



GRAFLEX Journal

SHARING INFORMATION ABOUT GRAFLEX AND THEIR CAMERAS

ISSUE 3 2019

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COMPARING THE MICRO-PRESS TO THE PACEMAKER SPEED GRAPHIC

By Davis Strong

It is said that imitation is the sincerest form of flattery. If that is true, the Micro Precision Products (hereafter MPP) Micro-Press camera certainly flattered the Pacemaker Speed Graphic. But before examining the similarities and differences, a bit of history.

Starting with the introduction of the Pre-Anniversary model and for the next 30 years, the 4x5 Speed Graphic was the dominant press camera in North America. Across the pond in the United Kingdom, things were quite different. For starters the dominant film size was 9x12 cm, not 4x5 inches.

Even into the 1950s, news photographers were using various cameras such as the Deckrullo and Contessa-Nettels. The cameras used by the press generally lacked the features of the Speed Graphic such as a rangefinder, or both a focal plane and a between-the-lens shutter. These cameras were looking old-fashioned and suffered shutter, flash and other failures due to their age.

World War II brought the Anniversary Speed Graphics to England in quantity with American military and news photographers and through lend-lease. Some British military units were still using Anniversary models into the mid-1950s. After the war, British press photographers, having seen and perhaps used a Speed Graphic, wanted one, but demand exceeded supply.

Immediately after the war, the recovery of the British economy was slow, housing was in short supply. It was an "age of austerity," food rationing didn't end until 1954, and many necessities were in short supply. The colonies such as India, Ceylon, Burma and Pakistan became independent and signalled the end of the British Empire, although the American Marshall Plan helped keep the economy afloat during the rebuilding period.

It was also a time when there were heavy customs duties and purchase tax on imported manufactured goods. Cameras were expensive to import. Various schemes such as importing used cameras without lenses and backs and then "repairing" them before sale were used to avoid the taxes. As the 1950s progressed, the economy improved. It was a time of full employment. People had money for houses, cars, holidays and cameras.



Model MK VII

Courtesy Michael Parker

Micro Precision Products sensed a market for a made-in-Britain press camera. MPP produced its first photo-related products in 1945/46, a tripod, three enlargers and four projectors. In 1948 MPP produced the MK I 5x4-inch technical camera, followed by the MK II in 1949. Then in 1950

they produced a press camera adapted from a technical camera. Apparently, few were made, and fewer exist today.

In 1951 MPP brought out the Micro-Press camera, which was purpose-built for press photography and not adapted from the technical camera. In many ways, the camera looked like a Pacemaker Speed Graphic, and this is where opinions, facts, suppositions and assumptions about a relationship between MPP and Graflex begin.



Early model with peep sight. In addition early models did not have the name Micro-Press on them and did not have a flash bracket

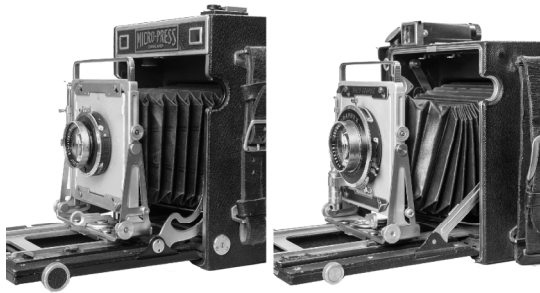


Left to right, early 4x5 Pacemaker Speed Graphic, with side mounted Kalart rangefinder, MPP Micro-Press, with built-in MPP rangefinder, and later Pacemaker Speed Graphic, with top-mounted Graflex rangefinder.

The MPP technical cameras had all-metal bodies. The Micro-Press had a wood and metal body like the Pacemaker. Much later the Super Graphic would have an all-metal body. The woodwork on the MPP product was done in-house in the machine shop using metal working machines converted for the purpose. Both cameras are covered with plastic "leather."

A side-by-side comparison of a Micro-Press and an early Pacemaker Speed Graphic would lead one to believe that many of the parts are exactly the same. The lens standard, the lens board and the focussing track all appear to be identical, but in reality, there are differences.

While the overall size and look of the knobs used to tighten the rise and tilt movements are identical, the size of the screws is different, as is the pitch of the threads.



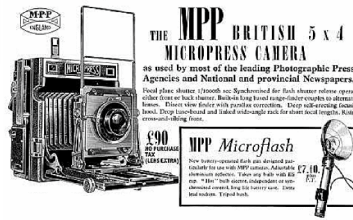
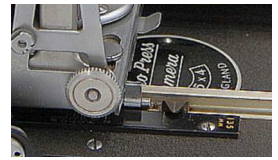
The lens boards are interchangeable, but they are slightly different. An MPP board appears to be made to fit over a slightly larger front unit by about 1mm, and the edges are sloped back at a less than 90-degree angle. The MPP camera illustrated here has been fitted with a Graflex board.



The front wire frame finder is the same, but the MPP has a rear finder fitted to an accessory shoe on top of the camera, while the Graphic has a rear sight which flips up from the back. Earliest models of the Micro-Press had a rear peep sight like the Speed Graphic.

Accessory sports finders for different focal length lenses were also available for the MPP with both the front and rear sights in a single unit fitted into the shoe on top of the camera. These accessory finders were interchangeable with the MPP technical camera, which also had a top-mounted accessory shoe.

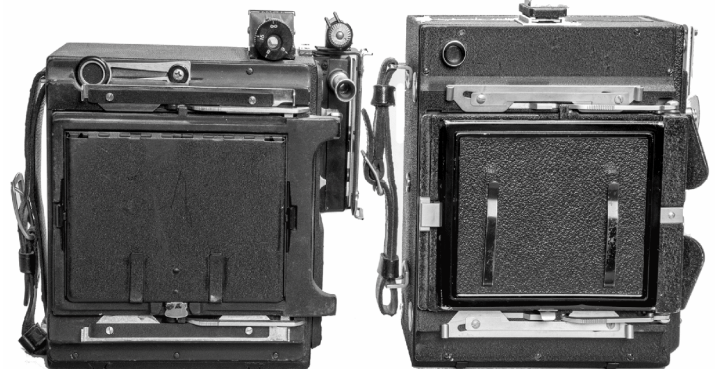
The front shutter tripping mechanism is the same, although the trip arm has a slightly different shape. The linked track and side shift mechanism look identical. The MPP infinity stops are moveable but are of a different design. The Micro-Press used the same drop bed support struts as the Micro Technical camera.



The body release is identical on both cameras. The MPP flash bracket is made to fit the German Kobold flashgun. In 1954 MPP began to manufacture a flashgun which fit the same bracket. Very early MPP examples do

not include a flash bracket or the name "Micro-Press." The flash bracket and the metal strip it attached to also fixed a problem whereby the camera body flexed, which threw the rangefinder lateral images out of alignment.

The focal plane shutter mechanism appears to be the same except in the labelling and the screws used to attach the cover. The MPP lacks the functionality of the Speed Graphic whereby the rear shutter can be tripped by pushing up on the front/back selector switch. The shutter slit widths, available shutter speeds and selection method are the same. But while the MPP shutter appears to be made of finely woven cloth with metal edging on the slits, the Speed Graphic shutter is of a rubberized material which is considered to be superior.



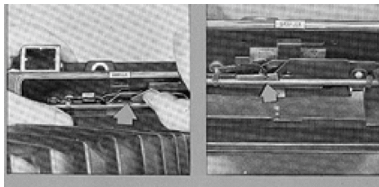
Both the Micro-Press and the Pacemaker Speed Graphic have a universal/international (Graflo) back, but they are of different design. Early versions of both the Speed Graphic and the Micro-Press had spring backs. Comparison of the weights of the cameras without lens or lens board, on my scale, shows the Micro Press at 6 pounds 9.8 ounces, a contemporary Speed Graphic is half a pound lighter at 6 pounds 1.8 ounces. As a point of interest, a Speed Graphic with top mounted rangefinder is a bit lighter still at 5 pounds 14 ounces, and a Super Graphic weighs in more than a pound less at 4 pounds 13 ounces, all without lens or lens board.

The camera bodies are the same width, but the Kalart rangefinder makes the overall Graphic package about 1/2-inch wider. The Micro-Press body is one-inch taller due to the top mounted rangefinder. When opened the cameras are the same length from back to front of bed.

The most noticeable difference is that while the Micro-Press used a top-mounted rangefinder of MPP design, the Speed Graphic used a Kalart or Hugo Meyer rangefinder fitted to the side of the camera. The Micro-Press had interchangeable cams on the rear track to fit different lenses (above), while the Kalart or Hugo Meyer rangefinders were adjusted for just one lens. This interchangeable cam feature, though not the cams, was shared with later model MPP technical cameras but would not be available on a Graphic until 1955.



On the MPP illustrated, the cam is affixed to the rear focussing track with a ridged circular nut and oriented by two pins. Some models had the cam attached with a screw. The cams were matched by serial number to a specific lens. In my opinion, the Micro-Press cam is easier to change than the cam on the late model Speed Graphic with top-mounted rangefinder or a Super Graphic. Various bed-mounted focussing scales were available for different lenses, and the distance on the scales is in yards, not feet.



It is interesting to note that the Micro-Press was made in the 4x5 size. Many of the cameras previously used by press photographers took quarter plate or 9x12cm film in single-sided holders. After the end of WWII, used Speed Graphics were imported without lens and back, as mentioned earlier, and these cameras were often fitted with 9x12 backs. A 4x5 to 9x12 adapter was available for the Micro-Press.

With all the similarities between the cameras, it is natural to ask what was the relationship between MPP and Graflex? Basil Skinner, considered an authority on MPP, in his fine book, Micro Precision Products, flatly states that the Micro-Press was a direct copy of the Speed Graphic.

But Mr. Skinner also states that there was no need for MPP to import parts and that in all his research into MPP, he never found any link between MPP and Graflex. Nevertheless, it would appear MPP was happy to copy. Again Basil Skinner states in his book that the MPP Micromatic 4x5 enlarger of 1955 was a direct copy of the 1954 Omega D3 autofocus enlarger. Photos certainly bear that out.

This view is supported by the fact that the market for new Graflex cameras was very small in the UK due to the heavy customs duties and purchase tax. A Micro-Press initially cost £85, without lens, a Pacemaker Speed Graphic cost in excess of £200. Perhaps the market was so small Graflex simply looked the other way. Few MPP cameras were sold outside of the UK, so they were no threat to the markets where Graflex was king. It is also important to note that trademarks and patents are territorial. A US patent or trademark is unenforceable outside the United States. Unless Graflex had registered any relevant patents and trademarks in the UK, or MPP marketed the Micro-Press in the US, there was nothing to stop MPP from copying anything it wanted.

On the other hand, while it was expensive to import entire cameras, importing parts was a different matter. Parts did not carry the same taxes. Both MPP and Graflex imported and re-badged Iloca 35mm cameras from Germany. It may have been decided that it was

more efficient to import certain parts rather than manufacture them. Perhaps parts were imported through this channel. Through most of the 1950s, Colwood Camera Company in London sold Anniversary Speed Graphics rebuilt from factory spares, even though the Pacemaker Speed Graphic replaced the Anniversary model in 1947. Colwood was an authorised distributor and service agent for Graflex cameras in the UK. Colwood Camera also sold MPP cameras. There is speculation that this may have been the link funnelling parts from Graflex to Micro Precision.

Another possibility is that MPP copied those parts of the Speed Graphic that were not covered by international patents and licensed those that were. Tim Hicks, in his article *Using the Micro Press* published in The GAZ, the MPP User's Club newsletter of January 2001, stated that the focal plane shutter of the Micro-Press was manufactured under license from Graflex by the British Wray company, which was best known for its lenses.

Again there would have to have been UK patents requiring licensing. Wray imported and sold both the 35mm Stereo Graphic and the Grafmatic film holder, which perhaps lends some credibility to this possibility. Wray (Optical Works) Ltd. ceased operation in 1971.

Beginning in 1949, Wray made a self-capping focal plane shutter with a top speed of 1/800 for the MPP technical camera, which went between the body and the revolving back. Later MPP made a copy of this shutter for the press-modified technical camera with a faster top shutter speed of 1/1000 of a second. However, the Micro-Press wisely adopted the simpler design and rugged construction of the Graflex shutter.

So we are left to speculate. Authorities have lined up on both sides of the argument. Personally I tend to side with Basil Skinner that MPP simply copied whatever parts it wanted and made them in its own manufacturing facility. I have neither the time nor the resources to determine if there were any relevant Graflex patents in effect at the time which would have forced a monetary connection.

The similarities may simply have been a result of copying the most popular press camera of the time, the Pacemaker Speed Graphic. The Pacemaker Speed Graphic was designed with a great deal of input from press photographers. It served its purpose very well and was relatively inexpensive to produce. Why innovate when you can copy? Why mess with success? The rangefinder is the major difference between the two cameras, and it relies on technology already present in the MPP technical camera.

So in a legal sense, without a "smoking gun" to prove an association, there is none. On the contrary side, it is impossible to prove the negative, that there was no association. With both companies long out of business, MPP in 1988 and Graflex in 1973, it is unlikely that any proof positive will ever be found, if indeed any exists.



Multi-Stroboflash setup.

Graflex Journal subscriber Chris Cooper put together some interesting information on the Colwood Camera Company in the U.K. The company was around at least in 1953, and as late as 1958, when they were offering Anniversary Speed Graphics completely rebuilt with factory spare parts. Although no direct link has been established with the MPP company, it is interesting that their factories were only six miles apart. Given the little information so far found, here are some advertisements to help tell the story.



SPEED GRAPHIC
TRADE MARKS REG. U.S. PAT. OFF.

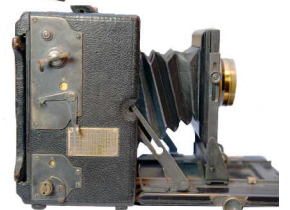
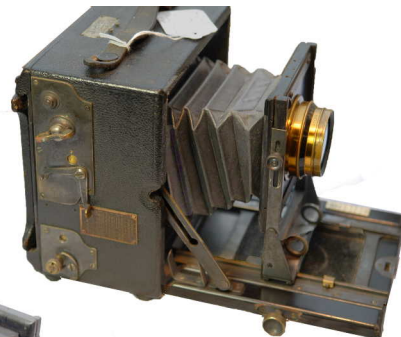
TENSION NUMBER	CURTAIN APERTURE			
	A	B	C	D
1	10	70	200	500
2	15	80	240	600
3	20	90	280	700
4	25	100	320	800
5	30	125	360	900
6	40	150	400	1000

COLWOOD CAMERA CO. (1953) LTD.
Authorised Graflex Distributors London S.W.18.

On an Anniversary Speed Graphic.

Another top handle, 29300, has surfaced. Here it is compared to Chris Cooper's later top handle (below). There is no evidence of the handle ever mounted on the top, but some evidence, with plugged holes on the side of the camera. As it has a serial number, it probably is a production camera and not a prototype. It, however, is the earliest serial number of this squat style.

31723 4x5 TOP HANDLE



COLWOOD CAMERA CO. *The SPEED GRAPHIC & M.P.P. SPECIALISTS*

M.P.P. Mark VI TECHNICAL OUTFIT
135mm. f/4.5 Xenar in MXC Compur, 6 Double Cut-film Holders, Lens Hood and Filter Holder, Rigid Holding Camera, Superb Fitted Case in Best Hide with Lock and Shoulder Strap. Full Professional Discount.
£137.10.0

ANNIVERSARY SPEED GRAPHIC OUTFIT
127mm. f/4.7 Coated Ekar in Synchronised Supermatic Shutter, 6 Double Cut-film Holders, Graflex Flashgun, Presslite Extension Flash Unit, Lens Hood and Filter Holder, Superb Fitted Case with Lock and Shoulder Strap. Fully guaranteed.
£182.10.0

M.P.P. MICRO PRESS OUTFIT
135mm. f/4.7 Xenar in MXCRO Compur, 6 Double Cut-film holders, Presslite Junior Flashgun, Presslite Extension Flash Unit, Lens Hood and Filter Holder Superb Fitted Case with Lock and Shoulder Strap. Full Professional Discount.
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See our Special Graflex Display at Stand 57 Photo Fair

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Suppliers of Photographic Equipment to Ministry of Supply, R.A.F., The Admiralty, Police Depts., Hospitals, and the leading Aircraft and Motor Manufacturers, Shipping Companies and National Newspapers.

All Repairs and Re-builds of SPEED GRAPHIC and M.P.P. CAMERAS are effected by specialists in our own workshops with genuine Manufacturers' spares. A Colwood re-built camera is a guaranteed job.

Sole Distributors of PRESSLITE FLASHGUNS specially recommended for Speed Graphic and M.P.P. Cameras. TRIAXALE 4x5 Plastic Darkslides for plates or film. No fear of damage or distortion however harshly treated.

Stockists and Service Agents for: COURTENAY ELECTROFLASH, DEVERE PHOTOGRAPHIC EQUIPMENT, SCHNEIDER LENSES, WRAY LENSES. Everything for the Professional Photographer.

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LIBERTY 7614

ME and the GRAFLEX STILL GOOD AFTER 65 YEARS

By J. A. Morris
August 2019

When I joined the U. S. Navy in 1956, I had already gone through various plastic-body cameras (620 format) and a couple 35mm cameras. I wanted to be a photographer, and the Navy said, "okay." After about 5 months of boot camp and other training, a group of Navy "airmen" were shuttled off to Pensacola, Florida, to attend a 5-month session at the Naval Photographic School.

The 4 x 5 Speed Graphic was the working camera for the U. S. Navy and most press journalists in the U. S. Some of us were also trained in aerial photography using heavy cameras with large fixed lenses and big handles. Trainees were advised that it was okay if we "lost" the camera out of the plane's open door— "Just bring the handles back, and we're OK." Anyway, we worked with the Graflexes, loading and developing film, printing images in a "darkroom," and in general becoming familiar with current gear and procedures.

Finally, I was part of a base photo lab where we worked with Graflexes and other equipment. An R. B. Graflex was permanently ready with the typical 3-light setup for semi-formal portraits. The Speed Graphics were ready to go on various assignments on and off the base—fashion shows for officers' wives; accidents; military inspections; photo coverage of entertainment shows, etc.



Figure 2 Image made 1970s with 4x5 Speed Graphic used as a field camera. Sandia Mountains near Albuquerque, NM.



Figure 1 The author photographing fire damage to a barracks building ca. 1958 while serving in the U. S. Navy. The 4x5 Speed Graphic with large flash unit was standard gear for most assignments in the field. The flash unit also served an important role as a secondhand grip.

One assignment took me up the ladder of a 150' water tower. Not sure how that negative came out. Another day, I was clambering around a barracks building that had burned. A request came from the pistol-shooting team. I took a 4x5 Speed Graphic, two very large flash units and bulbs, and a few holders with film. The group displayed their ribbons and medals won in past matches; lined up with .45 cal. pistols (slides open)—one, two ready shoot. Two or three exposures. The one we used had everyone with good composure, and all eyes were open!

After leaving the U. S. Navy, Graflexes became part of my past. A couple times, however, someone offered me a 4x5 Speed Graphic which I used as a large-format field camera, mainly for buildings and landscapes. Indeed, mountain hiking with a Graphic folded up and stuffed in a pack, then the tripod, holders and all, made for a rigorous day.

Given my itinerant pattern of living in those days, film developing, much less making traditional darkroom prints, was all confronted with obstacles to continuing with large format photography. Eventually retirement does allow the opportunity to explore the newer world of imagery. My long involvement with film is contrasted with those who have known only digital photography. It took a while, but I now have adopted digital, as well as continuing to enjoy the "mystery" of film photography.

While a "digital" back is possible, we likely want to use our Graflexes and Graphics with film. My re-entry into the world of medium-format film photography happened about four years ago with the purchase of a 2¼x3¼ Century Graphic (and others!). The body of the Century Graphic folds compactly. It accepts a variety of lenses from the traditional period Ektars to modern Nikkors and others. With a handle grip, a calibrated lens/rangefinder, the combination is quite portable and amenable to casual shooting, landscapes, and/or portraits. I have chosen to use film backs that use 120-size roll film which, fortunately, is still produced in both color and black and white emulsions.

My preference is to employ the Century Graphic as a convenient-sized field view camera. The ground glass is used to compose and focus—thus, not using the optical viewfinder nor the rangefinder. Exposure is through experience (sunny 16?). The 120-roll film backs offer different formats: 8 exposures for 6 x 9cm; 10 expo-

sures using the 6 x 7cm format; or one can get 12 exposures on a roll with a 6 x 6cm square format. This arrangement allows flexibility of film and format(s) when venturing into the field.

Part of the attraction of using the Century Graphic is that the process requires more involvement of the photographer. [Indeed, the same goes for "digital" photography/photographers.] Some thought is needed about your photographic objective, the terrain, and weather. While still at home base, some preparation—exercising the shutter of one or more lenses, loading film backs, breaking out the tripod, asking a friend, spouse, or partner if "they would like to go" [Hey, some of us would love an assistant, no?]. All to enjoy.

Century Graphic SN 533xxx by Graflex, Rochester, NY; ca. 1964; Mahoganite, gray-colored case, 2¼ x 3¼ format (6 x 9) -Kalart rangefinder #D97642 - Tubular viewfinder (long), No. 4 mask. This camera as purchased with a Schneider-Kreuznach, Xenotar lens, 1:2.8/80mm [80mm focal length on 6x9 = 35mm equivalent for 35mm format]

In the *Graflex Historic Quarterly* of 2010 (Vol. 15, Issue 4, p. 5), Ken Metcalf notes that the 2¼ x 3¼ Century from around mid-1960s was also offered with an f/2.8 80mm Schneider Xenotar and was called the Century Professional. Along with the gray body, I seem to have acquired a so-called "professional" version.

Another lens which keeps company with the CG is a *Schneider-Kreuznach 135mm Xenar f/4.7-32*; Synchro-Compur #1, B 1-500 (ca. 1961) [135 focal length on 6 x 9 = 58mm equivalent for 35mm format]



Figure 3 The Century Graphic and roll film back, ready to capture an image. Where is the light? Waiting. Waiting.

And so, the traditional camera, films, and processing leave us at the doorstep of a "light room." We have a negative. I very much appreciate the traditional processes of making a print. For example, "the fluttering hands and wrinkled cellophane, burning and dodging," while exposing fiber-based silver-coated papers. Then swishing them through the solutions and into the tub of wash water. And then, and then . . . Nowadays, we have a choice with different routes to get to a "digital image file." Unless we have or lease that space called a darkroom, we enter what some call a digital darkroom to process our now digitized image files or "scanned film negatives." "Scanning" is a whole other process inserted between photographing a scene and making a print. The

Epson Perfection V700 Photo™ flat-bed scanner works for most of my needs--especially with the 6 x 9cm negatives. Working digital files might be between 3 MB up to and beyond 15-20 MB in size.



Figure 4 After cleaning and minor modifications, the Century is ready for "view camera" field work. The strap is a belt salvaged from a thrift shop. The original configuration had a Graflex multi-grip and cable release setup, one that is more suitable for mobile photographic pursuits.



Figure 5 Century Graphic (1964) with 135mm Schneider-Kreuznach Xenar lens. Camera originally purchased with 80mm Schneider-Kreuznach, Xenotar lens.



Figure 6 An alternate ground glass was found that had various image formats marked on the glass.

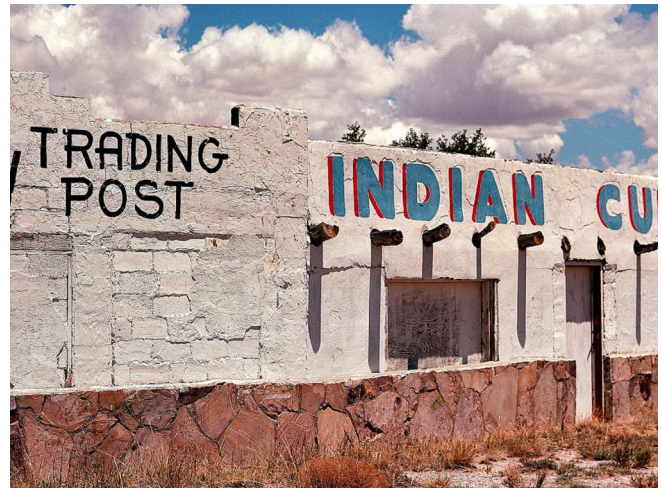


Figure 7 Along Old Route 66 near Moriarity, New Mexico. Century Graphic and 80mm Schneider-Kreuznach lens; Kodak Portra 160 color negative film, post-production. (2017)

As noted, I use the Century Graphic with a roll film back which accepts 120-size roll film. I have settled on Kodak™ films, though always open to using other brands. For black and white: Professional T-Max 100 (ISO = 100); for color Professional Kodak Portra 160 (ISO = 160). These are purchased in 5-pack units and stored in the freezer (individual rolls taken out 24-hrs before use). My focus is upon landscape, using the tripod. Others may want to look at 400 ISO films where faster shutter speeds are feasible. Using B & W films allows me to develop them myself. Color-print films are sent out to commercial labs. Once the negatives are scanned, a color or black and white/toned image is possible as we work in our various digital darkrooms (i.e., computers).

Photographic/image software is available from the most basic to very elaborate (complex) image manipulation applications. I use several different applications either singularly or in combination, depending on what and where the image might end up. *Fast Stone Image Viewer* (free, though I donate every 2/3 years) is a basic viewing, sorting, editing, and manipulation application, especially for images that have lesser quality requirements such as photographic note cards or to send via Internet, etc. I also employ *Adobe Photoshop Elements 13* (paid) when I need larger prints, or toned prints, or more complex compositions. PE also accepts third-party plug-ins such as *Topaz B&W Effects* (paid).

Let us not leave out the actual printing. In my case, I have an Epson Surecolor P600™ accommodating papers up to 13" wide using 9 ink capsules for both black and white and color printing. If one wishes, she or he can opt for the P800 model that accepts papers 17" wide. Would be nice, but some people have constraints as to wall space, proper storage, and sale of large 17 x 24 prints. Alas.

In sum, photographers today have numerous ways to produce their images. And the digital darkroom allows us to explore our images broadly. I say image rather than photograph, since the possibilities are vast. Images can range from the view of what the lens gave us to multiple perspectives, stitched panoramas, applied frames, ambience, all leading to different meanings that viewers lend to those images.

Nevertheless, it is the photographer who makes the decision as to what is the final image. In other words, what did you have in mind before you opened your Graphic or Graflex? Ansel Adams and others referred to "visualizing" a scene or image before releasing the shutter. Using vintage cameras such as the Century Graphic with film restrains the number of exposures we make on a given venture, and sets a more contemplative, deliberate pace to our photography.

I continue to "stalk" a mountain peak in northeastern New Mexico with a vision of what I hope to capture someday. Each visit to the shooting site depends on the time of day, the wind, the clouds, and how much rain or snow is falling that day. One time, the wind was 45 mph. Imagine a tripod sailing away, trying to hold the camera steady. Take a shot anyway. Take another exposure. Next time.



Figure 9 Detail of Pecos National Monument, Pecos, New Mexico (2019). Kodak Portra film 160, Schneider-Kreuznach 135mm lens. Cropped from 6 x 9 cm color print negative (scanned).

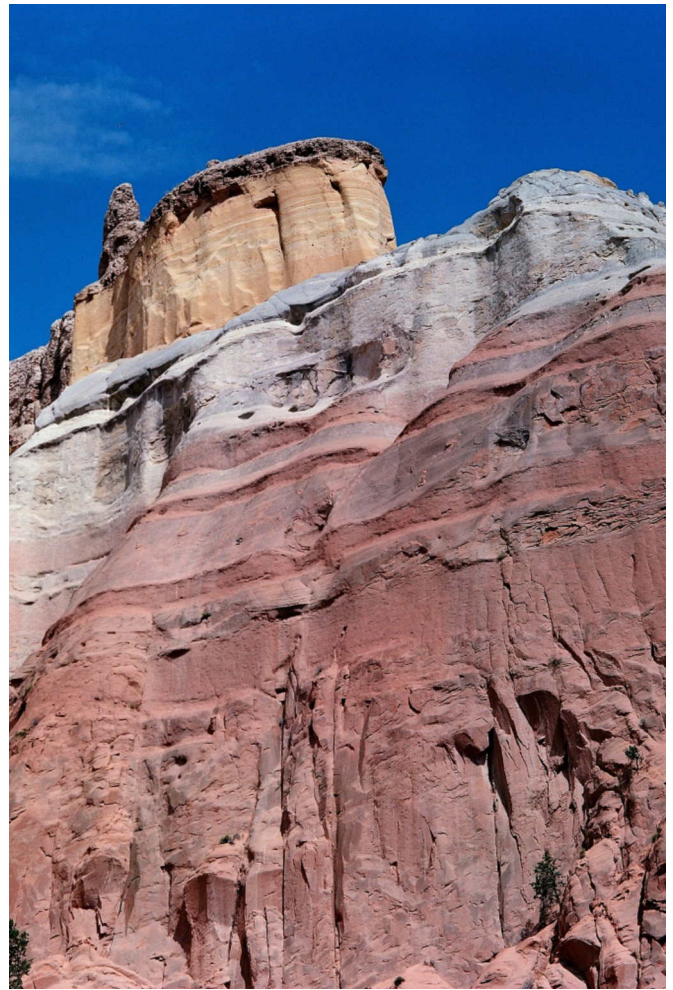
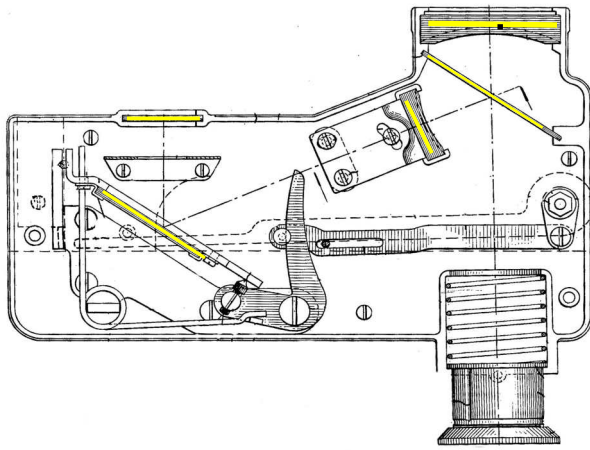


Figure 9 Detail of Echo Canyon northwest of Española, NM. Century Graphic, Schneider-Kreuznach 80 mm lens on Kodak Portra 160 film, 120 at 6 x 9cm (2018).



Figure 10 Hermit's Peak near Las Vegas, New Mexico, elevation 10,262' (2019). Image exposed on Kodak Portra 160 film, Schneider-Kreuznach 135mm lens. This image includes full (6 x 9 cm) color print negative; low level scan of 4 MB; post-production editing and converted to B&W.



RANGE FINDING AT GRAFLEX

By Ken Metcalf

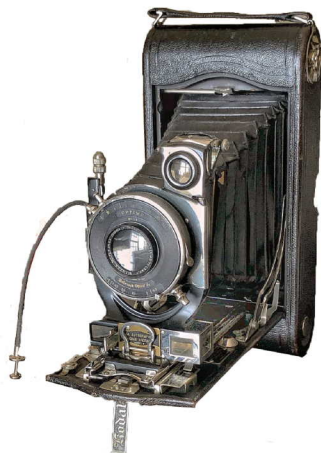
The purpose of this article is to present a brief history of the rangefinder, its advantages and disadvantages, and to trace range finding at Graflex with patents, written sources, and sample cameras.

History

Rangefinders were first used in fire control systems for long-range naval guns and land-based coastal artillery circa 1890–1960.¹

In 1896 the US Army's range finding was quite simple: "All cameras should have a scale showing the position of the lens for focusing of objects at various distances, and all tripod cameras should have the position of universal focus with some stop number, such as f/11 or f/16 marked on the focusing rack."² Of course, the ground glass could always be used to give accurate, but slow, focus. The Army's method continued for years; however, the introduction of the single-lens reflex camera provided an alternative option.

The first rangefinder camera to be marketed was the 3A Kodak Autographic Special of 1916, with a coupled rangefinder at the base of the front standard.^{3,4} As the Kodak Autographic feature was available on most of their cameras in 1915, it may be the reason the rangefinder received very little notice in the 1916 retail catalog. In fact, it was introduced as "...and the usual focusing scale in addition to the Kodak Range Finder." There was, however, a separate brochure, "Picture Taking with the No. 3A Autographic Kodak Special," that explained in detail how to use the rangefinder.



Courtesy Jeff Yost

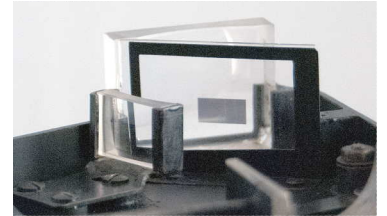
Advantages and disadvantages

For many years, the rangefinder has remained in use because of their continuous viewing, bright view, size, lightness, cheapness and quietness, in spite of parallax compensation and troubles with long lenses.⁵

Rangefinder types

A coincidence rangefinder is a type of rangefinder that uses mechanical and optical principles to allow an operator to determine the distance to a visible object. With a sub-type, split image, any convenient line can be used, and when it is continuous, the image is in focus. Most rangefinders have an image patch in the middle, so they can be used either coincidental or split image. As far as I have found, all Graflex cameras used the split-image system. With the top-mounted Graflex rangefinder of 1955, the instructions noted that "The field moves horizontally in the Graphic Rangefinder and vertically in the Kalart."

In a coincidence rangefinder, two identical images are superimposed, one on the other. With a split-image rangefinder, any convenient line can be used, and it is continuous, the image is in focus. Most rangefinders have an image patch in the middle, so they can be used either coincidence or split image. From literature and sample cameras, it appears all Graflex and Kalart rangefinders are split image.



Timeline

The following is excerpted from the May 1940 issue of Trade Notes, the Graflex dealer publication. "Originally, the focusing scales for the Pre-Anniversary Speed



Graphics [and earlier Graphic cameras] were made by focusing out of a window on the fifth floor of the plant at the Kodak tower for infinity with the camera on a tripod (Folmer Compact Stand). A pane of plate glass in the window with cross lines was used for the closer distances with the camera/tripod being slid along the floor, using footage markers painted on the floor. Scratch lines were placed on a Bakelite strip for the focusing scale, and after these had been made, the scale was removed from the camera and small hand dies used to stamp into the material the indicator line and the footage distance. Whiting was then rubbed into the recesses thus stamped to form the focusing scale. The index line had previously been stamped into the sliding track. Reference was also made to the complete full [metal] Vernier scales supplied for the Miniature Speed Graphic cameras. These were made up in sets of 5. These scales, incidentally, were engraved on a special engraving machine made by Deckel of Germany and represented a distinct advancement. We had a battery of 6 or 8 of those machines going full blast turning out engraved focusing scales matching the lenses used.

To match the scale making a newer, faster and more accurate method was needed for matching the scale to the lens and for adjusting the rangefinders - usually also ordered.

Special focusing 'boxes' were developed. Each 'box' had well defined targets at actual distances of 15' and 5' and a large reducing lens which allowed the use of the 15' - target as the infinity setting. It had been determined that compliance with these positions means that other distance

markings on the focusing scale would indicate the correct setting (focusing) of the lens for those distances.

Thus, if you switch from one 135mm lens to another, (possibly of the same make) the infinity setting, setting of the rangefinder [when introduced] and focusing scale markings may or may not require changing. The error could be serious or, with luck, inconsequential."



Left to right; Vernier and modified Vernier scales. Scales are numbered to correspond to different lenses.

From the third quarter 2002 issue of the Graflex Historic Quarterly, "An early solution to focusing Graphic cameras without the use of ground glass or footage estimation was the top-mounted uncoupled Leitz FOKOS rangefinder, which was initially listed in Leitz catalogs in 1933, was first illustrated as an accessory (along with a mounting bracket) until 1945. The obvious disadvantage was that the distance indicated on the rangefinder had to be manually transferred to the camera's bed scale.

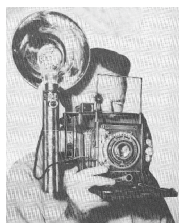


The first practical and widely used lens-coupled rangefinder for American professional photographers was developed and sold by the Kalart Company of New York, NY. It was sold for the 'Pre-Anniversary' Speed Graphic in 1938 as the 'Model G.'

Given that coupled rangefinders existed prior to the introduction of the Kalart, why did this company's product become so popular? The answer, I believe, is contained in the quote from a

1938 article in International Photographer: "While the miniatures are wonderful in their record of accomplishment, they have several grave faults. Serious photographers clung to the larger cameras. This problem lay in the fact that these cameras were equipped with every conceivable type of lens; lenses with focal lengths far, far from that with which they were labeled. The Kalart range-finder may be accurately adjusted to any lens regardless of its true focal length."

Hugo Meyer rangefinders were made for only one focal length. There is a code on the base side of the rangefinder for



the focal length it is for. The rangefinder has to be removed from the camera to see the code. 4C is for 135mm. A 4C Hugo Meyer will just adjust for a 127mm focal length lens that measures 127mm to 130mm. I do not know how many focal lengths they were made for, but I assume 5 to 6 for the common focal lengths used in press/ commercial

photography of the day. The rangefinder was also used on US military cameras during and after WWII.

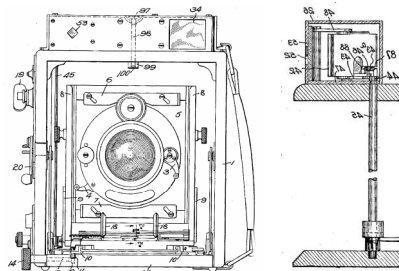
Here is an example (E86731) of a Kalart rangefinder on a 1944 Anniversary Speed Graphic. As the chart shows, they continued to improve their product, possibly discouraging Graflex from developing their own version.



The Kalart and Hugo Meyer rangefinders continued to be listed in Graflex catalogs after their top rangefinder was introduced in 1955, including the 4x5 Speed and Crown Graphic. By 1960 the Kalart was still offered, and by 1964 only the 4x5 was available with the top rangefinder.

While Leitz, Kalart and Meyer rangefinders were being sold by Graflex, Edson Hineline and Oscar Steiner of the Graflex Engineering Department were trying to develop a rangefinder for the company. Between 1937 and 1966, they filed at least 13 patents for rangefinders and rangefinder cameras.

To me, the most interesting prototype, which combines the view finder and rangefinder in one eye piece (although there is no provision for correcting for parallax), is the 3 1/4 x 4 1/4" camera in the Joel Havens collection. As there is no serial number, Joel believes "They just were using up old stock parts to assemble this camera body... almost completely from an early Anniversary." The identification plate illustration was used between 1933 and 1939, and patents identified with this camera (2,167,435; 2,179,851; and 2,215,370) were applied for as late as 1939. Also, there is flash synchronization for the focal plane shutter, which was not available until the 1930s.



Left to right; from patents 2,167,435 and 2,179,851.

Regarding the "Super Speed" name, when that model was introduced in 1958, it was available only in 4x5" and had an aluminum body. Some features suggest the camera had remnants of a system like the Kalart Focuspot for projecting light beams to aid low light focusing (patent 2, 167,436). Joel believes "Since the prototype was one size smaller, it would make sense that the top casting would be smaller. Even though the depression is there for batteries, I don't believe that



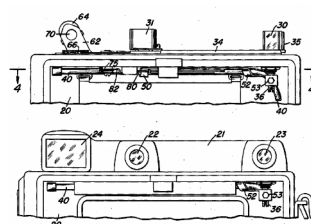
they were ready to incorporate the light feature due to space limitations. That, and I'm not sure the small bulb would be bright enough to be successful."

All-in-all, as this camera was in the late stage of development, it is an intriguing look at Graflex camera evolution.

A second prototype has emerged, this one with a serial number 243883, from the first batch of 3¼x4¼ cameras ordered in August 1939. In this case, two patents (2,302,584 filed 3/27/40, granted 11/17/42, and 2,282,263, a "coupled" patent filed 12/15/39, granted 5/5/42, both by Graflex engineer Oscar Steiner) are similar to key elements of the prototype.



again by Oscar Steiner. What was unique about this rangefinder was the use of a "parallax slide made of thin steel gauge stock so that it is quite flexible." As the chart shows, numerous other patents are referenced. What is also different about this rangefinder is that they decided to separate the rangefinder and view finder, unlike their earlier prototypes. Also, they finally were able to automatically correct parallax in the view finder, and according to the patent: "Another object of the invention is to provide a parallax correcting mechanism of the character described which will be simple in construction and relatively inexpensive," which I believe they did. The long-sought focusing light was finally usable, and a cam system was introduced to calibrate the rangefinder for different lenses. This system was basically brought forward in the Super and Super Speed Graphics of 1958-59.



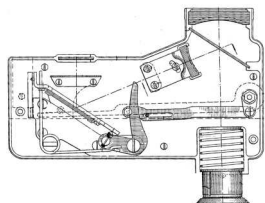
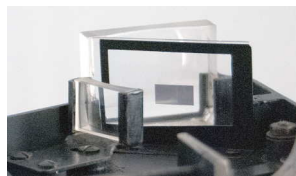
Top, showing range light.

Conclusion

Although lacking peer comparisons, I believe Graflex showed a desire to compete, although not always in a timely manner.

Although not a Graflex-made camera, subscriber Jim Chasse has a fine example in a fitted case. In 1916 the camera sold for \$66.00, and for an additional "combination back," \$4.00. For that you received a back with a ground glass insert and a plate holder adapter. Subscriber Jeff Yost has contributed photos of the camera and accessories.

¹ Wikipedia, https://en.wikipedia.org/wiki/Rangefinder_camera.
² U.S. War Department, Document No. 5, *Manual of Photography*, 1896, p. 63.
³ McKeown, Jim & Joan, *Collectors Guide to Kodak Cameras*, 1981, Centennial Photo Service, p. 65.
⁴ Gustavson, Todd, *500 Cameras. 170 Years of Photographic Innovation*, 2011, Sterling Signature, p. 204.
⁵ Hicks and Schultz, *Rangefinder, Equipment, history, techniques*, 2003, Guild of Master Craftsmen Publications. Concentrates on 35mm and is not particularly kind to Graflex or Kodak, although general observations are helpful.



Again, they combined the range finding and viewing in one eye piece, but with this camera, they added a selector to move the second mirror externally to adjust for different focal length lenses, without moving the infinity stops. Also shown in one patent was a set of holes and pins for the focusing scales of the most common focal lengths, allowing a quick change of the scales. This feature was not part of the camera. The camera also had a spring-loaded view finder that, to me, had no practical purpose.

Over the years, Graflex used a rangefinder in their Combat Graphic, xl, and numerous 35mm cameras.

Finally, in 1955 the company introduced their own rangefinder for their Pacemaker, the Graflex Rangefinder. It was based on patent 2,888,868, filed in 1954 and issued in 1959, and



RANGEFINDER PATENTS				
No.	Applied for	Granted	Applicant	Purpose
2,167,435	7/23/37	7/25/39	Hineline	range finder, view finder, and camera mechanism functionally equipped
2,179,851	9/9/38	11/14/39	Hineline	range finder, and view finder
2,167,436	7/29/37	7/25/39	Hineline	camera mechanism having correlated range and view finder
2,178,857	7/29/37	11/7/39	Hineline	range and view finder
2,215,370	3/15/39	9/17/40	Hineline	range finder
2,273,355	3/15/39	2/17/42	Hineline	range finder
2,192,740	7/29/37	5/5/40	Hineline	camera mechanism
2,282,263	12/15/39	5/5/42	Steiner	Camera with direct-vision finder
2,302,584	3/27/40	11/17/42	Steiner	range finder, view finder and parallax combined range and view finder for cameras
2,717,543	4/4/50	9/13/55	Mc Cathron	
2,713,815	9/13/52	7/26/55	Steiner at al	rangefinder for photographic cameras
2,888,868	9/29/54	6/2/59	Steiner Sanderson et al	parallax compensating mechanism
3,401,615	7/19/65	9/17/68		photographic camera (xl)

MARTIN MUNKACSI

Photographer Munkacsi's career got a boost from a murder; he witnessed a street fight, camera in hand, and the published photos helped convict the killer. This new use for photography made him famous, although he'd already made a name for himself in Hungary, shooting motorcycle races and other sporting events. He claimed, "My trick consists of discarding all tricks," and his work emphasized *plein-air* naturalness throughout his career, even in 1930s fashion photography, which was notoriously static before he began shooting models outdoors with natural light. It was how he learned to shoot, after all, using a 4x5 Graflex camera at sporting events, where strong natural light was required. His trick, though he denied it, was an innate genius for composition, with his best photos – even spontaneously shot – looking perfectly structured, with a balance of light and dark, but full of energy and motion.

His images were lost for many ears, but amazingly, his archive turned up on eBay. That's where the chief curator of New York's International Center for Photography, Brian Wallis, spotted it for sale for \$1 million (It's always a Million Dollars!), and the collection was right across the river, in Connecticut.

thevintagent.com/2017/11/30/martin-munkacsi/



1927, rider on Ariel Red Hunter.



1930, street scene, Madrid.



1934, for Time Magazine.



Frida Kahlo and Diego Rivera, Mexico City.



Katherine Hepburn.



Road race, Hungary.

Graflex Journal

The *Graflex Journal* 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 the *Graflex Journal* and the author. We would appreciate a copy of the reprint.

Masthead picture, the Three Stooges.



Versatile **PACEMAKER GRAPHIC®**

December 1956 courtesy George Dunbar.

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Check out this Graflex site from Thomas Evans!

<http://graflexcamera.tumblr.com/>

It is prepared with care and filled with interesting articles.

KALART

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AVAILABLE TO ESSENTIAL USERS

KALART

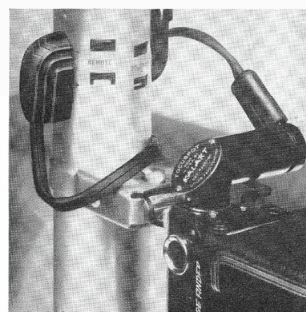
Model E-1 Range Finder

Kalart introduces the new DeLuxe Model E-1 Lens-Coupled Range Finder. It was designed by Kalart engineers to answer the need of the Army and Navy for equipment that would stand up under the severe conditions of modern warfare. Its special features will recommend this new Range Finder to all essential camera users. See full details on following page!

New KALART Focuspot*

Here is a new device which makes focusing easy in total darkness and under adverse light conditions. It is the only light focusing device to use the precision accuracy of the lens-coupled range finder. The Kalart FOCUSPOT takes over when the light becomes too dim for the use of the range finder or other focusing means such as ground glass viewing. As the general illumination decreases, the FOCUSPOT increases in efficiency. In total darkness, the FOCUSPOT will project its beams visually as far as the normal efficiency of the flash bulb itself. See full details on following page.

*TRADE MARK REG. PAT. APPLIED FOR.



MODEL "G" FOCUSPOT

For use with Graflex "Graflite" battery case. The standard household plug connects to the Battery outlet on the front of the "Graflite" battery case.