PHOTOGRAPHY AT LENGTH

The Authentic History of Panoramic Cameras

Brian Polden A.R.P.S.

WITH A FOREWORD BY
The Late Rt. Hon. **The Earl of Lichfield**

B **THE BARDWELL PRESS**

Although convenience and economy were undeniable factors, miniaturisation offered more than appeared at face value. More creative things could be done with a small rotational camera than may ever have occurred to the user of the 'big-rotators'. Who, for example, would have contemplated using a Cirkut on its side or even upside down? Had anyone tried to do so the stability of both camera and operator would have come under close scrutiny. Yet such techniques provide unconventional forms of panoramic imaging that have a legitimate place in the scheme of things. Firstly, though, we need to examine this new breed of camera.

The most obvious difference, of course, was in the increasing availability and choice of film. With the gradual transition from monochrome to colour the days of the 20 ft (6 m) long negative, now produced only to special order, producing equally long contact prints became both impracticable and unaffordable. True, small groups of diehard enthusiasts rose to the challenge, often with spectacular results, but the difficulties and cost of colour processing in these sizes were daunting and far beyond the resources of the average photographer. Even with 35 mm, 120/220 and 70 mm film that requires only normal processing, one had either to enlarge and print one's own exposures or rely on a commercial laboratory which may regard such 'non-standard' works as either a stimulating special or a one-off nuisance and charge accordingly. Today, even with the transition to digital printing, one is still faced with the same dilemma, especially where panoramic enlargements are concerned beyond a limited size. Unsurprisingly, perhaps, there is only a handful of specialist laboratories here or abroad offering such a bespoke service of this kind.

Evidently becoming aware of this and in a practical attempt to circumvent the problem, several of the makers of the new cameras tended to think in terms of a package offering ancillary processing/enlarging/printing/projecting equipment compatible with their camera, thereby enhancing its appeal and potential sale. This, however, was aimed at the professional market hence, unless very wealthy, few amateurs were able to aspire to outfits of this kind. Nonetheless, several new, simpler, relatively affordable and very desirable cameras were to appear. Unlike some of the ancestors that today are regarded as being over-engineered and cumbersome, the new generation was usually far smaller though, despite the use of reduced size film, not all fell into the category of a lightweight hand-held miniature.

HERMANN SEITZ (1927–1996)

Born on 4th October 1927 in Nuremberg Germany, around the time when Oskar Barnack experimented with his one-off prototype Leica-based 35 mm panoramic camera, Hermann Seitz was also destined to become a man of outstanding technical ability in a similar field some 30 years later.

Hermann's father was a gifted innovator who fired his son's creative enthusiasm at a tender age with exciting projects. Among them was a foldable boat/raft and, even better, various paragliders that led eventually to the Delta-wing configurations of the 1960s and '70s. These experimental constructions were functional aircraft for which young Hermann was often the lightweight test pilot who sometimes had low level crash landings, to be rescued on one occasion by the staff of a nearby hospital. So he was exposed to both 'product development' and taking risks much earlier in life than most and consequently grew up being unafraid of trying his hand at anything that was challenging.

The opportunity to attend a university for an engineering degree was precluded by the devastation of World War II so, instead, he served an apprenticeship in Munich as a mechanic in readiness for a skilled 'hands-on' career at whatever might come along. Something did. During

a motorcycle touring holiday in Switzerland in 1954 he was offered a job at the Uiker Mechanics Works in Zurich where he was to meet his future wife, Gertrud. Later on he heard of an opening at Oschwald in Zurich for camera repairs—if he could repair typewriters then he could repair cameras. By then he had a growing interest in photography and, in having already assessed the limitations of a normal camera, decided to build an experimental scanning camera in his own time. When this was completed he and Gertrud went to Tuscany for a holiday and, using the roof on their car as a vantage point, Hermann

Figure 13.1

Herman Seitz served a post W. W. II apprenticeship to become a technician whose skill and flare for design enabled him to create the finest panoramic cameras. His long-established firm continues to lead this specialised field in both film and digital imaging.

Courtesy: The Seitz family.
Provided by Urs Krebs, Marketing Manager, Seitz Phototechnik AG, Switzerland.

filmed his first 360° images. Unbeknown to either of them, not only had the Roundshot story begun but with it a new era of postwar rotational photography.

At that time in 1955, with economy in mind, Hermann had thoughtfully constructed this first prototype as a dual-gauge multi-focal length camera having a choice of interchangeable 28, 35 or 50 mm lenses exposing circular images on either 16 mm (cine) film or 35 mm stock. Encouraged by his employers, who quickly recognised designer potential when they saw it, he produced a 16 mm version in 1958 exposing either standard single frames or continuous scanning using a 10 mm wide-angle lens better suited to the smaller format.

By 1960 things had progressed to a more ambitious medium format rotational reflex camera using 70 mm roll-film with a 75 mm Schneider lens followed by several variations using 45, 65, 75 and 90 mm lenses with an enlarged version using 5 ins (12.7 cm) film.

By 1970, as a thoroughly creative technician, Hermann decided to work for himself and bought an already established camera repair shop, Photomechanik, in Koniz/Bern, so moving house and obtaining Swiss citizenship. Soon an increasing proportion of his work was for professional custom-made equipment that, in 1984, precipitated a final move to Lustdorf/Thurgan to establish his own independent manufacturing concern, Seitz Phototechnik AG. Happily he was joined eventually by his two sons, Peter (born 1959) and Werner (1968) on completion of their own apprenticeships as mechanics, so following in their father's footsteps. Achieving world renown for excellence and with a formidable array of specialist panoramic products to its credit, in 2005 the firm celebrated its 50th anniversary.

Whereas his first experimental hybrids were created more for his own satisfaction, in reality they were the test-bed for the 'head-and-engine' configuration that became so distinctive a

hallmark of many subsequent Seitz cameras. The head contained the optics and film transport that was driven by the engine below it, housing the controls, electric drive and battery. In smaller models these were generally in the form of a permanently attached 'hand-grip' column. In more advanced ones some had the option of interchangeable heads, remote control and/or external power source. The engine could take the form either of a column or box, the latter being detachable for carrying and/or for the connection of related equipment. This 'unit' approach therefore provided considerable design flexibility.

In this way 35 mm, 120/220, 65/70 mm, 5 ins (12.7 cm) and even tiny Minox 9.5 mm film could be accommodated, with choices of single or multiple focal lengths with fixed or detachable heads. All these were fully rotational instruments designed for various purposes and market sectors. Other related products such as enlargers and projectors were made for specific uses as were those for tube/pipeline inspection, police surveillance, forensic, or aerial reconnaissance.

Figure 13.2

Taken in 1994, Hermann's supportive family, Gertrud, Werner and Peter, became the essential nucleus of their independent company that they established as an increasingly respected manufacturer of so many ingeniously designed meticulously made panoramic cameras.

Courtesy: the Seitz family, provided by Urs Krebs, Marketing Manager. Seitz Phototechnik AG, Switzerland.

Figure 13.3
28/220

This, and a slightly smaller less sophisticated 'Outdoor' version, are the two 'entry' models using a 28 mm wide-angle lens and medium-format film for ultimate resolution. Very compact and weighing only 3.6 lbs (1.5 kg) they are intended as 'action' cameras that can be easily hand-held in almost any location.

Courtesy: Seitz Phototechnik AG.

Figure 13.4

The integration of electronics offered unprecedented opportunities for a drive/control system that would have turned the earlier pioneering camera makers green with envy

Comprising an integrated light meter, selection of focal lengths, f-stops, shutter speeds, distance-to-object, multiple (bracketed) exposures and speed scanning modes. Two more features are of immense value. pre-scan and variable rotation speeds within one panorama.

Before exposing the film, the pre-scan senses variations in light level throughout the intended picture length that appears as a graphic readout indicating, degree-by-degree, where every fluctuation occurs. This information can be tailored if required before being programmed into the variation control that then sets the rotation speed accordingly, faster in areas with more light and slower in areas with less. The result is a flawlessly exposed panorama, no matter its length.

Courtesy: Seitz Phototechnik AG.

Nearly all were made in the Seitz factory but at least two products were manufactured under licence by other Swiss establishments whose names are also synonymous with quality.

All Seitz designed instrument were, and continue to be, substantial in every sense though initially, unless very wealthy, the keen amateur was out priced. In response to this market sector came a pair of compact, lightweight plastic-cased cameras, the smaller using 35 mm film as an 'entry' model and a slightly larger, but hardly heavier, 120/220 version. Both were made under licence by Arca-Swiss. At the other end of the spectrum came a very advanced professional camera, the Alpa-Roto made by Alpa-Pignons SA. We shall be examining both these products later in the chapter.

All Seitz products exude an aura of expert design, craftsmanship and sophistication that place them in a class of their own. Performing impeccably, they are a joy to use, with today's emphasis being on advanced digital instruments.

Seitz product time line 1955 to 1994
Compiled by Werner Seitz 1995.

1955 The first panorama camera using 35 mm film with 28, 35, and 50 mm lenses.

1958 Rotation camera using 16 mm cine film.

1960 Middle-format reflex mirror panorama camera with 75 mm lens using 70 mm roll-film.

1961 Panorama cameras with 47, 65 ,75, 90 mm lenses for 70 mm and 5 ins (12.7 cm) roll film.

1970 Panorama mirror reflex cameras with 35 mm lens using 35 mm film.

1970 Semi-circle mid-format enlarger 3×, 4× and 5×.

1971 Water-tight 35 mm stereo lamp-illuminated pipeline panorama camera.

1974 Combi-rotation 35 mm lamp-illuminated video/film tube inspection cameras.

1979 'Rovica' combined video and rotation mirror reflex system in one camera.

1981 35 mm printer, film and paper rotation.

1982 Projectile cameras from 4.5 mm to 15 mm diameter with 25 mm lens and reflex viewing. 1983 Steel-cased water-tight to 3000 m lamp-illuminated 'Caverne' stereo panorama camera.

1985 35 mm film enlarger for 30 cm paper rolls.

1985 'Panoscope' 35/35 mm and 65/70 mm and 5 ins (12.7 cm) panorama cameras.

1986 Lamp-illuminated camera for motor-engine inspection for cylinders from 78 mm to 105 mm diameter.

1986 Mid and large format enlarger for 90 mm to 500 mm paper rolls.

1987 Super 5 ins (12.7 cm) camera, 15 m spools, lens range 38 mm to 600 mm, rotational, linear or cycloidal.

1988 Due to objection from Panasonic, name changed from Panoscope to Roundshot.

1990 Military 70 mm mirror reflex camera with 250 mm lens.

1990 150° to 260° panorama projector.

1992 Super 70 mm camera, lens range 40 mm to 500 mm, rotational, linear or cycloidal.

1992 Enlarger for 200 mm or 300 mm paper rolls.

1993 35 mm stereo panorama camera using twin 21 mm Elmarit lenses (see Chapter 15)

1993 35 mm panorama camera using interchangeable lenses of 21 mm, 28 mm or 35 mm.

1993 35 mm to 5 ins (12.7 cm) '508' continuous feed enlarger using paper up to 50 cm.

1994 Super 35 mm camera for Nikon or Leica lenses, rotational, linear or cycloidal.

1994 35 mm aerial panorama camera using 35 mm lens.

Further developments

1996 Relaunch of Alpa brand, prototype 120/220 (non-panoramic) complete 'system' camera.

1996 Super 220 VR 'Professional', exchangeable makes/focal length lenses.

Introduction of digital imaging

2000 Super-0igital 2,700 pixel-line sensor with matching software

2001 28/220 'Outdoor' new hand-held compact hi-res. film camera with exchange/make 28 mm lens.

2002 28/220 electronic control version with extended features.

200 VR-drive rotating platform for conventional digital cameras for panorama 'stitching'.

2002 Alpa ST and SST, non-panoramic advanced studio camera.

2004 Roundshot Super 60, improved Super 220 VP—modified software for Asian market.

2004 Roundshot Panorama Livecam—complete weatherproof webcam system.

2005 Alpa 12TC ('Travel Compact') smallest 6×9 camera available.

2005 Roundshot VP Head for manual stitching, tripod adaptable.

2005 Roundshot 90—5 ins (12.7 cm) for aerial/landscape photography.

2006 Roundshot 'Weathercam' weather-station hi-res. 360° imaging for Internet.

2006 Roundshot D3 360° large format digital very hi-res. fast scanning camera.

2006 6×17 Digital flat field large format very hi-res. camera.