BACK FOCUS

The Journal of the Australian Photographic Collectors Society (Inc)
Incorporation Registration No. A16888V ABN 55 567 464974

Issue No. 97 **June, 2015**

John Slater (left) tells his 'Topcon Story' in Meet a Fellow Member.

Geoff Harrisson discovers the Nikkorex 35-2

Also from Geoff Harrisson: The Kodak Regent from Stuttgart.

THE AUSTRALIAN PHOTOGRAPHIC COLLECTORS SOCIETY Inc.

Incorporation Reg. No. A16888V ABN 55 567 464 974

Notes from the desk of the Editor:

On the 'Letters to Ed' page there's a very important message to all regarding upgrading the membership database. We would hope that **all** members will take the few moments required to comply with this simple request. Please just don't assume that **your** details are correct. The number of bounce-backs we get are showing that too much of our information is outdated. You have to help us in order for us to be able to help you. If information lines of the membership form are left incomplete, *email address, phone number, collecting interests,* or not updated when changes occur, it's you who is missing out as well as making the job of your executive unnecessarily difficult.

And, speaking of the latter, with the AGM a week away at time of writing, Andrew Korlaki put it quite well in the recent Newsletter. Due to a combination of advancing years and outside commitments, a number of our executive are having to stand down and it's now time for others to step up and do their share for a change! Our AGM could be a very interesting and decisive meeting. Ian Carron. Ed.

Index to this issue:

My Topcon Story

John Slater

Although I have been a club member for many years (my membership number is 77), I am embarrassed to admit that as yet, I have not as yet contributed to **Back Focus**. Having now sold my video business and working only occasionally, I am at least semi-retired. So, finally, I have found time to jot down a bit of personal history regarding my fascination with the art and technology of photography.

Meet John Slater, Member #77.

It all began when I attended a boys' summer camp at Broken Bay, just north of Sydney, near the mouth of the Hawkesbury River. One night the rangers presented a colour slide show featuring local flora and fauna. The sheer beauty of these magnificent Kodachrome images blew me away. This routine event awakened what was to become a life-long fascination for with all things photographic.

The first camera I purchased was a **Neoca**, a Japanese viewfinder camera with a 45mm lens. This camera, although providing respectable images, suffered from the inherent limitations of a fixed lens viewfinder camera.

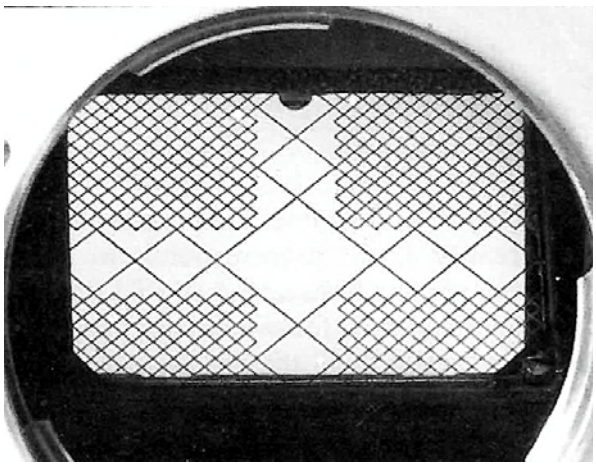
It took around nine-months to save enough cash to purchase my first SLR: a **Topcon RE Super Automatic** costing **£**109. This was back in 1960 so would compare to roughly $3,022 in today's currency.

My Old Topcon.

At the time, Nikon SLRs did not incorporate instant return diaphragms and photographic magazines were touting Topcon as the number one brand. It was certainly a great camera and, apart from a slight curtain shutter bounce, my 1960 purchase still works fine.

My next camera was a **Topcon RE Super**, a camera that boasted the very first through-the-lens exposure meter, very cleverly positioned behind the reflex mirror.

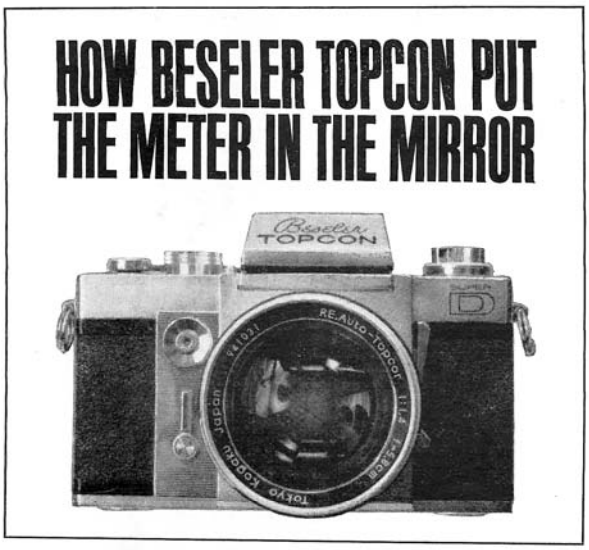
The system incorporated a pair of photo-resistors each sensitive to a distinct light level. The reflex mirror was fitted in front of the two photo-resistors ('Cadmium-Sulphite' or 'CdS cells'), with their silvered surfaces facing the rear lens element as normal. However, this mirror was etched with a complex pattern of grooves, each a mere 0.05mm in width, allowing a tiny amount of light to pass through the mirror to the two CdS cells situated behind it.

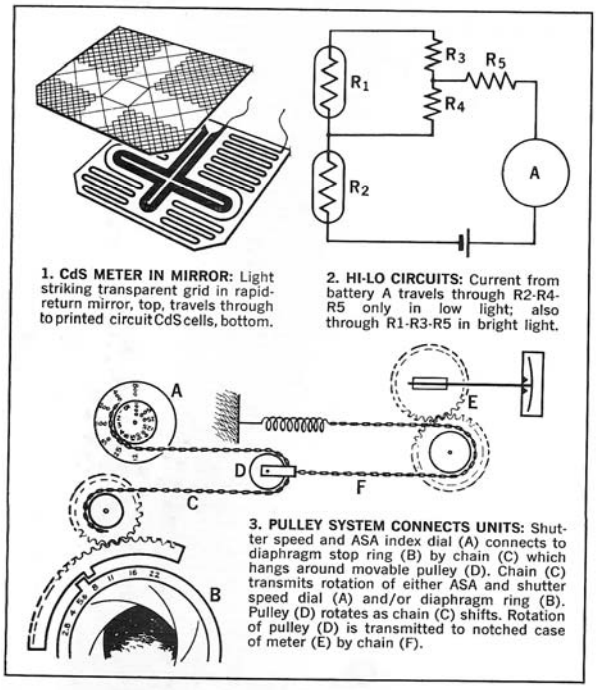


Topcon RE Super Mirror.

Due to this arrangement, the viewfinder image was marginally less bright than it would be otherwise. However, as this light loss was a mere 7%, it was considered a minor trade-off for achieving consistently accurate exposures, even when attachments such as extension tubes, filters etc. were employed.

To operate this camera, one must first turn the battery switch located on its base to 'On'. (The battery is solely used to power the metering system; the camera itself being entirely mechanical). Next, frame the subject, then rotate the speed dial and aperture rings so that the two moveable pointers visible on the low side of the viewfinder, correspond. Finally, just press the shutter release, totally confident that the result will be correctly exposed (assuming of course the film ASA rating was set correctly).





It was because of this particularly reliable exposure system, mechanically coupled to the lens diaphragm, together with its innovative instant-return mirror and aperture, that Topcon was considered the most advanced SLR of its time and even looked far better than the **Nikon F**.

The Topcon lens-mount was identical to the Exacta's, which provided an extensive choice of lenses. Whereas Topcon's own lenses were first-rate, they were relatively expensive.

The **Topcon RE** was both heavy and solidly constructed. Doubtless, the latter property was the primary reason it became the camera of choice for the US marines.

Topcon also made available a vast array of accessories for the RE. These included eye-level finders, a variety of focusing screens, eyepiece correction lenses, extension rings, bellows reverse adapter rings, a hot shoe adapter, an auto winder, bulk film magazines, microscope adapters, plus an array of specialised paraphernalia for the scientific community.

The Super D comes apart.

Between 1972 and 1976 Topcon released their **Super D** and **DM** SLRs, along with a remarkable motor drive that could consume a 36-exposure roll of film in just 7 seconds. Available also was a special magazine for these cameras capable of holding up to 30 feet of film. (That's 250 36 × 24mm frames). A camera truly aimed at the professional, the Super DM (with sales of over 16,000), coincided with the end of Topcon's golden age.

Suddenly sales of **Nikon**, **Canon** and **Pentax** sales surged ahead, leaving Topcon trailing well behind them. The reason this happened has been blamed, at least in part, on ill-conceived marketing decisions made by the management of its affiliate company Toshiba.

Topcon Super DM.

As for myself, I have set out to collect as many Topcons and their accessories as possible, including both the cheaper Wink and Unirex models.

Super DM 'fully loaded.'

My only issue with the Topcon Corporation is that they never produced a stereo camera. To those who know me, the reason for stating this is obvious. You see another great passion of mine is collecting stereoscopic (3-D) artefacts.

Although I already possess many 3-D cameras, viewers and stereoscopic images, I am always on the lookout for new and unusual items.

Well I suppose that is to be expected; after all, I am a collector.

Not your usual Nikon SLR

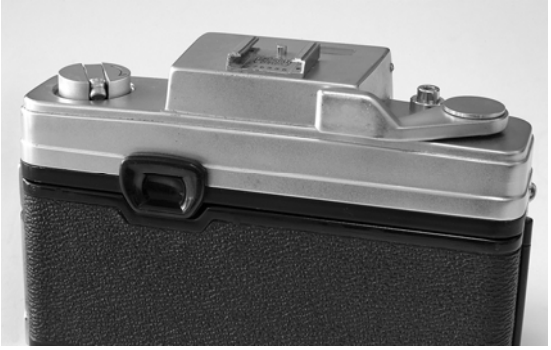
Geoff Harrisson

We all know Nikon's classic SLRs and many of us owned and used them for years. The first one I bought was a Nikkormat, way back in 1966 when I was photographing motor racing. A few years earlier, while Nikon were having great success in the professional market with their Nikon F, the company thought about supplying the amateur market with a lower-priced alternative. So in 1960 they introduced the **Nikkorex**.

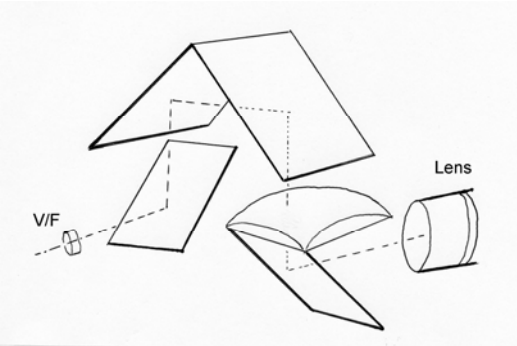
Pic. 1. Nikkorex 35-2.

It had a non-interchangeable Nikkor-Q 5cm f2.5 lens in a Citizen MVL between-the-lens shutter. There was a built-in, coupled match-needle Selenium meter. The needle was visible in the viewfinder and also in a small window on the top housing. Helpfully the needle moved in the same direction as the aperture ring was moved. The mirror though was not 'instant return'. The internal shutter-lens/interlock mechanisms were complicated and the Citizen shutter was looking to be an unwise choice as many cameras were being returned for repair. Nikon, not experienced in the mass production of lower-cost cameras, had out-sourced part of the camera assembly and that may have contributed to the reliability issues. Faced with poor sales and a growing reputation for unreliability Nikon redesigned the camera and in 1962 marketed the **Nikkorex 35-2** (**Pic. 1**).

The new camera's appearance and specifications were similar; the lens was the same, but it still lacked an instant-return mirror. However the shutter was now a Seikosha-SLV and, importantly, the internal mechanisms had been redesigned in a much simpler arrangement. The body shape was squared off and the Nikkorex name was displayed prominently on the meter cell. Two conversion lenses were offered, one for 35mm wide-angle, the other for 90mm tele; both were f5.6 and screwed onto the front of the standard lens.



Pic. 2. Rear view showing finder location.



Pic. 3. Porro finder diagram.

Looking at the back of the camera (**Pic. 2**) you might notice that the finder eyepiece is in an unusual position, it's lower down and not central to the top housing. This is because both cameras had a 'porro' finder, not a pentaprism, since it was a less costly finder to manufacture. The finder image is reflected by mirrors as shown in (**Pic. 3**.) Nevertheless the Nikkorex finder has quite good brightness and the 35-2 was a more robust camera than the first model. Despite this it did not sell well, probably due to a combination of the previous model's reputation and other competing cameras on the market at that time.

Nikon tried a few more Nikkorex variations; the Nikkorex F, the Nikkorex Zoom, and lastly the Nikkorex Auto 35, but they were eventually superseded by the very successful Nikkormat cameras in 1965, when production of the Nikkorex ended.

The Leningrad

Stefan Sztromajer

The **Leningrad** was introduced in 1956 by GOMZ (Gosularstvennyi Optiko-Mekhanicheskii Zavod, i.e. the State Optical-Mechanical Factory). GOMZ changed its name in 1965 to Leningradskoe Optiko Mekhanichesko Obedinenie. In English the firm is now called the Leningrad Optical and Mechanical Union, which is well known from its intials that are (essentially) the same in Russian and English: **LOMO**. The **Leningrad** was considered a very speedy camera because it has a clockwork motor that simultaneously transports the film and winds the shutter. The introduction was so successful that the camera was awarded the Grand Prix at the Brussels International Exhibition in 1958.

The **Leningrad** – according to the designer's intentions – was to be the Russian equivalent of the famous **Robot** camera.

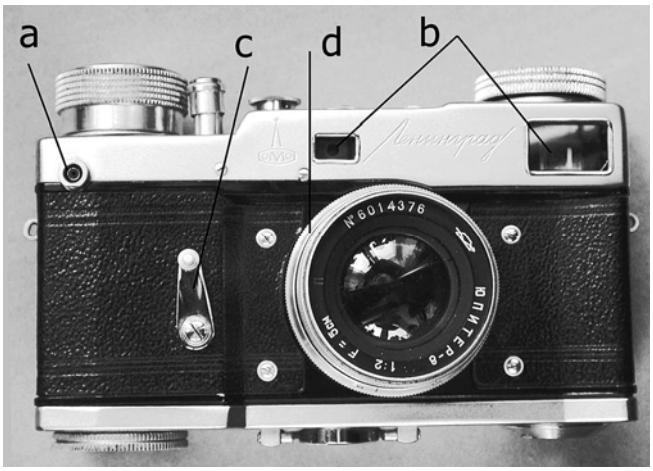


Fig. 1.

At the front of the camera (**Fig. 1**) you can see the flash contact (a), the finder and rangefinder windows (b), the self timer lever (c), and the Jupiter 8 lens (f:2.5cm) (d), which is a copy of the famous Zeiss Sonnar, the standard lens designed for the pre-war **Contax** camera.

The Jupiter 8 is provided with a standard, 39mm, screw mount as was common to all Zorki and post-war FED cameras. So the Leningrad body also accepts 35mm, 85mm, and 135mm Zorki lenses. As the finder window is provided with frames for all these lenses, a universal finder is not necessary.

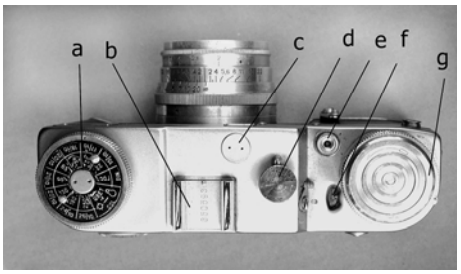


Fig. 2.

The top plate (**Fig. 2**) shows the film rewind knob (a), which is provided with a film speed reminder. That knob is uncoupled in its down position to make film transport smoother, while it has to be lifted up for rewinding.

In the middle there are the accessory shoe (b), and the cover of the rangefinder adjusting mechanism (c). Then, to the right, there are the shutter setting dial (d), the shutter release button (e), which has a cable release thread, the frame counter window (f), and the film transport knob (g). More precisely this is the knob that winds the spring of the clockwork motor transporting the film and also winds the shutter.

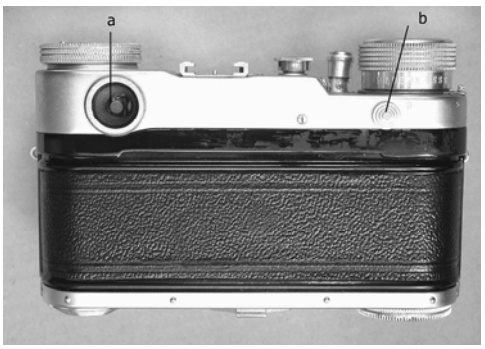


Fig. 3.

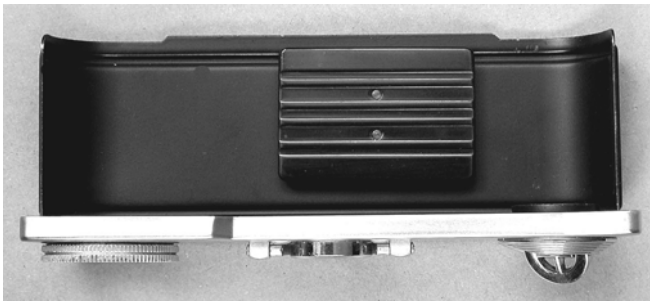


Fig. 4.

At the back (**Fig. 3**) there are the finder window (a) and the frame counter resetting button (b). The back has to be removed for film loading (**Fig. 4**).

Inside the camera (**Fig. 5)** there are the cassette compartment (a), two pairs of long film guide rails (b), the fabric focal plane shutter (B, 1-1/1000 sec.) (c), and the take-up spool (d). The take-up spool is fatter than usual: the diameter of the take-up spool is such that it requires a half turn for the first frame then, as the film is wound on, the distance between the first exposed frames and the last ones gradually increases owing to the extra diameter caused by the film round the spool. By the way, the spring of the film transport clockwork motor is inside the knob at the top of the spool not, as some people think, in the spool itself.

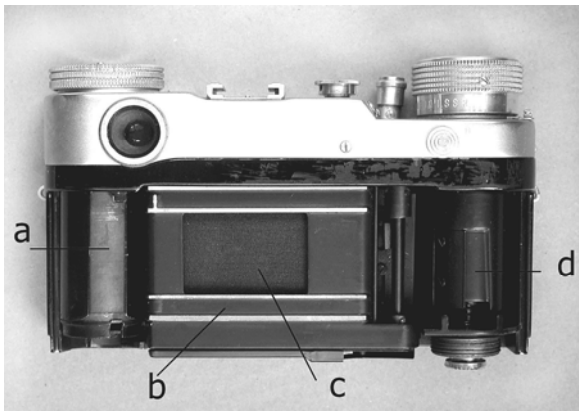


Fig. 5.

At the bottom (**Fig. 6**), there are two concentric rings: the outer one (a) is engraved and serves as a lock, while the second (b) uncouples the taking spool for rewinding the film.

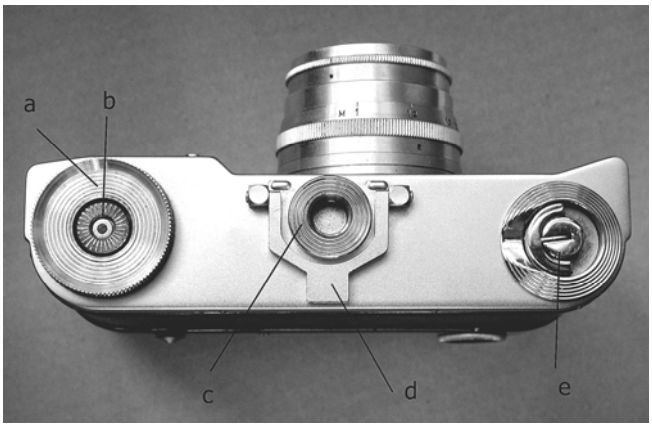


Fig. 6.

The tripod thread (c) and the shoe (d) are similar to those of the Contax II and reminiscent of the famous Zeiss style. A second lock (e) opens the original cassette during closing.

I did some short testing of the **Leningrad.** Since I could not obtain the special casette, similar to that of a Contax, that automatically opens when the camera is closed, the camera was loaded with an ordinary cassette so only three shots were taken. As that test was not too successful, for a second attempt I loaded the camera (in the dark) with a film without its outer case. Winding up the motor ensured five or six shots. Unfortunately every shot feels like firing a small rifle so, when using the standard lens, any exposure under 1/250 is not practicable.

In conclusion, the **Leningrad** is certainly interesting as a collector's item, but not as a working tool.

Note. Readers may also like to look at ttp://photoethnography.com/ClassicCameras/Leningrad.html and http://www.sovietcams.com/index.php?-398124798, from which some of my information was obtained. There is also an instruction manual (in English) at http://www.fotodojo.nl/leningrad-manual.html.


A gathering of old time press photographers. (Bet they'd love a digital!)

3D in the Digital Age.

Ian Bock.

There was a time when "stereo" meant images that could be seen as three dimensional. Today it usually refers to music/sounds and the three dimensional images are referred to as "3D".

3D imaging has had a long history with many ups and downs, in fashion and out of fashion. It actually existed before photography when some clever artists were able to draw the two different images as seen by the two eyes and when viewed through a special viewer one saw in three dimensions. You will have certainly seen these viewers, (commonly called "Holmes" type viewers after the maker of one of the most common ones –and the sepia cards with the views, usually of scenes in Europe, Africa or Asia. (See Fig 1).

Fig. 1: A stereo photo of a Holmes type stereo viewer (dated 1901). Try to see in stereo.

The principle of the thing is to obtain two views of the same object or scene taken from slightly different viewpoints representing the view as seen by each eye and then allowing each eye to only see its view.

Consequently the second of the two views should be taken with a displacement to one side of 65 mm (the average distance between our two eyes) and if there is any movement they must be taken at the one instant. A tripod is useful especially if you make a bracket that permits the camera to slide the 65mm. (See Fig 2).

Fig. 2: Stereo-Simplex adapter showing the camera in the two taking positions and halfway across.

This is fine in theory but not always good in practice as distant views may not exhibit any noticeable stereo effect. I have read that a better system is to move the camera a distance approximately one thirtieth of the distance to the nearest object in the picture. The term used where the separation distance is greater than 65mm is "hyperstereo". Similarly, if you are photographing small objects near to the camera, the distance between the two views should be less than 65mm.

There have been many ways devised to view such images. The best is a projected image using two projectors and a metallised screen with each image polarised differently. This is viewed through special polarised glasses again with each lens differently polarised so each eye sees only the image meant for it. Then there was the Holmes viewer as mentioned above and anaglyphs which had the two images superimposed and coloured green and red and was viewed through glasses with a red and a green lens. Many people are able to view the two images side by side and get them to merge to the one 3D image just by looking at them. If you were successful at seeing the extra 3D image in the 3D Magic images that were popular several years ago you should have no problem. (I can do it if the images are less than 50mm apart.)

From quite early times stereo cameras were made to meet the demand, the Stereo Realist was probably the most popular producing 20 stereo images from a 36 exposure 35mm film.

Today working stereo cameras are in demand and can fetch quite high prices. However really serious stereo photographers now prefer SLRs using two side by side with a double cable release or a stereo SLR which is custom made from two identical SLRs. (See Fig 3).

A number of camera manufacturers have made stereo adapters for their cameras which use a system of mirrors and the final image consists of the two images side by side on a single 35mm frame. A special viewer usually comes with the adapter. (See Fig 4 and Fig 5.)

Have I whetted your appetite and you want to try but don't know where to borrow such a camera? Never fear, you can do quite well with the camera you have. The only restriction is you can only take scenes and objects which don't move.

First take the photo for the left eye, move the camera about 65mm to the right and take the second photo.

Fig 3: 1914 French Nil Melior stereo Camera which took 6x13cm glass plates.

Fig 4: Exakta camera with stereo adapter.

Fig 5: Pentax camera with stereo adapter and viewer.

Do not touch the zoom lens nor change the focus or exposure. (Best set the camera on manual.) This works very well with digital cameras, in fact Pentax on some of their early digital cameras had a 3D setting. It splits the LCD screen on the back in two, the left eye image is taken and it appears on the left of the screen and the right half shows the second image. (Somewhat like some cameras that have a panorama facility and show part of an earlier exposure to assist with the next exposure.) You are able to move the camera to the right and line it up to get the second image. I have done this successfully and also taken full frame stereo pictures without the help of the split screen. Pentax supplied a viewer with their cameras having the 3D facility.

My technique is as follows:

1. On finding a subject for a stereo image, I take a photo for the left eye, carefully noting what item (A) is in the centre of the focussing screen. (of the DSLR, but the viewing screen will suffice for other digital cameras). Make sure the camera is as level as possible.
2. Move the camera to the right by the estimated base line distance, centre the item (A) and take the second exposure. If the camera has a zoom lens be very sure the focal length does not change.
3. You can get an idea how good your framing was by looking at the two images in turn on the review screen
4. In the computer:
    - Straighten both images
    - Increase the 'canvas'of the left image by adding 100% to its right.

- Copy/paste the right image on the right of the left image.
- Using guide lines get both images level.
- Adjust the density (levels) of the images if necessary.
- Merge the layers, crop and save.

Now to view these images. For a digital image you can view it on your computer screen. If you took two separate photos, join them together side by side and with the identical point 65mm apart. This usually means the total width of the two images is 130mm.

You can get commercial prints. In your photo manipulation program, set your double image size to 13cm long and 300ppi. Now make your canvas size 10 x 15 cm – the standard small print size. You should have a white surround to your image. If you now have this printed on your printer or at one of the many digital print stations available the result should be an image of the correct size.

An alternative viewing method if you do not have a viewer is to use the technique mentioned above which we used for those "magic" 3D images a few years ago. I can do it provided the separation is less than 50mm. The images reproduced here are less than 50mm so you may be able to do it.

Composing Good 3D Photographs.
While the guidelines for good composition in normal (2D) photography still hold, there are a few things which can make 3D photographs more effective that do not apply to 2D:

Use Depth!
Look for scenes that have depth! While simple, this is easy to overlook if you're just starting in 3D photography. It is most effective to have objects in the near range (6-10 feet), in the medium range (10-20 feet) and far (20 feet - infinity).
"Busy" Subjects
Watch for subjects that you wouldn't think of photographing in 2D, but which can be very effective in 3D, due to the addition of depth. (See Fig. 6). Some suggestions are:

- A tangle of branches or leaves
- Shooting through things, such as nets.
- Include a part of the wall in a shot through a window.

Fig 6: Franklin St, Traralgon. *(Taken with two exposures about 8" apart. A minor problem is the pedestrian lights are not the same.)*

Depth-of-Field
Though not a firm rule, 3D photos generally look best when the entire scene is in sharp focus from near to far. This allows the eye to wander around the scene. Due to a 3D photograph's sense of realism, out-of-focus areas generally are bothersome.

"Selective Focus" ***can*** be used, but you should be careful that objects don't "fade" from focus to fuzzy. For example, in taking a 3D picture of a rose bloom, it might work if the background is completely out of focus, but be annoying if a part of the rose is "fuzzy".

VERSATILE ADAPTOR RINGS

John Fleming

Available in one form or another for many years, of late lens adaptor rings have become increasingly popular in a plethora of lens-to-body combinations. Their popularity can be attributed to modern high precision automatic copy lathes plus the introduction of some very affordable interchangeable lens digital cameras. My first use of an adaptor involved fitting 39 mm Leica screw threaded lenses, such as the Schneider Componon, to Minolta bellows for high quality copying. Results have been superb and more recently other adaptor rings have been obtained for specific purposes.

Many adaptors will not permit focus to infinity when a lens of one make is fitted to a camera body of another. This is due to flange sizes and the actual depth of each camera from the front of the lens mount on the body to the film plane. To compensate for this, some adaptors have an optical lens corrector and, while this does work, honestly the quality of any 'optic' inside an adaptor costing less than $30 or $40 is very questionable. You will be better advised to obtain an appropriate lens to suit your particular camera. On the Nikon for instance, a 42mm screw mount Pentax Takumar lens is good for close distances only. (**Pic. 1.)** The main use of such adaptor rings in this case is for those close-ups, and more importantly, to adapt a camera of one mount to bellows or some other accessory of another make. This opens up a whole new field of versatility and convenience, as you can imagine.

Pic. 1. Nikon digital with Pentax SMC Takumar fitted via adaptor ring.

Some cameras are particularly suited to adaptors because they have a shorter lens flange to film plane distance AND a large lens opening in the body, an example being the Minolta / Sony AF mount cameras. In this case, using an adaptor ring, various other brands of lenses will couple to the Minolta/Sony and focus right to infinity. Most of the camera's auto functions don't work then, of course, but for a reasonably experienced photographer, in most circumstances, it isn't a concern. Some of the better lens adaptors, however, do have a solid state chip and gold plated contacts like the original lens mount and will allow the camera's 'focus confirm' system to work. This means that, while you have to manually focus the lens, the usual warning symbol (usually in the viewfinder area) will light when the focus is correct. Detailed instructions are available for these more sophisticated 'chipped' adaptors telling you how to program your camera to the focal length of the lens you have fitted. Of course, the inbuilt exposure meter in the DSLR will still operate, but only by using the old stop down metering method. My Sony A700 DSLR works beautifully with Takumar 42 screw lenses and, what a joy to have, for instance, an 85 mm f: 1.9 fitted up. The performance of a 200 mm f:4 SMC Takumar is also sensational. Prime lenses, apart from generally much wider apertures, seem to have a slightly better image quality than zooms, and in many cases present far less weight hanging off the front of the camera

One word of caution must be made regarding these lens and body adaptors. Most are very well machined and fit perfectly, but there are tales now and again of mismatching and jamming. (See Herb Parker's article **Back Focus**, June 2014) An adaptor I purchased about 18 months ago to allow the Sony (Minolta AF mount) to match a Nikon F bellows jammed and wouldn't come off the camera the first time I tried it. Rather traumatic, and a nuisance as I didn't relish handing the camera in for a possibly expensive repair. A few minutes careful manipulating eased the errant adaptor ring off and I started checking why it had refused to dismount. A careful study of a genuine Minolta/Sony AF lens around the bayonet revealed there was a small stop-screw evident on the lens

that was totally absent on the new adaptor! I quickly discovered this screw stops the anti-clockwise rotation of the lens or ring when it is being dismounted so it can then be withdrawn straight out with all the bayonet lugs aligned. Because my new adaptor didn't have any stop peg provision, the bayonets were able to be turned further than usual and it all got terribly tangled.

Pic. 2. Minolta / Sony AF-to-Nikon adaptor showing stop-screw fitted.

To rectify the problem a small suitable screw was procured from my commodious boxes of parts and I took very careful note of where it had to go by comparing it with a genuine factory lens. I measured the diameter of the screw with a micrometer half way along its threads (it was a tiny self tapper … perfect!), selected a 1.2 mm drill bit, ran the hole through the aluminium and, with a very slight smear of 'Loctite' on the thread of the chosen 1.5 mm self tapper, in it went. Now the adaptor fitted on and removed perfectly from the camera. **(Pic. 2.)**

Apart from allowing the use of Nikon mount lenses on my A700, the adaptor enables me to fit the camera to a fine Nikon bellows for extreme close-ups, or slide and film copying tasks. Copying lenses that have a Leica 39 mm screw, such as the Schneider Componon or Nikon El Nikkor, etc., fit the Nikon bellows via a Nikon to Pentax 42 mm screw adaptor, which in turn has a small 42mm to 39 mm reducer adaptor. (**Pic. 3.)** The convenience and excellence of this set-up is amazing, and it's possible to produce very high quality copies and digital transfers, often better than available from a pro lab or service. (See back cover.)

Pic. 3. Sony digital SLR and Nikon F bellows unit with 39 mm Schneider Componon lens fitted via a Pentax 42 mm screw adaptor with 42-39 mm insert ring.

“EMPIRE” 120 Box Camera

Lyle Curr

Oh no... not another box camera, and just another of those cheapy cameras that should rate about half a page, if that, in a magazine like this. BUT, you really need to have a real look at and do a bit of research about their history before you can really appreciate what they actually are. When I saw this camera, it was the brilliant, shiny faceplate that grabbed me. The strong vertical black and silver lines, the circular nameplate around the “lens”, and the little black nameplate square between the viewfinder “eyes”. **(Pic 1)** But then I thought, “oh it’s just a crappy 1940s Chicago made pressed tin cheapy: I’ll leave it alone!” But I WAS drawn to it. I picked it up, looked it over, and then opened it as if for film loading. What I saw not only surprised me, but now I was hooked. So I parted with my hard earned, and took the camera home with me. (It set me back all of $15; what a bargain)

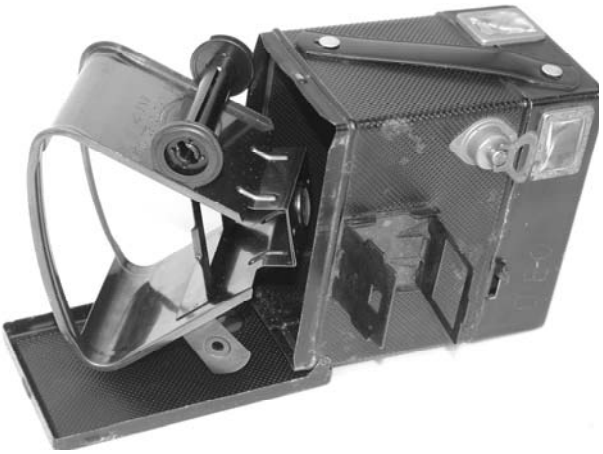
Pic 1. The faceplate of the Empire 120, and yes, that is a glass cover over the hole in front of the shutter.

Upon getting it home, I again removed the film carrier from the camera body. There were a couple of things that attracted me via this insert. Firstly it appeared to made of copper. It’s not of course, it’s just pressed tin like the rest of the camera. But it a lovely, shiny, burnished copper colour. Why? I have no idea. In fact it would cause havoc if there were the slightest light leak, distinctly possible in a pressed tin body! The film carrier gets better. It has the beautiful curved lines of a modern sculpture..... And it holds the actual lens. The lens, just a single meniscus but made of real *glass,* is set into the front of the carrier. **(Pic 2)** The lens has a focal length of about 3¾”, but the camera is about 5” long, so the lens has to be well inside the camera to focus on the very curved film plane. Problem solved by setting the lens back in the film carrier. Why go to this trouble? Again I have no idea. Probably something to do with jigs and presses and making of the body but, who knows? But it does make it a much more interesting camera, made even more so by the fact that the hole in front of the shutter is covered by an (again) actual glass cap - just plain glass. It is *not* another lens element! To stop the dust getting in? But it does *look* good.

Pic 2. The film carrier insert. A work of art in itself.

Other than that it’s just an ordinary, run of the mill box camera, one of thousands that all look the same. Well again, not quite!

The pressed tin body has no covering. It is painted black, but the rear part is beautifully dimpled, as is the back door of the camera. The front of the body with the lens and.... whoops, the (just) *shutter assembly and glass cover,* is a nice shiny but smooth black. The Empire 120 is fitted with 2 standard box camera brilliant viewfinders, but also has a folding black frame finder on the side. The winding key is a lovely deco actual *key shape,* and the camera is finished with a very shiny, black plastic carry handle. **(Pic 3)**



Pic 3. Dimpled, black painted pressed tin body, folding frame and brilliant finders, shiny black plastic handle and art deco winding key.

So that's the Empire 120 box camera. MADE IN U.S.A! Still eminently useable as *it* uses readily available 120 roll film. But who made it? There is no manufacturers mark or data on the camera anywhere, other than the made in USA bit.

Pic 4. JEMCO diamond logo.

Well, the Empire 120 bears a striking resemblance to the JEM box cameras made in the 30s and 40s by JEMCO, **(Pic 4)** or more precisely The JEM Camera Company, a division of the J. E. Mergott Company of Newark, New Jersey. In fact it bears more than a striking resemblance; except for the faceplate, it's an *exact* double of the Jem. **(Pic 5)** Box cameras are of such an un-complex design that many "camera companies" developed from other industrial manufacturers in the first half of the 20th century. The J. E. Mergott Company actually started in 1878 was very involved with the manufacturing of brass items from buttons to business and advertising wares and became well known for their ladies purse (handbag) frames. Being a metal works and supplier of mainly brass but also tin items, they were able to easily retool and stamp out the simple pieces that make a box camera. After WWII again remarkably similar box cameras appeared with new names like "Sharpshooter 120" and "Vu Flash" but these were made by the Zenith Camera Corp. of Chicago, and it requires no real stretch of the imagination to suppose that the camera division of J. E Mergott was sold to the Zenith Camera Corp, when indeed Zenith were acquiring other companies such as Webster Industries, who were known as a pioneer of moulded plastic technology. **(Pic 6)** But the Empire 120 it would appear is a product of the Mergott Company and was made in the late 30s, early 40s.

Pic 5. J.E. Mergott ID on a JEM camera.

Pic 6. The film carrier with its lens in place in the body.

So, aside from being just an interesting and attractive camera, despite its simplicity, something like the Empire 120 gives you a challenge in determining its origins. The hunt for its history was as much a part of its collectability as the item itself, and is certainly a lot of fun... and after all, that's why we do it; to enjoy ourselves.

So don't snub your nose at box, plastic, novelty or even toy camera collectors and their collections till you have heard the *whole* story.

Letters and Other Bits:

At the March Market, member 'Yoshi' Nagami of Nagami Camera Service gave me a large bag of digital cameras, including a complete Canon EOS 20D for Di Snape. The next day I contacted Di and she has arranged for these two donations to be collected and has expressed her sincere appreciation to those who responded to her call for help. I too was able to help with one, a complete Pentax Optio S30. It need not stop now though. If anyone comes across or finds others, Di can put them to good use.

The Internet never ceases to amaze and one of the regulars that I receive is 'Historic Photographs'.

This one I thought was worthy of including, lifted out of a Power Point presentation. The lady is Hannah Stilley, born 1746 and photographed in 1840, probably the earliest born woman captured on film. BUT, on checking this out with a Google search, some interesting contenders come to light! Apart from the fact that film it's not, it's the Daguerre process.

For those with time on their hands, check it out, quite fascinating!

How old is YOUR oldest Selfie?

With 'selfies' seeming to be the current in thing, it appears nothing is really new. This one, c1920, popped up on the Internet recently. I'm sure we all have selfies from back before 'selfie sticks' were invented. Why not send me yours, with a date, and see who has the oldest. No prize, no bottle of champers, just the pleasure of seeing it published.

UPGRADES to APCS DATABASE

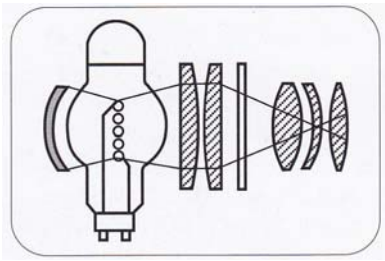
The Society is in the process of updating its database for the future, and we know that there are a lot of errors and omissions in what we have. To remedy that could you please send us some information – **even if you believe that we have it already**. Examples are shown in italics…

Name:	*Fred Smith*
Membership No:	*699* (OPTIONAL)
Home Address:	*2 / 34 Smith Street, Smithville, Victoria, 3999* (OPTIONAL)
Postal Address:	*P.O. Box 1234 Smithville, Victoria, 3999*
Email address:	*fredsmith@smithnet.com.au*
Landline:	*(03)12345678*
Mobile:	*0499123456*
Interests:	*Smithflic Digital Cameras. Wood & Brass.35mm Rangefinder. Nikon.*

If you have email facilities you can email the details to web@apcsociety.com.au or if you have a FAX service you can send them to (03)98528627 or if you need to send them by surface mail then they can be addressed to APCS, C/o Webmaster, 65 Wellington Street, Kew 3101

Projection lamps

Han Fokkelman



In the beginning there was no electric light so the picture of the 'Magic Lantern', originally 'Lanterna Magica', had to be projected by means of candles or oil lamps. When the electric lamp appeared it was used at once but it was difficult to get a good picture. The filament was circular and, as the lamp was placed horizontally, good projection was difficult. Further, the name of the bulb had to be on the bottom of the lamp otherwise you could read the printing on the projected image.

Soon special projection lamps were designed. They had to give more light than a normal lamp and that meant a shorter life. The filament wire was folded in a network to give more light to the projection surface of the commonly used 8.3 × 8.3 cm slide. As the wire expanded when it was lit, you had to place the lamp in the right position. Therefore you read: Top or Oben (German) or Boven (Dutch) on the lamp.

Photo 1. A selection of projection lamps.

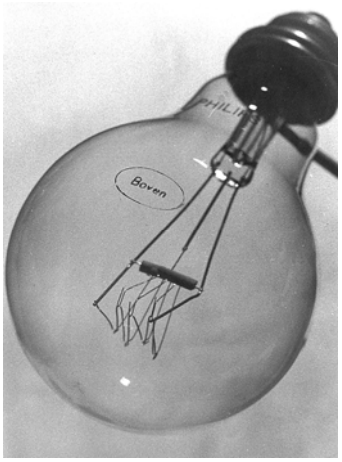


Photo 2. Lamp with word 'Boven'.

The lamp was generally sited horizontally but, in episcope and epidiascope projectors, some lamps were at 45º. Another system was the hanging lamp, which you can find in some ICA projectors.

Photo 3. Hanging lamp.

Most lamps had an E 27 screw foot, but you can also find projectors that needed an E 40: the 'Goliath' foot.

It was time for standardization. The result was a standing lamp with a vertical filament. The distance from the heart of the filament to the foot was standardized to 55.6 mm. The lamp gave more light than a normal lamp so it had a shorter life and the standard became 25–40 hrs. The foot became the P28 that had two different wings so you could only place the lamp in the right position. They were delivered for 110 V and 220 V in different wattages. But with more watts you got more heat: you couldn't win! Heat became the enemy of the projector manufacturers and, as a result, they produced slide projectors without motor cooling up to 250 W, but for 300 W and more a cooling fan was necessary.

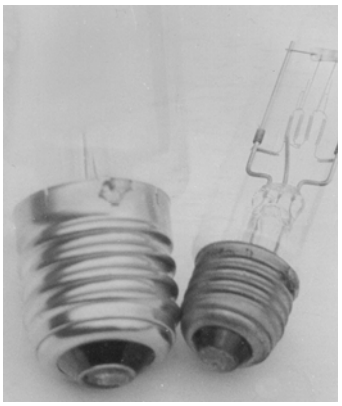


Photo 4. E 40 and E 27 screw feet.

Things remained messy. After the 110 V came 115V, 120V and 125V, while 220 V was followed by 225V, 230V and 240V. Not every maker mentioned the voltage on their lamps. For example, on the lamp for the Bauer Pantalux of 1934 you would read: 5 A 375 W. So you had to know that Watts = Volts × Amps. In this case the voltage was 375 ÷ 5 = 75 V. After 1945 we saw more standardization, the ampere classification was no longer used: just the voltage and wattage were recorded. The factories gave their products numbers but then you discover that Philips gave this number depending solely on the wattage of the lamp. If you ordered the 6152 C you got a 500 W lamp but which voltage? This you also had to specify in your order. Even the wattage was sometimes a problem. The 110 V, 500 W lamps were already hard to get in

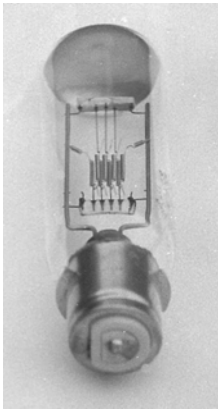


Photo 5. P28 foot.

the thirties but, when Noris announced an eight-millimetre movie projector with a 220 V 500 W lamp in 1950, the first series was delivered with a Philips 220 V 400 W lamp because the 500 W was not yet in production.

In addition to the lamps above, a line of shorter lamps with the bayonet Ba 15s foot was developed. The projectors became smaller, but all these apparatuses had problems with the heat and the amount of light that could be used. To use the light that did not go directly to the lens, a mirror was introduced behind it. It reflected the light back into the lamp and that caused more problems because the lamp itself became overheated. The answer was to insert a slide between the filament and the lens to centre the reflected light. This slide had a hole in the middle and you had to put the plastic lens cap on the lens to see what you were doing when you wanted to fit it. With 8 mm projectors you had to use a magnifying glass that projected an image of the filament onto your screen.

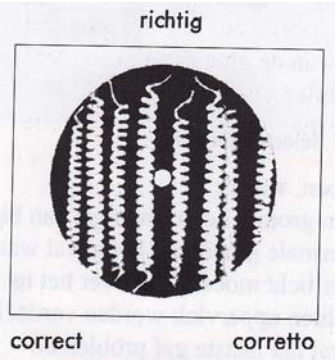


Photo 6. Centering card slide.

With the Ba 15s foot the distance of the bayonet foot to the centre of the filament was standardized to 35 mm. Manufacturers also wanted to reduce the voltage of the lamp but that was not a new idea. The small lamps in cars with their low voltage became the ideal for many years. Pathé used a small 12 V 0.5 A lamp in the first 9.5 mm projectors. Already in the thirties Philips produced an 11 V 100 W lamp. In 1947 they produced 33 V 100 W lamps for slide projectors, but most of the projector manufacturers did not follow them.

Noris had one type for the schools, the Delita, and the Dutch Visolux was a school projector with a reserve lamp already installed.


Photo 7. 33 V 100 W lamp in the Visolux.

The breakthrough came through changing the filament: the thread was now wound into a small plate as large as an 8 mm movie frame. Engineer Georg Malek, the designer for Eumig, was so enthusiastic about this 12 V 100 W lamp that he built an Eumig movie projector around this lamp. It became the legendary Eumig P 8; more than 1,250,000 of them would follow. You can also find this lamp in slide projectors such as the Leitz Pradolux. This needed another centering slide, for now you had to adjust the reflected light over the top of the original glowing filament.

Slide projectors soon used the 24 V 150 W lamps that had the G 17q foot.

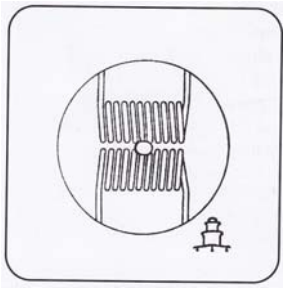


Photo 8. Centering card for the 12 V 100 W.

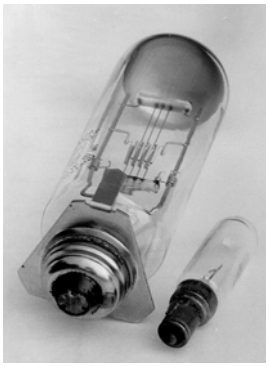


Photo 9. Left: Bell & Howell; right: Pathé.

This foot was a modernisation of an old construction. Pathé used a strip beside the foot to place the small 6 V 0,5 A lamp in its exact position. Bell and Howell did the same, using a strip on the special B&H plate.

The G 17 q had a round piece of steel with a ripple in the middle and had four pins on the bottom. This foot was called 'Tru Focus'. The pedestal of the projector was used as a claw so that the lamp was firmly located and held. This foot was mostly used in the slide projectors. In the beginning the 24 V 150 W lamps used in slide projectors had the same foot.

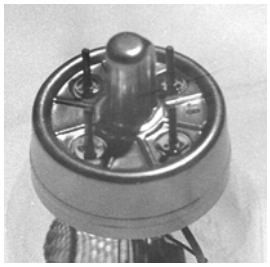


Photo 10. G 17q foot.

The lamp manufacturer Radium produced a 12 V 150 W lamp with the G 17q foot that was used in the best Bauer movie projector of those days: the T10R. But other factories did not follow and Radium stopped production. As a result thousands of Bauer T10R projectors could no longer be used. Later Flecta put this type into production but from that time the Bauer T10R projector became infamous. The 12 V 150 with a Ba 15s foot was produced

by a French factory but no projector brand followed.

Philips, in combination with Eumig, produced a 12 V 100 W lamp with the Ba 21s foot. It was a thick foot with some pins outside to better centre the lamp. This was used in the Eumig P8M projectors, but no other factory used it.

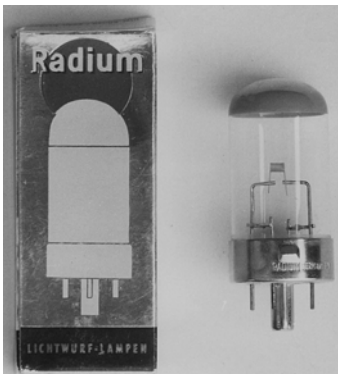


Photo 11. Bauer T10R lamp.

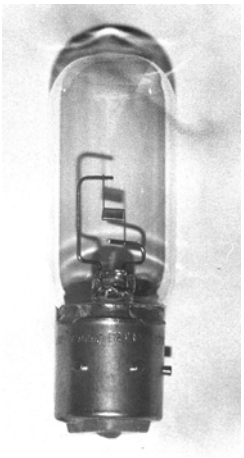


Photo 12. 12 V 100 W with Ba 21s foot.

There then appeared a 115 V 150 W lamp with the G 17q foot that had a little plate in front of the filament so that the light had to get to the lens via the mirror. This was an American development that allowed you to manipulate the light via the mirror. For example, the Kodak 10 E lamp had a mirror outside close to the lamp.

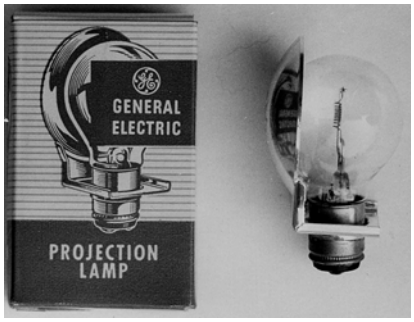


Photo 13. Kodak 10 E lamp.

So it was to be expected that the Americans should put the mirror *inside* the lamp. And they did. The glass of the lamp was like a bell glass over the light unit. In Photo 14 you can see the lamp on the left with this plate. The middle lamp was placed horizontally and was used in the Kodak M 2 super eight movie projectors.

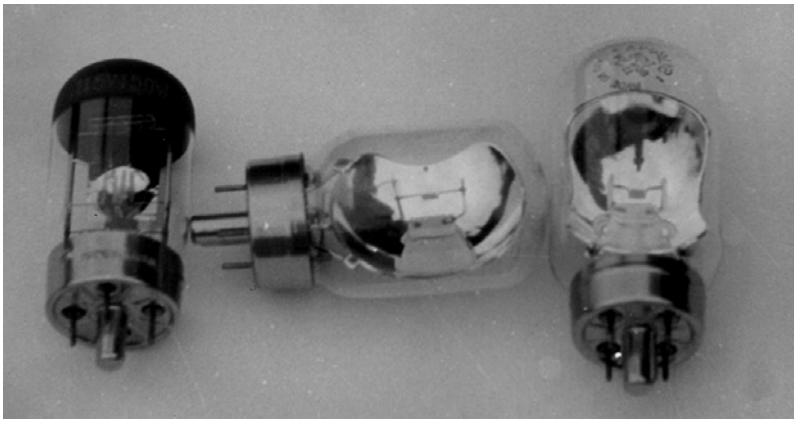


Photo 14. Left: 115 V 150 W with plate.
Middle: lighting for the Kodak M2. Right: normal situation.

The pinnacle of this type of construction was the General Electric DHJ lamp that had its 500 W filament above the mirror, which answered the problem of how to minimise the heat getting to the slide. However, that made the top of the lamp incredibly hot and needed a cooling fan that was very loud.

Europe did not follow the American construction with built-in mirrors. From the beginning Philips and Osram used reflecting glass in their lamps. They did this already in diascope projectors and Philips had the idea of producing the 110 V 750 W P 28 nr 7079 with a built-in reflector. The manufacturers of 16 mm sound projectors had decided not to build-in condensers any more and they did not follow Philips any longer.


Photo 15. General Electric DHJ.

The pinnacle of the reflecting glass lamps was the 8 V 50 W for 8 mm movie projectors. Here Philips and Osram worked together. They took the 12 V 100 W filament as a starting point but now made it smaller and inside it was wholly reflected: all the surface around the actual light source was like a mirror. Except for the area of the lamp where the light came out, the whole lamp was covered with reflecting material. This lamp later became known as the 'Marsman'. With this lamp it was not necessary to have a condenser and a heat filter in the projector. Thanks to these changes the result on the screen was the same as with the 12 V 100 W lamp with its external mirror. Many projector manufacturers followed, using this lamp in their products. Later came another lamp like the 12 V 100 W but with a different foot. It was especially used in some Eumig projectors but other factories did not use it.

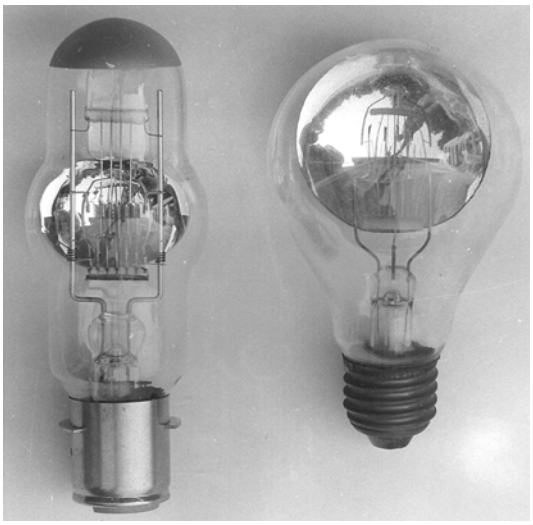


Photo 16. Left: 110 V 750 W nr 7079, Right: 220 V 100 W E 27.

The 8 V 50 W lamps had been the start of the wish of Philips and Osram to create a light POINT that was kept in a mirror; one that was able to reduce the heat and to concentrate all the light available. The first step was to improve the durability of the light. The globes so far had a relatively short life because the filament evaporated and vapour was precipitated on the inside of the glass. As a result, (a): The glass became dark and the lamp gave less light, and (b): The filament became thinner and thinner till it broke. They used iodine, which doubled the lamp life to 50 hours but at the cost of a temperature of 600º C. At a lower temperature it worked as usual but the lamp soon became dark. Normal glass melted around 300º C so they used quartz glass. Quartz glass is sensitive to the acids produced by the human skin and you should therefore avoid touching the lamps with bare hands.

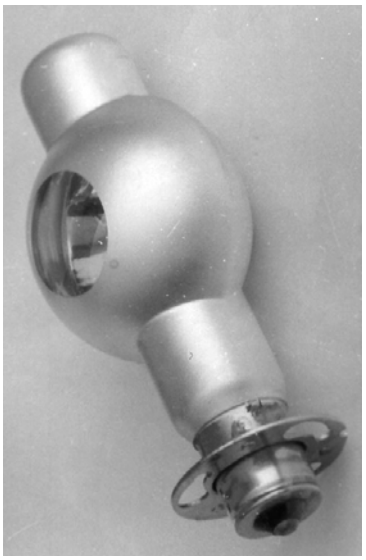


Photo 17. 8 V 50 W lamp.

For cine lights the iodine did not do such a good job. In some lamp containers the gas sank to the bottom and that resulted in a shorter lamp life. Using bromine instead of iodine cured this. Now they had to change the name of the lamp with each change of gas, so they decided to use the family name of the gases: halogen. The lamp was called the halogen quartz lamp. The 12V 100 W type was mostly used in 8 mm movie projectors and the 24 V 150 W in slide projectors. But other lamps followed.

Bauer produced the projection lamps for their cinema projectors themselves. They also produced a mirror that was built of several layers to reduce the heat. Philips/Osram took that idea, designing a mirror that was built up from several layers that did reflect the light but let the infrared beams through, which meant a 70% reduction in heat. Next they turned the lamp into a horizontal position so that it became impossible for the light of the filament to go directly to the frame. With a specially designed filament and a special elliptical mirror it became possible to avoid overheating while achieving a very high light output. The ideal situation had been reached with the cold light mirror lamp.

Photo 18. Cold light mirror lamp.

iv. Harringtons' Photographic Journal. April 20, 1916.

GIVE HIM
A SOLDIER'S CAMERA

There is no Gift that would be more acceptable to your Soldier Friend than a Vest Pocket Camera. A Camera will enable him to secure a Priceless Record of the War.
The following Daylight-loading Roll-film Cameras are small, compact and thoroughly efficient.

The "ENSIGNETTE"
BRITISH MADE.

The ENSIGNETTE has been acclaimed the one Camera for the Soldier—thousands of them are already at the Front. Ensignettes are made of rust-proof metal throughout.

No. 1 Ensignette ... Price 27/6 — Takes Pictures 2¼ x 1¾
No. 2 Ensignette ... Price 35/- — Takes Pictures 3 x 2.

Both the above Cameras are sold complete in Leatherette Case, and with Book of Instructions.

THE VEST POCKET KODAK.
Vest Pocket Kodaks take Pictures 2¼ x 1¾. PRICE, complete, 30/-

SEND FOR A COPY OF OUR NEW CAMERA PRICE LIST.

Harringtons LTD
Photographic and Cinematographic Merchants,
SYDNEY, MELBOURNE, BRISBANE, ADELAIDE, AUCKLAND and WELLINGTON (N.Z.)

viii. Harringtons' Photographic Journal. April 20, 1916.

ENSIGN

British Films
—FOR—
British People

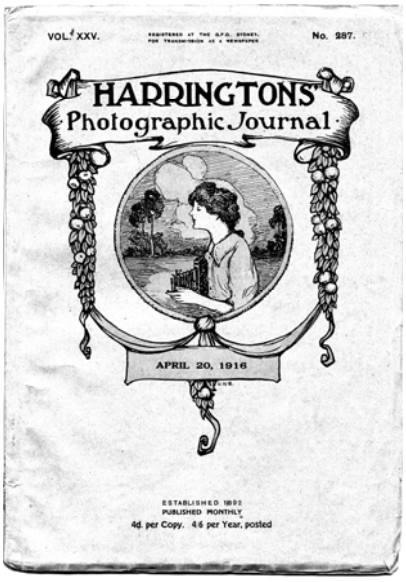
THE perfection of the "Ensign" Film is due to the fact that it is made under the supervision of the one man in the world who has specialised on Sensitised Films, Mr. Austin Edwards. Nothing but Film is made at the Austin Edwards factory, and the quality of the product is world famous.

The one and only true test is to try for yourself. If you have tried several kinds without reaching that print perfection which you are after, try "Ensign" Films. We know these films are unrivalled, and we would like you to know as well. They are British made—Austin Edwards made. That spells reliability and efficiency.

No matter what type of Roll-Film camera you possess, there is an "Ensign" Spool to fit it. Ask any photographic dealer to show you one of our Charts, giving the size "Ensign" Spool each camera takes. Wherever you live you can purchase "Ensign" Films—in fact, wherever Photography is practised "Ensign" Films will be found in use.

British—and Better than Any.

Roll Films



VOL. XXV. No. 297.

HARRINGTONS
Photographic Journal

APRIL 20, 1916

ESTABLISHED 1892
PUBLISHED MONTHLY
4d. per Copy. 4/6 per Year, posted

Digital - My Wish List

Herb Parker

As a septuagenarian and long-term user of film cameras (mainly Pentax SLRs) some four or five years ago I finally accepted that change is inevitable and bought a digital camera for around $400. It was a very compact little Panasonic Lumix, a 14 MP and 5× optical zoom 'travel camera', which is great at what it does and which I still use when I want a compact camera for social functions, etc. If only it had a viewfinder!

I then set out on another steep learning curve and now have a reasonable grasp of the digital world. Whilst I don't enjoy my photography as much as I did with film, I accept reality and have now switched completely to digital. Two and a half years ago my wife gave me a Pentax K-r digital SLR for my 75th birthday and a Sigma 18 to 200 mm zoom lens for it a year later. It is a wonderful camera and gives great results, especially in low light/high ISO situations, but it lacks some features we could all take for granted in the good old days of film. So I thought I'd go through some of my 'digital wish list' here, hoping that, just maybe, one of the camera makers might hear of it and listen. So what is that 'wish list'?

Pentax K-r Digital SLR.

Focusing

Autofocus is fine most of the time, but there are situations where I want to focus manually. The K-r does have a provision for manual focus but no focusing aid, which means that critical focusing is difficult, especially as most of the readily available (read: affordable) digital lenses have quite a small maximum relative aperture and hence too much depth of field for accurate focusing. So why can't digital SLRs come with a split image focusing aid?

Cable Release

In the days of film almost every camera had a shutter release button, threaded for a cable release, but not anymore. Instead we have to buy another gismo for around the $50 mark, with a battery, and some fiddling with program buttons to get it to work. (I use it rarely, and forget the procedure between uses, so in the end I just don't use it at all.) Also, at least with the K-r, the sensor for it is at the front of the camera but, like most of us, I am usually behind my camera when I have it on a tripod. Now wouldn't it be a lot easier, and cheaper, to just thread the shutter release button like they used to?

Oh for a cable release!

Intentional Double Exposure

OK, it's not something I do often, but now I can't and that's that. Sure, there may be a way to combine two images in Photoshop, but I am still trying to master that.

Zoomar with calculator.

Distance, aperture and depth of field scales

Digital lenses vary here, but with my Pentax lenses the only thing marked is focal length, which is really not all that useful. The Sigma lens also has a distance scale of sorts, but with all of them aperture can only be set electronically and there is no depth of field scale. OK, I accept that depth of field scales are difficult with zoom lenses (although some of my old Tamron zoom lenses have them, and Voigtländer issued a depth of field calculator for its famous Zoomar more than fifty years ago) but there is no way to either determine hyperfocal distance or set it.

Provision for M42 lenses

Some of the problems I have listed above can be overcome by using older lenses from film days on aperture priority, but focusing is difficult, although at least the prime lenses usually have a relative large aperture, which helps. As long as the automatic diaphragm works I can live with that, although I have to admit it's easier just to accept the digital lenses, warts and all. But, as a long term Pentax user, I have some wonderful Super Takumar and SMC Takumar lenses that I would love to be able to use, but unfortunately the automatic diaphragm does not work, so it's just too fiddly and difficult.

Compur Flash Socket

My K-r has a hot shoe, but no flash socket, so how can I use flash off camera? I happen to have a gadget from film days that plugs into the hot shoe and ends in a Compur socket, but why do we have to go through all that?

Bring back synch cables!

Full manual operation

This is available now of course, but only by fiddling with electronic programs. I remember reading a review of the Canon AE Program camera when it first appeared, claiming to show some 50 bits of information in the viewfinder. The reviewer wrote, quite reasonably I thought, that he only needed two: shutter speed and aperture. Why oh why do we have to wade through all these electronic programs?

Canon AE-1 Program.

It may well be that at least some of the above features can be found in one or more top of the range full frame professional DSLRs – I am not in that market, but why the hell can't we have them in 'entry level' DSLRs?

My Wish List

If I could have the digital camera of my dreams it would be a digital version of my beautiful Voigtländer Bessaflex TM (made by Cosina in Japan of course). Exactly the same camera, but with a sensor (either full frame or APSC) able to take M42 lenses for aperture priority photography with a functioning automatic diaphragm, and with manual shutter speeds, but with the option of fitting autofocus digital zoom lenses, and optional programmes for autoexposure, etc. Alas, I doubt I shall ever see such a marvel but one can keep on hoping.

Herb's favourite- Bessaflex TM.

On a concluding note: how things have changed! When I bought my little Lumix 14 MP with 5× optical zoom and rechargeable battery about four or five years ago I paid around $400 for it. On Sunday 8th of March 2015, at the Sydney Camera Market, I picked up a very similar Sanyo 10 MP 3× optical zoom, admittedly powered by two AA batteries, in lovely condition and working perfectly for $15. I wanted a camera that is always in the glove box, but no great loss if it gets lost or pinched or cooks, and this meets the bill. The reason it was so cheap, of course, is that the market for these digital compacts has largely been taken over by 'smart phones' and tablets.

But in the end, whether we like it or not, digital is here to stay, and we just have to get used to it.

The Kodak REGENT camera

Geoff Harrisson

Probably one of Kodak's most distinctive cameras is the Regent, which was made in Stuttgart, Germany by Kodak AG. (Pic. 1.) The body is nicely covered in fine quality grained morocco leather and the shape when closed has been described as streamlined. (Pic. 2.) Using 620 roll film it's a dual-format camera for either 6x9cm exposures or 4.5x6cm with an insert mask. The folding optical viewfinder has two slide-in masking pieces for the smaller format. (Pic. 3.) The coupled rangefinder is housed beside the folding finder; it shows a yellow window with a clear moving spot. To focus you pull out and rotate a small knob on the baseboard, then the front assembly moves forward on a rack. (Pic. 4.) At the front a small pointer moves along a scale and shows the distance. The shutter has a release lever fitted beside the mount. The 10.5cm lenses offered were Schneider Xenar f4.5, Xenar f3.8 and Zeiss Tessar f4.5, in Compur-S or Compur-Rapid shutter.

Pic. 1. The Kodak Regent.

Pic. 2. Streamlined body.

Pic. 3. Viewfinder mask for 4.5x6

Pic. 4. Focussing knob & distance scale.

There is a definite solid and well-made feel to the camera. For example, in each film chamber there is a neat spring-loaded swivelling piece holding one end of the film spool to make film changing easier. The front is very rigid and you can see why when you look at how the folding struts have been designed. (Pic. 5.) There are two red windows on the back and the name is embossed in the leather. (Pic. 6.) Around 10,000 Regents were manufactured from 1935 to 1939. There was a Model II made in 1939, it had a more conventional squared shape with a chrome top plate and a Xenar f3.5 lens. We don't see many Regents for sale here and the Model II is a very scarce camera.

Pic. 5. Side struts & shutter release.

Pic. 6. "Regent" in back leather.

In his article, 'Versatile Adaptor Rings', John Fleming shows how a better copy can be obtained, (right) than that from a professional lab, (left).

Who says film is dead?
From a store in Japan.
(Pic submitted by John Fleming.)

From Han Fokkelman: The Evolution of the Projection Lamp.

Our late Lyle Curr is still with us with:- The Empire Box.

Stefan Sztromajer brings us the Leningrad.

Ian Bock tells of Stereo in the Digital Age.

Herb Parker tells of his Digital Wish List.