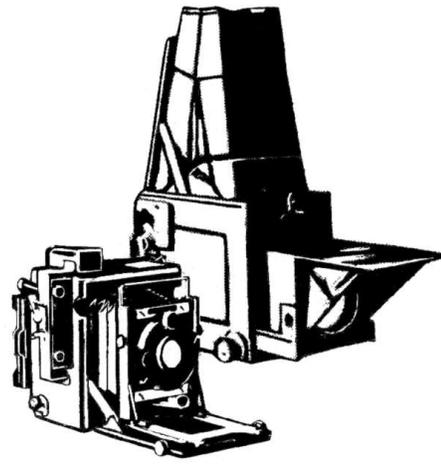


GRAFLEX HISTORIC QUARTERLY

Since 1996



VOLUME 14 ISSUE 3

THIRD QUARTER 2009

FEATURES

No. 5, No. 6 and No. 16 Cirkut Cameras by Bill McBride.....1
 The 3 1/4 x 4 1/4 Speed Graphic of 1935-1939 by Ken Metcalf.....5
 GRAFACTS....Graflex Slave/Sync and Graflex Booster/Analyzer
 by Bill Inman.....7
 Speed Graphic article, xl advertisement.....Insert

No. 5, No. 6 and No. 16 Cirkut Cameras

By Bill McBride

Part 1



Figure 1. No. 5 Cirkut Camera made by the Folmer & Schwing Division of Eastman Kodak.

This article (previously published in *The Photographer*) covers the Nos. 5, 6 and 16 Cirkut Cameras. Future articles will cover the No. 10 Cirkut Camera and the No. 6 and No. 8 Cirkut Outfits.

The No. 5 Cirkut Camera (Figure 1) was first offered in 1915 and was available until 1923. It was the smallest and most compact Cirkut manufactured. William F. Folmer of the Folmer & Schwing Division, Eastman Kodak Co., applied for a patent in 1915 and received it (number 1,251,494) on January

1, 1918. The No. 5 Cirkut patent has the best detailed drawings of any Cirkut camera, and sheets from this patent are included as Figure 2. It was manufactured by the Folmer & Schwing Division of the Eastman Kodak Co.

The No. 5 Cirkut was provided with a triple-convertible Gundlach Manhattan Optical Rapid Rectigraphic lens with 6¼", 11" and 14" focal lengths. A rising and falling front is furnished to balance the negative for the required sky and foreground. The body of the camera is constructed of selected mahogany, with all exposed wood parts ebonized to harmonize with the rich gun-metal finish of the exposed metalwork, and the camera body is covered with the finest grade of Morocco leather.

An internal spring motor, which revolves the camera on the tripod head and winds the film, is controlled by an internal variable-speed governor. Exposure speeds that range from 1/2 to 1/12 of a second are regulated by a dial and pointer, and a release lever that starts and stops the exposure (Figure 3). Also shown in Figure 3,

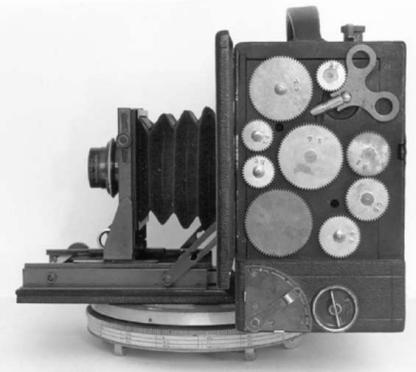


Figure 3. The No. 5 Cirkut Camera open, showing gear storage compartment, governor speed control dial, and

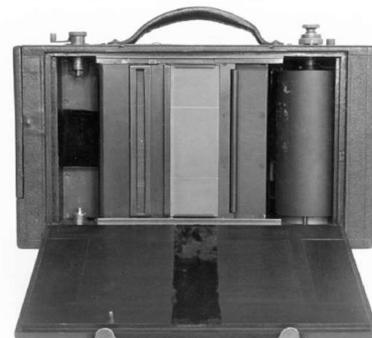


Figure 4. The No. 5 Cirkut with the back open, with the ground glass in position to focus.

are the nine pinion gear wheels, stored along with the winding key, in a "pocket" on the right side of the camera. An indicator on the body top shows, in inches, how much film has been used during an exposure. The back panel is provided with a perforating button to mark the film when

making more than one picture. Figure 4 shows the camera back open with the focusing ground glass in the focusing position. The back panel will not close unless the ground glass is shifted to the right to reveal the vertical exposure slot. One disadvantage of this model Cirkut is that the photographer cannot refocus once the film has started through. The No. 5 Cirkut could use 5" film, up to 42" in length. The No. 2 Crown tripod legs, along with a geared 7-inch diameter aluminum tripod top, were provided for the No. 5 Cirkut, and the bellows length is 12 inches.

There were approximately 400 No. 5 Cirkuts produced, in at least two batches, where the first production run in 1915 consisted of approximately 100 cameras that had serial numbers of 434xx, and the largest cluster of these cameras had serial numbers from 467xx to 469xx, where, in 1918, a total of close to 300 cameras were manufactured. The No. 5 Cirkut serial number was stamped on, and located inside on, the fold-down front bed at the rear center. The camera and all its apparatus came in a single sole leather case weighing 19 pounds.

The 1915 Graflex catalog had the No. 5 Cirkut priced at \$100.00. The 1917 Standard Photo Supply Catalog, Eastman Kodak Co., New Orleans, listed the No. 5 Cirkut complete outfit at \$118.00. The 1920 Graflex catalog priced the No. 5 Cirkut at \$151.59 (an odd amount!), where a 5" x 42" white label roll of Cirkut film sold for 85¢*. The 1929 Central Camera Company of Chicago catalog had the No. 5 Cirkut listed at \$83.65, to dispose of the cameras that they had left in their inventory.

The No. 6 Cirkut Camera (Figure 5 and Figure 6) was the same general design as the No. 5 Cirkut, but used 6" roll film and was manufactured by the Folmer Graflex Corporation of Rochester, New York. Folmer Graflex realized that the No. 5 Cirkut was limited to 42-inch lengths of film, so the No. 6 Cirkut was made to accommodate roll film up to 15 feet long. The No. 6 Cirkut was supplied with a Wollensak Anastigmat Series IA Raptar

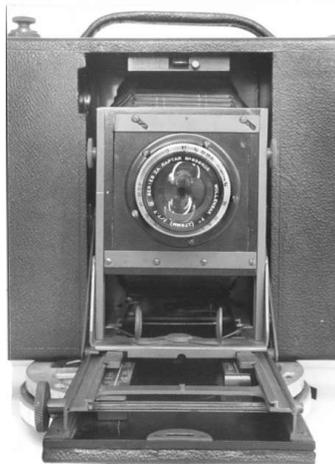


Figure 5. The No. 6 Cirkut Camera, showing the extra sharp Wollensak triple convertible lens.

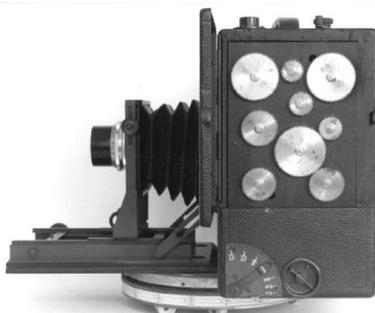


Figure 6. The No. 6 Cirkut open, exposing the nine pinion gears. Notice it is taller than the No. 5 Cirkut shown in Figure 4.

triple convertible f/7.7 lens of 7", 10" and 15½" focal lengths. The No. 6 Cirkut was sturdily constructed of selected mahogany and brass. All outside wood parts were covered with black grained Morocco leather, and the metal parts were mounted on the top of the body and finished in dull gray duco. A convenient

spirit level was provided to level the camera. The tripod setup for the No. 6 Cirkut was the same one used on the No. 5 Cirkut. The No. 6 Cirkut camera, complete, was fitted into a single well-made, very sturdy wood case that was covered with a cloth imitation leather material on the outside, and the inside compartment surfaces were lined with a purple velvet fabric. The outfit's total weight was 23 pounds. There were a total of 127 No. 6 Cirkuts manufactured. The serial numbers of the No. 6 Cirkut were 178529 through 178653, 180454, and 180455, where they were available from 1932 through 1949. To find the No. 6 Cirkut serial number, open the camera back, and it will be stamped on the body wood at the bottom, in front of the film winding drum. In 1932 the No. 6 Cirkut camera was priced at \$275.00, and in 1938 it was listed at \$293.50, where the net price was \$205.45. In 1932 a 6" x 15' roll of non-curling daylight film could be purchased for \$4.35, while Verichrome, in the same size, cost \$5.20.

The No. 16 Cirkut camera was the largest Cirkut roll film camera commercially produced. The article on the No. 10 Cirkut will describe the merger of the companies that manufactured the No. 16 Cirkut camera. There were two types of No. 16 Cirkuts manufactured; one that used air-resistance fans to control the camera rotational speed, and the other which utilized an internal variable-speed governor to control the camera rotational speed.

The first No. 16 Cirkut, a fan-type, was manufactured by the Rochester Panoramic Camera Co. in 1905. The camera came in three carrying cases, one for the body, one for the back and one for the tripod and gears, where the whole outfit weighed 90 pounds. The tripod top was 20 inches in diameter, and it provided a flat surface for the rollers on the camera bottom to rotate. A triple convertible Turner-Reich Anastigmat lens made by Gundlach-Manhattan Optical Co. was supplied with 15", 24" and 36" focal lengths. A set of nine camera gears (three for each focal length) was furnished, along with five air resistance fans which provided shutter speeds of 1/3, 1/6, 1/10, 1/25 and 1/30 of a second. This No. 16 Cirkut was the only one made that had an adjustable exposure slit of 1/8", 1/4" and 1/2". The camera was constructed of mahogany and covered with Morocco leather. The exposed wood was varnished natural, the metal parts nickel plated, and bright red leather bellows (39 inches in length) were provided for this camera. The lens could be raised or lowered to arrange the amount of sky or foreground required in the picture. The lensboard could be tilted when making negatives of groups of people where the subjects occupied several rows, to get these rows in the proper perspective in the picture. The film back was provided with a perforating button to mark the roll film when taking more than one picture. The film made available for the No. 16 Cirkut was 8", 10", 12" and 16" in width up to 20' long. When using the 36-inch focal length lens, a 360-degree picture would produce a negative 18 feet long.

From 1905 to 1907, the No. 16 Cirkut was manufactured by the Century Camera Company of Rochester, N.Y., who purchased the Rochester Panoramic Camera Company in 1905. The Century Camera Co. No. 16 Cirkut was identical to the Rochester No. 16 Cirkut, except that the exposure slit was fixed at 1/4" in width, and three fans of 1/3, 1/6 and 1/10 of a second shutter

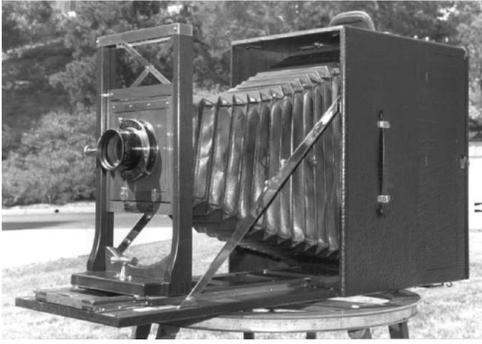


Figure 7. The Century Camera Co. No. 16 Cirkut.



Figure 8. The Century Camera Co. No. 16 camera with open film box.

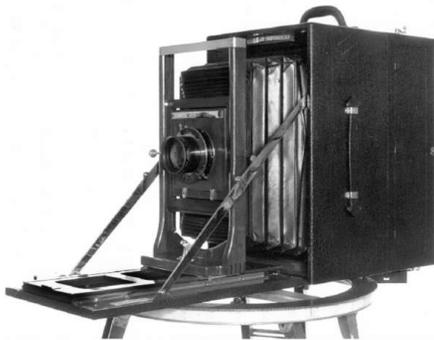


Figure 9. The Century Camera Division of Eastman Kodak Co. No. 16 Cirkut front view. Notice that the scissors mechanism shown in Figure 7 has been deleted.

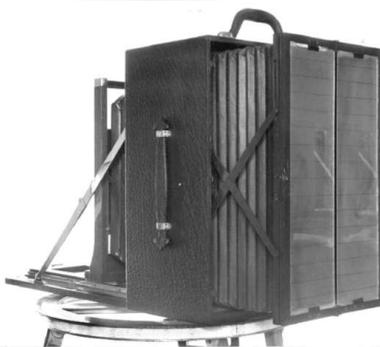


Figure 10. The No. 16 Cirkut with the film box removed with the ground glass extended to focus on the next picture.

speed were provided instead of five fans on the previous version. Figure 7 shows the front view, and Figure 8 illustrates the open film box of a Century Camera No. 16 Cirkut. In 1907 the Century No. 16 Cirkut was priced at \$425.00, or the same could be purchased without lens and shutter for \$350.00. A roll of film 16 inches by 20 feet was listed at \$12.80.

In 1907 Eastman Kodak Co. created the Century Camera Division which manufactured the next version of the No. 16 Cirkut (Figure 9). The No. 16 Cirkut made by the Century Camera Division was the same as the one previously produced by the Century Camera Co., except that the scissors-type mechanism, for raising and lowering the lens, was redesigned to use a rack and pinion-type mechanism. Also, the spring for the motor was made larger and more powerful. To focus the camera, the film box is removed, and the internal ground glass is extended as shown in Figure 10. The fan-type No. 16 Cirkuts had a wide range of serial numbers, so it appears the company manufactured cameras when they received orders for some.

The Century Camera Division redesigned the No. 16 Cirkut about 1915, to replace the air fan speed control system with an internal variable governor speed control system which had speeds of 1/2 through 1/12 of a second available. The speed control dial and start and stop lever were similar to the one shown in Figure 6. The camera was made of mahogany covered with Morocco leather, the exposed wood parts were painted with an ebonized finish, and exposed metal parts were oxidized to give a nice gun metal-type finish. This 1915 governor-type model serial number range appears to be 68370 through 68390. The Century Camera Division catalog listed the No. 16 Cirkut, complete, at \$425.00 or without a lens and shutter at \$350.00. The 1916 Graflex catalog listed the No. 16 Cirkut at \$629.85, where a 16" x 20' roll of film was available for \$15.20.

In 1917 the Folmer & Schwing Division of the Eastman Kodak Co. manufactured the same governor drive No. 16 Cirkut as the Century Camera Division of Eastman Kodak Co. The only difference was the nameplate. The Folmer & Schwing Division produced the last batch of No. 16 Cirkuts and of 36 governor-type cameras in 1917, which had serial numbers ranging from 80737 to 80772. The 1917 Standard Photo Supply Co. catalog, Eastman Kodak Co., New Orleans, had the No. 16 Cirkut, complete, priced at \$445.00 or without lens and shutter at \$370.00. In 1920 the roll film of 16" x 20' cost \$15.20, which included the war excise tax. The Folmer & Schwing No. 16 Cirkuts were available until 1924.

Because the No. 16 Cirkut was listed in catalogs from 1905 through 1924, it would appear that many were made, but it was bulky to handle, and it was an expensive camera to purchase for the average photographer. Just how many No. 16 Cirkuts were manufactured is not known, but from information that exists, the total production of the No. 16 Cirkuts, which includes the fan and governor speed control types, is approximately one hundred cameras. There were about 43 fan-type and 57 governor-type No. 16 Cirkuts constructed. Nearly a third of them have survived today.

The text is based on the best information and materials available at the time of writing. The writer would appreciate any additional information available and/or comments on this article. Bill McBride, (805) 684-7268 or ramabill@cox.net.

*On the Cirkut Cameras, the exposure slot is in the back of the film box, while on the Cirkut Camera Outfits, the exposure slot is on the front of the film box. That's why the films are wound differently for each type of Cirkut Camera.

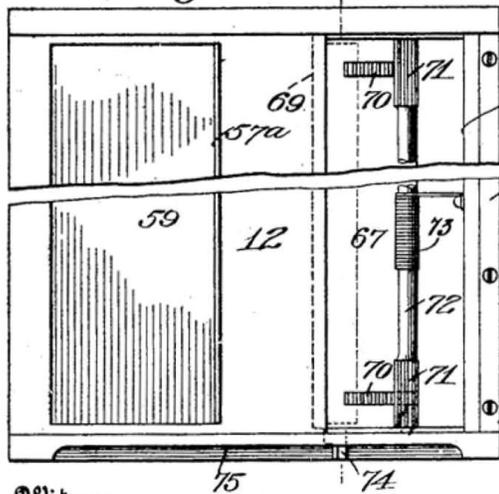
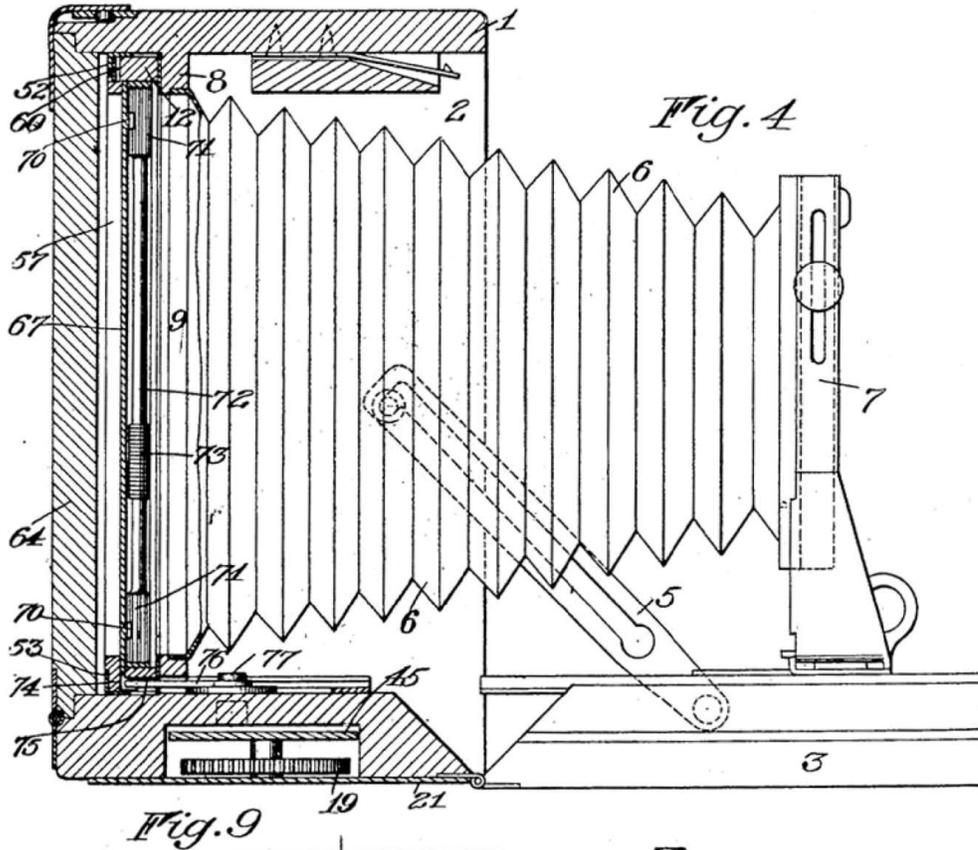


W. F. FOLMER.
PANORAMIC CAMERA.

APPLICATION FILED JULY 24, 1915.

1,251,494.

Patented Jan. 1, 1918.
5 SHEETS—SHEET 2.



Witness
Halter D. Payne

Inventor
William F. Folmer
By *Chamberlain*
his Attorneys

Figure 2.

The Camera World Wanted it, so Graflex made the **NEW 3¼" x 4¼" SPEED GRAPHIC**

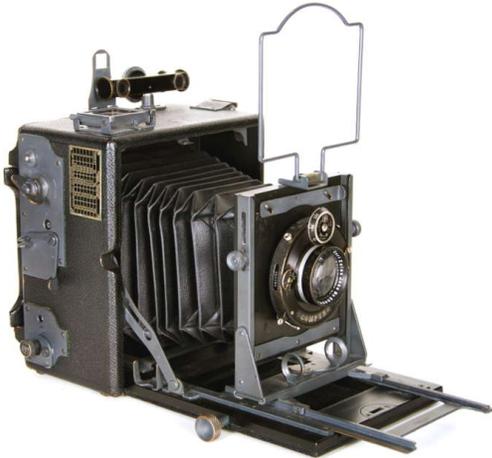


Figure 1

The 3¼ x 4¼ Speed Graphic of 1935-1939

By Ken Metcalf

Richard Paine, in his essential Graflex book, *A Review of Graflex*, wrote that “The 3¼ x 4¼ Speed Graphic appears to have been reintroduced [ten years after the “top handle” was discontinued in this size in 1925] for the purpose of providing a more economical size than 4x5. It could also have represented a practical effort to compete with European and especially British markets, where 3¼ x 4¼ was most popular.” I think both statements are true. According to George Eastman House Curator, Todd Gustavson, in 1935 the price of film was about 25% higher for 4x5. Regarding foreign competition, press photographer historian Reg Holloway writes that the 3¼ x 4¼ was indeed popular in Britain and elsewhere in Europe. Although I have not been able to find specific evidence about U.S. competition, the Zeiss Ikon Ideal and the Linhof Technica appear to have been popular. If readers have information on this issue, please let me know.

During the camera’s five-year life, approximately 5,600 were produced, while for a comparable time, approximately 12,000 4x5s were produced. Although less than half the production of the 4x5, I would consider the camera a success. It was sold in both the Graflex retail catalogs and the Kodak professional catalogs. The format, including its generous 12" focal capacity, was successful enough to be carried forward to the Anniversary model of 1940.¹ Also, see the insert for an announcement in the 1935 issue of *The Camera* magazine.

Graflex improvements and new products made their mark on the camera: First, it initially took only Graflex-style film or plate holders; second, it started with a fixed lower lensboard retaining bar before it became adjustable; third, it was fitted with a short-lived 2¼ x 3¼ revolving back; and finally, a lock for the focal plane shutter, vernier focusing scales and a parallax-correcting tubular viewfinder were added in its last year of production (Figure 4)². The camera was introduced with an accessory uncoupled Leitz rangefinder (Figures 1 and 2)³, then, along with its 4x5 sibling, a coupled rangefinder from Kalart and others, and finally, during its short life, flash synchronization was introduced and fitted to the camera by Kalart and others. In 1934 and 1935, a direct reading light meter (*GHQ* Volume 13, Issue 2) could be purchased as



Figure 2

another accessory for all Graflex and Graphic cameras (except the National). Add to this an auxiliary wide-angle bed (*GHQ* Volume 8, Issue 2), and the purchaser had a wide range of options.



Early and late focusing scales.

A physical comparison of the 4x5 and 3¼ x 4¼ cameras shows that the tracks, plus speed and tension mechanisms, were the same, as well as other minor parts. Although some major parts were interchangeable with the 4x5, it is clear that Graflex committed substantial time to developing this format.

First, the Graflex-style film and plate holders. The 1948 8th edition of *Graphic Graflex Photography* states that “The first 3¼ x 4¼ models, which appeared in 1935 and 1936, were equipped with a Graphic Back designed to accept the Graflex rather than the Graphic holders, which were not available at that time. Cameras of this model supplied after 1936 have the standard Graphic Back for Graphic attachments.” Actually, according to the 1935 Graflex catalog, the camera could be fitted with either the Graphic or Graflex back, thus allowing the Graflex-style holder to be used with either back. If fitted with the Graphic back, you received a spring back with a velvet-lined opening and a vertical brass ridge, both standard features of the Graflex back. The Graphic back accepted only the standard Graflex-style holder.

According to Graflex employee Tim Holden, because Graflex did not anticipate a large demand for this format, they did not initially

produce Graphic holders in this size. Tim also thought that there were a lot of complaints about tearing the velvet, and that the ridge was not high enough to keep the holder in place. Given that Tim started working for Graflex in 1935, it was hard to disagree with him. There is some evidence to suggest that Graflex removed the velvet lining while retaining the Graflex holder feature. It is, however, possible that Graflex wanted to standardize their holders by eliminating the Graphic-style. A definite oops! There are some cameras within the following serial number range that do not have the Graflex-style back, which could be due to a later conversion. If you have a camera with a serial number between 185403 and 197082, I would like to find out the type of back.

Second, the adjustable lower lensboard slide bar. This feature allowed lensboards to be removed without tilting and was carried forward to the Anniversary model. According to Tim's notes, two telephoto lenses' "Back cells [were] too large for early models." It seems reasonable that the adjustable lower bar was added to allow for this type of lens.

Third, the 2¼ x 3¼ revolving back Speed Graphic (pictured right). Although a separate article will be written on this interesting camera, it was basically a revolving back attached to a standard 3¼ x 4¼ Speed Graphic. This back, a variation of a revolving back used on early Cycle Graphics and Graflex-style cameras, was fitted to the Speed in 1937, and the camera was sold through 1938, when a ground-up redesigned Miniature Speed Graphic was introduced.⁴



The Leitz rangefinder. Leitz historian and collector, Rolf Fricke, gave interesting details about this accessory. The top-mounted rangefinder, called the FOKOS, was made from 1933 through 1945 and was the only Leitz rangefinder that came equipped with a stud in the center for insertion into a socket on the camera. Leitz also offered such a socket with a foot for insertion into the accessory shoe of Leica cameras which did not have a built-in rangefinder. Graflex and other camera manufacturers, who offered their cameras with the FOKOS, made their own socket for the stud on the body of that rangefinder, like the Wirgin Edinex, Adox Adrette, certain Welta cameras, and others. It was made in three finishes, but it appears that the black and nickel finishes were sold by Graflex.

Possibly to compete with rangefinder-equipped cameras, Graflex offered the Leitz FOKOS from 1935 until the Anniversary model was introduced in 1940, although by 1936 the coupled Kalart rangefinder was available, and by 1939 the Kalart and Magnascope rangefinders were sold and installed by Graflex. Al-

though the 4x5 Speed Graphic was available in 1935, the "built on" rangefinder was offered only for the 3¼ x 4¼ format until 1937, when it was sold, uninstalled, for all formats. Interestingly, the 1935 camera that is shown in Figure 1 (serial number 185,513), which was purchased with the rangefinder mount, does not have footage scales on the camera bed. A major "go figure." One fine example of this camera was purchased with its original case, and a camera-top mount was included in the case for rangefinder storage.

The Auxiliary Wide Angle Bed (*GHQ*, Volume 8, Issue 2). This snap-on device was sold from 1935 to 1938 but was not the correct width for the earlier "top-handle" model and was not needed with the Anniversary model, as the Anniversary had a movable two-piece link, or "tandem," track for focusing. According to Graflex historian, Tim Holden, it was not necessary to use this track for lenses 90mm or longer, but anything shorter, such as an 80mm lens, required the add-on bed. Also, because the front standard could not be moved with the focusing knob on this bed, it was considered only a modest improvement.

Finally, picture at right shows Speed Graphic (serial number 226,085), made in 1937, fitted with Kalart's first mechanical synchronizer, the Micromatic Speed Flash mounted with a Kalart-provided foot. The flash could also be mounted vertically using the tripod socket under the camera handle.



I believe the 3¼ x 4¼ Speed Graphic of 1935 deserves a prominent place in the history of Graflex and in any collection of their press cameras.

¹ Today, this and the 4x5 version are called "pre-Anniversary," which was not used at the time.

² This 1939 camera (serial number 238,238) was purchased used without a sports finder system.

³ When I tried to duplicate the advertising brochure photograph, it became apparent that Graflex had taken a heavy hand with the air brush and had lightened the gray hardware to show off the rangefinder.

⁴ Like the Cycle, Auto, Speed and Compact names, the company again let the buyers know how they wanted their camera to be perceived.



Figure 4
Late model tubular
finder model.

GRAFACTS.....

Graflex Slave/Sync and Graflex Booster/Analyzer

Copyright William E. Inman, Sr.

The **Graflex Slave/Sync** (Catalog No. 2265) was introduced in 1968, replacing the Strobflash Phototube assembly (Catalog No. 2147, *GHQ* Vol. 13, Issue 3).

It is a solid-state plug-in photoelectric triggering device for remote light-actuated slave operation of electronic flash equipment.



Features:

- Operation under high ambient light conditions.
- Excellent sensitivity master flash excitation at 150 feet or more to only 1000 BCPS (Strob 250).
- Light actuated silicon-controlled rectifier guarantees long life and positive switching.
- Compatible with all electronic flash units.
- Efficient out-of-doors in bright sunlight.

When you need more than one electronic flash unit, use the Slave/Sync. First of its kind that is unaffected by high ambient light. No chance of triggering by bright or close lighting fixtures. Trigger reliability at a flash source distance of 50 feet at a 150° arc about its major direct-input axis. A tripod socket allows versatile standard mounting on tripods or adapter devices designed by the user. Can be used with Graflex Strobflash and Strobomatic models, and many other electronic flash units.

Specifications:

Weight: 1¾ ounces.

Dimensions: 1¼" wide, 7/8" high, 1-1/8" deep

Color: Bright yellow for identification in darkness. (The Graflite version was black with a clear bubble dome.)

Construction: Encapsulated construction of molded epoxy resins of weather tight reliability. Cadmium-plated brass contact blades 5/8" long with standard placement. Molded Lucite jewel provides necessary optical characteristic and protection of the light sensor element.

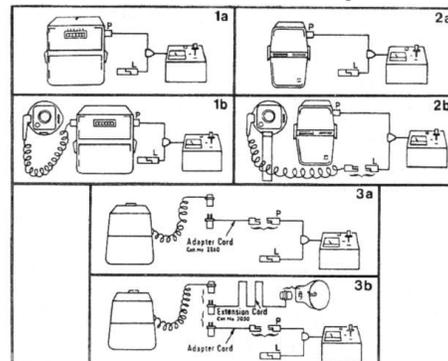
Electrical: Operates independently of the lamphead shutter contact voltage under terminal conditions from 25 to 210 volts. Circuitry functions in temperatures from 0° to 120° F.

The **Graflex Booster/Analyzer** accessory (Catalog No. 2294) combined the original Strobflash Booster and the original Strobflash



Analyzer into one unit (*GHQ* Vol. 13, Issue 3), the Booster/Analyzer for the new Graflex Electronic Flash System introduced in 1968 and 1970. It was specially designed for the Graflex Strobomatic 500 HV unit and the Graflex Strob 250, but with the Strobflash Adapter cord, Strobflash power Packs could also be tested.

HOW TO USE YOUR BOOSTER/ANALYZER



Features:

- The Booster extends the life of the dry battery of the Strobomatic 500 HV and the Strob 250 HV units (10 minutes for each hour the power pack was connected to the lamp head, and 5-10 minutes for each flash). Do not boost batteries over 12 hours (Illustrations 1a and 2a).
- The Booster reforms the power pack capacitors if the power pack has been out of service for a prolonged time. This also boosts the battery in the power pack at the same time. Boost for one hour (Illustrations 1b and 2b).
- The Booster also serves as an emergency power supply when connected to the power pack and lamphead when connected to the 117 AC outlets (Illustrations 1b and 2b).
- The Booster can be used to test and boost the batteries of the Strobflash I, II, III and IV units, with the addition of the Strobflash Adapter cord Catalog No. 2260 (Illustrations 3a and 3b).
- The Analyzer determines the condition of the batteries (See the voltage chart.) and can check the recycling time of the unit when the lamphead is connected to the power pack (Illustration 3b).
- The Analyzer can determine the condition of the capacitors. A rapid voltage drop indicates a bad capacitor.

POWER PACK VOLTAGE CHART			
STROB 500 and STROBOFLASH IV			
TEST	GOOD	USABLE	REPLACE
Battery	450 - 400	400 - 360	360
Capacitor	440 - 390	390 - 350	350
Load	440 - 390	390 - 350	350
STROB 250 and STROBOFLASH I			
Battery	480 - 400	400 - 360	360
Capacitor	470 - 390	390 - 350	350
Load	470 - 390	390 - 350	350

The Graflex Booster/ Analyzer was produced by Graflite Photo Products after 1973.

This completes my articles on the new Graflex Electronic Flash System.

References:

- Graflex Booster/Analyzer guide book.
- Graflex Slave /Sync Instructions manual.

Graflex Historic Quarterly

The Quarterly is dedicated to enriching the study of the Graflex company, its history, and products. It is published by and for hobbyists/users, and is not a for-profit publication. Other photographic groups may reprint uncopyrighted material provided credit is given GHQ and the author. We would appreciate a copy of the reprint.



Folmer Graflex brochure, 1935.

Editors: Ken Metcalf and Les Newcomer

One-year subscription: mail US\$14
email Free

[Payable to **Ken Metcalf**]

Contact:

Ken Metcalf
94 White Thorn Dr.
Alexander, NC 28701-9792
E-mail: metcalf537@aol.com

Les Newcomer
33922 Grand River Avenue
Farmington, MI 48335-3432
E-mail: LNPhoto@twmi.rr.com

Code Letters for Wooden Lensboards

<u>Code</u>	<u>Board</u>	<u>Size Camera</u>
A	3 1/4 x 3 1/4	3A Graflex (later model) 3 1/4 x 5 1/2 Compact Graflex 3 1/4 x 4 1/4 Super D Graflex 4x5 Auto Graflex (later model) 2 1/4 x 3 1/4 Speed Graphic (pre-Anniv.) 3 1/4 x 4 1/4 R.B. Series D 3 1/4 x 4 1/4 R.B. Telescopic Graflex 3 1/4 x 5 1/2 Speed Graphic (top handle) 4x5 Speed Graphic (top handle)
B	3/4 x 3 3/4	4x5 R.B. Auto Graflex 4x5 R.B. Telescopic Graflex 5x7 Speed Graphic (top handle) 4x5 R.B. Series D and Super D
C	4x4	4x5 R.B. Telescopic Auto Graflex 4x5 Speed Graphic (pre & Anniversary) 4x5 Crown View 5x7 Auto Graflex 5x7 Compact Graflex 5x7 Speed Graphic
D	2 1/4 x 2-3/8	1A Graflex
E	2 3/4 x 2 3/4	3 1/4 x 4 1/4 Auto Graflex (earlier model)
F	4x4	5x7 Press
G	5x5?	5x7 Home Portrait (probably later model)
H	2 1/2 x 2 1/2	3 1/4 x 4 1/4 Speed Graphic (top handle)

Early cameras did not have coded lensboards, and the starting date for these boards is uncertain, possibly in the late 1920s. Coded boards were not provided for the Cycle Graphic, molded and metal lensboards. Super D models were not listed, possibly because special machining was require.



GRAFLEX DECLARES WAR!

**For the first time, a limited number of our superb
xl cameras are available at \$449.50.
(Could this be the last of the red-hot bargains?)**

The Graflex xl 780 Special is a professional's camera. An all-round camera that's right for studio, candid, fashion, wedding, industrial, and more.

A camera with a hardy rangefinder body. Fast-action pistol grip. Quick-focus lever. Rapid lock cable. Graflock back with ground glass focus. An 80mm f/2.8 Heligon lens. Specially designed for full coverage of 2 1/4" x 3 1/4" format. And 1/500th Compur shutter. A camera that is setting a new standard for the photographic industry.



Normally, the Graflex xl would sell for over \$600. Now, you can get it for \$150 less. If you've been wanting an xl but weren't quite ready to go the regular price, see your Graflex dealer now and save.

If you don't know the xl personally, take advantage of our special price to go in and get acquainted. You can't buy a better camera at twice the price.

For Information, write:
Graflex,
3750 Monroe Avenue
Rochester, N. Y.
14603
In Canada:
Graflex
of Canada
Ltd.

SINGER
EDUCATION & TRAINING PRODUCTS

The Folmer Graflex "Speed Graphic" Camera

THE newspapers' cry "Get that picture!" speeds squads of photographers to every news event—from fire, flood or tornado to murder trial, ship launching or train wreck. Present always is the Speed Graphic, frequently in large numbers as any camera count will testify. It is not new, years of experience are builded into it and here with its latest improvements we present the Graflex-made Speed Graphic Camera.

Conventionally classing itself as a "view" type, it is fitted for hand or tripod use with button-releasing drop-bed and pull-out front, with folding bellows, extension bed operable by rack-and-pinion, etc. Prominent features are the two types of shutter; the one a built-in Graflex focal plane shutter providing for 24 automatic exposure speed selections (and *time*) by use of a downward-travel five-opening ($\frac{1}{8}$, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, and $3\frac{1}{4}$ -inch slits) cloth curtain with six selective spring tensions, every slit-and-tension combination securable at will; the other, a front-mounted Compur between-the-lens shutter providing eight automatic shutter speeds, 1, $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$ and $\frac{1}{200}$ *time* and *bulb*, diaphragming from *f*4.5 to *f*32 with aperture numerals visible in "taking" position on top of shutter casing. Camera front provides for $1\frac{1}{4}$ -inch rising-and-falling front movement.

The $3\frac{1}{4} \times 4\frac{1}{4}$ -inch Speed Graphic pictured here includes a 11-inch bellows draw; camera closing to over-all measurements of 7 inches high, $6\frac{1}{2}$ inches wide, $3\frac{3}{4}$ inches through, the unloaded weight, 3 lbs. 1 oz. Fitments include: full picture-size ground-glass focusing with folding hood hingedly attached; folding magnifying eye-level optical finder attached to right of body top; folding wire framing finder centered over lens for eye-level use; *Leitz optical range finder disengagedly attached to body top for distance measurement from infinity to 26 inches by dial rotation which causes separate images to coincide in eye-piece*; 1 x 6-inch leather carrying handle flat-folding against side; engraved brass plate giving focal plane shutter slit-and-tension combinations; 9-inch flexible cable release for Compur shutter; leather lens cap; two tripod screw bushes set in body; distance scale on bed for quick setting without focusing; adjustable metal stops on extension bed guides. All external metal fitments are finished in dull gun metal; body is covered in pebbled black leather.

The Speed Graphic as shown uses double plate and cut film holders; camera is obtainable to use film pack adapter, cut film or plate magazines, and Graflex roll film holders. Other camera sizes include the 4 x 5 and the 5 x 7-inch. Optical equipment for model shown is the 13.5 cm. ($5\frac{5}{8}$ -inch) Carl Zeiss Tessar *f*4.5 anastigmat. Removable lens board measures $3\frac{1}{4} \times 3\frac{1}{4}$ inches; bellows opening, $2\frac{1}{8}$ -inch circle. The Speed Graphic is manufactured by Folmer Graflex Corporation, Rochester, N. Y., and is sold by all Eastman Kodak dealers and associates.

