on the history of the Carl Zeiss optical company and its affiliates, people and products from 1846 to the present.

Material for the journal can be sent to the Editor at 4507 Mountain Path Drive, Austin TX 78759 USA for his consideration. E-mail: editor@zeisshistorica.org. Annual membership dues: $40 (USA), $50 elsewhere. Credit-card payment option (Mastercard, Visa) is available. Dues include subscription to *Zeiss Historica*, airmail postage overseas. Send general enquiries to PO Box 556, Mount Kisco, NY, USA. **Website:** www.zeisshistorica.org

Printing by Minuteman Press,
8711 Burnet Rd., Ste B-33 Austin TX 78757

Front cover: An Asesino binocular telescope on its tripod, looking towards a fjord in Norway. Frank Doherty and Stephen Rohan tell us, in their article starting on page 5, that the Asesino had 150 mm objective lenses and oculars for 30×, 40×, and 50× magnification. The photographer is unknown.

Back cover: On the Carl-Zeiss-Strasse in Jena, Ferdi Stutterheim photographed the Ernst-Abbe Hochhaus during the "sentimental journey" that he describes in his article starting on page 2. The building is now the home of the head offices of Jena-Optik.

President's Letter

I am sorry to say that this has been a very difficult year for me. I am still quite hindered by my surgeries in March and April with plans for additional repairs in the coming months wherein I hope to resume a more normal lifestyle.

Since my activities have been limited, I still have not accomplished my assignments with regard to the membership dividends for 2006 and 2007. However, I do have in my hands the images for the disk of the Goldberg Kinamo movies from the 1920s and I can vouch for them being interesting and clearly watchable. They were the first movies created using the Kinamo camera, invented by Professor Emanuel Goldberg, that brought movie making to the amateur community. Its step-down motor drive kept the film advancing at a fixed speed, long enough to shoot a scene lasting more that 15 or 20 seconds. I know that this will be a great treat for cinema enthusiasts.

My other work is a disclosure of the breadth of the products of all the Zeiss-affiliated firms so that we can better understand the collection of their instruments. This aim, of course, is a moving target with the agreement of Kyocera/Yashica contract coming to a close in a few more years when the trademark of Contax will go back to the exclusive use of the Zeiss firms.

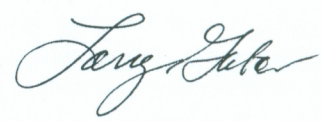
As I recover, I will work to complete this work and have it and the new disk to our membership in the mailings of the Spring issue of the *Zeiss Historica Journal*.

I can report that I have finally completed the book I have been working on for the past four years. I have produced a completed version of the material regarding the history of the Zeiss microscopes from 1846 to 1945. The book is now at the printer and should be available by the time that this text comes to you. Since I will be traveling for medical reasons for the next few months, the book will be available from the enterprise of one of our members. Petra Kellers owns the firm of camerabooks.com and will be handling the sales for me. We do not yet know the cost of the book because the final cost of manufacture and distribution are not yet firm, but it will be more expensive than my binocular book since it is in a larger format (8.5 × 11 inches, or approximately A4) and includes a great number of color images that make the book more costly to print and bind.

Petra offers a 10% discount to all *Zeiss Historica* members for this and any other non-antiquarian book at her website. She also has the second printing of my binocular book for sale as we are thinking of producing a second edition of this book with materials that have been sent to me by members and other binocular enthusiasts which add to the knowledge and documentation available when the book was first published in 2004.

Zeiss continues to increase the number of camera mounts for its excellent lenses as they continue to go forward in the market for film cameras, while also providing high-quality lenses for the new DSLR cameras being produced by Sony. Information on Zeiss photographic products is available at their website, www.photo-shop.zeiss.com, which is available in both English and German. You might wish to look into some of the new products that became available at Photokina last September. The lenses are available not only in Leica M mounts but also in Nikon, Canon EOS, and Pentax mounts, which allows you to use them on more classic cameras.

Finally, I wish you and yours the blessings of the holiday season and the success of a new year. Please remember that we are interested in your comments and interests and I am available for questions and comments through the question process at www.zeisshistorica.org.



A sentimental journey to Dresden and Jena

Ferdi Stutterheim, Drachten, The Netherlands

Escaping a diet of art galleries in order to visit the birthplaces of our favorite cameras and lenses and see what time has done to them.

Each year our local museum in Drachten organizes a foreign tour to museums and art galleries, and my wife Ann is a keen participant. Let me first explain that the word "museum" in most continental European languages comprises what is called both a "museum" and an "art gallery" in the English language. (At least in the English language as used in Britain; in America one finds "art museums," a term unknown in England.) This year the tour was to the German cities of Dresden, Leipzig, Erfurt and Weimar. Usually I do not participate. For me, trotting through three art galleries per day for a week is too tall an order. However, visiting Dresden and Weimar was tempting. I decided to join provided I could make my own plans.

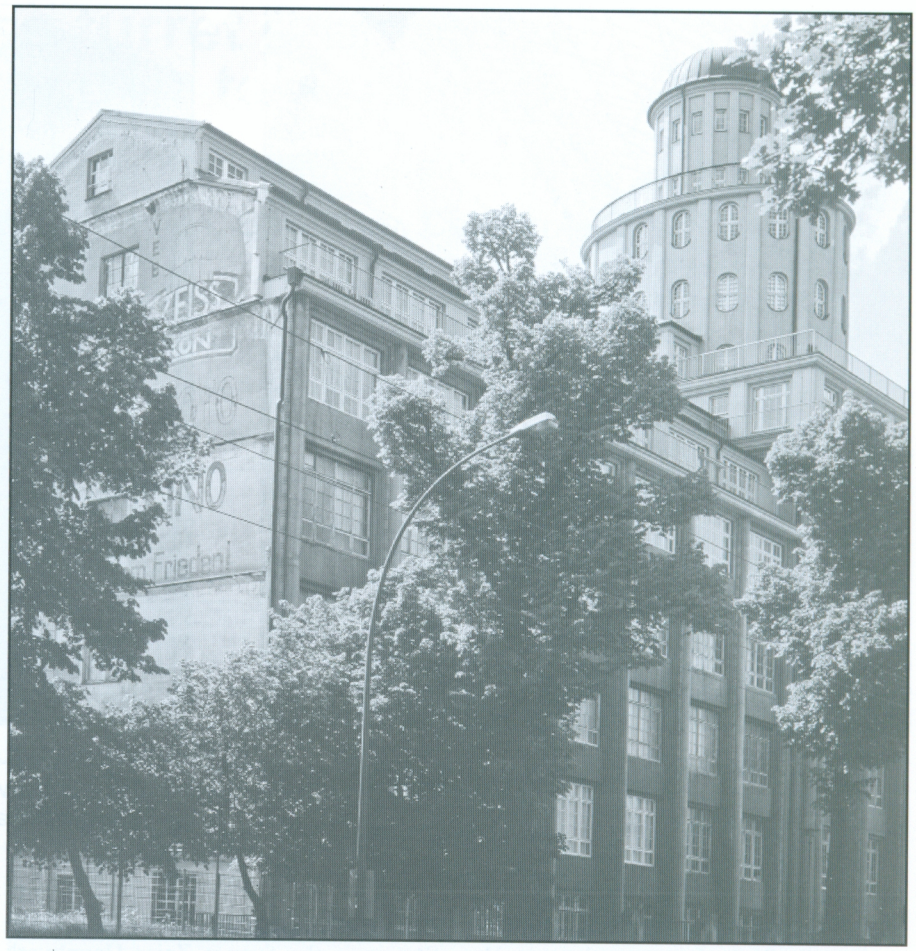
Dresden

On the first day, when the group was on its way to visit the paintings and Meissen of the Dresden Zwinger exhibitions, I decided to be let the arts go and take the No.4 Stadbahn (City Railway) from Theater Platz. After a 15-minute ride I reached Schandauer Strasse and got off at the stop "Pohland Platz—Technische Sammlungen." About 50 meters down the road at no.48 I found the Ernemann-Werke with the famous Ernemann Tower. (See figure 1, opposite above.) In a later era it became known as the Pentacon Tower. The Ernemann Works are now home to the municipal collection of technical instruments, but unfortunately I had no time to see the collection—there was just time to take my Rolleiflex TLR out of the bag for a few pictures. On the back wall of the factory a faded reference to Zeiss-Ikon days was faintly visible. Time to move on; there must be more to see!

I continued to walk up Schandauer Strasse, hoping to find another Zeiss-Ikon building. In about 500 meters, there it was at no.76: The ICA-Werke, home of the Contax cameras. It was somewhat desecrated by a huge estate-agent's sign indicating "Pentapark," but the building itself was completely restored and refurbished into modern offices ready to be rented. (See figure 2, opposite below.) I myself would have preferred "ICA-Haus" to "Pentapark," but I suppose to the local community the memory of the huge Pentacon Works is much stronger than the memory of the pre-Zeiss-Ikon ICA factory. Anyway my Contax II was made here. The No.4 took me back to Theater Platz just in time to join the group for tea. Well, beer.

Jena

A few days later while at Erfurt I planned another escape from the arts. The group was off to the Wartburg castle where Martin Luther translated the Bible into the German language. Not for me. We Dutch are all first and foremost followers of Calvin rather then Luther anyway. More importantly I wanted to take the train to nearby Jena. On our way to Jena the train passes the distant monu-



The Ernemann-Werke in Dresden, with the Ernemann (or Pentacon) Tower. It now houses a collection of technical instruments. Notice the rather faded "Zeiss Ikon" logo on the wall to the left of the photograph.
Figure 1

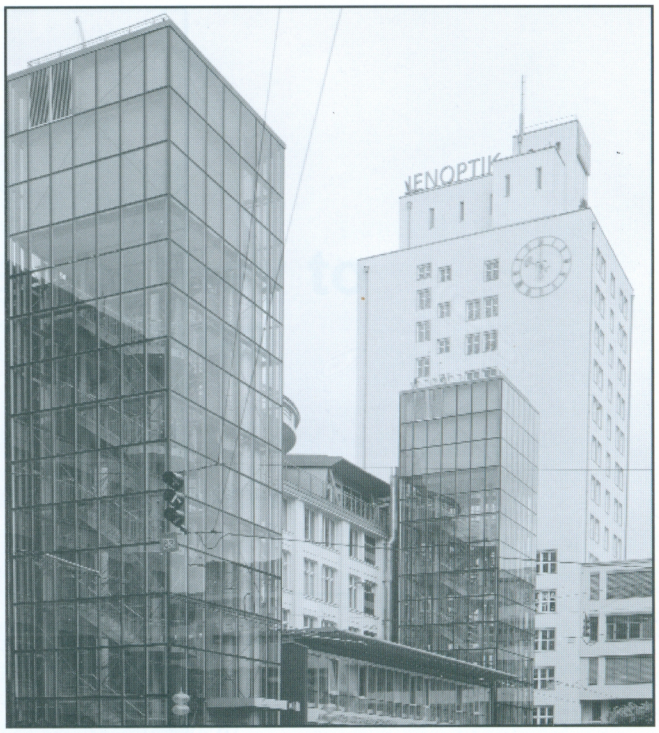
ment at the former Buchenwald concentration camp.

After getting off the train at Jena Westbahnhof (Jena West railway station) I took a five-minute stroll to the Carl Zeiss Platz. In the centre of the Platz I found the rather uninspiring Ernst Abbe Memorial. On my left were the "Volkshaus" (People's House) and the Optical Museum, both now owned by the Ernst Abbe Foundation. The Volkshaus was established by Ernst Abbe around 1900 and is a cultural centre. Well, I can boast that I visited a museum that day. The Optical Museum houses a good collection of microscopes and planetarium equipment from the pre-war and GDR era and just a few cameras that were actually made in Jena. Among them are the famous Jena Contax. It was explained to me that the Jena Contaxes had the letters C and O, and the A and X, in the Contax name further apart than the Dresden ones.

Probably the best part of the Optical

The ICA-Werke, also in Dresden. This building is where ICA cameras were made before the "Zeiss Ikon" merger, and Contax cameras afterwards. It has been turned into an office building called "Pentapark."
Figure 2

The Goethe passage in Jena, next door to the Ernst-Abbe-Haus. It is a shopping mall, but offers good views of the Abbe Haus from the upper level. Figure 3



The Ernst-Abbe-Platz in Jena, apparently on the site of the old Zeiss Hauptwerk courtyard. Except for Jenoptik offices, no Zeiss-related activities remain here. Figure 4

Museum is a replica of Carl Zeiss's old optical workshop. A retired "Meister" (Master Craftsman) gave us the tour. He demonstrated the grinding and polishing of optical glass using nineteenth-century tools under the original workshop oil lamps that were then the only light source. By switching off the modern lighting the Meister demonstrated it must have been nearly pitch dark in those days. Apprentices had to pay Zeiss 100 Thalers per year for instruction, and in addition they paid for the lamp oil they used.

On the other side of the Platz I found what it was all about. No.1 Carl-Zeiss-Strasse is the former Zeiss Hauptwerk (Main Factory) with the Ernst-Abbe-Hochhaus. (See the back cover of this issue of *Zeiss Historica.*) A Hochhaus, literally a "tall building," is the German name for a tower building. This 1935 tower, not exactly a skyscraper by modern standards, was in those days high enough to be called a tower. The tower now shows the Jenoptik name in capitals, being the home of the Jenoptik head-office. A plaque testifies to its place in history as Zeiss headquarters. A photo gallery in the Hochhaus was closed the day I was there because it was a Saturday. The Zeiss factory area was completely redeveloped in the 1990's with the production facilities now replaced by offices and shops in the restored buildings.

Next to the Ernst-Abbe-Haus is the Goethe Passage, a two-level shopping mall. (See figure 3, above left.) From the mall, looking through the glass roof, I had a good view of the dome of the former roof-top planetarium. The present-day Zeiss planetarium is in a new building in a nearby park.

The former Hauptwerk comprises an entire block in the city centre of Jena. What I believe was a former factory courtyard is now opened up and named Ernst-Abbe-Platz. (See figure 4, above right.)

Some offices in the former Hauptwerk are now used by the Friedrich Schiller University. In the city center, memories are all that is left of Zeiss. Both Jenoptik and Carl Zeiss have moved production facilities to locations outside the city center. ❐

For those planning a similar visit

In Dresden city centre, in Theater Platz for instance, take the No.4 Stadtbahn (City Railway) to Laubegast. Note that the No. 4 also runs in the opposite direction to Radebeul West; the directions are clearly indicated on the electronic displays at the stops. Get off at "Pohland Platz—Technische Sammlungen" for the Ernemann works and two stops further at "Altenberger Strasse" for the ICA (Contax) works. It is a 15-minute ride.

Jena has two railway stations, Jena Paradise Station for long-distance travel and Jena West Station serving the local region. Leave Jena West Railway Station at the station building side. Opposite the exit is a small bus station. Well hidden behind the buses is a billboard showing a Jena town map. (Of course the map itself is not visible from the front. You have to walk to the back to see it.) Anyway, from the station exit turn left into the street. At the next crossing you will find a tunnel on your left where the elevated railway crosses the street. At this point turn right into Westbahnhof Strasse. A few hundred meters down the road at a crossing turn left into Ernst Haeckel Platz. It is sign-posted "Volkshaus." After about 100 meters you will reach Carl Zeiss Platz.

Zeiss turret terrestrial binocular telescopes

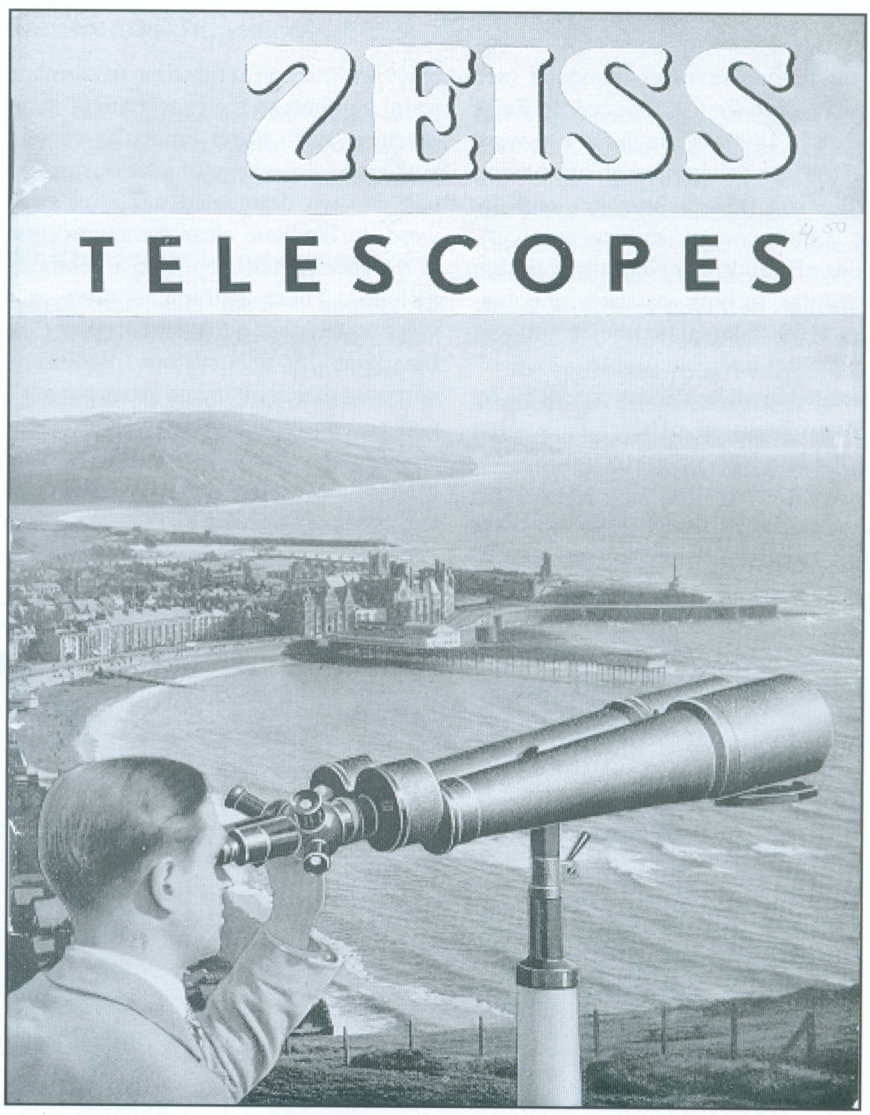
Frank Doherty, San Diego, California

and Stephen Rohan, Bradbury, California

Instruments of this general type were produced by the Carl Zeiss Astro Division from the 1890s until the mid 1970s, and — although rare — can still be found.

We have found the study of Zeiss terrestrial telescopes of great interest and will try to share some of our research and knowledge of these instruments. We believe that this knowledge will be of interest both to binocular and telescope enthusiasts.

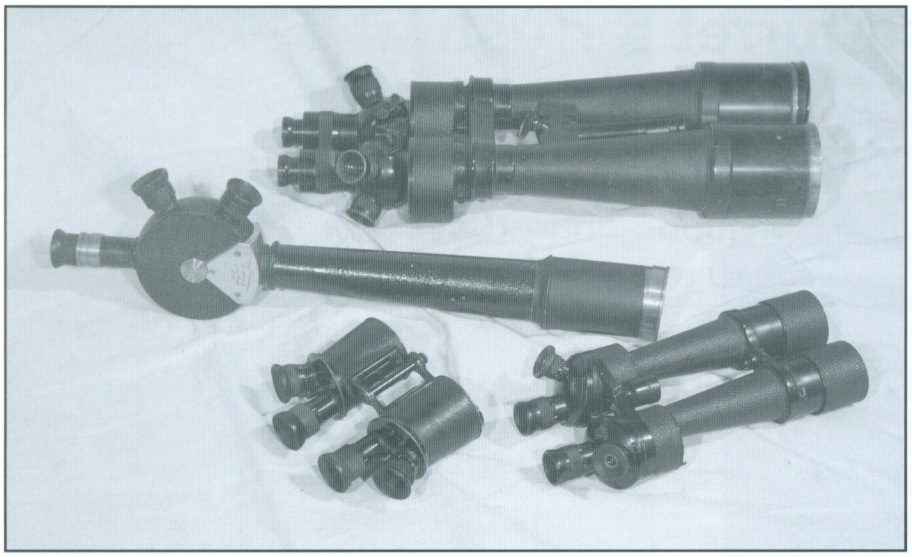
"Terrestrial" telescopes have a right-side-up image as opposed to astronomical telescopes, which usually show an inverted or upside-down image. We will be dealing mainly with the binocular versions, known in German as *doppelfernrohr*, or "double telescope." Astronomical telescopes have interchangeable eyepieces that have to be changed to vary the magnification. Binocular terrestrial telescopes, on the other hand, use a revolving turret that facilitates the immediate change of magnifications. So the full description becomes "turret terrestrial binocular telescopes," which will be referred to simply as "turret binoculars" in the remainder of this article. Figure 1 shows the cover of Zeiss Astro 94, dating from 1935, which illustrates the kind of instruments we will be discussing. These instruments were covered in an "Astro" catalog, since turret binoculars were manufactured by the Zeiss Astro Division and can also be used for astronomical observations.



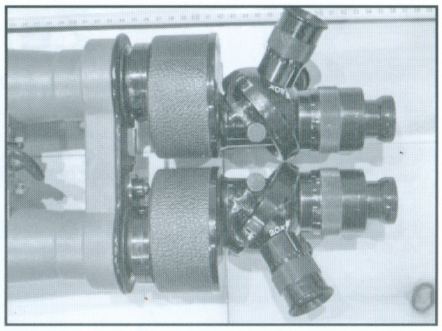
The cover of the Astro 95 catalogue, dating from 1935. The illustration shows an Asenglar in a scenic location, perhaps for public use. Figure 1

Early days

The use by Zeiss of eyepieces in a turret arrangement dates back to the nineteenth century. The *dossenfernrohr* telescope



An array of early Zeiss turret instruments, including the *dossenfernrohr* (roof prism) telescope and the marine revolver binocular. Figure 2

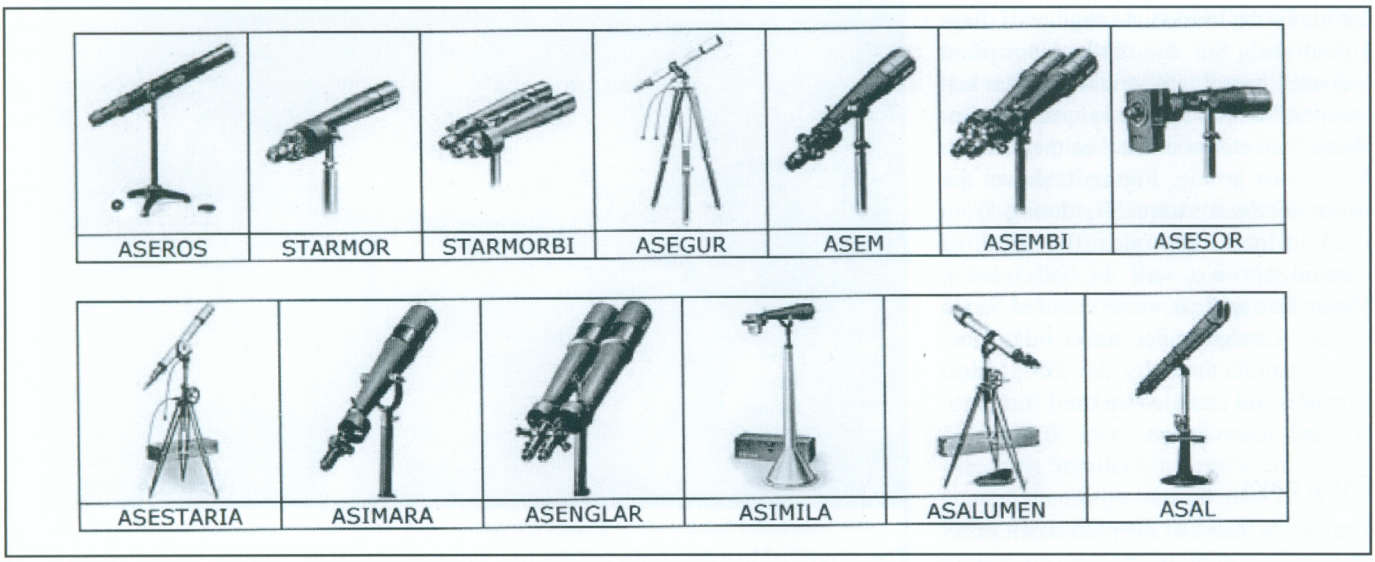


An example of the turret locking lever found on early Zeiss instruments. It was replaced with an internal stop in later designs. Figure 3

and the marine revolver binocular (see figure 2) were first introduced by Zeiss in the early 1890s. Though the two were not of the same construction, one having a roof prism (*dossenfernrohr*), and the other a Porro prism (marine revolver), the idea of a multi-eyepiece turret design was similar. In both instances, the eyepieces were integral to the instrument and were not interchangeable.

Turret binoculars were produced by the Astro Division of Carl Zeiss Jena from the late 1890s until the mid 1970s. They were given their own serial number sequence, separate from the other Zeiss binoculars. We do not have sufficient information at this time to correlate serial numbers to the exact date of manufacture. Each turret binocular version and optional package of accessories and had its own designated name, or code word, to facilitate clear communication of the specific telescope and accessories included. These instruments were provided with either a leather carrying case for portability, or a custom fitted transport box, which often had space for a tripod and an elevating rod tripod extension to facilitate astronomical use. Finding a complete set today in its original transport box is a rarity.

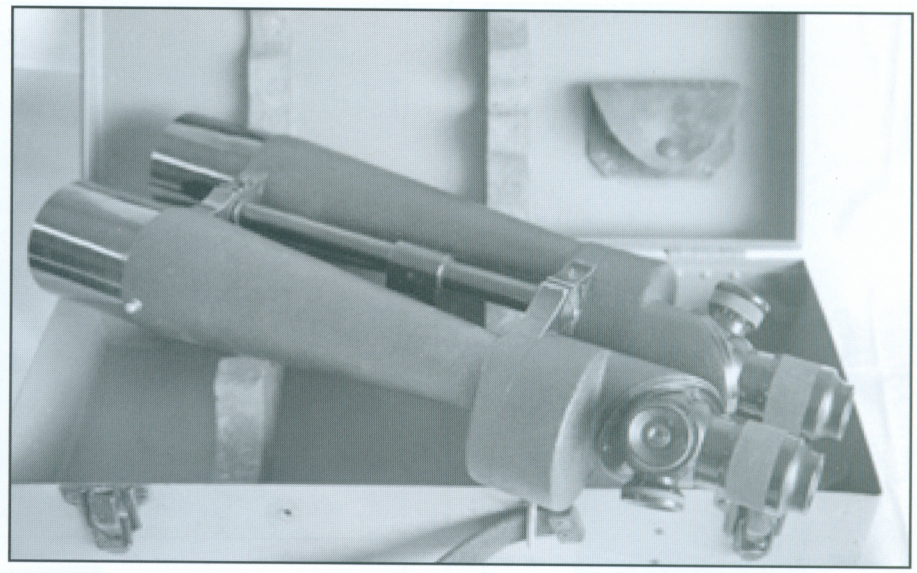
Because turret binoculars possess the combination of variable magnification, with great light-gathering capability and clear definition, military strategists eagerly seized upon their development. In World War I the German military used the turret binoculars for aircraft target identification and naval observation, as well as for normal terrestrial observation purposes. The most common World War I military turret binoculars was the Doppelfernrohr (or DF) 12×, 20×, 40× magnification turret binocular with 80 mm objectives. This model was later designated the Asembi in commercial catalogs. The 33×, 52×, 72× magnification turret binocular with 110 mm objective lenses was the largest turret binocular used during World War I. In the Sino–Russian war the marine revolver binocular was immortalized when



An illustrated list of Zeiss turret instruments taken from the Astro 94 catalogue. Figure 4

Admiral Tojo was pictured using one during the defeat of the Russian fleet by his Japanese Naval fleet.

Turret binoculars were also offered to the public. Turret binoculars were purchased primarily by wealthy individuals, private firms, or government organizations due to their high cost. Zeiss cleverly placed several of these big turret binoculars in public open-air locations, to advertise the superiority of Zeiss optics. Over time, many of these instruments did not survive due to exposure to the elements. The remnants of one, a 110 mm Asaltur, can still be seen at the South Rim Village in Grand Canyon National Park.



A Starmobi in its transit case. This particular instrument was manufactured by Nedinsco in the Netherlands. Figure 5

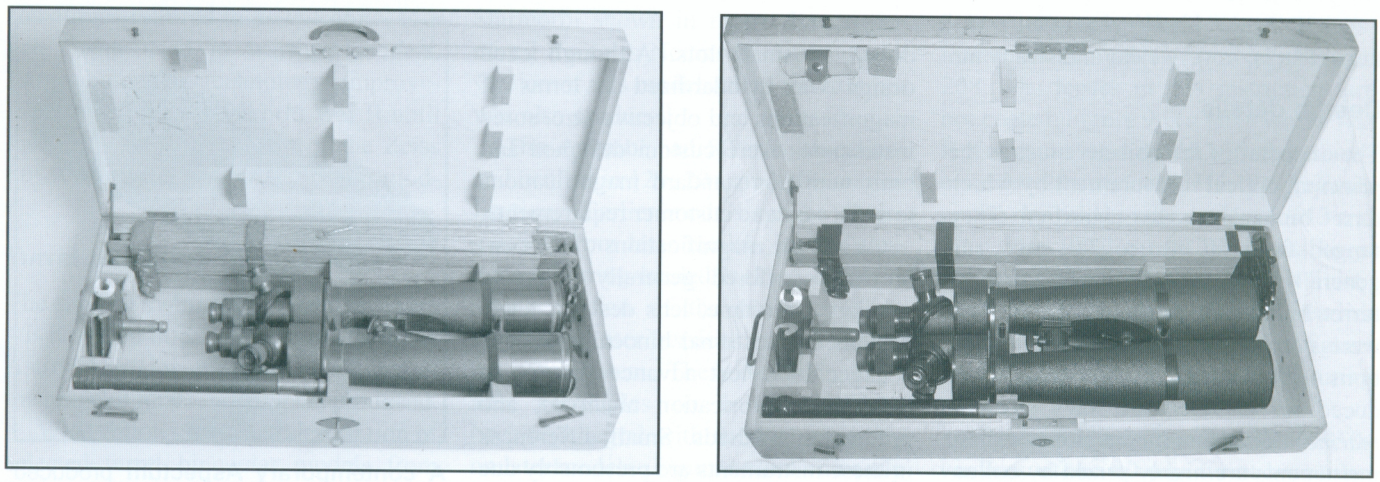
Later developments

After World War II, manufacture of turret binoculars continued. The last turret binoculars were produced by Carl Zeiss Jena in the late 1970s. The turret design was replaced with an instrument having 80 mm objectives with 500 mm focal length, and a single variable-power ocular that could be adjusted for 20× or 40× magnifications. The two-tube body style of the earlier models changed to a unibody form. That design was eventually replaced with Aspectem models, which were designed by Carl Zeiss Jena and were the last turret binocular produced when Carl Zeiss Jena ceased production. The Aspectem was provided in 30× and 40× magnifications as well as variable 20 to 50× magnification. A small number of Aspectem models were produced with the Carl Zeiss Jena logo, after which the Docter Optic Company of Germany continued the production of the Aspectem.

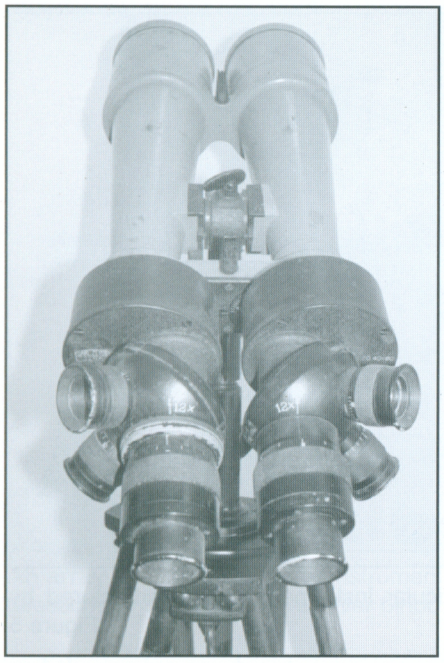
Why binocular turret designs?

Turret binoculars have a number of advantages over standard binoculars and telescopes. The prism housings can be rotated for interocular adjustment, as in a standard binocular. The prism housings can also be rotated outward to permit simultaneous monocular observation by two people. Most turret binoculars have a turret assembly with the three incorporated eyepieces of low, moderate and high power. The images provided by turret binoculars are generally brighter than with typical binoculars, because of the larger objective lenses. Picture sharpness is exceptional, and, because the distance between the objectives greatly exceeds the interpupillary distance, a very pronounced "plastic" or stereoscopic effect is obtained.

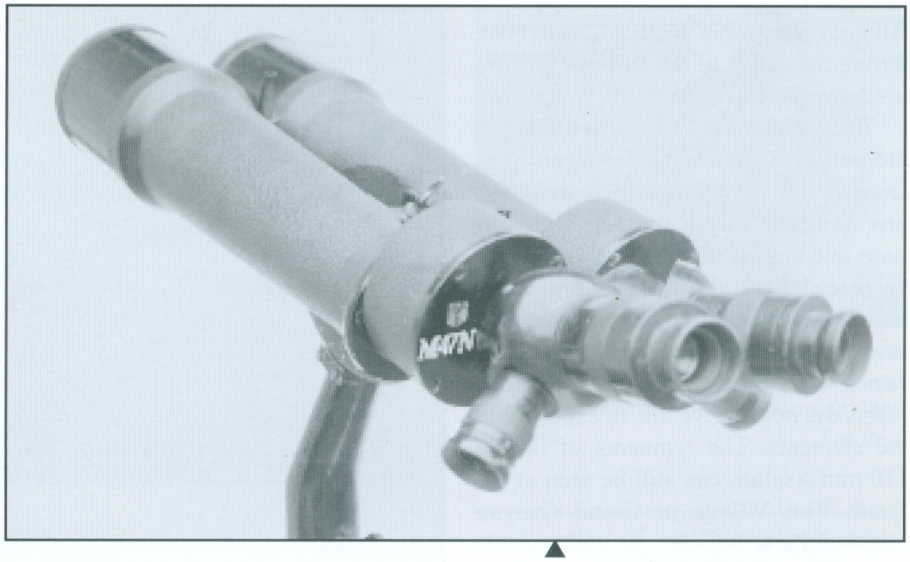
In turret-binocular observation the eyepieces of the lowest power are used for scanning the landscape, or for spotting a particular object. Higher magnifications can then secured by turning the turret eyepieces to the moderate or high magnifications. The higher magnification is often reserved for viewing under the most favorable observation condi-



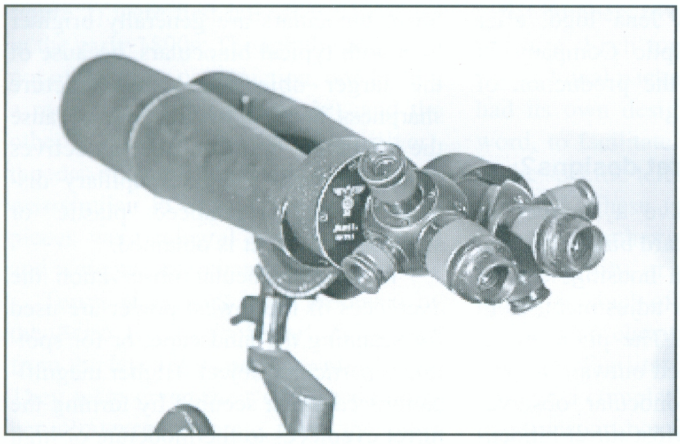
Two Asembis in their original transit cases. The one on the left is the earlier model, the one to the right is later. Note the different sunshades. Figure 6.



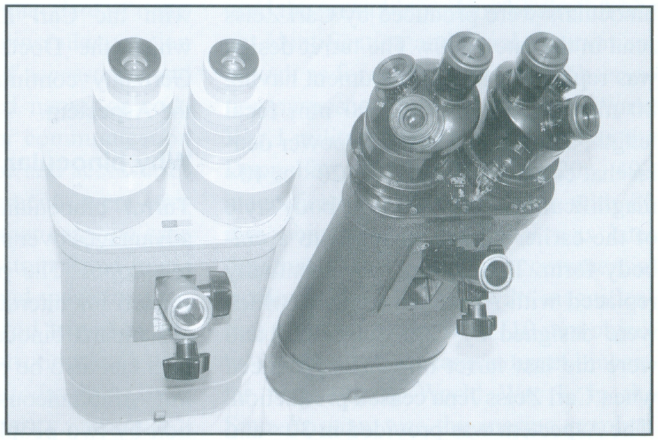
◀ **An Asembi** from World War I as refurbished, and the lenses coated, by Zeiss. Figure 7



▲ **A very rare Asembi** with Kriegsmarine markings and two-power turrets. Figure 8



A Kriegsmarine Asembi from the World War II period with three-power turrets (12×, 20× and 40×) and coated lenses. It is made of lighter metals than earlier models. Figure 9



Two postwar 80/500 telescopes. The one on the left has two powers, (20× and 40×) and other, with 20×, 31× and 50× turrets, was designed for border observations. Figure 10

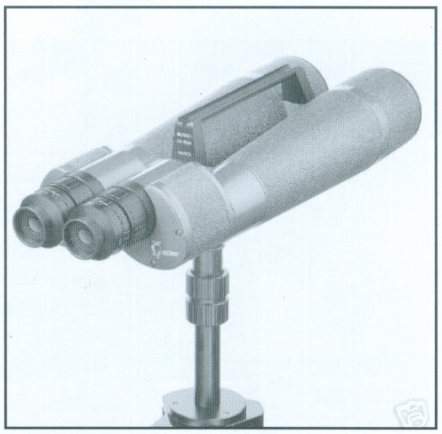
tions; that is, in very clear and steady air.

Design details

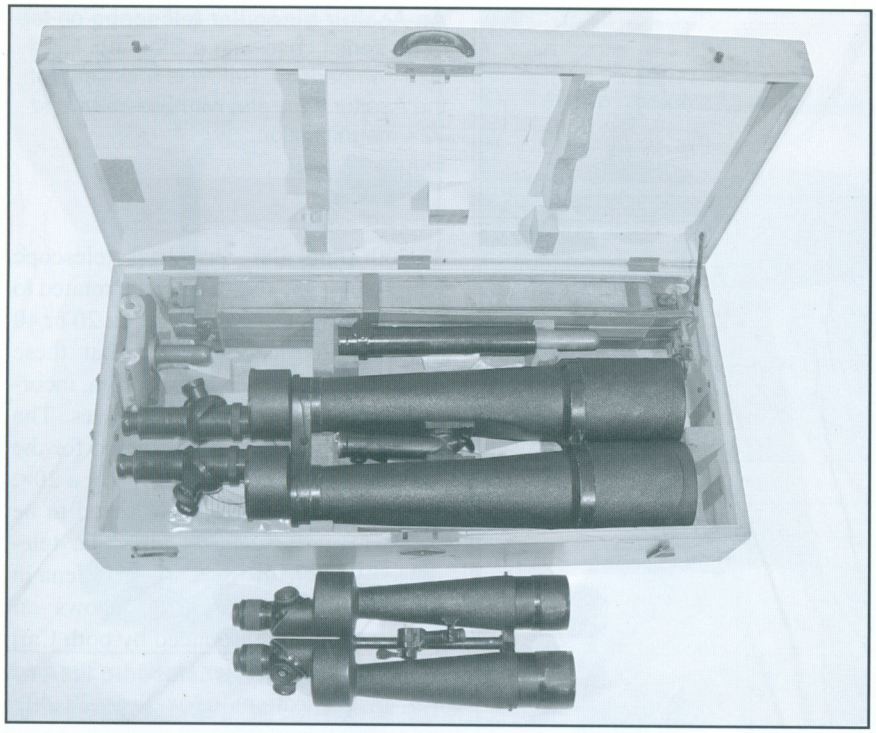
The diameter of the objective lens is the principal optical measurement by which turret binoculars were classified. They ranged from 60 mm to 240 mm, and generally speaking, the lenses of these turret binoculars produced up to 1945 were not optically coated. The exceptions are those turret binoculars produced for the German Navy (*Kriegsmarine*). Kriegsmarine versions of these instruments are highly prized by collectors and quite rare.

Turret binoculars were generally produced in small lots. Although each design was standardized in terms of magnifications and objective size, some instruments were custom designed and built with non-standard magnifications to satisfy unique customer requirements.

While the magnifications of the ocular lenses offered generally remained standard over time, lens designs, turret designs, and external binocular designs changed to reflect advances in optical technology, fabrication materials, and production methods. Small differences in these instruments are presumably due to engineering changes, which, along with the custom orders referred to



A contemporary Aspectum produced first by Carl Zeiss Jena and later by Docter Optic. Figure 11



An early Asenglar binocular telescope shown in its original transit case (left) and a closeup (above) of the turret eyepieces with 15×, 30× and 50×magnifications. A Starmobi is placed next to the transit case for size comparison. Figure 12

above, resulted in many variations of the same model.

One major change to the turret binocular ocular design between the earlier and later turret binoculars was the use of a spring-loaded locking lever on each turret. Pressing this lever allowed the ocular head to be rotated. Later models eliminated this lever in favor of an internal stop (see figure 3).

The shape or taper of the external body tube also changed, thus distinguishing early and later designs. Turret binocular coverings evolved from leatherette to a hard rubber substance, sometimes referred to as vulcanite, to a grit finish used in wartime models. Large binocular technology improvement continued after World War II until the 1990s with the advent of the Zeiss 80–500 and the Aspectem 80 mm models.

Turret binocular overview

The array of instruments shown in figure 4 is based on information taken from the Astro 94 catalog and gives some idea of the range of turret instruments produced.

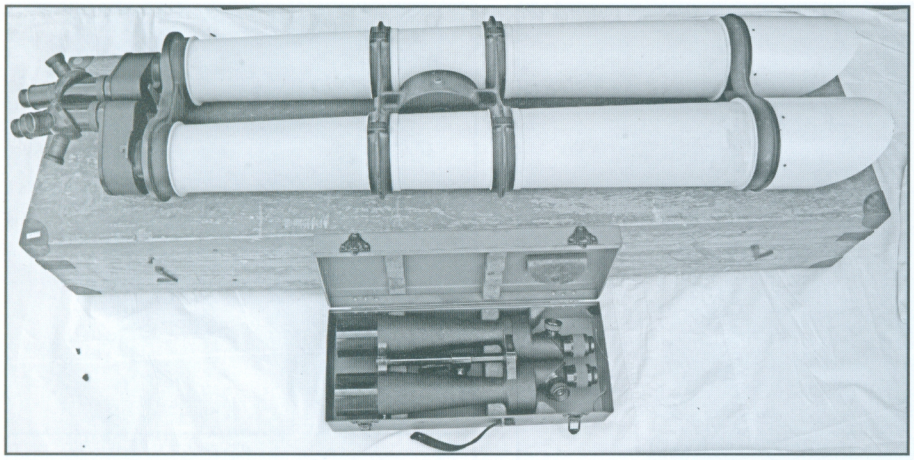
What follows is a brief description of selected turret binocular models from the smallest to the largest objective sizes. Most models were produced in binocular as well as monocular versions.

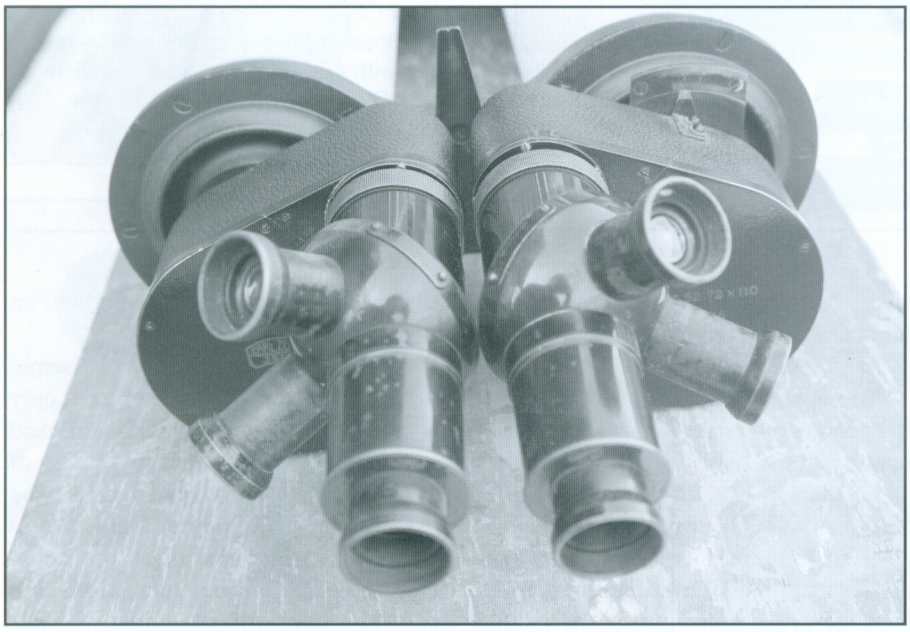
The Starmorbi is the most commonly encountered turret binocular. It has a length of just over 48 cm (19 inches), and oculars in 12×, 24×, and 42× magnifications with 60 mm objective lenses. This instrument has extendable sunshades and, like all of the turret binoculars, the prism housings can be rotated for interocular adjustment. This instrument was light enough to be easily carried, and most models were provided with a leather carrying case. The Starmorbi shown in figure 5 was produced by Zeiss Nedinsco. A monocular version of this model called the Starmor was also produced.

The Asembi had 80 mm objectives and oculars in 12×, 20×, and 40× magnifications. Earlier models can be distinguished from later models by the presence of spring-loaded locking levers to allow rotation of the turret eyepiece assembly. Later versions have an internal stop system. The extendable movable sunshades on earlier versions became integral with the body housing on later models. Figure 6 shows an early Asembi in its transit box on the left, and a later model, also in its transit box, on the right.

Kriegsmarine models of the Asembi are very desirable to collectors, not only as a result of their historical value and markings, but also because many of these models have coated lenses. The Asembi shown in figure 7 is a World War I Kriegsmarine turret binocular. This model has a graticule on the left side, 12 power, and is marked with a T indicating coated lenses. These coatings were most likely added when the binocular was sent back to the Zeiss factory for refurbishment. The Asembi in figure 8 is a rare early World War II Kriegsmarine model with two powers, 12× and 20×. The lenses in this instrument are not coated. Figure 9 is a later World War II Kriegsmarine Asembi with three powers, 12×, 20× and 40×. It has a graticule on the right side in the oculars for 12 and 20 powers. The model has T markings indicating coated lenses and a grit finish. This model is lighter than the earlier Asembi models indicating that lighter metals were used in the manufacturing process

Figure 10 shows two Post War, 1950s versions of the 80 mm turret binocular. The binocular telescope on the left is the





An Asaltur binocular telescope on top of its transit case with a Starmobi for size comparison. Below is a closeup of the Asaltur's turrets, with 33×, 52× and 72× magnification.
Figure 13

80/500 binocular terrestrial telescope with a single ocular that can be rotated to the left or right to provide either 20 or 40 power magnification. Note that these models have a single body design, incorporating two 80 power objectives. The model on the right was designed for the military for border observation in a 20×, 31×, 50× powers, and is believed to be the last revolving turret binocular telescope model made by Carl Zeiss Jena in the mid 1970s. Figure 11 shows an Aspectum model produced by both Carl Zeiss Jena and Docter Optic in 30× and 40× magnifications as well as 20–40× magnifications.

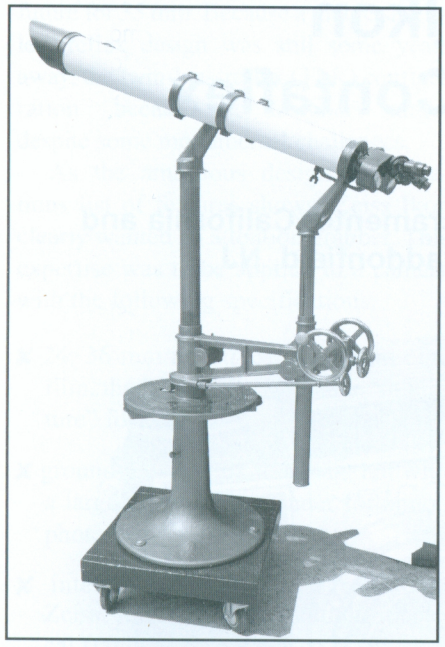
The Asenglar had a 110 mm objective, and oculars in 15×, 30×, and 50× magnifications. It is much larger than the Asembi with a length of 84 cm (33 inches). Earlier versions of this turret binocular, as shown in figure 12, had extendable sun shades, with hinge-mounted covers to allow for step down of the aperture to increase definition during day-time use. This type of step-down aperture is similar to that used on the wartime 12× 60 mm and 25× 100

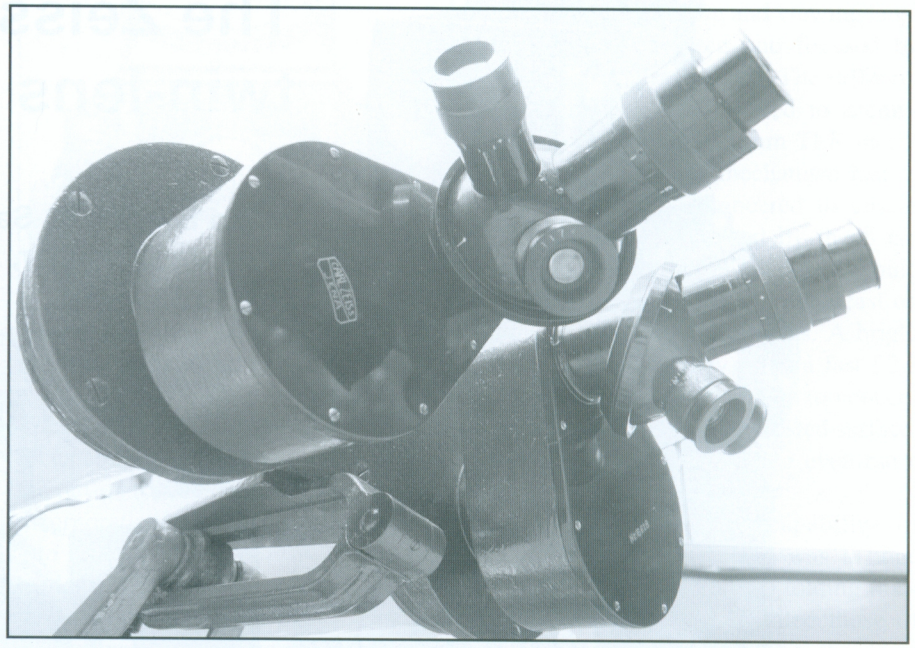
Zeiss terrestrial telescope summary

Codeword	Magnification	Objective
Asoborar	21, 47, 94	60
Asaborir	21, 47, 94	60
Asaboro	30, 48, 67	80
Asacanda	12, 20, 40	80
Asacar	33, 52,72	110
Asadul	33, 52, 72	110
Asal	35, 58, 116	130
Asalado	70, 120, 200	210
Asalak	60, 90, 144	240
Asalir	33, 52, 72	110
Asalirca	35, 58, 116	130
Asaliter	35, 58, 116	130
Asaltanti	12, 20, 40	80
Asalti	33, 52, 72	110
Asaltur	33, 52, 72	110

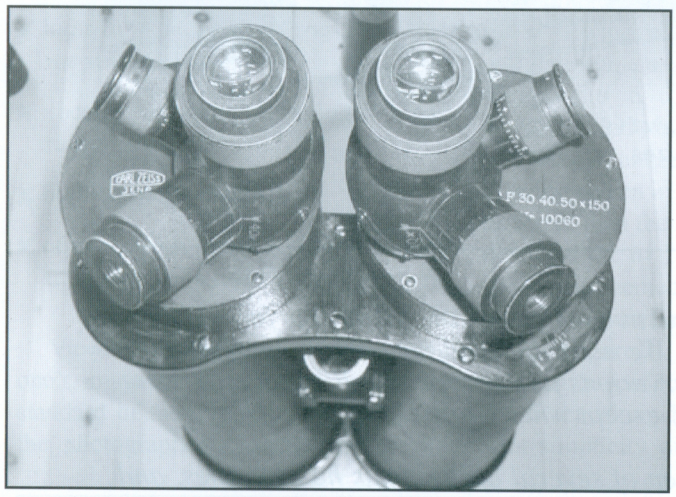
Codeword	Magnification	Objective
Asalumen	33, 52, 72	110
Asalux	35, 58, 116	130
Asalvera	30, 67, 96, 171	80
Asana	30, 67, 96, 171	80
Asedadme	21, 47, 94	60
Asediaste	35, 58, 116	130
Asdiemos	35, 58, 116	130
Asegur	21, 47, 94	60
Asem	12, 20, 40	80
Asembi	12. 20, 40	80
Asenglar	15, 30, 50	110
Starmore	12, 24, 42	60
Starmorbi	12, 24, 42	60
Tela	12, 15, 20, 24	60
Asesino	30, 40, 50	150

This list does not include those models or instruments that were custom designed





An Asal binocular telescope on its substantial stand (above left) and a closeup of its turrets (above right). Figure 14



◀ **The Asesino** oculars and prism covers, showing 30×, 40× and 50× magnifications. Figure 15

mm Zeiss/blc binoculars. This model did undergo a change in design of the sun shades and objective covers. The later models dropped the hinged sun shade and substituted simpler clamp-on covers.

The Asaltur has a length of 147 cm (58 inches) and a 110 mm objective, and incorporates ocular lenses of 33×, 52×, and 72× magnifications. This turret binocular was the largest binocular used in World War I and is shown in figure 13 with its transport box, along with a Starmorbi for comparison. The figure also shows a close-up of the Asaltur turret assembly.

The Asal, produced by Carl Zeiss Jena between 1916 and 1940, has a 130 mm objective and oculars in 35×, 58×, and 116× magnifications. See figure 14. The cost in 1935 was $2,772, which was a great amount of money since a Ford motor car in those days sold for $500. As large as this model is, it was usually placed in an observatory or in a sheltered place outdoors.

As indicated earlier, Zeiss also placed these instruments in prominent tourist locations for marketing purposes, as shown on the cover of this issue of *Zeiss Historica* and in figure 1.

The Asesino has a 150 mm objective and oculars in 30×, 40×, and 50× magnifications. This turret binocular was listed in a Zeiss catalog as being available to the public, but very few of them were made. The Asesino is shown on the cover of this issue, and in figure 15.

Other models

A number of turret binocular models are not included in this article because very little is known about them, except for pictures in Zeiss Astro catalogs. Included among these are the largest turret binoculars with 210 mm and 240 mm objectives. A table showing a more complete list of these instruments is shown in the table on the facing page.

* * *

This article is an attempt to provide insight into the production of Zeiss turret binoculars. Technical information and specifications gleaned from many early Zeiss catalogs have been a key source of information. This study is an attempt to document and understand the history of these instruments. Zeiss turret binoculars are highly prized by collectors, not only because of their rarity, but because of their exceptional workmanship and magnificent optical performance. The authors welcome comments and any additional information that will expand the knowledge regarding these fine instruments.

We wish to thank Bjorn Aule, Larry Gubas, Mark Jameson, Jack Kelly, John Mutch, and Terry Vacanni for their assistance in editing and providing photographs. ❐

The Zeiss Ikon twin-lens Contaflex

Mead B. Kibbey, Sacramento, California and Charles Barringer, Haddonfield, NJ

Twin-lens Contaflex, with a Contax III to show the relative sizes. Figure 1

Charter Member Mead Kibbey wrote an exhaustive article on the Contaflex for the first "real" issue of Zeiss Historica in Spring 1981. We have reprised the article, leaving much original material intact, and adding some observations as appropriate. First-person statements refer to Barringer, except where noted.

Kibbey possessed the only examples ever seen of several of the items he describes, and almost nothing new has come to light in the more than 25 years that have elapsed since the original article appeared. Unfortunately his illustrations could not be reproduced, so we have taken catalogue images where we could not produce images to replace his.

From its first conception, the Zeiss Ikon Twin-Lens Contaflex (figure 1) was a remarkable camera. In the more than seventy years since its introduction it has come to represent a milestone of technical ingenuity and innovation. Like luxury items in many other fields (bespoke automobiles and elegant jewelry come to mind) the Contaflex also symbolized "over-the-top" excess. The camera boasts features unlike those seen in any competing product, and prices far beyond the reach of mere mortals. The Zeiss Ikon logos embossed and engraved at several places on the camera were intended to prove that the standards of optical performance and mechanical precision would be of the highest order.

The Contaflex was clearly aimed at a very narrow market, but one that Zeiss Ikon considered very important in promoting the acceptance of its role as Germany's premier maker of innovative, high-quality photographic material.

Technical design considerations

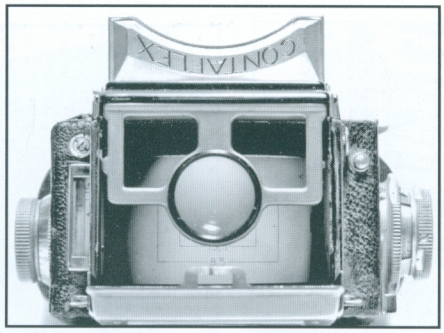
When planning was started in the design department at Dresden it was felt that the Leica and Contax type of 35 mm rangefinder might not be the only avenue of development for the "miniature format" system camera. Zeiss Ikon wanted to produce a camera that would serve as a test bed for the reflex configuration to see if this might be the way of the

future for 35 mm. Because a viable single-lens-reflex design was still some years away, the twin-lens-reflex (TLR) configuration became the designers' target despite some monumental challenges.

As the ambitious design specifications list of features shows, Zeiss Ikon clearly wanted an attention grabber. This expertise was to be applied to a camera with the following specifications:

- ✘ 24×36 mm negatives on 35 mm ciné film, the increasingly popular "miniature" format;
- ✘ ground-glass reflex focusing, but with a large direct-vision finder for action photography;
- ✘ interchangeable lenses from Carl Zeiss, Jena, ensuring the highest optical standards;
- ✘ built-in photoelectric exposure meter, the world's first;
- ✘ focal-plane shutter offering a broad range of speeds;
- ✘ built-in coupled self-timer;
- ✘ other features and accessories making it the basis of a true "system" camera.

Viewing, composing, and focusing one's image on a ground glass was the standard of the day. This method gives the photographer a quick and precise



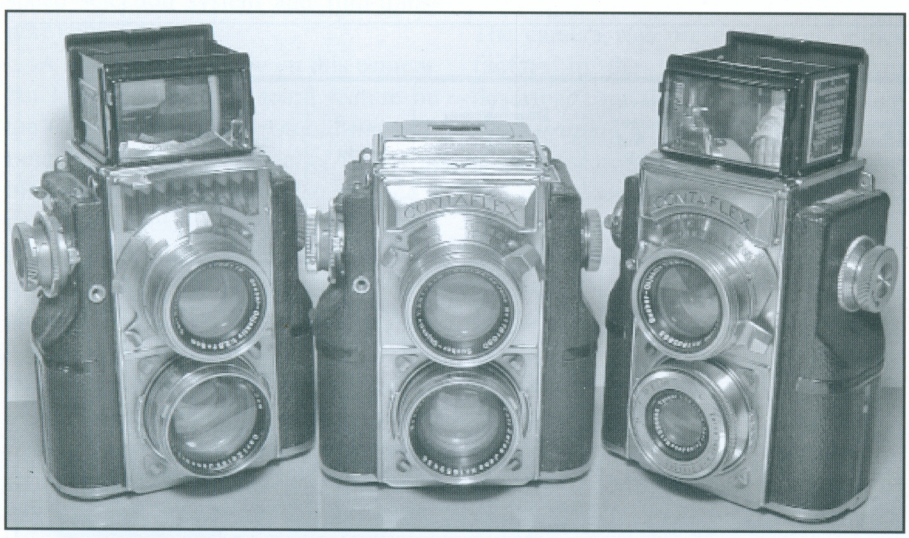
User's view of ground-glass screen, with exposure-meter window on left. Figure 2

impression of the plane of maximum focus and, uniquely, shows the effect of the out-of-focus areas as well. However, incorporating real-time reflex viewing into a camera, whereby photographers could see the reflex image at the instant they wished to snap the picture, was relatively new in the general marketplace. Photographers accustomed to ground-glass viewing on tripod-mounted 9×12 cm plate cameras were just beginning to accept the 6×6 cm format of the Rolleiflex, introduced a few years before.

Practical concerns suggested that the viewing screen in the new camera had to be larger than the negative size of 24×36 mm, and the 6×6 cm viewing screen of the Rollei seemed to be a good starting point, so Zeiss Ikon opted for a 4×6 cm viewer (figure 2). But this meant using a viewing lens of longer focal length than the 5 cm taking lens, negating the elegant simplicity of the 6×6 cm Rolleis, whose matched taking and viewing lenses could be mounted and focused by moving a single standard. The different focal-length lenses required to accomplish this goal on a 35 mm TLR meant that a compensating mechanism had to be designed and engineered to ensure that the image generated by the 8 cm viewing lens on the ground glass would translate faithfully to the image cast on film by the 5 cm taking lens. A bright image was ensured by using a fast f/2.8 lens and a condenser surface to concentrate the light rays on the frosted surface. A flip-up magnifier showed even more detail.

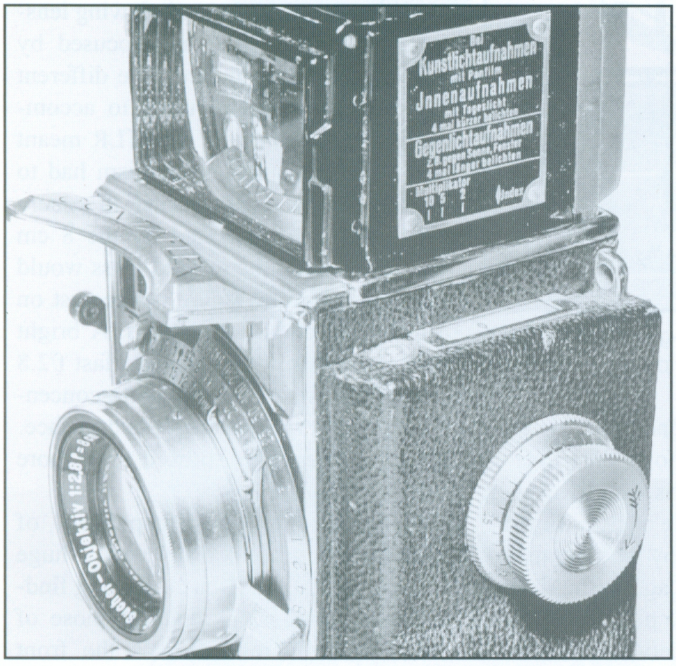
Complementing the capability of focusing on ground glass was a huge semi-silvered (van Albada) folding finder whose dimensions equaled those of the focusing screen. It was the front panel of a folding viewing hood, with the rear panel containing a rectangular opening for direct viewing. When folded, the hood provided a protective cover for the ground glass; when the hood was deployed, the Albada finder was easily the most distinctive feature visible on the camera (figure 3). Most publicity shots and artwork of the Contaflex show the camera with the unique viewing panel open and ready for use (figure 4).

Complicating matters was the design specification for interchangeable lenses, with different angles of view (thus a different image size) but needing to be

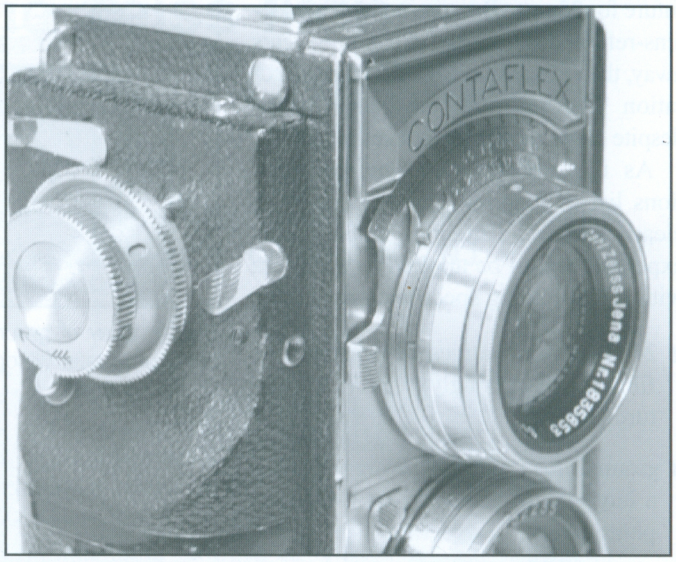


Three Contaflexes with (left to right) 5 cm f/1.5 Sonnar, 5 cm f/2 Sonnar (the early style), and 5 cm f/2.8 Tessar. Note the visual effect of the open hood. Figure 3

From the 1938 Hauptkatalog, the "lead" page for the TLR Contaflex. Figure 4



Left side of camera showing the exposure-meter adjustment knob (with arrow) and the frame counter behind it, against the leather. The meter window is above, facing upwards. Figure 5



Right side of camera, showing the shutter-speed control; the outer crown sets the speed "group" while the central knob is lifted and turned for speed setting. Film advance and shutter tensioning is by turning the central knob without lifting. Shutter release lever and cable release socket are in front; self-timer lever is above, facing rearwards. Figure 6

focused on the same viewing plane. Fortunately the emphasis at that time was on longer focal length lenses, and frame lines for 8.5 and 13.5 cm lenses were etched on the ground glass. Accommodating reflex viewing through wide-angle lenses proved to be an insurmountable difficulty, leading to an elegant workaround. The twin-lens reflex configuration also called for a moving screen to correct for parallax at close focusing distances.

Although Heinz Küppenbender's patent for a built-in electric exposure meter dealt with a coupled exposure meter (much like the post-war Contaflex II or IV of two decades later), it was apparently felt that this was impractical in 1935. However, the idea of incorporating an exposure meter in the camera itself was revolutionary and considered essential to the mission of the flagship Contaflex. Although the meter was not coupled to the shutter and diaphragm, its readings could quickly be transferred to the camera controls (figure 5). Like the mirrored finder, the built-in meter was a flagship feature and the camera is often shown with the panel opened for use.

The vertical-travel metal "roller-blind" shutter mechanism introduced on the 1932 Contax I was reworked slightly and incorporated in the Contaflex. Speeds were ½ to 1/1000 s in 4 "groups:"

• Sporting (1/1000, 1/500, 1/250, 1/150);

Contaflex-Objektive

Objektiv	Größte Öffnung	Brennweite	Vergrößerungsmaßstab bezogen auf f = 5 cm	Bildwinkel in der Diagonale	Durchmesser für Aufsteckteile	Durchmesser für Einschraubteile	Gewicht	Telegr.-Wort	
		cm		Grad	mm	mm	g		
Orthometar* . .	1:4,5	3,5	0,67	62,5	42	40,5	220	ihjec	.
Biogon	1:2,8	3,5	0,67	62,5	42	40,5	285	ijumt	.
Tessar	1:2,8	5	1	45	27/42	25,5	170	ihgay	.
Sonnar	1:2	5	1	45	42	40,5	240	ihgez	.
Sonnar	1:1,5	5	1	45	42	40,5	265	ihgib	.
Triotar	1:4	8,5	1,6	28	42	40,5	415	ihgoc	.
Sonnar	1:2	8,5	1,6	28	51	49,5	490	ihgud	.
Sonnar	1:4	13,5	2,6	18,4	42	40,5	540	ihjab	. (C)

* Lieferbar Oktober 1937

Contaflex lenses as listed in the 1938 Photo Hauptkatalog. Note that the Orthometar is still shown as "available October 1937," despite the June 1938 publication date of this catalogue. Figure 7

A selection of Contaflex lenses. Left to right, back row: Tele-Tessar 18 cm f/6.3 prototype; Sonnar 13.5 cm f/4; Triotar 8.5 cm f/4; Sonnar 8.5 cm f/2. Middle row: Sonnar 5 cm f/1.5; late, middle and early styles of the Sonnar 5 cm f/2; Tessar 5 cm f/2.8. Front center: Biogon 3.5 cm f/2.8 Figure 8

- Normal (1/100, 1/50, 1/25);
- Slow Snapshot for night work (1/10, 1/5);
- Time (1/2, Bulb).

See figure 6 for a view of the shutter-speed selection system and film-transport knob.

A self-timer was new on this camera, but later became a standard feature on the Contax II. Not only would the self-timer allow the photographer to get in his own snapshots, but it also allowed a one-second exposure in conjunction with the "B" setting.

A full system of accessories was planned from the outset to enable the Contaflex to meet every photographic challenge. In addition to lenses from 3.5 to 13.5 cm, copy equipment, special finders, a magnifying hood, and a microscope adapter were offered. As with the Contax, the design included a fully removable back, allowing it to be interchanged with a single-shot plate-back adapter with through-the-taking-lens ground-glass focus, considered essential for scientific and laboratory photography.

Introduction and production

The camera was presented with muted fanfare in the fall of 1935. It was described in the October issue of *Photographie und Forschung*, the Zeiss Ikon house organ aimed at Contax users, and in the contemporary issues of *Zeiss Ikon Brücke,* the dealer-oriented periodical. The British Journal of Photography mentions the camera's introduction in its 1936 Annual, while the American publication *The Camera* described the Contaflex as "the Aristocrat of Miniature Cameras" in March 1936.

To my knowledge the earliest Zeiss Ikon consumer-oriented material, C-717, is dated 6/1935 for distribution as the camera was introduced; the comprehensive brochure, *The Contaflex, A new camera design including the best features of both the miniature and reflex types,* (C-714) appeared in 1/1936. The inversion of numbers and dates suggests to me that the primary brochure was held up pending finalization of specifications of some of the secondary material; the simpler introductory brochure was then hastily put together to be present at the camera's introduction.

Production of the Contaflex occurred primarily in 1935–37, with no significant design changes during its five-year effective lifetime. Production information has been thoroughly discussed in several recent articles. As late as May 1940 one could buy the camera with the f/1.5 Sonnar at Abe Cohen's Exchange in New York for $372 new or $180 used.

The optical system

The optical equipment of the Contaflex was based on the existing stable of lenses for the Contax – if you have already designed the standard against which all

others are judged, why change anything? The lenses offered in the 10/1936 catalogue of the Contax and related systems (C-740) were:

the 5 cm f/2.8 Tessar,
the 5 cm f/2 Sonnar,
the 5 cm f/1.5 Sonnar,
the 8.5 cm f/4 Triotar,
the 8.5 cm f /2 Sonnar,
and the 13.5 cm f/4 Sonnar.

A year later, the 3.5 cm f/4.5 Orthometar and 3.5 cm Biogon completed the system; the list remained unchanged after that. Figure 7 is the list published in the 1938 *Photo Hauptkatalog,* and figure 8 shows a selection of these lenses.

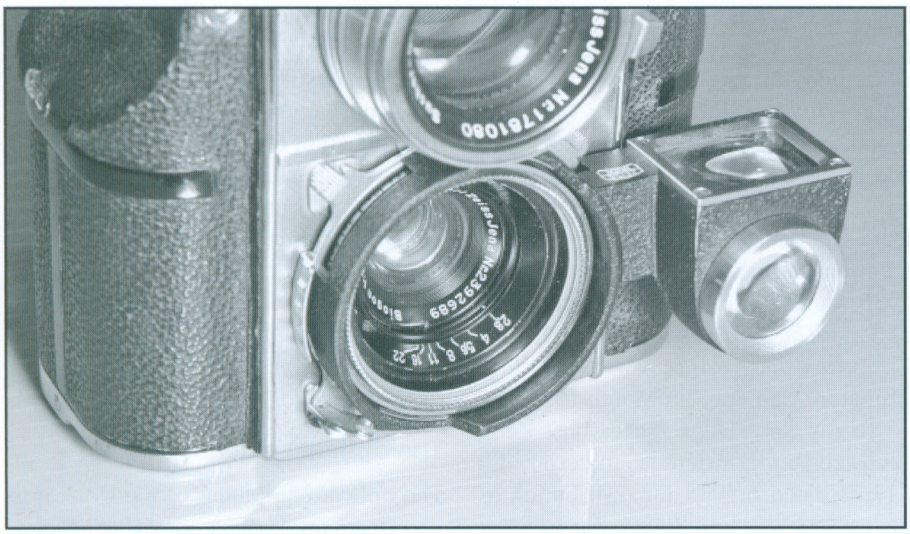
Using the optical assemblies of the lenses designed for the Contax, different focusing mounts were used for the Contaflex. The salient difference is that the pitch of the focusing threads — the linear motion of the optical block per degree of focusing rotation — is roughly twice for the Contaflex as it is for the Contax, leading (theoretically) to significantly greater focusing accuracy in the latter system. This might also suggest that the focusing mounts were made by Zeiss Ikon in Dresden, not by Carl Zeiss in Jena. Serial number tracking shows that lenses for Contaflex were randomly chosen within batches of Contax lenses, and rarely represent entire production batches. This is understandable, given the low numbers being made. I have no compelling evidence, nor have I read any documentation, for either case.

Virtually all lenses for the Contaflex were finished in bright chrome, the finish that became standard on the later Contax II lenses. Zeiss Ikon offered to convert selected models of Contax lens to a Contaflex mount (with its relatively complex focusing mechanism, even on the standard 5 cm lenses). I suspect that this service is the explanation of the occasional Contaflex lens seen in black/nickel finish.

Database information on 283 5 cm lenses for Contaflex shows that the Sonnar f/2 (in all versions – see figure 7) accounted for 51% (145 examples) of the total, the Sonnar f/1.5 for 37% (105), and the Tessar f/2.8 for 12% (33). The supplementary lenses are all relatively rare: 40 examples of the Sonnar 13.5 cm f/4 have been reported, 23 of the 8.5 cm f/2 Sonnar; 12 of the 3.5 cm Biogon, 12 of the 8.5 cm f/4 Triotar, and a single example of the Orthometar 3.5 cm f/4.5. The Tessar 2.8 cm f/8 and Tele-Tessar 18 cm f/6.3, not mentioned in any catalogue and presumed to be prototypes, are known in only a single copy of each.

General accessories

The exact dates of the introduction of the various accessories are not clear, but most were available within six months of the system's introduction.



The prism viewfinder, no. 436/17, in use with the Biogon 3.5 cm f/2.8 lens. Note that the finder attaches to the camera via external bayonet lugs. Figure 9

The Viewfinder for 3.5 cm lens (catalogue number 436/17) uses external bayonet lugs similar to a lenshood (figure 9).

The Neck Support or **Chestpod** (1622) was designed for the Contax with reflex housings, but the device could also be used with the Contaflex in conjunction with the Albada finder.

The Mirror Magnifier (860/46), slipped inside the viewing screen, reflects the focusing image to the rear for eye-level use of camera. (Figures 10 left and right). I have heard that this device will not fit certain early Contaflexes, but the one I have seen will fit both early and late examples.

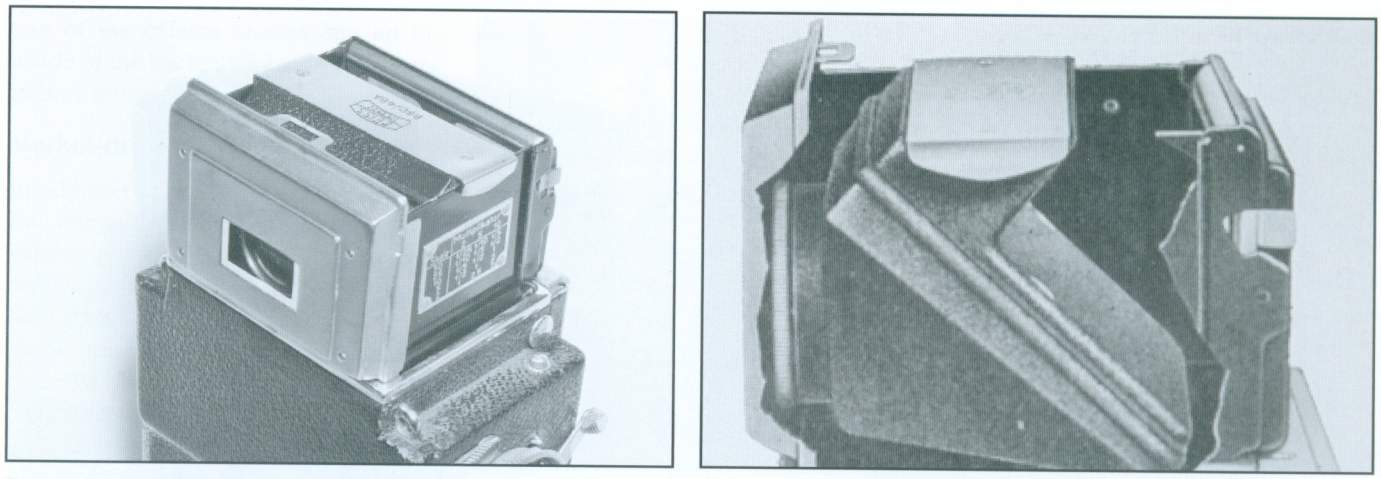
The Large slip-on Magnifier Hood (860/45) is so big that the camera is about 60 cm (2 feet) below eye level, but it permits focusing with both eyes (figure 11). About halfway down the length a magnifier folds down when the device is extended, and a very sharp image is available. When folded the whole thing could be slipped in a shirt pocket. These devices are very rarely seen—possibly because in their folded state there is nothing to indicate their true identity. The snap-button closer is decorated with a four-pointed star, not "Zeiss Ikon" as one would expect.

Lens Hoods. The Contaflex used Contax lens hoods with the exception of the collapsible models attached to the Contax outer bayonet. There were two hoods only for the Contaflex: No. (1283/8) with square opening for 5 cm Sonnar lenses and No. 1283/9 for the 5 cm f/2.8 Tessar (figure 12). Both covered the lens so that it was quite difficult to change the aperture on the f/2.8 Tessar and impossible on the Sonnars with the hood in place. One set the aperture then put on the lens hood, after which you may have had the world's first "aperture preferred" camera.

Cases. Ever-ready and outfit cases were available. The latter are extremely rare, which I interpret to be an indication of how few Contaflex outfits were ever sold.

Close-up and copying

The Contameter (1343) The same unit as for the Contax, but used on Contaflex

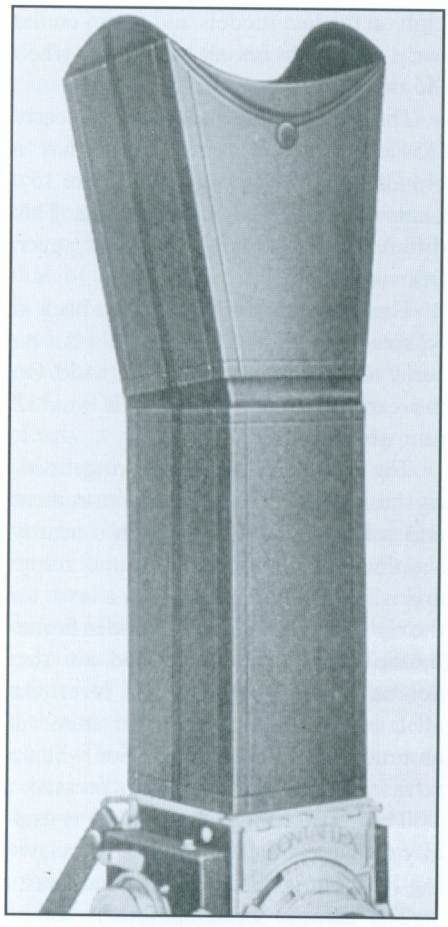


The mirror viewing device, mounted and ready for use (left) and in a cutaway drawing (right). The user sees an inverted reversed image when sighting through the rectangular hole in the rear of the hood. Figure 10

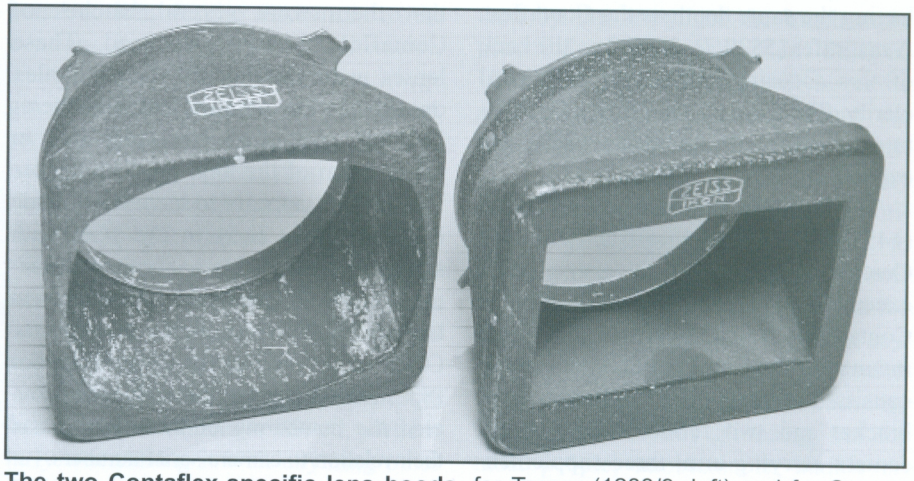
via a special adapter. The plate screwed into the tripod socket on the bottom of the camera and the Contameter fitted into the shoe on the plate (figure 13). The camera was used upside down after placing a Proxar (a positive close-up lens), over the taking lens. The whole set-up was rather inelegant but apparently worked very well. The adapter plate and shoe are extremely rare, while the No. 1343 Contameter is probably the most common model of the various Contameters.

Proxar lenses. Another method of using any Proxar as well as those provided in the Contameter set, is to place the Proxar first in front of the Contaflex viewfinder lens and bring the image to focus—then without moving the camera place the same Proxar in front of the taking lens for the picture. One of the difficulties of this method is the fact that the viewing lens takes a 43.5 mm slip-over Proxar and the taking lens uses a 42 mm slip-over or a 40.5 mm screw-in Proxar. I have heard of matched sets, but do not know of the existence of any.

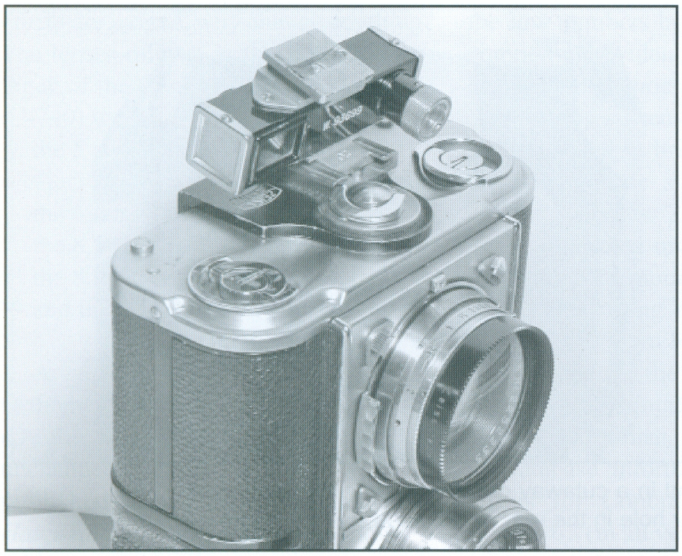
The Plate Back (860/13), an extremely ingenious and very rare item, consisted of a new back for the camera with a door at the rear and a series of levers that moved the loaded dark slide No. 540/14 into the exact level of the film plane as the cover slide was withdrawn to take the picture (figure 14). The action of the cams is quite difficult to explain, but after studying Zeiss mechanisms for years, I regard this as one of the two or three top masterpieces of ingenuity of the many produced by Zeiss Ikon. Küppenbender's research group was neither copying nor adapting another photographic device; it is, like many Zeiss innovations, pure pioneering. Focusing could be by the screen on the camera or by a special ground-glass



The extended viewing hood, (860/45). There is a magnifier halfway down, and the whole thing folds up. Figure 11



The two Contaflex-specific lens hoods, for Tessar (1283/9, left) and for Sonnar (1283/8, right). These accessories covered the lens rim in such a way that setting the diaphragm opening was difficult or impossible. Figure 12



The Contameter (1343) in its Contaflex adapter fixed to the bottom of the camera, which is used upside-down. Figure 13

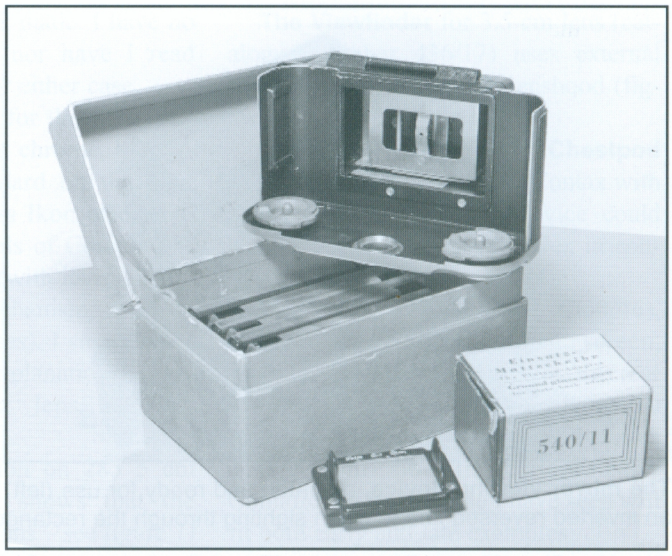


Plate back adapter (860/13) in its original box. The plate/film chassis is on the box; ground-glass adapter in front. Figure 14

accessory inserted into the camera when the plate holder was removed.

The Special Reproduction Apparatus (5521/1) was a small copy-stand normally seen in a special wood box (5521/0), consisting of U-shaped support legs and a slanting vertical post with graduations indicating scales of reproduction, a sliding arm with extension tube and Contaflex bayonet mount top and bottom, and three metal plates to be laid over copy material indicating the field-of-view for various scale settings. A small focusing screen (540/11) could be inserted in the camera when using the plate back, or alternatively the camera could be removed from the arm and focusing done on a ground glass 5521/6 having the same depth as the Contaflex. A magnifer (5520/7) slipped on the back of this focusing device for additional clarity. The camera was then re-substituted for the device when taking the exposure.

The Large Reproduction Apparatus (1455/28) looked almost exactly like the Contax equipment of the same name except that the carrying arm for the Contaflex (1455/25) contained bayonet mounts for the Contaflex. The full set-up consisted of base board, pillar, support bracket and two reflectors for lamps, camera carrying arm, three supplementary Proxar lenses and a focusing adapter.

The Mikro-Contaflex consisted of a special shutter and a Contaflex bayonet attachment. It could be used over a regular microscope, focusing with the ground glass (5521/6) or through the Zeiss Ikon Microphot attachment having a beam-splitting prism. The Mikro-Contaflex device is described and pictured in detail on pages 30–31 of Zeiss Ikon Publication C-714-E "The Contaflex" from about 1935. No mention of the device occurs in the otherwise very detailed catalog of 1939 so it is probably very rare if, indeed, it ever existed outside of the factory.

Changes and variations

From examination of the serial numbers of viewing ("Sucher") lenses we can tell that there were several batches of Contaflex cameras produced. These lenses were unique to the Contaflex once they were mounted and were therefore probably made in small lots in anticipation of the next production run. The first lot appears to have been made in 1934, fairly early in the year, with serial numbers 1513xxx. The camera pictured in the October 1935 announcement has number 1513881 on the viewing lens. Other recent articles in *Zeiss Historica* (Spring 2004, Spring 2008) have fully covered the numbering of these lenses and their relation to camera serial numbers.

A few other variations are very small but seem to indicate design changes:

The height of the letters of the word "CONTAFLEX" is greater on the early models (with the 1513xxx Sucher lenses) than on all later models. The difference is slight—the letter "T" is 4.3 mm high on the late models and 5 mm on the early ones—but is very easy to see when the two are compared side by side.

The viewing lens mount on the early (1513xxx and 1674xxx) lenses has a broad and flat front edge (see figure 15). Later the edge had a raised ring. This difference is very easy to spot, even from a distance.

The "Zeiss Ikon" logo on the back is 32 mm wide on the later models but on some early models it is 25 mm wide. On the earliest model available it was 32 mm wide.

The magnifier in the viewing hood, as shown in the 10/1935 announcement and seen in a similar one with a nearby serial number, is in a black enamel frame and is lifted into position with a lever on the right side of the Albada finder frame. In the rear door of the hood are two notches to accommodate this lever. On all later models the magnifier frame is chrome and springs into position when a release on the Albada frame is pressed.

The "Zeiss Ikon" front logo is usually found to the lower left of the viewing lens, but is absent on later cameras.

The camera serial number is sometimes engraved on the black enamel strip just above the removable back in addition to its normal positions on the bot-

tom of the camera chassis and on the inside of the back, visible only when the back is removed.

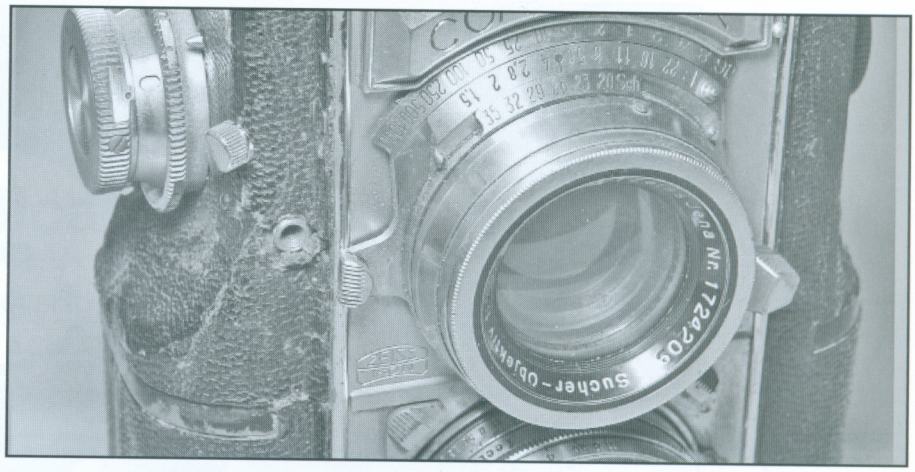
Market-driven goals

In addition to testing the acceptance of the miniature format TLR concept, I believe this highly visible camera was created to attract attention to the Zeiss Ikon brand and generate traffic into the shops offering it (and other Zeiss Ikon cameras) for sale. There, clients might choose a more inexpensive camera instead.

Then as now, the commercial interest of seeing an identifiable object draped around the neck of a popular political, business, cultural, theatrical or cinema icon was huge. The Contaflex was unique in many respects. If the camera proved to be practical, functional, and maybe even profitable, so much the better. But if enough high-profile individuals could be seen with this unique camera, the publicity value would be enormous.

At the time of its introduction a basic camera body with the Sonnar 5 cm f/2 lens and ever-ready case would have cost 649 RM and an additional lens or two could without much effort double the total. It may be of some interest to compare the price of a Contaflex with that of a contemporary small car; the first model of the Volkswagen famously sold for 1000 RM, and the well-equippoed latest model Opel Kadett for 2100 RM. The buyer of a Contaflex was clearly a person of substantial disposable income. Although economic conditions prevailing at the time the design was laid down had dramatically changed by the time the camera was introduced, we must not forget that even in the depths of the great depression there were individuals who had the kind of fortune needed to buy the Contaflex (or any of the other baubles destined for the very rich.) Thus while the Contaflex was never sold in great numbers—total production is estimated at 6000 to 7000 pieces—I think it fulfilled its mission as a "showroom magnet."

This being said, my opinion is that the Contaflex was as much a camera to be seen with as one to be used for photography. Unfortunately, the camera's basic configuration and the solutions to the various technical challenges imposed by Zeiss Ikon's design requirements generated an exemplar of what today's world would qualify as "user-unfriendliness."



An early-style Contaflex. Note that the ring around the Sucher (viewing) lens is broad and flat by comparison with later models (see figure 6). Figure 15

Unfriendliness

First, the beast is heavy, the proverbial millstone around your neck. With the standard f/1.5 lens a Contaflex weighs 1500 g (53 oz), versus (only!) 945 g (33 oz) for a similarly equipped Contax III. The Rolleiflex of the day weighed about 940 g (32 oz), even less than the Contax III. The weight and configuration of the Contaflex made it unwieldy in anything other than a standard picture-taking situation, and you can forget about vertical composition.

Second, the ground-glass focusing panel is dim, despite assurances to the contrary in the promotional literature. That it provided a reversed, erect image goes without saying. On the other hand, viewing through the Albada finder does not allow any appreciation of focus. Zeiss Ikon's attempt to overcome this drawback, the fabled mirror finder 860/46 mentioned above, does not fully resolve the issue because the image seen through the accessory is still inverted and reversed!

Third and, I feel, most important, the balance of the camera is flawed, particularly when using it with anything other than the standard focal-length lenses. It takes a remarkably steady hand and an agile mind to effectively correct for the skewing and yawing that occurs in three planes when you peer vertically at a reversed image of an object in front of you. With the angle of acceptance of a 6×6 cm camera this problem can be relatively quickly overcome with practice; I defy most of us to do the same with a 13.5 cm lens on a Contaflex, let alone the 18 cm prototype. In any event, the learning curve leading to the effective use of the longer lenses is very steep—using a telephoto lens on the Contaflex requires hand–eye coordination and a mind far more spatially agile than mine.

So Zeiss Ikon's adventurous foray into the unknown territory of the twin-lens miniature reflex camera proved to be a tale of too much, too late. Or maybe it simply demonstrated the fact that the concept was not workable. It was put to rest, first, by a shattering World War, and then by the arrival of the much more practical single-lens reflex designs. Ultimately however, we will never be able to fully appreciate whether the maker determined the Contaflex experiment to be a success or a failure. In any case the criteria for making this determination were significantly different in that era than they are now, since profitability *per se* was not necessarily at the top of the list. And who now can say, seventy years later, how much attention was directed to the Zeiss Ikon brand by the presence of this glittering, but for most people, unobtainable, bauble on the dealers' shelves? The attraction of Contaflex, and its mystique, continue unabated to this day. ❐

A brochure for the Super Ikonta printed in March 1938. Written in English, it was intended for distribution in Singapore, which was at that time part of the Straits Settlements — a British colony dissolved in 1946. The printing code for this publication is C818E.Str.-Settl., 2074b 10 338.

Zeiss Ikon publication numbers

Lieutenant Colonel Simon Worsley, Royal Artillery
Mönchengladbach, Germany

The codes printed in most German Zeiss Ikon publications can reveal much about their purpose and dates.

Readers of my recent article on camera-production numbers (in *Zeiss Historica*, Spring 2008) may think that I have an unhealthy fascination with Zeiss Ikon numbers. Knowing that even the innocuous Zeiss Ikon publications have "numbers," and conscious that this is an area that not many people know about and even fewer care, I present here the gospel according to Worsley on pre-1946 Zeiss Ikon photographic-related literature numbers (with due acknowledgement to Larry Gubas's article on Zeiss Ikon catalogues in the Fall 1984 issue of this journal).

Bestellnummern

Most items of Zeiss Ikon literature printed between 1926 and 1945 have two distinct alpha/numeric or purely numeric codes printed on them. The first is the *Bestellnummer* (ordering number), which usually consists of a letter followed by a three or four digits (for example, C506, B2460). It is normally printed at the foot of the first or last page. I have seen at least six "letter designators," and although I have not found an authorative source to what they represent, I speculate that they are:

C – Cameras. Example C2202 – an instruction book for Box Tengor

B – Bedarf (accessories). Example B2208 – an instruction book for the Diaphot exposure meter

K – Kino (movie film cameras and accessories). Example K2512 – Movikon 16

In – Industry. Example In 2558 – the Stroboskop

H - Heimkino? – (Home cinema, that is, amateur movie cameras). Example H2683 – the Movikon-K8

WN – Werknummer? – Example WN582 - Normalien für Schnitt-und Stanzwerkzeuge (Standards for machine tools).

There seem to be four distinct groups of publication:

Group 1 – Instruction Books (IB). This group is predominantly for cameras, but it also includes instructions for accessories. They have a letter followed by four digits (e.g C2215, B2585 etc.). I believe the earliest is C2200 and the last is about C2740.

The code can also be followed with a letter in lower case, representing a new edition of the publication. Examples in my collection include *Belichtungstafel* (exposure-time table) C2206e printed in August 1938, followed by C2206f printed in July 1940. In addition a code representing foreign (non-German) languages and/or markets can be added; for example I have an English-language Exposure-Time Table with a code of C2206f E (the "f" for the seventh version, the "E" for English). An incomplete list of other examples I have seen includes Fr for French, USA for American English, Sp for Spanish, Holl for Dutch, CSR for Czech, Tsch for the Czech market but in German, Sver for Swedish and Str.-Settl (Straits Settlements) for Singapore. Other annotation sometimes seen on German language publications are: "RM" for Reich Marks (the catalogue has the prices marked) and "o.Pr" when no prices are marked.

Group 2 – Price Lists. Again there are four digits, which follow a letter or letters (examples seen are WN, C, In and B). The earliest of these I have is C1249b (dated 1932), and the latest I have is B1346 (June 1940).

(Above) Back and front covers of the earliest Contax brochure that I have seen, dated March 1932. The text reads: "Contax. The new all-metal camera for the 24×36 mm miniature format." It is of interest that, throughout the brochure, the Contax I is shown without an accessory shoe. The listed lenses have focal length 3 cm, 5 cm, 7.5 cm and 13.5 cm. The printing code is C503, I 6884.100.332.
(Below) The inside pages of the same brochure clearly depict a Contax I with no accessory shoe and again list an interesting choice of lenses.

Group 3 – Catalogues and Promotional Brochures. Similar to Group 1 but with three digits. The earliest in my collection is "187" (following the ICA catalogue numbering system, wherein "187" is a Zeiss Ikon price list for an ICA catalogue with a Bestellnummer of "186"), and my latest is "C920a Schweiz" (a general catalogue for the Swiss market, in German, printed June 1942)

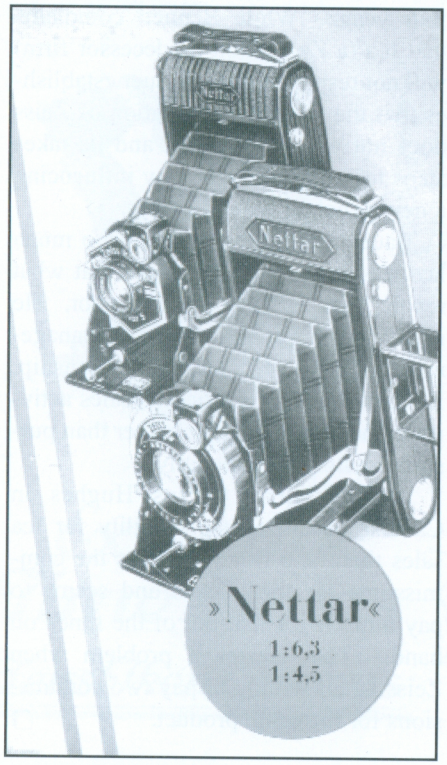
Group 4 – The rest. Hardback books and the regular magazines produced by Zeiss Ikon do not have a Bestellnummer; the magazines include *Der Bildwerfer, Photographie und Forschung, Brücke, Bild und Ton* and *Phototechnik.*

Druckcode-Nummern

The second printing code is the *Druckcode-Nummer* (print number), normally found at the foot of the last page, consisting of three elements:

A general catalog of 40 pages for the Soviet Union market, dated January 1941. The text reads: "Contax: The other cine-film photo-camera." Printing codes: H894 Russ, 40 pgs, 3413 50 141 M/0267.

"Everyone takes photographs!" A January 1931 Baby Box brochure printed in Spanish for the Argentine market. Code: C466 Span Arg V593 250 731.



A brochure printed in May 1934 for the new Nettar with an f/4.5 lens. This one is printed in French for the Belgian Congo market. Printing code: C536b Frs Kongo-Belg., IV 8104c 20 534.

The originals of all four publications on these two pages are in two colors, black and a reddish orange.

The first element is a four-digit code, sometimes augmented by additional letters or in earlier ZI publications, Roman numerals. This is a unique code (or at least unique until you reach 9999 and have to start again) for each publication. The Roman-numeral preface occurs in some publications up to 1934, for reasons I have yet to fathom; for example, an April 1931 Zeiss Ikon Baby Box IB has a printing code of XXVI-II.5663.50.431.

The second group of numbers is a quantitative measure. I have seen this as low as "5" and as high as "8000." Although normally in nice round numbers ("5", "100", "1000" etc.) I have also seen figures such as "11" and "88.5". I suspect they measure the number of total copies printed in the hundreds.

The third set of numbers is the date (month, year) of publication. Therefore in an example of a Nettax instruction book with a Druckcode-Nummer of 9830.20.736 the date of publication is July 1936.

There are examples of Zeiss Ikon publications that do not follow these rules, which in any case only apply to Zeiss Ikon publications printed in Germany. Zeiss Ikon publications printed in the US have a totally different set of "numbers." Following up the number sequences used in other countries is probably more than any sane person would want to know

Lichtstrahlen. . . . .

Two from **Larry Gubas, Las Vegas, Nevada**

Zeiss USA after World War I

The firm of Carl Zeiss Jena did not have an active role in the United States in the first part of the 20th century. Through alliances with Bausch & Lomb and other agents, and firms such as Meyrowitz and Eimer and Amend, Zeiss had license fees or purchase agreements to bring profitability. They were thus in good condition while other German firms were taken as war reparations by the US government and auctioned off to American firms. So Zeiss had to start from the beginning after the war to start its business in the US. Harold M. Bennett became the American Agent for Carl Zeiss Jena beginning in 1919. Seemingly, Bennett did not speak German; his correspondence found in Jena archives with the Zeiss marketing managers, Max Fischer and Paul Henrichs, was all in English.

In the mid and late 1920s, a series of letters from Bennett discusses his compensation, which was $8,000. Disagreements arose over commissions he had paid himself that neither Fischer nor Henrichs had authorized. The state of business was not at all profitable in 1924 when Dr Karl Bauer arrived to audit the activities of the business and to learn the ins and outs of American business. Bauer had worked in the commerce department in Jena, and was familiar with all elements of the firm and knew whom to approach with any difficulties. His recorded correspondence started on !2 December of that year, and he used his stationery from Germany at first.

Soon Bauer is sending detailed letters every few days in German to his contacts in Jena while Bennett would send something every few months or so in English. It seems that telephone or cable was used very infrequently. Under Bennett there seems to be very little evident financial reporting. In 1926, the firm of Carl Zeiss, Inc. in New York is

Dr Karl Bauer

newly formed with Bauer as President. Bennett is now a Vice President and Treasurer. There is correspondence at length from Bennett questioning to whom the title of "Secretary" belongs, as if he is trying to have more "officer" positions than Bauer. It would seem that Bennett is seeking to save face by holding three offices in the firm while ceding the top job to Bauer. Meanwhile, Bauer is addressing aspects of the business and finally some of the correspondence becomes typewritten.

Correspondence from Bennett to Germany seems to fizzle out just before 1930. It seems inconceivable today that all correspondence was via sea mail. This is especially true in that the major problems of the day were to elevate the scientific reputation of Zeiss in the USA and to get timely deliveries of products from Ica in Dresden. Also the group of companies that formed Zeiss Ikon in 1926 all had different direct relationships with various importers or camera stores. Merging all this into a single process was difficult and required a lot of negotiation and advertising. Bauer seems to be communicating often on financial conditions in the US, and just before World War II there is a huge increase of material from newspapers and magazines about the treatment of foreign workers in the United States during those early days before the US entered the war.

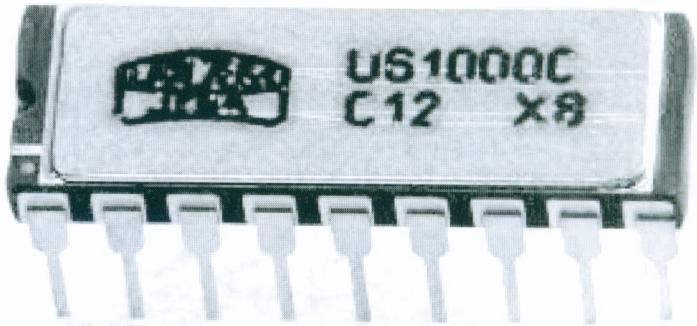
The personalities of Bauer and Bennett were vastly different. Bauer resolved problems while Bennett asked to be helped. Scientific instruments were losing money due to the lack of ability to sell the Zeiss product in the US. Bennett seeks additional trips to Germany for himself and others for better education and company instruction at the worst part of the depression when the company is seeking to control expenses. Henrichs seems to visit New York regularly, but only every three or four years. While Bennett complains that Ica (a Zeiss Ikon predecessor firm) will not respond to him, Bauer establishes that the scientific reputation of Zeiss does not exist in the US, and he takes steps to improve matters by influencing a new generation of scientists.

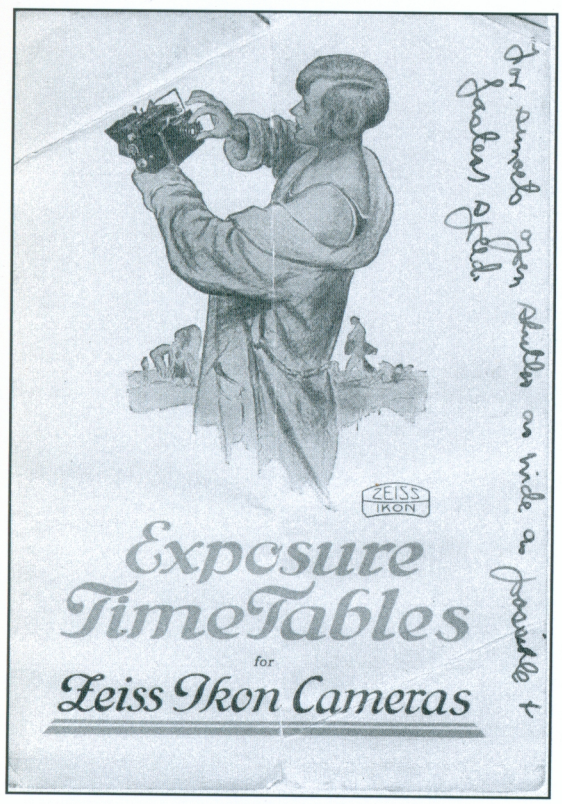
Bauer reports that he sees too much laziness in the US office and that what repair work is being done is poor. He really goes off on the subject of management's tolerating poor workmanship. Bennett seems to restrict his sales activity to the New York area rather than pursuing customers nationally.

Another firm, Owens Hughes in Canada, assumes responsibility for Ica sales there and Bennett wants the commissions for these sales and seems to pay himself for that out of the funds on hand. This creates a problem when Zeiss is not willing to pay two commissions for the same product. ❐

Zeiss's first computer chip

In the days before the collapse of the wall between West and East Germany, innovation and technology in the West far exceeded that of the Warsaw pact countries. In those days, the VEB Carl Zeiss Jena was the leading technical firm for the Russian Space Program, and most of the instruments on those flights were conceived and manufactured by the VEB. Computer chips in the 1980s were not readily available, so the order came from Moscow for Zeiss to design and manufacture such a chip. The accompanying picture is the proud image of that chip, which was the first step towards the automation that was already so prevalent in the West. ❐





LEFT: A previous owner wrote a note on this Zeiss Ikon "Exposure Time Tables" leaflet that reads "For sunsets open shutter as wide as possible & fastest speed." Let us pass over the obvious confusion between shutter and diaphragm and go on to ask why the "fastest speed" for a sunset? The exposure tables inside the leaflet offer a choice of dry plates with speeds up to 21 Scheiner or 930 Hurter and Driffield. That's about 25 ASA in modern terms. And those dry plates would have been for black and white only, which makes for a pretty dull sunset photograph.

On the reverse side of the Tables that previous owner has written "8.5, shutter closed; 6.3, shutter open," thus repeating the shutter/diaphragm confusion and suggesting that f/6.3 was the widest aperture.

With an f/6.3 lens and 21 Sch. dry plate, I wonder how those sunset pictures turned out?

The Editor

ON THE BACK COVER

The former Ernst-Abbe Hochhaus on Carl-Zeiss Strasse in Jena, one of the stops on Ferdi Stutterheim's "Sentimental Journey" as described in his article on page 2.


JENOPTIK
JENOPTIK