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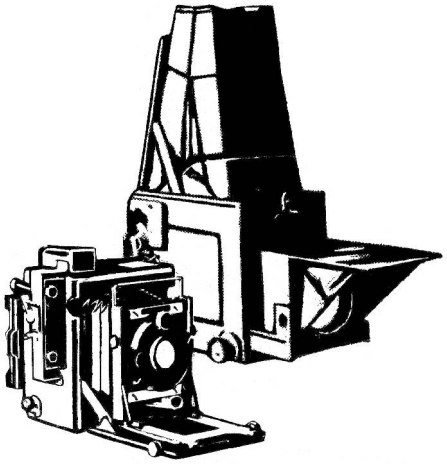
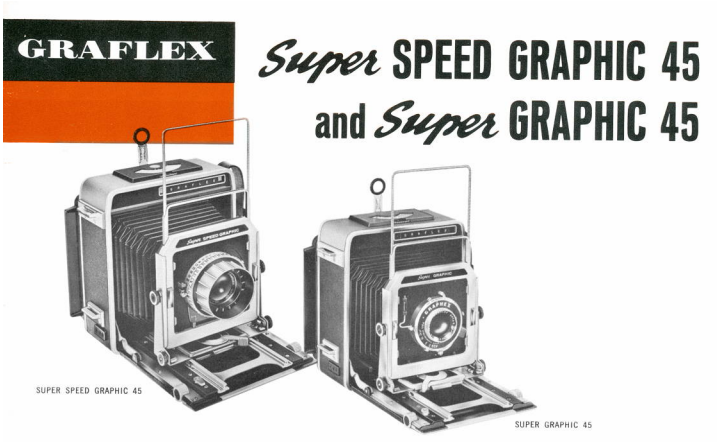


VOLUME 14 ISSUE 4 FOURTH QUARTER 2009

FEATURES



The Graflex 4x5 Super Graphic and Super Speed Graphic

Graflex introduced the 4x5 Super Graphic in February 1958. It was heralded by Graflex as "the greatest advance in press cameras in years, and is sure to catch the imagination of every advanced amateur and professional photographer. The Super Graphic is new in every way...completely new design and appearance …. new features for greater-than-ever versatility.

The Super Graphic is smaller than its predecessor, the famous Pacemaker Speed Graphic. It's styled in two-tone gray and black with aluminum trim." A modern dream camera in every way.

We need to back up to 1956, when the president of Graflex, Inc., Gaylord C. Whitaker, enlisted the services of industrial design consultant Peter Muller-Munk, who, along with the Graflex engineering staff, began the redesign of the 4x5 Graphic camera. Drawing heavily on Graflex research, they checked "human engineering" all the way from typical handholds to the mechanics of the shutter tripping.

To give this camera the strength of the mahogany box of the Pacemaker, they chose an aluminum body for strength as well as lightweight properties. They went to Alcoa Aluminum for production parts, while assembly of the camera took place at the Graflex plant in Rochester, New York.

Human Engineering Features:

The Super Graphic is designed for convenience in handling. All locks and releases are readily accessible for adjustments and are large enough and properly shaped for foolproof operation.

The front lens standard swings, tilts and shifts have "click-stop" neutral positions.

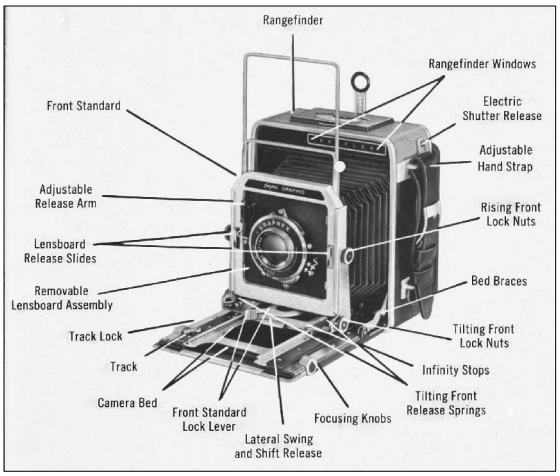
The electronic shutter and flash tripping button can be used without changing hand position.

The automatic focusing scale is on top of the camera for ease of reading. All the flash shutter connections are internally wired to minimize dangling cords and prevent misfires from partially disconnected plugs.

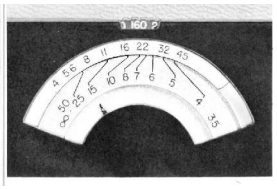
A removable long optical viewfinder is supplied as an accessory.

Construction Features:

For maximum strength, resilience, precision, production cost savings and minimum weight, the Super Graphic uses an extruded strip bent to shape, and butt welded at the bottom joint. Integral beads on the edges add rigidity and serve as trim strips for the leather-grained covering. For parts requiring light absorption, black anodizing replaces paint, which ends chipping and scratching. Other precision parts are die-cast aluminum or magnesium to further minimize weight.



New Features:



1. Automatic flash setting calculator operates as part of the focusing scale on the top of the camera for determining the correct f stop.

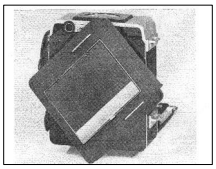
2. Horizontal swing and forward tilt movements of the lensboard are standard, along with rising, shifting, and backward tilting movements. The horizontal shift is usable even with short lenses.

CAMERA-LENS-FRONT STANDARD ADJUSTMENTS: (APPROXIMATE)

Feature	Pacemaker Crown 45	Super Graphic
(1) Bellows Extenions	12½" max. 7⅞" min.	12¼" max. *3½" min.
†(2) Side Shift	⅝" at 5⅛" bellows ext.	⅜" at 4½" bellows ext.
†(3) Rise	1⅛"	1⅛"
†(4) Backward Tilt	17°	14°
†(5) Forward Tilt	with drop bed	12°
†(6) Swing (Vertical)	none	15°
†(7) Bed Drop	17°	14°
(8) Lens Mounting Max. Rear Lens Diam..	2⅞"	2⅞"

*Front standard clamped to movable yoke.
†Features 2 through 7 are measurements from center or normal position.

3. A spring loaded focusing track was added for stability. An improved yoke is now "V" guide, running entire length of each side of the bed.



4. A revolving back that locks in the horizontal or vertical position. The rotation works in either direction accommodating a left-handed user, if necessary.

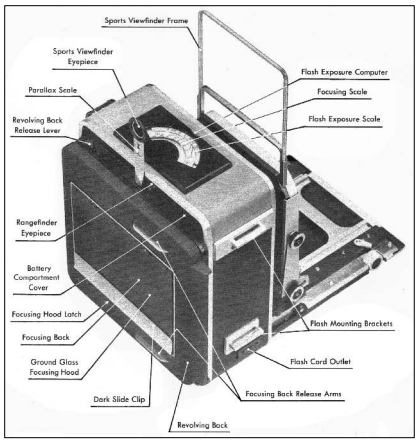
5. A removable focusing hood for quiet, one-handed operation was added.

6. A dark slide holding clip, on the focusing hood, runs the full length on the back of the hood and is made of "phosphorus bronze."

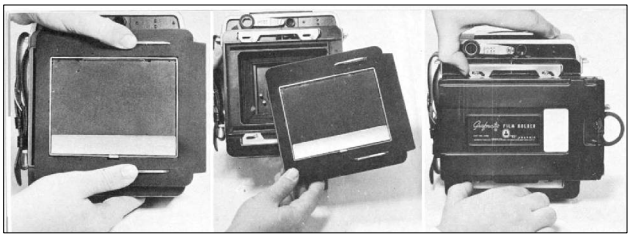
7. Larger, easier-to-handle rangefinder cams and a simplified mechanism for easiest changing of cams was added.

8. Rangefinder focusing from 90mm wide-angle lenses to telephoto lenses is standard.

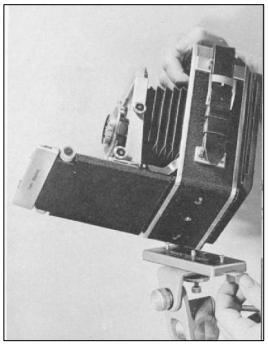
9. Interchangeable, internally wired, lensboard assemblies for either flashbulbs or electronic flash provide connection through the camera body.



10. A double cam action slide lock on the Graflok back provides positive positioning of the Grafmatic, Film Pack, Roll Holder and Polaroid film holders.

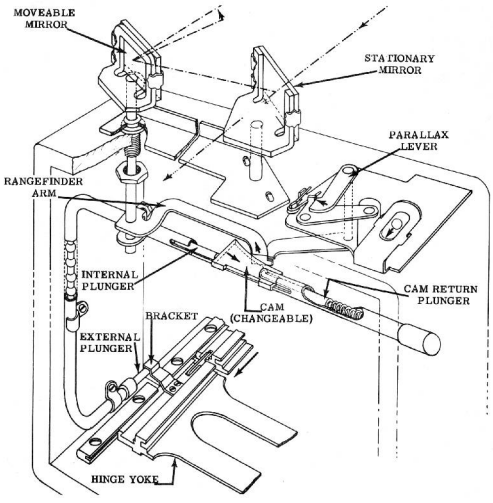


11. A built-in electrical socket on the lower right side accepts a polarized three-prong pin cord for the Graflite and the Stroboflash, providing internal shutter synchronization and eliminates cords dangling from the shutter.



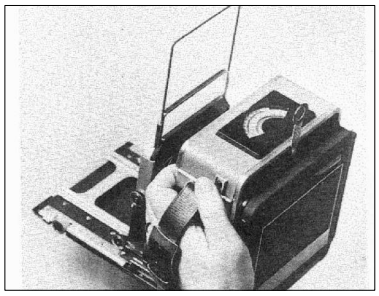
12. A Presslock Tripod Mount accessory for instant and solid attachment or removal of the camera when fitted to a tripod.

13. A new type bed lock arrangement, rotation of either focusing knob, locks or unlocks the bed, which eliminates accidental releasing.



14. The Super has a high-precision built-in rangefinder. The rangefinder cam operates the focusing scale indicator on the stop of the camera, so that the scale always matches the lens used. Shown below is the Pacemaker rangefinder, which is the same system used in the Super Graphic, with a few changes.

15. An electronic shutter and flash tripping release button are located conveniently for left - and operation. The BC circuit is powered by two 22.5-volt Eveready batteries (number 412) for tripping the solenoid in the base of the front lens standard. The same circuit can also be tripped from the Graflite two-cell flash unit red button with the addition of the Y cord (Catalog number 2808) for flash bulb firing.



When introduced in 1958, the Super "outfit" sold for $416, while the 4x5 Pacemaker Crown Graphic outfit with the same shutter sold for $340. The Super Graphic remained in the Graflex line through 1973, when camera sales were discontinued. In that year, the Super outfit sold for $641 and a 4x5 Pacemaker Crown outfit for $543.

The 4x5 Super Speed Graphic

The Super Speed Graphic was introduced in 1959 and last sold in 1969, when Graflex stopped production of the Graflex 1000 shutter. The only difference between the Super Graphic and the Super Speed Graphic was the introduction of the Graflex 1/1000 leaf shutter. The bodies are the same.

Up to that time, the fastest leaf shutter was 1/500. The Graflex 1/1000 shutter was a revolutionary design. For further information, see my article in the GHQ Volume 5, Number 1, titled "The Dream Shutter."

If your camera needs to be repaired, I highly recommend Fred Lustig. Mr. Lustig has provided quality Graflex service for many years and has a good supply of parts for the 1000 shutter and the Super Graphic. He can be reached by mail at 4790 Caughlin Parkway, No. 433, Reno, NV 89509, or by phone at (775) 746-0111.

References:
Graflex Trade Notes, February 1958.
Graflex Super Graphic/Super Speed Graphic Instruction Manual.
Alcoa Aluminum Newsletter, October 1959, Peter Muller-Munk Association publication.

Comments on the Super and Super Speed Graphic

By Ken Metcalf

According to a 1959 Alcoa newsletter, industrial design consultant "Muller-Munk was faced with a demand for a totally new design. The primary reason was a desire to tap a rich new market among amateur photographers, whose envy of press cameras had been carefully noted. However, Graflex executives had misgivings about the appeal of existing models [of Pacemaker cameras for this new market]; festoons of rangefinders, viewfinders, light meters, wires and solenoid might not bother professionals, but their probable impression on amateur lensmen gave rise to serious doubts." The doubts were resolved after a 23-month design process produced the Super Graphic.

I do not collect Graflex cameras later than the Anniversary Speed Graphic, so I had to borrow a Super Graphic. It is an amazing camera and an interesting departure from the Pacemaker Speed Graphic, which preceded the Super and remained in the Graflex line, along with the Super, until camera production was discontinued. In my opinion, the camera should be of interest to both the user and the collector. If you are interested in this camera, it, and compatible lenses, can still be found at a reasonable cost.

Production numbers for the Speed and Super Speed are elusive. Records suggest that around 18,400 cameras were made; however, records are not broken down by type. According to notes of Graflex employee Tim Holden, the electrical system was updated, thus cameras with serial numbers in the 640,000 to 646,124 range should be avoided if you need optimal functionality. Initially, an "S" was a prefix to the serial number for a Super Speed, but this system was abandoned in late 1962. Other, less substantive, changes were made to the camera, but by 1962 (around serial number 652,400) there are no records of further changes.

Regarding military use of these cameras, so far, only two examples of the Super Graphic, with a military tag (probably for the U.S. Navy and Air Force), have been located. The Super Speed Graphic was sold to the military as Model KE-12(2), and as part of a set designated KS-4A (2). Military cameras in good condition are hard to find but desirable.

Because the tracks are not linked, wide-angle lenses less than 90mm are limited to those in focusing mounts and the use of the ground glass. Tim's notes are not clear, but there is the suggestion that the 90mm wide-angle Optar did not work well, due to cutoff. Because the camera was sold with only the sports finder and ground glass for viewing, sports finder inserts and an optical viewfinder were (and still are) available and, I think, desirable.

Rangefinder cams. Because I do not have a top rangefinder Pacemaker, I am unfamiliar with the use of cams. That said, I have had some difficulty inserting the cam in the camera, and the instruction manual uses terms not illustrated. Graflex.org lists 164 cams for lenses from 86mm to 403mm (plus two blanks). This number of cams is required if you are to accurately match the actual focal length (from an optical bench measurement) of the lens to the appropriate cam and was done by Graflex at several of their locations. Of the three lenses I have, none of the cams is an exact match to the stated focal length. For the collector, having a cam close to the listed one is helpful but not a deal breaker, but the correct cam is of more importance to a camera user. Finally, cams made for the Pacemaker are not interchangeable with the Super or Super Speed.

Lenses. When first sold, ten lenses were listed, with the 127mm Kodak Ektar, 135mm Graflex Optar, 162mm Graflex Optar and 302mm Kodak Ektar when sold in outfits. By 1973, only the 135mm Optar was listed.

Lensboards. Because there were eight different shutter specific lensboards, I think a lens for this camera should be purchased on a lensboard and with the rangefinder cam on the camera (if purchased together) or included. If a proper board is not used, electrical connections will be lost, and a solenoid and shutter cords would be required. Super Graphic lensboard assemblies can be used on 4x5 Pacemaker cameras, using instructions in the camera manual. After the Super Graphic was introduced, the Pacemaker lensboard was modified, with additional embosses on the sides, so it could be used on the Super Graphic.

Electric shutter tripping. As Bill wrote, two batteries are required for shutter and flash tripping. The Eveready No. 412 is still available. Because there is a chance that the capacitor or circuit may not work, I think a buyer should obtain some form of assurance that this feature is working or that a price reduction should be sought.

One observation about the Graflex 1000 shutter. Some of the internal parts of the shutter are plastic and prone to fail, and repairs can be expensive.

EVOLUTION OF THE No. 10 CIRKUT CAMERA

By Bill McBride

The most widely used large-format panoramic camera in America has been the No. 10 Cirkut Camera for 10" wide film. Invented in Wyoming and manufactured in Rochester, N.Y., from 1904 to 1940, this "field-camera-on-a-turntable" remains the choice of many leading panoramic professionals. Today's working Cirkuts often employ electric motors and other modern adaptations.

Just how many No. 10 Cirkuts were manufactured is unknown due to incomplete company records. The author estimates that 390 fan-type No. 10 Cirkuts and 1,093 governor-type No. 10 Cirkuts were produced for a total of 1,483. The last year that the No. 10 Cirkut was manufactured by the Folmer Graflex Company, in quantity, was 1931 when 60 were made. From then on, anywhere from 0 to 5 cameras were built per year. Folmer Graflex manufactured the last No. 10 Cirkut Camera in 1940. In 1945 Folmer Graflex became Graflex, Inc., which handled the sales of the remaining few No. 10 Cirkuts in the company's inventory, until 1949.

The camera serial number location for Models I and II is visible when the Cirkut back is removed. The serial number is stamped on the camera body and the Cirkut back on the interior black-painted wood on the bottom left. The serial number range for Model I was approximately 110 through 175 and Model II 176 through 225. On all models there will be another set of numbers stamped on the interior bottom center on the body and back, that is less than 100, which may be the number of the person who handcrafted that particular camera. On Models III through VI, the serial number is located inside on the body frame top board. To see the serial number, open the camera bed all the way, then turn the camera body upside down. Using a good light source, the serial number will be visible on the body wood at the right-side front edge.

The following is an account of the author's research into the early manufacturing history of the No. 10 Cirkut, including a detailing of at least six different models. To help clarify the chronological order, the author has assigned his own model numbers (I-VI), as listed in the following table. Basically, there were two types of No. 10 Cirkut Cameras produced: fan speed-control type and the governor speed-control type. A future article will cover the Nos. 6 and 8 Cirkut Outfits.

The Cirkut Camera probably obtained its name from photographing military units. In the early days, a photographer made a circuit of the area to take photographs of tents and troop maneuvers. The circuit here refers to traveling around a periphery of tents. Since the Cirkut panoramic camera did a better job of covering the periphery than the conventional view camera, it was given the name "Cirkut" by its inventors Johnston, Reavill and Brehm. The camera could not be named "Circuit," which was already a registered name, so they used "Cirkut" for their camera.

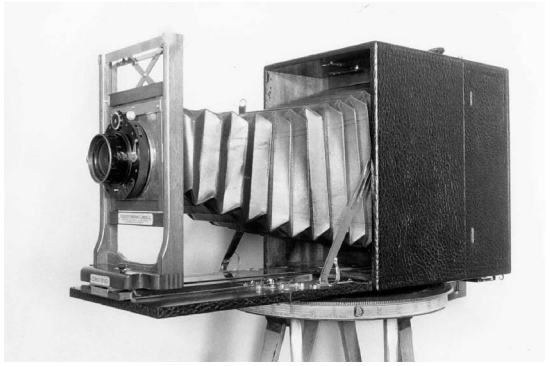


Figure 1. The first No. 10 Cirkut manufactured by Rochester Panorama. Note scissors mechanism to raise or lower the lensboard, which identifies it as an earlier fan type (Model I or II).

The early No. 10 Cirkut Cameras used air-resistance fans to control camera speed of rotation, while the later Cirkuts employed a variable-speed internal governor for speed control. The Cirkut Camera is built with an internal clockwork motor that pulls the film past the vertical exposure slot counterclockwise at a pre-selected speed. At the same time, the motor rotates the camera in the opposite direction (clockwise) on the geared tripod at the same relative speed that the roll film is moving past the exposure slot. Thus, that portion of the film being exposed is, in effect, stationary. The standard camera is capable of taking pictures of different angles of view, including a 360º single exposure, 12.5 feet long, using a 24" focal length lens. The camera film drum can hold up to 20 feet of roll film. The overall length of the negative is determined by the focal length of the lens and the desired horizontal angle of view. A distance scale on the tripod head gives the inches of film required for the angle of view selected. By using the longest focal length of the lens, the longest negative is obtained and, at the same time, the largest image of the subject. The camera was utilized to photograph hotels to hang in other hotels, interesting features of railroad lines, panoramic views of real estate development projects, views of manufacturing plants, and, most of all, groups of people.

The Cirkut-type panoramic camera design was first patented November 29, 1904, (No. 776,403) by William J. Johnston of Rock Springs, Wyoming. On January 17, 1905, Johnston also obtained a "Camera Revolving Apparatus" (patent No. 780,351) to improve the first design by simplifying the gear train to make the camera work more smoothly.

Table of No. 10 CIRKUT CAMERA CHRONOLOGICAL ORDER

Model No.	Manufacturer	Years of Production	Speed Control	Remarks
I	Rochester Panoramic Camera Co.	1904-1905	Fan	The first No. 10 Cirkut made, and the one that had the most features for the photographer.
II	Century Camera Company	1905-1907	Fan	Similar to Model I minus several features. Two film pressure plates added.
III	Century Camera Division of Eastman Kodak Company	1907-	Fan	New camera lens-frame, and new tripod head design.
IV	″	-	Fan	Same as Model III but with improved motor start lever mechanism.
V	″	-1915	Governor	The first governor-type No. 10 Cirkut. A completely new camera.
V-A	Folmer & Schwing Division of Eastman Kodak Company	1915 -1917	Governor	Same as Model V except for the nameplate.
V-B	Folmer & Schwing Department of Eastman Kodak Company	1917-1926	Governor	Same as Model V-A except for the nameplate.
V-C	Folmer Graflex Corporation	1926-1929	Governor	Same as Model V except for the nameplate.
VI	″	1929-1940	Governor	Same as Model V except for the nameplate, and the new lens of 10", 15.5" and 20" focal lengths.

David A. Reavill of Rock Springs, Wyoming, and Rochester, New York, was granted two patents on January 17, 1905, (Nos. 780,381 and 780,382) for a panoramic design which he assigned to the Rochester Panoramic Camera Company, of Rochester, New York, a Corporation of Wyoming. During this time, William J. Johnston also assigned his camera patent designs to the Rochester Panoramic Camera Company. The Rochester Panoramic Camera Company was incorporated on May 16, 1904, in Wyoming with the company location on South Front Street in Rock Springs. For the company's first year, the following persons were the corporate officers: A. Kendall, President; Burt Smith, Secretary; and Lloyd P. Thomas, Trustee. These Rock Springs investors appear to be only financial backers for Johnston and Reavill, as their names were not shown on the Panoramic Camera patents. The Cirkut type panoramic designs as patented by Johnston and Reavill were not commercially produced.

The first commercially manufactured No. 10 Cirkut panoramic camera (Model I in Table) made by the Rochester Panoramic Camera Company was (Figure 1) designed by Frederick Brehm of Rochester, New York, and patented on January 17, 1905 (No. 780,406). The camera was constructed of prime mahogany wood with the wood exterior covered with high quality leather, and the interior wood varnished beautifully natural. The exposed metal hardware parts were brightly nickel plated, and the camera had high quality red leather bellows 27" long.

The lensboard for this first Cirkut No. 10 was 3¾" square. The lens could be tilted and/or raised up or down, with an adjustable screw on top of the camera lens frame. This camera had three rollers on the bottom of the camera (Figure 2) for camera rotation on the brass ring-gear on the wood tripod top. The Rochester camera (Model I) was the only No. 10 Cirkut built that had an adjustable exposure slot of 1/8", ¼" or ½" (Figure 3). This model used air-resistance fans of different sizes to control the speed of camera rotation on the tripod. The five fans that came with the camera gave exposure times (equivalent shutter speeds) of 1/3, 1/6, 1/10, 1/25 and 1/30 of a second using the ¼" exposure slot. If the 1/8" exposure slot was used, the exposure time was half of the time of the particular fan selected. If the ½" exposure slot was used, the exposure time was double the time of the particular fan selected.

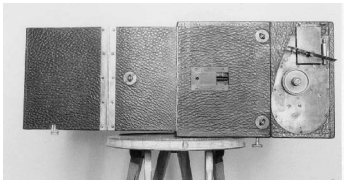


Figure 2. Bottom view, showing three rollers, tripod gear and tripod gear. Hinge on left for tilting front bed.

Figure 3. Side door opens to assist photographer when inserting film. Note adjustable slot knob on top and 120 film spool in place.

For focusing the No. 10 Cirkut Camera, the film box is removed, and the ground glass focusing back is pulled out and locked in place (Figure 4). This is the way all No. 10 Cirkuts are focused.

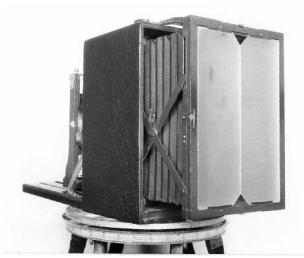


Figure 4. Ground glass in position for focusing, shown folded back in and hinged over prior to film box placed on camera body.

All No. 10 Cirkuts had a film movement scale in inches and degrees mounted around the tripod head which gave the distance the film moved in inches on an exposure. On this model, and other fan models, the exposure slot opens when the camera film box is locked on the camera. The camera clockwork mechanism on the fan-type cameras is started and stopped with a hand-operated air pressure bulb after the motor spring is wound up. The film spool holder on this camera is adjustable from 2¼" to 10" roll film. Because the later models had larger upper film spool sprockets, the Model I camera is the only No. 10 Cirkut that can use today's 120 roll film without the use of an adapter. The lens originally furnished with this Cirkut was an 11" or 22" focal length doublet-convertible lens manufactured by the Gundlach Optical Company of Rochester, N.Y. Later, the Turner-Reich 10 7/8", 18", and 24" triple-convertible lens manufactured by the Gundlach-Manhattan Optical Company of Rochester, N.Y., was made available for the No. 10 Cirkut. This lens became the standard for the Model I and Model II cameras. This lens was patented by Henry H. Turner and John C. Reich on May 14, 1885 (No. 539,370). For each of the three focal lengths, there were three pinion gears provided, where one gear was for the subject 100 feet to infinity in distance away, another gear for 50 feet away, and a third gear for 25 feet. Some No. 10 Cirkut Cameras were modified so that the folding front on the camera could be dropped to keep the leading edge of the bed out of the picture when using a short focal length lens (Figure 5).

Figure 5. Model I with 6" auxiliary bed in place.

David A. Reavill, Vice President of the Rochester Panoramic Company, filed on August 28, 1905, an application for the name "Cirkut" to be used as the trademark for the company's panoramic cameras. On April 24, 1906, the Cirkut name was registered at the United States Patent Office (No. 51,824). This No. 10 Cirkut (Model I) was manufactured from 1904 to 1905. It came with two carrying cases, one for the camera and one for the tripod and gears.

The Century Camera Company

On July 15, 1905, the Rochester Camera Company entered into an agreement with the Century Camera Company, also of Rochester, for the sale to the latter of "Good will, Trademarks, and Trade-names and Personal Property." The Century Camera Company, whose stock had been purchased by Eastman Kodak in 1903, continued to manufacture the No. 10 Cirkut (Model II), at first on a royalty basis, and later by the right of purchase of the patents. This camera was produced the same as the Rochester Panoramic Company Cirkut (Model I) except that the exposing slot was fixed at ¼" with no adjustable slot provision. At least one Model II camera has been observed to have a nickel-plated cover plate over the hole for the exposure slot adjustment knob, so Century Camera Company may have planned to have an adjustable exposure slot, but the decision was made to make the slot fixed at 1/4". On the Century No. 10 Cirkut (Model II), a 4-3/16" film pressure plate for the film spool and a full length film pressure plate over the exposure slot were added. The film winding drum was lengthened to 10", as compared with 9-3/8" on the Model I, to provide a more solid base for the film to wind onto. The Model II, and all later fan-type No. 10 Cirkut Cameras, could take 6" to 10" roll film. The Century Camera Company manufactured the No. 10 Cirkut (Model II) from 1905 to 1907.

In 1905 the Eastman Kodak Company purchased the Folmer & Schwing Manufacturing Company and shipped its machinery, fixtures, merchandise, etc. to Rochester, N.Y., where it was installed in the Century Camera Company building. The Century Camera Company and the Folmer & Schwing Manufacturing Company were operated as separate companies in the same building producing their own camera products. On January 2, 1906, Folmer & Schwing Manufacturing Company became the Folmer & Schwing Company. The Century Camera Company maintained the business records for both companies but kept them separate.

On May 22, 1907, the Century Camera Company was merged with the Eastman Kodak Company, then dissolved on July 1, 1907, becoming the Century Camera Division of the Eastman Kodak Company. Also on July 1, 1907, the Folmer & Schwing Company was dissolved and became the Folmer & Schwing Division of the Eastman Kodak Company. These two Eastman Kodak Divisions were managed together by William F. Folmer.

The Century Camera Division of Eastman Kodak Company made design changes to improve the No. 10 Cirkut and subsequently produced three different No. 10 Cirkut Cameras. There were two additional patents by Harvey W. Locke of Rochester, N.Y., used for the Century Camera Division Cirkut No. 10 Cameras besides the patents of November 29, 1904, and January 17, 1905, previously mentioned. One camera patent was No. 708,721 of September 9, 1902, and the other was No. 720,040 of February 10, 1903, which was assigned to the Century Camera Company. The Locke patents were for camera body design rather than the Cirkut mechanism as covered by the other patents.

The first No. 10 Cirkut produced by the Century Camera Division was the Model III. The camera's wood lens frame was revised (Figure 6), as the lensboard tilt movement on the Models I and II was replaced with a right or left front adjustment. The up and down vertical movements of the lens were retained, and the lensboard size was changed to 3½" square. The brass base plate for the mechanical motor was made rectangular (4¼" x 7¼"), as compared to the oval shaped plate designed by the Rochester Panoramic Company.

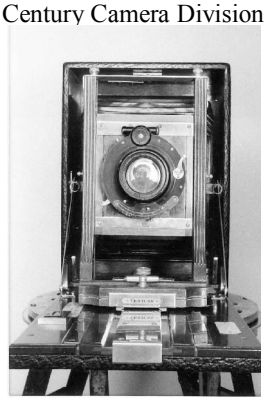


Figure 6. Newly designed lens frame by Locke used on Model III and IV.

The Model III No.10 Cirkut had the usual bright red bellows, natural varnished red mahogany interior wood, nickel-plated metal hardware and high-quality leather covering on the camera exterior. The tripod head arrangement was redesigned so that the rotation movement of the camera on the tripod was one assembly. The rollers on the bottom of the previous Rochester (Model I) and Century (Model II) cameras were eliminated. The new tripod head was made on a cast-aluminum frame with an aluminum disk plate on top with six built-in rollers. The camera was mounted on top of this aluminum disk plate when taking a picture. This tripod head design became the standard one for all future No. 10 Cirkut Cameras.

The Model III and Model IV No. 10 Cirkuts came with three speed control fans (1/3, 1/6 and 1/10 second), instead of the five fans included on the previous models. The focal lengths of the triple-convertible Turner-Reich lens were changed to 10½" 18", and 24", which became the standard lens for all subsequent No. 10 Cirkuts produced until 1932.

The Century Camera Division manufactured another No. 10 Cirkut Camera (Model IV), like the one just described, except that it had a redesigned camera start-stop mechanism. This mechanism was simplified but still used an air bulb to operate the camera with the desired speed control fan.

The Century Camera Division manufactured the first governor speed-control type No. 10 Cirkut Camera (Model V), which was a completely new camera (Figure 7). This model is believed to have been developed by William F. Folmer about 1909, since the No. 5 Cirkut Camera with a similar governor speed-control was patented by him in 1918. The Model V No. 10 Cirkut was made all black with the wood painted black, black leather, black bellows, and black finished metal hardware. The earlier camera speed control fans were eliminated, and a variable speed internal governor was added to the camera clockwork. The new camera speeds made available on the Model V were: 1/12, 1/10, 1/9, 1/8, 1/4 and 1/2 of a second. A lever on the side of the camera film box (Figure 8) is rotated to start and stop, and, at the same time, the lever opened and closed the exposure slot. The exposing slot was fixed at ¼", and the film spool bracket adjustment was for 6"-, 8"- and 10"-wide roll film. The camera lensboard, now 4" square, could be raised up or down and/or tilted up or down. To accommodate the governor assembly, the brass motor plate was enlarged to 4.25" by 9".

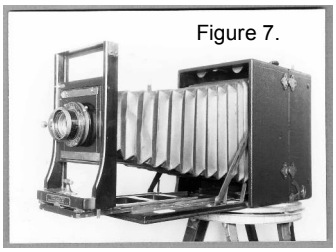


Figure 7.

Figure 8. Start-stop and speed selector levers on governor type cameras.

The tripod head design and the triple-convertible lens remained the same as the previously described No. 10 Cirkut. The tripod for the Model V came with three-sectioned Eastman Professional Tripod legs. Thus, the tripod head for the Model V could be used with the 12" Century tripod legs to obtain a higher camera elevation, if needed by the photographer. This model could also be used on the No. 8 Cirkut Outfit Camera tripod, which had the four-sectioned Crown No. 4 tripod legs and is a little bit taller than the No. 10 Cirkut tripod.

The Century Camera Division of the Eastman Kodak Company manufactured the No. 10 Cirkut Cameras until 1915, when the governor type No. 10 Cirkut was priced at $290.

From 1915 to 1917, the Folmer & Schwing Division of Eastman Kodak built the same governor-type No. 10 Cirkut Camera (Model V-A), except for a new name plate and a slightly higher price of $300. In 1917 the Folmer & Schwing Division became the Folmer & Schwing Department of Eastman Kodak, and this change was reflected in the name plate on the No. 10 Cirkut (Model VVB). This model was produced without any further changes until 1926. The 1920 Graflex catalog listed the No. 10 Cirkut Camera (Model V-B) for $385.85 and a 6 ft. roll of 10" film for $2.90.

The Century Camera Division, Folmer & Schwing Division and Folmer & Schwing Department all published the booklet, "The Cirkut Method", which described the different model Cirkut cameras available. Typical Cirkut photographs were shown in the booklet. Also available from the Folmer & Schwing Department was a booklet titled "Profitable Pictures with a Cirkut."

The Folmer Graflex Corporation

In 1926 Eastman Kodak sold Century Camera, Folmer & Schwing, and the Rochester Optical Divisions, and together they became the Folmer Graflex Corporation of Rochester, N.Y. Folmer Graflex manufactured the same black governor type No. 10 Cirkut Camera (Model V-C) as previously produced, changing only the name plate. In 1927 the Graflex catalog listed the No. 10 Cirkut camera for $405.

A Folmer Graflex No. 10 Cirkut (Figure 9) has been observed to have the Turner-Reich Anastigmat f6.8 Series II triple-convertible lens made by the Seebold Invisible Camera Corporation of Rochester, N.Y., instead of being made by the usual Gundlach-Manhattan Optical Company, also of Rochester. Imagine the Seebold Invisible Camera Company manufacturing a lens for the not-so-invisible No. 10 Cirkut Camera!

Figure 9.

In 1926 the Gundlach-Manhattan Optical Company changed its name to Gundlach Manufacturing Company. In 1928 it was taken over by John E. Seebold, who changed the name to Seebold Invisible Camera Company. Mr. Seebold left the company the following year. By 1931 the company name was changed back to Gundlach Manufacturing Company.

In mid-1929 the Folmer Graflex No.10 Cirkut Camera (Model VI) was provided with a new Wollensak Velostigmat Series 1A f6.8 lens with 10", 15½", and 20" focal lengths. This lens became the standard for all subsequent No. 10 Cirkuts. The configuration of the Model VI was the same as the Model V-C, except for the new lens. The 1936 Folmer Graflex No. 10 Cirkut Camera was listed for $429.50 and came with the usual two carrying cases, one for the camera and the other for the tripod and gears.

The last year that the No. 10 Cirkut was manufactured in any quantity was 1931 when 60 cameras were made. For the rest of the 1930s, Folmer Graflex built 0 to 5 cameras per year. Folmer Graflex manufactured the last No. 10 Cirkut in 1940. In 1945 Folmer Graflex became Graflex, Inc., which handled the sales of the remaining No. 10 Cirkuts in the company's inventory until 1949.

The text is based on the best information and material currently available. The writer would appreciate any additional information available and/or comments on the article. Bill McBride, (805) 648-7268 or ramabill@cox.net.

Panorama by Frederick W. Brehm titled "Kodak Group Portrait", courtesy of George Eastman House, International Museum of Photography and Film. This 24.3 x 179.0 cm gelatin silver print shows George Eastman and William Folmer (twice). As was fairly common, on a dull day and with slow film, a person could be photographed at one end of a picture then run around to the other end, and be photographed again. Pulling this stunt with the boss in the group is an interesting statement about Folmer's status and/or his temperament.

Although little information has survived about the picture, it is interesting to note that four of the five cameras are accordion-hood Auto Graflexes. Based on advertisements and Graflex catalogs, this Auto model was produced between 1905 and 1909, suggesting a date for the picture. The picture undoubtedly was made with a No. 10 Cirkut camera.

KM

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.

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Alexander, NC 28701-9792
E-mail: metcalf537@aol.com

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For Christmas—

a Graflex

Whoever gets a Graflex will find it an easy camera to enjoy. And its features definitely fit the quirks of wild life photography.

Birds and animals are often in shade, moving, changing distance. But the Graflex lens permits snapshots in poor light; the shutter (speeds to 1/1000) can catch the subject on the wing or on the run; the reflecting mirror shows whether focus is sharp.

Graflex, Series C, with Cooke Anastigmat *f*.2.5

Such advantages, simple to use, account for the detail and clearness that distinguish Graflex pictures.

Among Graflex cameras the *smallest* model is the 2¼ x 3¼ Graflex, Series B; price $58.50 with Kodak Anastigmat *f*.4.5. The *latest* model is the 3¼ x 4¼ Revolving Back Graflex, Series C. Price $260, with Cooke Anastigmat *f*.2.5—three times as fast as the fastest lens previously offered.

Visit a dealer or write to Rochester.

Graflex cameras are now made by
THE FOLMER GRAFLEX CORPORATION
ROCHESTER, N. Y.

For sale by
EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

If you'd like to give somebody a Christmas thrill, give him a Graflex.

From Nature Magazine, December 1926. Possibly Graflex's worst Christmas ad. Although the speed of the Series C is impressive, it is unlikely the focal length was sufficient to get close enough, unless the animals were stuffed!

Graflex president Whitaker and designer Muller-Munk from 1959 Alcoa newsletter.