

The EXAKTA Story

BY STEIN FALCHENBERG

THIS AUTUMN sees the 40th anniversary of the birth, in 1936, of the Kine-Exakta, the first ever 35mm single-lens reflex camera. But, as the name suggests, it was not the first Exakta.

Three years earlier, Ihagee Kamerawerk AG in Dresden had introduced the first Exakta, an SLR taking eight pictures on 127 (VP) film, giving pictures 4cm · 6.5cm.

The first standard Exaktas had a fixed lens, usually the f/3.5 70mm Tessar or Ihagee Anastigmat, but an f/2.8 Tessar or f/3.5 Xenar was also available. The shutter was of the two blind self-capping focal plane type, with speeds from 1/25 to 1/1000 of a second as well as B and T. Rotating the film transport knob also tensioned the shutter and returned the mirror, but to complete the transport it was necessary to check the numbers on the film through the red window in the back.

A year later came an improved version called Model B, which had extended slow shutter speeds from 12 seconds to 1/10 set on a separate dial also giving delayed action on all speeds from 6 seconds to 1/1000. Lenses were fully interchangeable with the helical

Pentacon Club member **STEIN FALCHENBERG** submitted this article to 'Praktica Photography' shortly after publication of a letter, in the May/June '76 issue, from a reader who requested 'definitive history' of the Exakta camera. It was his hope that he would be the first member to produce this information. He is, in fact, the first and only one; and we are grateful for his efforts in compiling this fascinating account of the evolution of a world-famous camera.

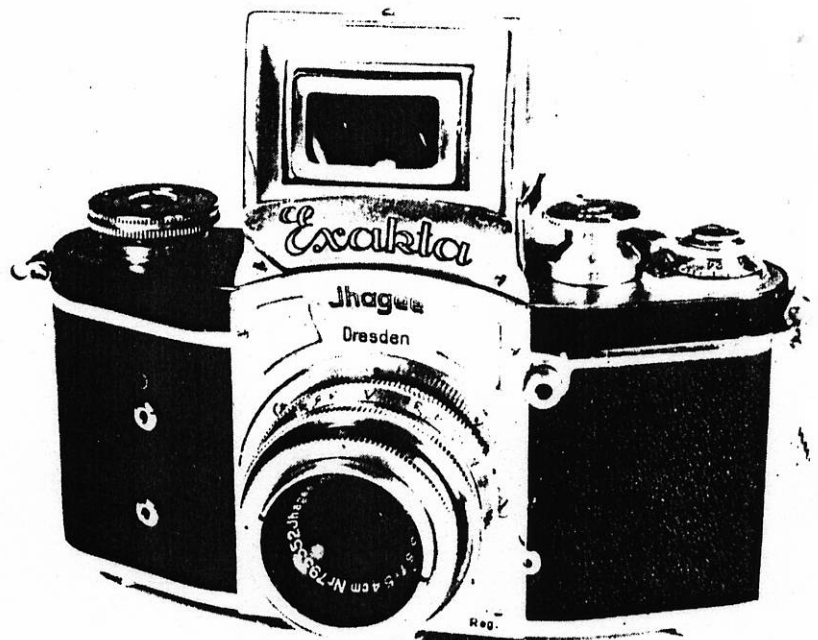
focusing mount on the camera itself. In order to keep the camera compact when not in use, it was possible to screw the lens well into the camera body with the mirror up. When screwing the lens outwards a lever dropped into a hole in the thread at the infinity position. The lever was withdrawn for closer focusing. A simpler model 'A' with the limited shutter speeds of the original model, but with interchangeable lens, was made as a cheaper alternative.

Rapid lever wind replaced the knob in 1935 and, at the same time, the Exakta became the first camera to have built-in flash sync. In 1936 a Model C appeared with provision for plate back, but reflex focusing was impossible when using the plates as they rested in a different plane from the roll film.

A much simplified Junior model with a fixed lens with front cell focusing and shutter speeds limited to 1/25-1/500 besides B and T was also made.

The Kine-Exakta

When the Kine-Exakta was introduced late in 1936 it was in many ways a smaller, improved, version of the VP Exakta. The film transport was simplified by using



Left to right: Kine-Exakta 1, with 54mm f/3.5 Ihagee Anastigmat Exaktar lens; VP Exakta 'C' with 75mm f/3.5 Zeiss Tessar lens; Exakta 6/6 with 75mm f/3.5 Ludwig Victor lens.

perforated film giving completely automatic coupling between shutter and film wind. A plano-convex field lens replaced the flat ground glass for focusing. This gave an enlarged image with improved brilliance in the corners of the viewfinder, essential with a format only 1/3 of the VP size. The brief specification of the Kine-Exakta was:

Miniature single lens reflex camera taking 36 exposures on perforated cine film in standard cassettes. The focal plane shutter was running horizontally and had speeds from 12 seconds to 1/1000 plus T and B as well as delayed action of 10 seconds on all speeds from 6 seconds to 1/1000. The viewfinder was the standard waist (or chest) level reflex hood, giving an upright – but reversed left to right – image. The single-stroke lever performed the four functions of advancing the film, tensioning the shutter, resetting the mirror and moving the counter, thereby making unintentional double exposures impossible. Accidental exposures were prevented by the shutter release being locked unless the hood was open. Flash sync was provided using the standard Exakta plug with two pins and locking screw. A film cutting knife was built in to allow the exposed portion of the film to be removed before finishing the complete cassette. Lens change was by bayonet and the standard lens was of 50, 54 or 58mm focal length. (For details see section on lenses).

Further Developments of the 35mm Exakta

The round magnifying lens which folded down above the focusing screen on the early models was later replaced by a rectangular lens magnifying a larger portion of the image. Otherwise the Kine-Exakta continued unchanged until 1949, when it was replaced by the Model II having a protective cover in front of the magnifying lens. This was also the last model to carry the 'Kine' prefix.

Two years before Zeiss-Ikon, also in Dresden, had shown the new Contax S, a revolutionary design bring-

ing genuine eye-level focusing to the SLR. By using a five-sided roof prism (pentaprism) in the viewfinder, they had for the first time achieved an upright and laterally correct reflex image. The waist level finder, previously the only one possible for the SLR, nevertheless had its advantages and Ihagee were determined to keep this facility on the Exakta. Initially this meant using the Zeiss pentaprism as an accessory to slip into the top of the finder hood, but the Exakta Varex, featuring interchangeable waist level finder and pentaprism, provided the real solution in 1950. In 1951 the Varex VX followed with a new body which had housing and negative stage diecast in one piece. An enlarged take-up chamber allowed the use of take-up cassettes.

In the early 'fifties the Exakta Varex models became the basis of a system of miniature photography. A range of interchangeable lenses from 25mm to 1000mm, together with interchangeable viewing systems, a choice of focusing screens as well as extension tubes, bellows, microscope adaptors and many other scientific accessories made the Exakta the natural choice for any scientific photographic task. This was at a time when most of the later 35mm system SLRs had hardly reached the drawing board stage.

Various versions like the Varex 11a and 11b brought further changes but these were mainly internal and smaller external improvements to the original Varex VX.

The next major change was the VX 1000 in 1967 with a new, slightly more angled body having instant return mirror and a shorter stroke lever wind, as well as a subtractive counter set to the number of exposures actually loaded. A simpler version, VX 500, with shutter speeds limited to 1/30 to 1/500 and B was marketed in 1969.

In 1970 a completely new Exakta, the RTL 1000, appeared. This was very similar to the 'L' series Prakticas, but retained the Exakta bayonet lens mount and interchangeable viewfinders. The finders for the RTL 1000 were however not interchangeable with the earlier ones; their design was different and was later to



appear as the interchangeable finders for the Praktika VLC. A TTL prism coupled to the shutter speed dial of the RTL 1000 was also made. (Uncoupled TTL prisms for the earlier Exaktas were made by Harwix (Examat) and Schacht (Travemat).

The Exa Models

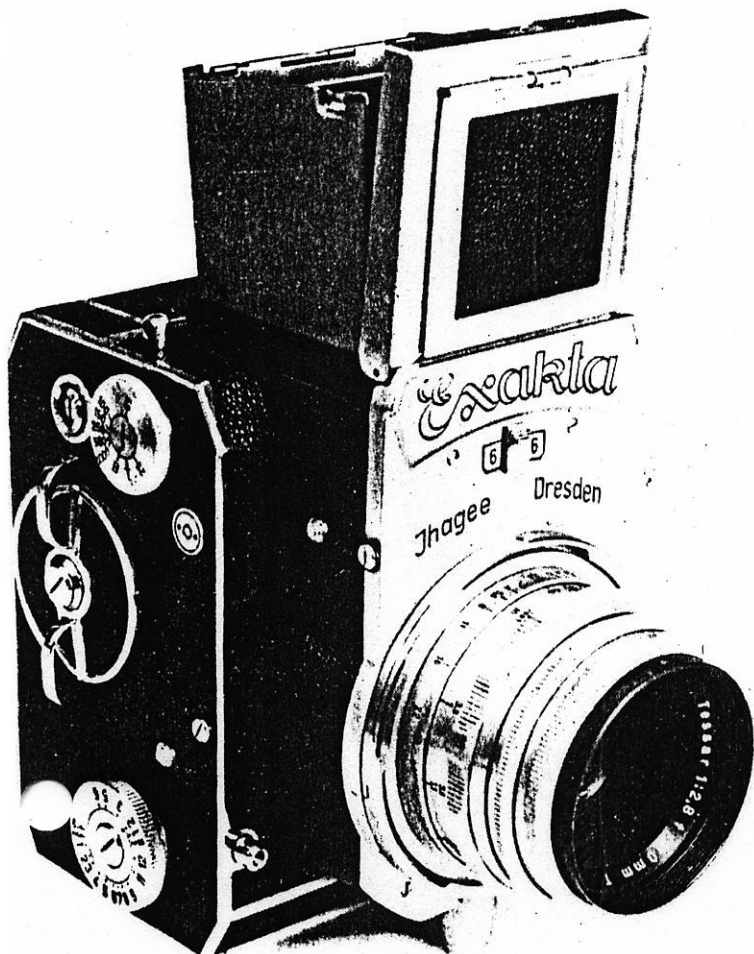
In 1950 Ihagee launched a simpler camera within the 35mm Exakta system called the Exa I. Various models appeared, all having a simple flap shutter following the movement of the mirror, and giving speeds from 1/25 to 1/150 (1/175 from 1963) and B. (This shutter construction limits the bundle of light entering the film plane, and vignetting may occur when using long extension tubes or bellows as well as lenses longer than 100mm). In 1965 an improved model Exa Ia was introduced, having lever wind instead of the earlier knob.

A second line of Exas, the Exa II, with cloth focal plane shutter running vertically with speeds from 1/2 to 1/250 plus B and fixed pentaprism, was introduced in 1959. Instant return mirror followed in 1965 (Exa IIb) and in 1967 an extra top speed of 1/500 (Exa 500).

The 2½ inch square Exaktas

At the time when Ihagee were pioneering the development of the small format SLR, quite a number of SLRs

Below: The Exakta 66 with 80mm f/2.8 Zeiss Tessar lens.



taking 2½ inch square pictures (12 on 120 film) were being introduced by manufacturers in and around Dresden. The two most important were the Reflèx-Korelle, by Franz Kochman in Dresden, and the Primarflex, by Curt Bentsin of Görlitz, both in 1935; and it came as no surprise when Ihagee introduced the 'Square' Exakta 6/6 in 1939. Like the other Exaktas it had shutter speeds from 12 seconds to 1/1000, T and B as well as delayed action. Lens change was by bayonet and the coupled film transport, mirror return and shutter tension (as well as counter) were by lever wind, set centrally under the front of the camera body.

The outbreak of war limited the production of the Exakta 6/6 and neither this nor the VP Exaktas were continued after the war. In 1952, however, a new large Exakta, the 66, was shown. This broke with the Exakta tradition in having an upright shape, with the two familiar shutter setting dials above one another on the right-hand side of the body. Here it also had a handle with an easy 180° turn, for the usual coupled transport, shutter and mirror functions. The shutter was running vertically as was the film in quick change-backs. But it was not possible to change the backs mid-roll without fogging the film. To prevent image cut-off in the finder, when using lenses longer than 400mm, a large mirror was fitted, and to avoid this interfering with lenses with short back focus it was made in two pieces, the front part moving downwards.

The Exakta 66 came with standard waist level finder and interchangeable screens: A pentaprism was announced but it is uncertain whether it was ever put on the market. The flash sync had a variable delay from 0 to 25 milliseconds.

Lenses

Ihagee, like most camera manufacturers in Germany in the thirties, did not make lenses. Some lenses marketed as 'Exaktars' and Ihagee Anastigmats were almost certainly made by one of the many independent lens manufacturers, to whom the new Exaktas with provision for interchangeable lenses were most welcome. The two other popular cameras with interchangeable lenses in 1934, the Leica and Contax, were both manufactured by companies (Leitz and Zeiss) which made their own lenses. Lenses for the Exaktas were marketed by the lens manufacturers as well as through Ihagee, the majority being made by Meyer and Zeiss, but Exakta lenses were also made by Schneider, Steinheil, Ludwig and Rodenstock. In England, Dallmeyer started making lenses for the Exakta as early as 1934.

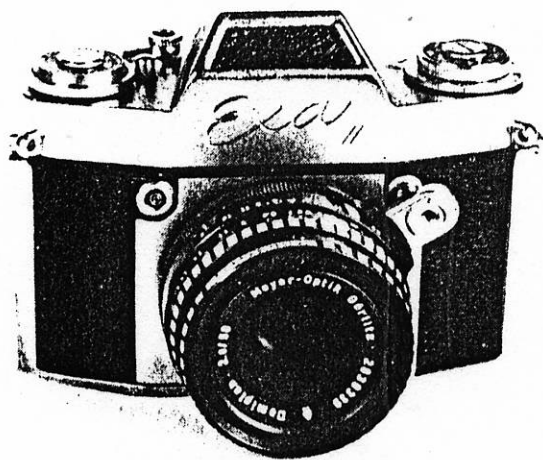
Standard lenses for the VP Exakta ranged from 70mm to 80mm, with maximum apertures from f/1.9 to f/3.5. The standard wide-angle Tessar of the time was made as f/8 55mm for the VP Exakta. Due to the rather narrow lens throat of this camera (36mm) long lenses were somewhat restricted, the longest being the f/3.5 360mm Tele-Xenar by Schneider.

For the Kine-Exakta standard lenses of 50mm to 58mm ranged from the fast f/1.9 Primoplan by Meyer and the f/2 Biotar by Zeiss to the f/2.8 and f/3.5 Tessars and others of similar speed. Wide lenses were the Zeiss wide-angle Tessar and the Meyer Double Anastigmat both f/4.5 40mm. The Meyer Tele-Megors went up to 400mm f/5.5, and a 600mm version was shown in 1940. Special long lenses by Astro in Berlin went up to 1000mm.

Right: Exakta IIa, with 75mm f/1.5 Zeiss Biotar lens. Below is the compact Exa II, with 50mm f/2.8 Meyer Domiplan.



Most of the cameras illustrating this feature were kindly loaned to the author by R. I. Harding, camera repairers, of Neals Street, London W. The author is now working on a book dealing with the construction and development of the modern miniature camera, and would be interested in any information about all pre-1960 SLRs and their accessories.



The position with regard to the Exakta 6/6 is somewhat unclear due to the outbreak of war so soon after its launch. The standard options were 80mm to 100mm, f/3.5 to f/1.9 and it would appear that a f/6.3 55mm wide angle Tessar as well as long lenses up to the f/5.5 600mm Tele-Megor were made.

Continuing development before and during the war resulted in T-coating by Zeiss and one of the early lenses to benefit from this was the 75mm f/1.5 Biotar for the Kine-Exakta (first shown uncoated in 1940). After the war coating became standard practise on all lenses for the Exakta, and new glasses gave improved versions of older lens types.

The 600mm f/5.5 Tele-Megor shown at the beginning of the war did not reappear afterwards, and the 400mm version remained the longest Meyer lens until the arrival of the 500mm f/5.6 Orestegor. Besides the f/8 500mm 'Fernobjektiv', Zeiss also made two Catadioptric lenses of 500mm and 1000mm focal length.

The Exakta 6/6 was fitted with an 80mm f/2.8 as standard, and lenses from 55mm to 400mm were announced, but the writer has only seen evidence of the 400mm f/5.5 Tele-Megor actually being for sale.

Already from the middle thirties, wide-angle lenses of 28mm (74°) had been available for 35mm rangefinder cameras. But the short back focus of these lenses would make them interfere with the movement of the mirror in the SLR. The solution was to be found in the inverted telephoto design, and in 1950 the French lens manufacturer Pierre Angenieux announced the new Retrofocus RI f/2.5 35mm for the Exakta, later to be followed by the RII f/3.5 28mm. This line of development was taken up by other manufacturers and in 1963 Carl Zeiss Jena extended their Flektogon series with the 20mm f/4 for the Exakta. At the time this was the widest ever (93°) for 35mm SLRs.

The need to stop down the lens between focusing and exposure on the SLR caused the search for means of simplifying this action, and in 1951 the first lenses with pre-set iris for Exaktas – as well as other SLRs – appeared. Semi-auto lenses followed in 1953 to be followed in 1956 by fully automatic spring iris diaphragm (FAD) operation. In the post-war period, lenses for the Exakta have been made by all the major independent lens manufacturers and these include fish-eye lenses as well as manual and motorised zooms.

Although the Exa Ia is still (possibly) being made, it would, I feel, be appropriate to consider that the Exakta chapter is closed, at least for the time being. When the RTL 1000 replaced the VX 1000 in 1970 it signalled the first practical result of the incorporation of Ihagee into Pentacon, and with the later highly sophisticated Prakticas like the VLC, most of the features found in the Exaktas had been incorporated in the Praktica range.