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N150mm F/4.5L lenses for the Mamiya 7 camera.

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IS BIGGER BETTER?

One of the attractions of going to a larger format, at least for the long-term 35mm user, is the thought of the frame being covered with the micro detail of which a good 35mm camera lens is capable. But it does not necessarily work that way. Leaving aside aspect ratios, if you scaled up a miniature camera lens to cover 6X7, increasing the focal length would magnify the residual aberrations in proportion. So no more information would be recorded. What you would gain, though, is in the number of silver grains or dye corpuscles imaging a given area of the subject. That can mean smoother gradation of grey tones or colour hues - enhanced overall image quality and a more professional result.

In practice, medium and large format lenses are not just scaled up but rethought and optimised for the image circle required. Nevertheless, say an 80mm lens for a 90mm diagonal cannot be expected to cover it with the micro detail of one for the 43mm diagonal of the 35mm frame. But the best will record substantially more detail, as well as giving the much better tonal and colour subtlety already described. Such lenses are inevitably costly.

In the past, Japanese roll-film format lenses were variable in engineering quality and optical performance, very likely built to be price competitive. Over the past ten years the approach has substantially changed and, nowadays, designs are of a very high calibre - and so, necessarily, are the prices. The 43, 65, 80 and 150mm lenses for the Mamiya 7 reported here cost £2115, £1233.75, £998.95, and £1351.25 respectively.

From the designers' point of view a coupled rangefinder camera lens brings a bonus to performance. Because of the mirror action an increasing constraint is introduced as the focal length of an SLR decreases. Its back focus must be longer than its focal length - just when design becomes more complex to give the wider view angle. In a CRF, short focal-length lenses can recess almost up to the film plane, freeing the designer from retro-focus problems. The Mamiya 7's 43mm lens rear glass is only 18mm from the film plane.

Mamiya 7 - the lenses

The new Mamiya 6X7 format camera boasts four lenses; Geoffrey Crawley puts them through their paces

For the Mamiya 7 four lenses are available - 43, 65, 80 and 150mm, compared with the three for the 6MF - 50, 75, and 150. Again, 150mm is about as long as can be reasonably framed in a fixed magnification, here X0.57, direct vision viewfinder. The 43mm view angle exceeds that of the camera finder and an accessory one fits in the camera shoe. The bright-line finder frames for the other lenses show ca 83% of the photographed area and compensate for parallax as the lens is focused.

The rectangular 6X7 frame makes for more comfortable viewing than a direct vision 6X6 one. Being on the left end of the camera, left-eyed users have no encounters with the film wind lever. In fact there is somewhat better support with it at the left eye since the length of the camera back is then pressed flat against the forehead. Fool- and reviewer-proof interlocks prevent lens interchange until the gate masking curtain has been drawn across and the film wound on. The tripod bush is 25mm to the left of the optical axis. This allows the camera to be fitted to a tripod head up to about 80mm across while

leaving access to the curtain lever to change lenses.

But it inevitably means removing the camera from a tripod to reload film, since the pop-out lug for the take-up spool is clamped by the head. One can live with such quirks, especially as this is essentially an eye-level, hand-held camera. The lenses lock home in the bayonet fitting with zero play. You will not find any that do so more securely, especially as on the Mamiya 7, the lens box does not retract. You must align the white dots and give a short clockwise turn.

One query may be settled at the outset: you cannot swap lenses between 6MF and 7. They are incompatible, not so as to make things difficult, but because the back-focus is necessarily different. Their livery, like that of the camera body, is the same: handsome black anodising with white inking of markings, and the foot scale is in yellow. Focusing movements are firm and precise. The maximum apertures, f/4 or 4.5, are not large but they keep down size and weight, and the quality of modern fast films means wider apertures will not usually be missed.

N43MM F/4.5L

This lens is the show-piece of the new camera. Its view angle is 92° on the 6X7 diagonal, 78° on the horizontal, which is often more to the point. Roughly equivalent to a 21mm lens on 35mm, it is a handsome chunk of glass weighing 390g.

Deeply recessing in the camera it extends only 44mm from the flange, 62mm with the hood. Using 10 elements in 6 groups, it has an essentially symmetrical construction. That bodes well, as usual, for good drawing maintained across the focusing range, here down to 1m. It also gives good shape retention in out of focus planes, optimising field depth. Minimum aperture is f/22, reached in click whole stops.

It comes complete with an accessory-shoe fitting, direct viewfinder which has diopter correction. There is a bright-line frame with marks for infinity and one metre, and for the 35mm panorama format. A bubble spirit-level disc is visible below the frame, imaged from the actual one on top of the finder. The eyepiece has a soft rubber eyeshield, which spectacle wearers can fold back. On equipment of this quality a finder which tilts when set to the subject



■ Above: The N150mm f/4.5 L.
Right: N43mm f/4.5 L..



distance might have been useful but a different levelling device would be needed. Since one cannot expect perfect tight framing with a direct vision finder anyway, it's perhaps best as it is.

From its description, Mamiya are very proud of this lens, pointing to the design freedom given by the ability to recess it in a CRF body. The claims for good drawing and suppression of lateral colour aberration were borne out on test. And it gave a sharp image across the frame at full aperture with high contrast. The part stop to f/5.6 crispens up, and by f/8 very fine detail is very well defined. As regards vignetting, also claimed to be reduced, the review sample showed an anomaly. The top left corner only showed fall off – maintained at all apertures – with or without lens hood. Only significant with less than full exposure, it could be due to off-centring or a shutter blade fault. In any event, it did not detract from the view that this is an outstanding state-of-the-art design.

N65MM F/4L

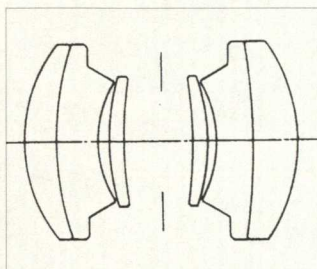
This is a 'normal' wide-angle lens with a 69° diagonal, 56° horizontal view, roughly equivalent to a 32mm on 35mm. It recesses a little in the camera and extends 65mm from the flange; weight 380g. It has a capable hood with a window so as not to mask the viewfinder. It uses 9 elements in 5 groups in a basically symmetrical construction and minimum focus is again 1m.

On test, like its wider fellow, drawing was all but ruler straight with sharp high contrast coverage across the frame at full aperture f/4, and vignetting free. At f/5.6 very fine detail sharpened to become really crisp at f/8. One could hardly expect more.

N80MM F/4L

The standard lens of the Mamiya 7 gives a 58° diagonal, 47° horizontal view, equivalent roughly to a 39mm on 35mm. Taking the old criterion of the length of the format diagonal as the 'normal' focal length would give 90mm as standard. (For 35mm it is 43mm.) So the lens is somewhat wide-angle, remembering that 80mm is a standard for 6x6, for which it is 'normal' on the diagonal. Such theory aside, it works well on 6x7 and, more often than not one prefers a standard lens with a good view span rather than a narrower one.

At 290g it is the lightest of the four and extends only 56mm from the flange. Closest focus, again 1m. Developed from the 75mm f/3.5 for



■ The 80mm f/4 standard lens is a fully symmetrical design.

the 6MF, it uses 6 elements in 4 groups and is as near symmetrical as you will find.

The test pattern of the two wider lenses was broadly repeated once more with good drawing – a trace of barrel, top and bottom of the frame was negligible. Sharpness to the frame corners at full aperture f/4 was still better, as might be expected from the longer focal length. The crispening at f/5.6 was finally hardened at f/8. A worthy 'standard' lens.

N150MM F/4.5L

This telephoto construction, related to the Sonnar type, uses 6 elements in 5 groups giving 34° diagonal, 26° horizontal view, as about a 71mm

on 35mm. Focusing is to 1.8m and minimum aperture f/32. It extends 96mm from the flange and weighs 520g. This is the classic head-and-shoulders portrait focal length for 6X6 and on 6X7 works equally well, giving a natural vertical portrait format. It balances well on the camera, and is convenient to use for candid work. After an SLR the comparatively small bright-line frame may be a little disturbing, but one soon learns to use it with confidence. The camera is light enough to be easy to use for the vertical format on a small tripod, remembering to attach it so the viewfinder eyepiece is at the top.

The lens uses ultra-low dispersion glass to minimise colour aberrations and coma flare. On test, the f/4.5 full aperture performance was excellent with high contrast and crisp detail across the frame. Stopping to f/5.6 and then f/8 brought in micro detail. The slight trace of pin-cushion at top and bottom of the frame would be insignificant in practice. Mamiya state it is, in effect, apochromatic; the focus shift for infra-red is, in fact, minimal. In short, a superb lens.



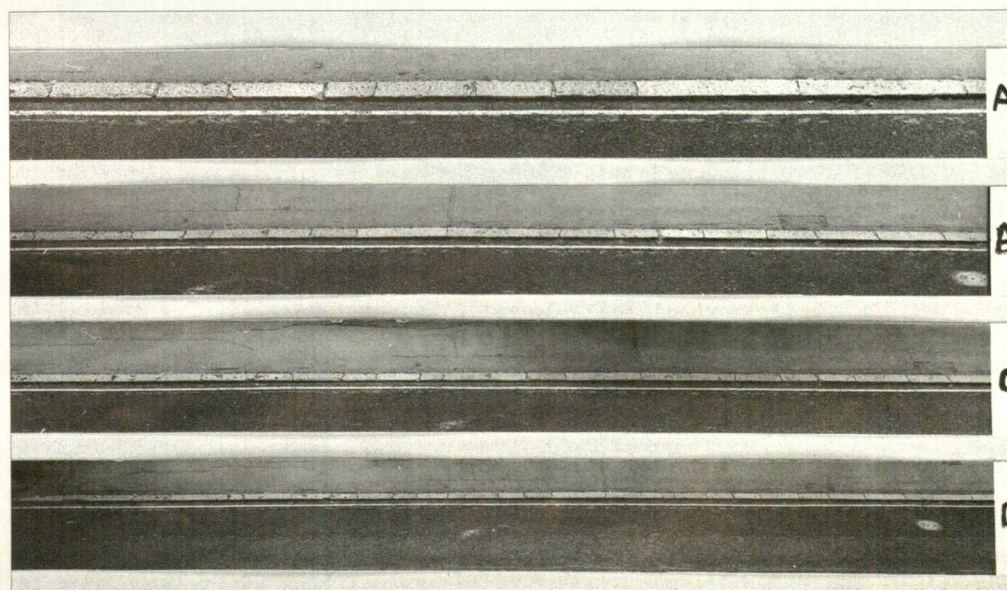
■ Horizontal view angles of the four lenses. From top: 26°, 47°, 56°, 78°. Note jump between 150mm and 80mm

OVERALL

The four lenses for the Mamiya 7 will not disappoint, they are obviously state-of-the-art designs and will fulfil the most exacting requirements. The crisp, impactful images are typical of the Japanese design philosophy which has won so many supporters round the world. In terms of span, the 63mm and 80mm are rather close together in view angle, considering the gap between 80mm and 150mm. A 110mm would fill this nicely and would be a very useful

focal length.

The camera and lens array are very desirable professional tools. The CRF roll-film camera has its own protagonists, despite the charms of the WYSIWYG SLR. The Mamiya 7 should impress them, even if they do feel it and its lenses could be a little more price competitive. Products which promote larger formats are to be applauded. As to future developments: will we see interchangeable backs coming along to further encroach on SLR territory?



■ Road test: drawing accuracy at top (and bottom) of frame. From top: 43mm, 65mm, 80mm, 150mm. Freedom from distortion of the 43mm is virtually complete. Vignetting at top left of frame, see text, may be visible. 150mm shows negligible pin-cushion

Special delivery

If the industry in general is waiting for the feel-good factor to emerge, the specialist dealers seem to be holding their own.

David Daye reports

Specialist professional dealers form a niche within the pro dealer area, providing as they do, a more dedicated product range that plays a vital part in commercial imaging. The following are just some of the specialist dealers that offer a slightly more specific product range than the norm.

Aerial Camera Systems

Tel: 01932 564885, fax: 01932 562611

Aerial photography is an area that demands specialist camera equipment and, as importantly, devices that enable such photography to take place. Aerial Camera Systems was founded 15 years ago by Peter Allwork and has established itself firmly as a company that provides an array of ready-made and customisable equipment for aerial use.

Specialised equipment available includes stable camera platforms that can be fitted into, onto and around most flying craft, providing image-making with the minimum of jitter. Cameras can be fitted to the nose cones or bellies of planes and to the sides of helicopters. One example is Vectorvision, a system that comprises a pressure-sensitive joystick for pan and tilt movements, and with an aperture of f/2.8. Used with another unit called Jet Stills 88, it allows a photographer to use a Hasselblad fitted to a jet aircraft with no loss of definition, making it a brilliant combination for air-to-air photography.

ACS also supplies gear for use in feature films, television, commercials, sports and music events.

Grays of Westminster

Tel: 0171-828 4925, fax: 0171 976 5783

Grays' speciality is Nikon equipment, from the earliest rangefinder models all the way up to the F90x.

New and high quality second-hand Nikons are on sale here. Most of the second-hand gear has been amateur-owned, so there's a good chance of finding mint or near-mint camera equipment that hasn't suffered the rigours of professional life. All second-hand equipment comes with a six-month guarantee and such is the company's confidence in the standard of its used gear that there is a 15-day money-back approval scheme on these items.

The buyer who is after Nikon ephemera is more likely to find that obscure object of desire here than in any other camera shop. With such a reputation it's not surprising that collectors as well as ordinary customers fill the shop. However, service is polite and there's none of the sales pressure found in other shops.

David S.H. Leung

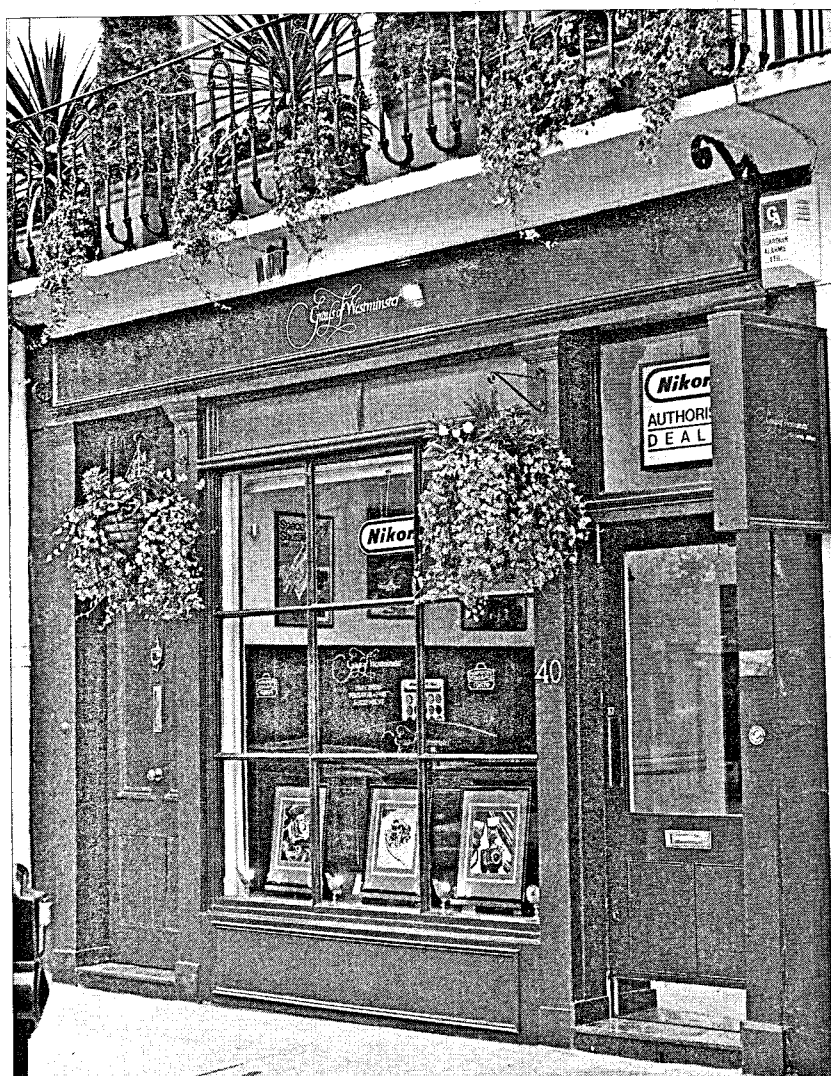
Tel: 0181-599 6657, fax: 0181 590 0293

Around 80% of this shop's turnover is professional 35mm cameras, with the bulk of it being Canon equipment. In fact, it is the UK's (and possibly Europe's) largest Canon dealer. We're talking not just EOS but also new and second-hand F1s, plus lenses and other accessories.

Alan Birch is the pro centre advisor: 'Without doubt, the most popular model sold is the EOS-1n, with the EOS 5 coming a close second. Though the EOS 5 is used as a backup, some pros tend to use it as a main camera, with its flash features being one attraction.' The EOS-1n is then relegated to backup status!

The lens most in demand at the moment is the 70-200mm 2.8L (£1400). Its staggeringly fast focusing is a strong selling point. The 28-70mm 2.8L (£1200) and 20-35mm 2.8L (£1300) follow close behind.

'Annual turnover is £200 000 to £300 000,' says Birch. 'Not bad for a small shop like ours!'



■ Grays of Westminster, stockist of all things Nikon, including ephemeral items which act as a magnet for devoted collectors.

Gordon Audio-Visual

Tel: 0171-87 3399, fax: 0171 383 7411

As the name suggests, this shop is dedicated to audio-visual products, those related to computer and AV, AV/video, and photographic. As expected there's a lot of crossover between computer and traditional AV products. Among the huge selection of products sold by Gordon Audio-Visual are tape/slide projectors, overhead projectors and trolleys.

According to Gordon Audio-Visual MD Martin Ellwood: 'The future is in video/data projectors ie

LCD video units that project images onto a screen or wall, so there'll be no need for a panel or overhead projector.'

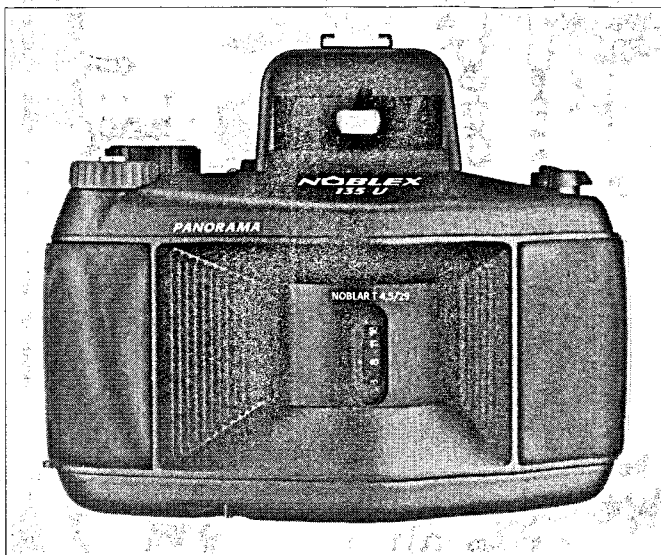
At £4 000 to £12 000 these units won't be cheap but will be invaluable for educational, commercial and corporate image and data presentations. The Telex data/video projectors, as they're known, will be distributed by Gordon Audio-Visual in October.

RK Photographic

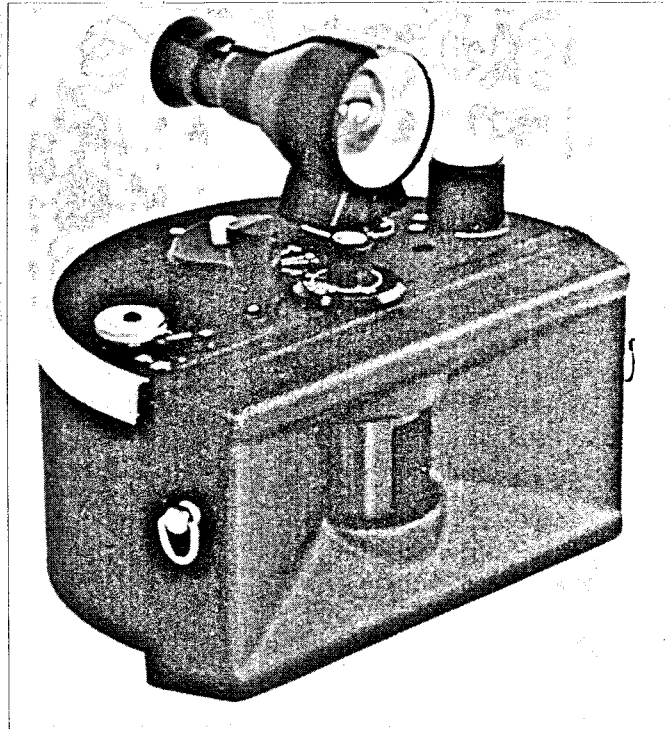
Tel: 0181-349 4568, fax: 0181 343 1047

RK Photographic justifiably calls itself The Darkroom Centre. It has a comprehensive range of darkroom 'software' ie paper, chemicals and print finishing items, as well as darkroom hardware including enlargers (Kaiser, LPL and Meopta, to name three), paper dryers, dishwarmers, glazers, developing tanks and Nova's respected range of slot processors. This is nicely balanced by a small but useful collection of photographic accessory items such as filters, stepping rings, lightboxes and background material. And if you're looking for batteries and film, they're here, too.

Around 50% of the business is in



■ Right: Noblex, from Robert White. Left: Cyclops available from the Widescreen Centre, and, below, Hasselblad; also from Robert White.



darkroom equipment, 25% paper, while the remainder is divided approximately between film, chemicals and other products.

As is traditional, darkroom purchases are a lot slower in summer than winter, although the pro market remains much the same. Black-and-white is still popular and, according to RK Photographic's Robert Watson, has been so for the past 10 years. Colour printing, thanks to RA4 processing, is increasing in usage.

The Widescreen Centre

Tel: 0171-935 2580, fax: 0171-486 1272

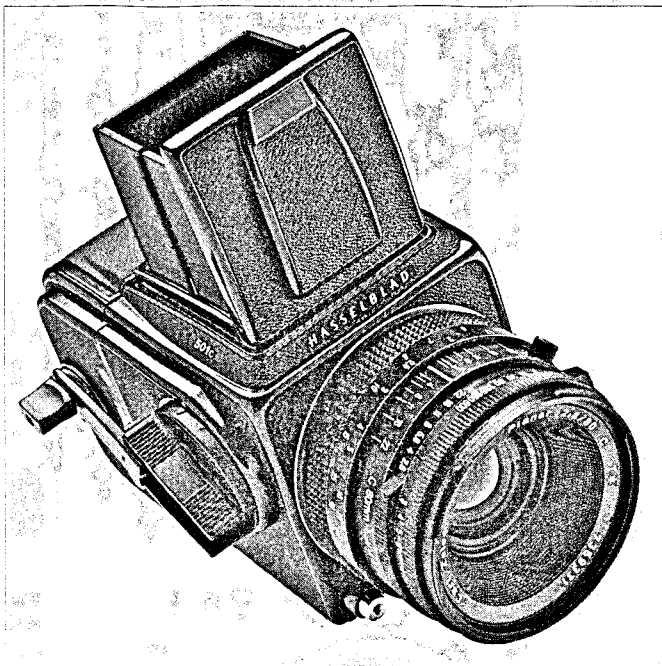
This shop seems to have cornered the market in products related to and including stereoscopic cameras, those models with binocular lenses that produce two images which, when viewed together, give a 3-D effect.

Panoramic cameras and devices experienced a surge of interest a few years back and panoramic images still have a certain appeal though, like other special effects, it's an approach that needs to be used sparingly. The Widescreen Centre still supplies a selection for the panoramic enthusiast ranging from low-cost disposable and snapshot types to the £3135 Widelux 1500 medium format panoramic camera.

Audio-visual products, still very much alive despite the threat of computer-created AV presentations, comprise another aspect of this shop's product range. Similarly, if you're looking for all things related to Super 8 and 16mm cine film then this is the place for you. And if you thought that cine was dead then you may be surprised to know that The Widescreen Centre has supplied b&w and colour Super 8 film to the BBC, Granada and MTV!

'They seem to like cine film for its characteristics and tend to use it for effect,' says Widescreen boss Tony Shapps.

'Panoramic cameras and devices experienced a surge of interest a few years back and still have an appeal though, like other special effects, it needs to be used sparingly'



Robert White

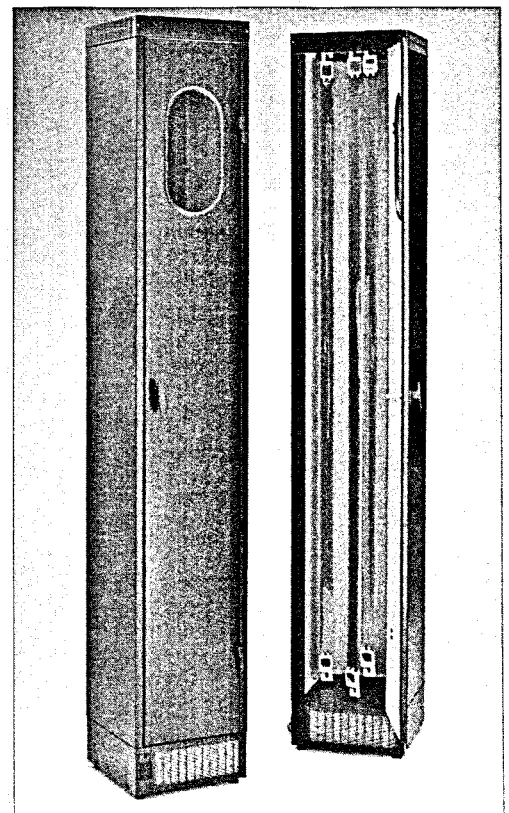
Tel: 01202 723046, fax: 01202 737428

This company specialises in medium and large format cameras and has a comprehensive range with loads of choice. Medium format brands include Mamiya, Bronica, Pentax, Hasselblad and Rollei plus panoramic medium format models including Noblex and the Fuji GX617 Panoramic with its interchangeable lenses.

Robert White also specialises in second-hand medium format equipment. In fact around 80% of the company's business is with formats larger than 35mm and around two-thirds of this is medium format.

The company can supply large format equipment up to and beyond 10x8in. A 20x24in format camera, made in the US is not beyond their reach! Large format brands stocked include Horseman (Robert White being sole UK distributor), Silvestri,

■ Right: drying cabinets available from RK Photographic



Arca and Wisner.

'Large format is still popular, especially 5x4in,' says Robert White. 'Also, 6x12cm backs to fit 5x4 cameras.' Monorail to field camera sales ratio is around 40-60.

Other products sold are Schneider and Rodenstock lenses, light meters, Bowens and Quantum flash packs. A more unusual product is the Light FX light painting system, for lighting effects in pack shot photography.

BJP