

A family affair



ZENITH

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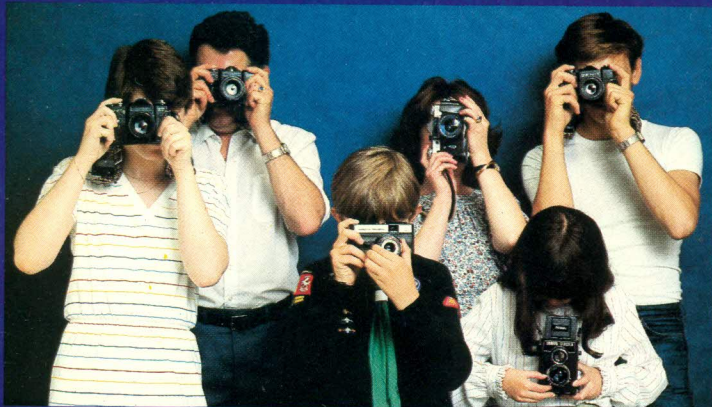
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# ZENITH + HELIOS

Photographic systems for all the family





The name Zenith has earned for itself an enviable reputation among 35mm reflex cameras. Zeniths are *system cameras* — using the fine interchangeable Helios lenses and other accessories shown in this brochure you can, for a very moderate outlay, open up for you and your family almost unlimited photographic horizons.

The Zenith Ef/2 has sold in hundreds of thousands all over the world. Its success is readily explained by the quality of its standard lens, its sound engineering, rugged strength, versatility and down-to-earth price. Its successor, the Zenith EM, added an automatic diaphragm to the established Zenith virtues and immediately won a British award for 'Best Camera Value of the Year.' The EM was soon followed by the Zenith TTL, which gives the advantages of through-lens metering, now we have the ET which is sure to prove a great favourite with the enthusiasts in the family.



T.O.E. — The home of good photography



# ZENITH TTL

Top model in the range, the Zenith TTL provides the operational advantage of stop-down through-the-lens metering. Accurate assessment of exposure is ensured no matter what accessory you might use — filter, teleconverter or whatever — the built-in CdS cell always takes its reading through the accessory in use, thus automatically compensating for its effect. The viewfinder has a coincident needle system that indicates whether there is enough, too much or too little light, for correct exposure. The Helios 44M standard lens of the Zenith TTL has been described as quite outstanding in its price range. Its automatic diaphragm remains open while you are viewing and focusing; then closes down to the preset aperture when you press the shutter release. There is manual override for depth-of-field preview. A fresnel screen with microprism spot makes for easy and accurate focusing. The rapid lever wind advances the film while resetting shutter and additive frame counter. The multi-slot take-up-spool gives easy loading. Lens mounting is by Universal 42mm thread, so that you can easily substitute standard single-pin interchangeable auto lenses and accessories. Complete with ever-ready case and neckstrap.



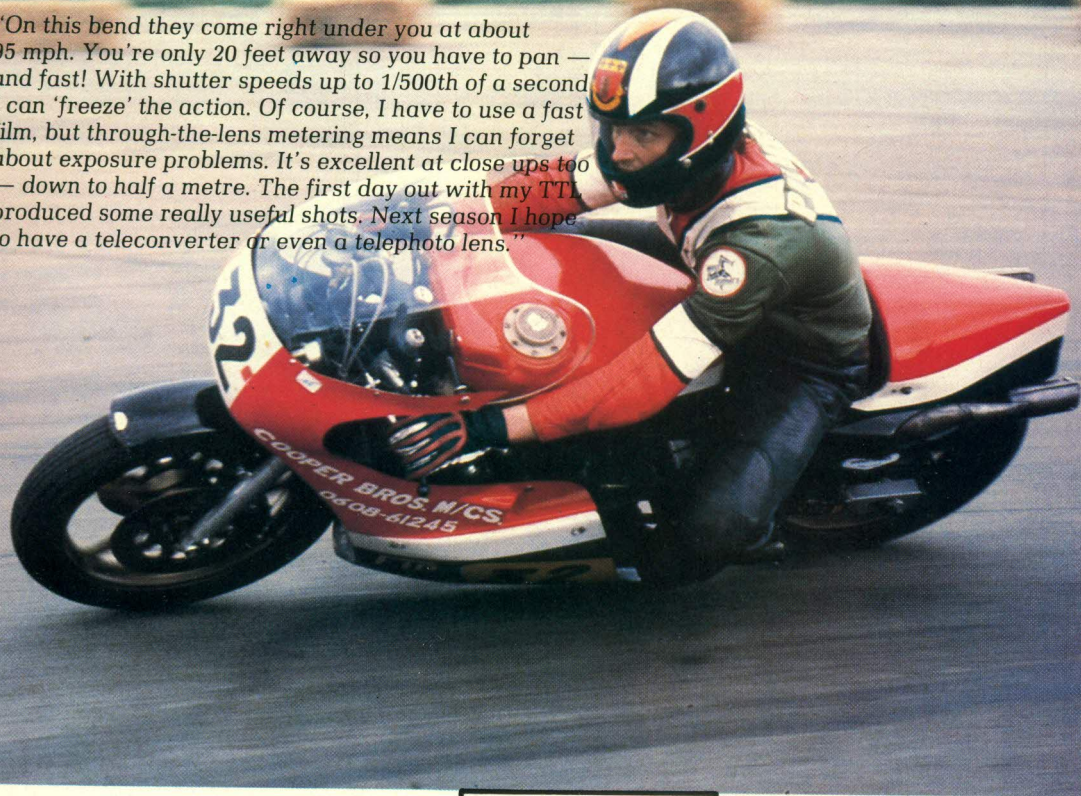
## Specification

**Standard lens:** 58mm Helios 44M, 6-element. Accepts 52mm screwmount filters. **Apertures:** f/2-f/16. **Focusing:** 0.5m-inf. **Shutter Speeds:** 1/30th-1/500th + 'B'. Electronic flash synchronised, delayed action. **Through-the-lens Light Meter:** Cds cell, powered by Mallory PX 625 battery (supplied), calibrated 16-500ASA/13-28DIN.





"On this bend they come right under you at about 95 mph. You're only 20 feet away so you have to pan — and fast! With shutter speeds up to 1/500th of a second I can 'freeze' the action. Of course, I have to use a fast film, but through-the-lens metering means I can forget about exposure problems. It's excellent at close ups too — down to half a metre. The first day out with my TTI produced some really useful shots. Next season I hope to have a teleconverter or even a telephoto lens."



### Aluminium Cases

Once Mark has acquired a few accessories, he'll need a carrying case. This one's in reinforced aluminium, is lockable, and there's a choice of five sizes. See page 24 for full range.



\*Using a teleconverter with the telephoto lens will give you a 400mm or 600mm lens.

**Full lens specification on pages 14-16**



### Teleconverters\*

Mark has a choice of two teleconverters, to inexpensively double or treble the power of his standard 58mm lens. It simply screws on between the lens and the camera body, and effectively brings his subject that much closer.

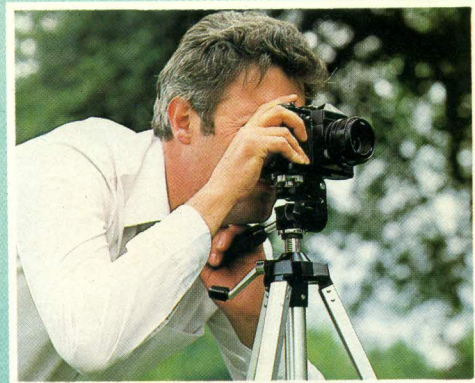


### 200mm Telephoto Lens\*

This is nearly four times as powerful as Mark's standard lens, which it replaces, so he'll have to beware of camera-shake, and possibly even use a tripod. It's also a little more expensive than the teleconverter, so probably worth mentioning near Christmas or next birthday!



# ZENITH EM

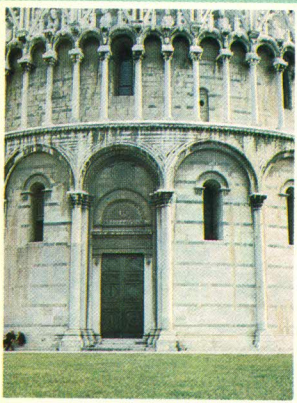


The Zenith EM is identical in specification to the TTL model, except for the metering system — a sensitive selenium cell (powered by light itself — no batteries required) provides exposure readout on the camera's top plate. Complete with ever-ready case and neckstrap.

## Specification

**Standard lens:** 58mm Helios 44M, 6-element. Accepts 52mm screwmount filters. **Apertures:** f/2-f/16. **Focusing:** 0.5m-inf. **Shutter Speeds:** 1/30th-1/500th + 'B'. Bulb and electronic flash synchronised, delayed action. **Built-in Light Meter:** Selenium cell, calibrated 16-500ASA/13-28DIN.





The last time I came to Italy was on my honeymoon, and I didn't have a camera — so this time I've bought a Zenith EM to capture those memories for good. I remember it being sunnier before . . . never mind, with my built-in light meter I can shoot confidently in any light — even inside the darkest cloisters, using the electronic flash. And with these Auto Extension Tubes I can get in really close to photograph details. I'll tell you another thing too — don't wait 'til your second honeymoon to get a Zenith EM!

### Helios Auto Extension Tubes

Screwed between the lens and the camera body, these fittings allow a closer approach to the subject than even close-up lenses. In three lengths — 11mm, 20mm and 30mm — they may be used singly or in combination.

Universal 42mm thread fitting.



### Handybag

An ideal 'walkabout' bag in tough, water-repellant material with grained vinyl trim. Padded for knock-protection; features four internal partitions, side pockets, protective feet and adjustable shoulder strap.



### Mini Tripod

The 'go anywhere' lightweight mini tripod which fits in your carrying bag — 22cm long when closed, 43cm extended; weight 575g. Complete with case.

For full range of accessories see pages 14-17 and 22-27.



# ZENITH ET



This value for money camera is available with the Helios 58mm as standard. Amongst it's many outstanding features are: a fresnel type screen with microprism spot, hot shoe flash synchronisation, rapid lever wind, multi slot take-up spool and rapid crank rewind. Complete with every-ready case and neckstrap.

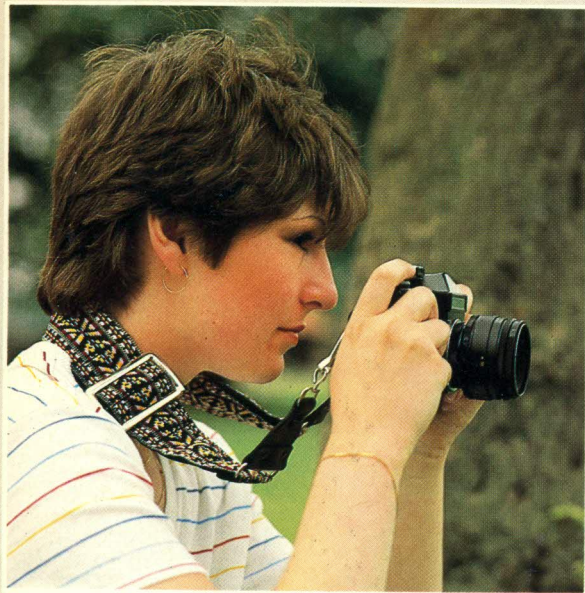
## Specifications

### Zenith ET f/2

**Standard lens:** Helios 44, 58mm 6-element, with pre-set diaphragm. Accepts 49mm screwmount filters. **Apertures:** f/2-f/16. **Focusing:** 0.5m-inf. **Shutter speeds:** 1/30th-1/500th sec + 'B'. **Built-in Light Meter:** Selenium cell, calibrated 16-500 ASA/13-28DIN.







*The ET was a present from Mum and Dad when I passed my exams. I thought I'd grow bored with it — you know, not enough gadgets, too simple — but the more I used it, the more subjects I found it would cope with. In fact I'm only just getting round to experimenting with the filters. I don't just take snaps anymore, I go out looking for shots — these landscapes, for instance, I took on a cold autumn morning soon after dawn when the water was perfectly still and the sky crisp and clear. The ET must be the only thing to have made me get up before sunrise — since I left school, anyway!*





# ZENITH E

## Zenith E f/2 Zenith E f/3.5

Both these fine cameras have the same specification except for the standard lens. They have sensitive built-in selenium cell light meters calibrated 16-500ASA/13-28DIN, and their 42mm Universal thread lens mounts accept interchangeable lens and accessories. They are synchronised for bulb and electronic flash. Both are supplied complete with every-ready case and strap.

## Specifications

### Zenith E f/2

**Standard lens:** Helios 44, 58mm 6-element, with pre-set diaphragm. Accepts 49mm screwmount filters. **Apertures:** f/2-f/16. **Focusing:** 0.5m-inf. **Shutter speeds:** 1/30th-1/500th sec + 'B'.

### Zenith E f/3.5

**Standard lens:** Industar 50, 50mm 4-element, with manual diaphragm. Accepts 33/35mm screwmount filters. **Apertures:** f/3.5-f/16. **Focusing:** 0.65m-inf. **Shutter speeds:** 1/30th-1/500th sec + 'B'.



E f/2

E f/3.5





*With my sister's boys on our boat for the weekend I didn't think I'd have a moment to spare, but they were more interested in fishing than boating, and I had plenty of time to myself. So I got out my Zenith E and took some shots of the boat and the boys. It was such a lovely day, and with the wide-angle lens on I could capture the atmosphere of the whole river. Well, I must have got carried away, because suddenly they all came aboard for lunch, and there I was again without a moment to spare!*



**Helios  
Auto 28  
Wide-angle Lens**

*Simply replaces standard lens to provide a wide angle of view and great depth of field for landscapes. Full specification on page 14.*



# ZENITH PHOTOSNIPER

An impressive and unique outfit for long-range telephoto work. Shoulder-butt and pistol-grip give a steady balanced hold without the use of a tripod. The camera supplied is the Zenith ES with built-in light meter, mounted with a Tair 3PS 300mm lens. Focusing is swift and simple, by means of a knurled ring below the lens barrel, and is assisted by a bright image in the extended eyepiece, shaded by a rubber eyecup. The camera, basically the Zenith E, has an extra shutter release button in the base, fired by pressure on the trigger which operates the lenses pre-set diaphragm virtually simultaneously. The Tair 3PS lens has a semi-auto diaphragm click-stopped  $f/4.5-f/22$ , focusing 3m-inf. In addition to the Zenith camera, Tair lens and mountings, the Photosniper outfit includes a standard Helios 58mm  $f/2$  lens, five 72mm screwmount filters, reloadable film cassettes, rubber lens hood, front and back lens caps, and a sturdy metal carrying case with leather shoulder straps and handle.







'Does this box have lunch in, Bob?'  
'No, it's my Zenith Photosniper. I'll show you how to set it up.'  
'O.K. . . . so what's this?'  
'This is the shoulder butt, and this is the pistol grip, to help keep it steady because I'm using such a powerful lens.'  
'And that piece?'  
'The lens hood — stops glare from the sun.'  
'And this?'  
'That's the lens. 300mm — distance no object. It's as if you were up there in the trees with them. And to shoot we literally squeeze the trigger . . . like this . . . and this . . . and . . . that's it. I'm finished.'  
'So what now?'  
'How about lunch?'





# REFLEX LENSES

MTO 1000A

## ZENITH FITTING

The Zeniths are system cameras — and these pages show just how much we mean by that. Whether your Zenith has a manual or automatic diaphragm, there are lenses and accessories here to give you all the scope you could wish for.

All have the Universal 42mm thread to fit your Zenith and all have been chosen to give you quality and value.



Specifications	Helios Auto 28	Helios Auto 35	Jupiter 9 A Med Telephoto	Helios Auto 135	Jupiter 11A Telephoto	Helios Auto 200	Helios Auto 300	MTO 500A (or MTO 3M-5A) Mirror Lens	MTO 1000A Mirror Lens
Focal length:	28mm	35mm	85mm	135mm	135mm	200mm	300mm	500mm	1100mm
Construction:	7 elements in 6 groups	5 elements in 5 groups	7 elements in 3 groups	5 elements in 5 groups	4 elements in 3 groups	4 elements in 4 groups	5 elements in 5 groups	Catadioptric system 4 elements in 3 groups	Catadioptric system 5 elements in 3 groups
Angle of view:	75°	63°	28°	18°	18° 30'	12°	8°	5°	2.5°
Distance scale:	0.4m-INF	0.5m-INF	0.8m-INF	1.5m-INF	1m-INF	2.5m-INF	4m-INF	4m-INF	10m-INF
Diaphragm:	Fully auto/manual f/2.8-22	Fully auto/manual f/2.8-22	Manual preset f/2-16	Fully auto/manual f/2.8-22	Manual preset f/4-22	Fully auto/manual f/4-22	Fully auto only f/4.5-22	Fixed at f/8.5	Fixed at f/10.5
Filter size:	58mm	55mm	49mm screw	52mm	52mm screw	55mm	72mm	77mm screw	120mm
Length:	63mm approx.	63mm approx.	57mm approx.	72mm approx.	92mm approx.	135mm approx.	164mm approx.	175mm approx.	278mm approx.
Weight:	238g approx.	200g approx.	350g approx.	290g approx.	400g approx.	425 approx.	780g approx.	1.1kg approx., supplied complete with 4 filters in fitted leather case.	3.6kg approx., supplied complete with 3 filters in fitted leather case.





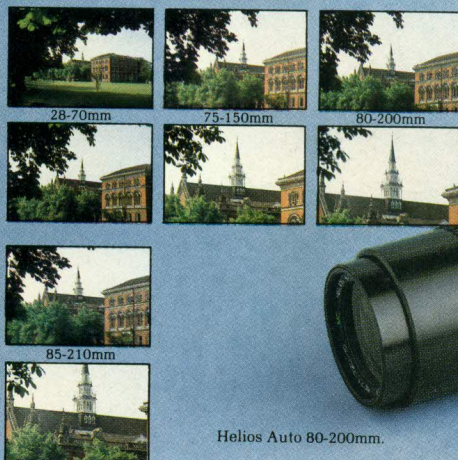
Helios Auto 300

Helios Auto 200

Jupiter 11A

## Helios Auto Zoom Lenses

Between them, these four lenses cover the whole gamut from wide-angle through to long telephoto. Each is infinitely adjustable throughout its range and two have a macro-focus facility which allows really close-up focusing.



28-70mm

75-150mm

80-200mm

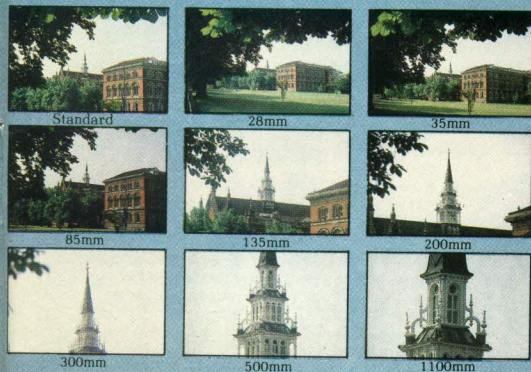
85-210mm

Helios Auto 85-210mm.

Helios Auto 75-150mm.

Helios Auto 80-200mm.

Helios Auto 28-70mm.



Standard

28mm

35mm

85mm

135mm

200mm

300mm

500mm

1100mm

Specifications	Helios Auto 28-70mm close focus	Helios Auto 75-150mm non-Macro	Helios Auto 80-200mm non-Macro	Helios Auto 85-210mm Macro Zoom
Focal length:	28-70mm	75-150mm	80-200mm	85-210mm
Construction:	13 elements in 13 groups	9 elements in 7 groups	12 elements in 9 groups	12 elements in 9 groups
Angle of view:	74°—34°	32°11'—16°25'	29°22'—6°21'	28°30'—11°30'
Distance scale:	2.1m (close focus 0.23m)—INF	1.9m—INF	1.5m—INF	1.7m (macro 0.71m)—INF
Diaphragm:	Fully auto only f/3.5/3.8-16	Fully auto only f/3.8-22	Fully auto only f/5.6-32	Fully auto/manual f/3.8-22
Filter size:	67mm	55mm	49mm	58mm
Length:	98mm approx.	115mm approx.	123mm approx.	163mm approx.
Weight:	465 approx.	400g approx. One touch zoom Multi coated	440g approx. One touch zoom Multi coated	612g approx. Macro Magnification Ratio: = 1:10 to 1:3 (maximum).

Due to a policy of continual development specifications may be subject to alteration without prior notice.



# HELIOS

## MULTICOATED LENSES

### (Alternative fittings)

The range of Helios Lenses has now been extended to include fittings for other popular camera marques.

The lenses are of a superior multi-coated type which improve colour rendition, give greater contrast and have better light rendition. In all cases the mounts are purpose made (not adaptors). All lenses shown here are available with a choice of Pentax-K, Olympus-OM, Canon or Nikon mounts, possibly with minor variations in specification.



Specifications	Helios Auto 28MC	Helios Auto 135MC	Helios Auto 200MC	Helios Auto 300MC	Helios Auto 28/70MC	Helios Auto 70/140MC	Helios Auto 85/210MC
Focal length:	28mm	135mm	200mm	300mm	28-70mm	70-140mm	85-210mm
Construction:	7 elements in 7 groups	5 elements in 5 groups	5 elements in 4 groups	7 elements in 6 groups	15 elements in 13 groups	8 elements in 7 groups	12 elements in 9 groups
Angle of view:	74°28'	18°	12°	8°	74°—34°	34°20'—17°34'	28°34'—11°46'
Distance scale:	0.3m—INF	1.5m—INF	2.7m—INF	3m—INF	2.1m (close focus 0.23m)—INF	1.9m—INF	2.5m (macro 0.365m)—INF
Diaphragm:	f2.8—f/22 Auto only	f/2.8—f/22 Auto only	f3.5—f22 Auto only	f5.5—f/32 Auto only	f/3.5—f/16 Auto only	f/3.8—f22 Auto only	f3.8—f22 Auto only
Filter size:	49mm screw	52mm screw	52mm screw	58mm screw	62mm screw	49mm screw	58mm screw
Length:	60.8mm	72mm	105mm + Built in hood	155mm + Built in hood	98mm	110.5mm + Built in hood	140.5mm + Built in hood
Weight:	180g	290g	450g	510g	456g	405g	605g

Due to a policy of continual development specifications may be subject to alteration without prior notice.



# HELIOS

## ACCESSORIES

### Helios Close-up Lenses



The simplest way — they screw on to your standard lens like a filter. No exposure adjustment is needed. Available in powers of 1, 2 or 3 dioptres. 52mm or 49mm screwmount.

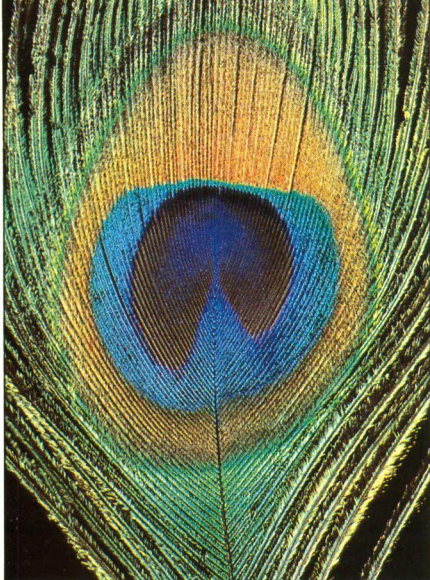


### Helios Auto Extension Tubes

A set of three in 11mm, 20mm and 30mm lengths. Used singly or in combination they allow an even closer approach to the subject than close-up lenses. Reproduction ratios 1:10 to 1:1 with standard lens. Universal 42mm thread fittings. A similar set of Zenith manual tubes is also available.

### Helios Filters

Skylight. Ultra-Violet and 2x Yellow, all available with 52mm or 49mm screwmounts.



### Helios Teleconverters

These fine quality fully coated 4 element converters, in 2x and 3x magnification powers, fit between the camera body and lens in use and double or treble the focal length of that lens. A standard lens becomes a useful 100mm plus portrait lens or a telephoto in excess of 150mm, for example. Both models operate with auto/manual diaphragm and come complete with case. Universal 42mm thread fitting.

### Zenith Macro Bellows

A sturdy unit providing rack and pinion focusing over a continuously variable range (far more flexible than the fixed definite steps of extension tubes) and reproduction ratios 0.8x to 4.2x with standard lens. Rotating, lockable camera and lens mounts. Universal 42mm thread fitting.

### Helios Macro Bellows

As detailed above but with Pentax-K, Olympus-OM and Canon or 42mm screw fittings.

**Adaptor Kits** for 42mm mount version owners (camera and lens mounts) for Pentax-K, Canon and Olympus-OM are available.





# LUBITEL 166B



*We had a school trip to Holland last summer, where I took this photo. Uncle Jim taught me how to use my Lubitel properly — it's just like any other camera really, but looks different and takes bigger square pictures. Anyway, our teachers were very impressed to see me use it. When we got back we had to do a project on our trip to Holland, and I did a slide show and came first. Thank you Lubitel.*



Hard-bitten professional photographers have gone on record as saying that the Lubitel is a camera of astonishing quality and performance for its price. This latest version is a twin-lens reflex camera taking 12 exposures 2¼" square on 120 roll film. Operated at waist level it gives you a bright clear image on the viewing screen, with a ground-glass centre spot and a flip-up magnifier for easy accurate focusing. It has a direct-vision sports finder too, quick-release spool-holders for easy film loading/unloading and accepts standard 40.5mm screw filters.

## Specification

**Viewing Lens:** f/2.8.

**Taking Lens:** 75mm, 3-element f/4.5 anastigmat fully coated.

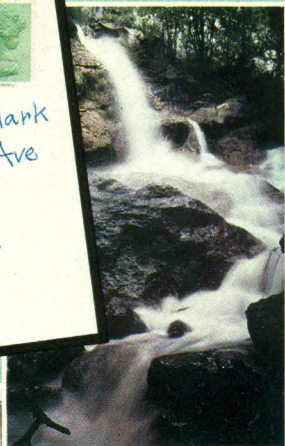
**Focusing:** 1.4m-inf.

**Apertures:** f/4.5-f/22.

**Shutter Speeds:** 1/15th-1/250th sec + 'B'. Flash synchronised. Delayed action. Supplied complete with ever-ready case.



# COSMIC SYMBOL



Though inexpensive, the 35mm Cosmic Symbol, with its very good optical glass lens, can produce surprisingly excellent results. An ideal choice for children or beginners, it has distance and weather symbols in addition to normal calibration — and a double-exposure prevention device too. Direct optical view-finder, quick-loading take-up spool, single-stroke lever wind, fast crank rewind and simplicity of loading and unloading also make things easy for the beginner.

## Specification

**Lens:** 40mm, 3-element hard-coated optical glass.  
**Focus:** 1m-inf.  
**Apertures:** f/4-f/16.  
**Shutter speeds:** 1/15th-1/250th sec + 'B'. Flash synchronised (hot-shoe contact). Supplied complete with ever-ready case.



# COSMIC LOMO 135BC

This ultra-compact full frame 35mm camera with integral springwound motor makes picture taking a pleasure. The film transport and shutter mechanism recycles automatically at the rate of 2 to 3 frames per second and upto 8 pictures are produced per wind making an easy task of sequence photography. Also features dial-in weather and subject symbols for exposure control, focussing by zone symbols or standard scale with distance setting indicator appearing in the brightline viewfinder, fast crank rewind and auto-resetting frame counter.

## Specification

**Lens:** 40mm, 3 element hard-coated optical glass.  
**Focusing:** 1m to inf.  
**Apertures:** f/2.8 to f/22.  
**Shutter Speeds:** 1/15th to 1/250th sec. + 'B'. Flash synchronised (hot-shoe contact).  
**Dimensions:** 108 x 81 x 87mm.  
**Weight:** 490gm.  
Supplied complete with pouch case and wrist strap.



Nobody at school believed my cousin raced speed-boats until I took these pictures in. The whole family went down for the day and we met Auntie Doris and Uncle Jim there. They all had cameras, but not even Uncle Jim had a motor-drive on his, so I took the best pictures of the day — because once my Lomo is fully wound I can take 8 shots in quick succession. Well, my cousin thought they were the best, anyway.



# HELIOS 110A

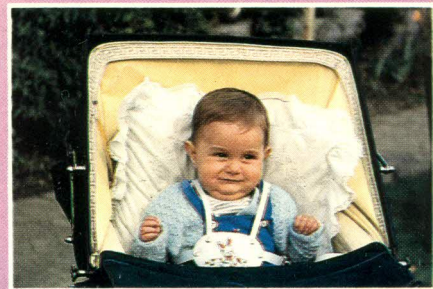


The pocket camera that's big on features, like built-in electric Auto-winder and 'pop-up' electronic flash to name just two. Simplicity itself to operate — insert any 110 film cartridge and the film is automatically wound to the first frame, after that you need never miss another interesting picture since the film is wound on for you at each press of the shutter release. When you've finished taking pictures the film is automatically wound off without further ado. If lighting conditions dull over or when indoors simply raise the built-in flash for extra light. You get direct continuous viewing through the brightline viewfinder with its parallax correction marks while an extra large shutter release helps reduce the risk of camera shake.



## Specification

**Format:** 13x 17mm, using standard 110 film cartridges of 12, 20 or 24 exposures for prints or slides.  
**Lens:** Wide angle 20.5mm, 4 element, colour balanced optical glass. Fixed focus 1.5m (5ft) to infinity.  
**Apertures:** f/9.5 for non-flash photography, f/4 for photography with flash.  
**Shutter Speeds:** 1/125th sec. for 100ASA, or 1/250th sec. for 400ASA. (Set automatically according to film speed).  
**Power Supply:** Two 1.5 volt 'AA' size Alkaline batteries (Mallory MN 1500 or equivalent).  
**Dimensions:** 177 x 57 x 37mm  
**Weight:** 200g (without film and batteries).  
Supplied complete with attractive box and wrist strap.



The kids laughed when I said I'd bought a camera I can't forget to wind — it's all done by batteries inside it — all I have to do is aim it and press the button. There's no other adjustment to make, except when it's too dark, and then I just have to pop up the built-in flash unit on top. So indoors or out, it's ready to shoot without delay. And because it's so small and light I can leave it round my wrist while I walk about, or tuck it neatly into my handbag.





# HELIOS

## FLASHGUNS

Every photographer needs a flashgun, whether it be just for the occasional family gathering, or for more serious 'studio type' work and the like, where special lighting effects are often required. With five models to choose from, you're bound to find the ideal gun to suit **your** needs!



**Helios 55 Auto**  
A 'grip-type' computer gun with camera fixing bracket. Thyristor circuitry. Bounce head, auto check, three power ranges in auto and manual modes.



### Helios 28

An easy-to-use, manual unit with a high light output for its size — an ideal match for compact cameras.



### Helios 36 Auto

A higher powered gun with the computer sensor giving the advantage of two auto modes in addition to manual operation.



### Helios 50 Auto

A computer gun with power saving thyristor circuitry, manual and two auto modes, auto check signal, bounce head with zoom facility for 28-170mm focal length lenses.

	Helios 28	Helios 36 Auto	Helios 50 Auto	Helios 55 Auto	Helios 60 TF Auto
GN (100ASA/M)	17	22	30	30	35
Auto Apertures	None	f/2 & f/4	f/2.8 & f/5.6	f/2.8, f/5.6 & f/11	f/2, f/4 & f/8
Auto Range	None	0.7 to 5.4m (max) 0.7 to 2.7m (min)	2 to 11m (max) 1.5 to 6m (min)	1 to 10.4m (max) 1 to 2.7m (min)	2 to 20m (max) 0.7 to 5m (min)
Power Source	DC, Two 1½v AA size batts.	DC, Four x 1½v AA size batts.	DC, Four x 1½v AA size batts.	DC, Four x 1½v AA size batts.	DC, four x 1½v AA size batts.
Recycling Time	7 secs (min)	7 secs (min)	0.5 to 6 secs	0.5 to 10 secs	0.2 to 10 secs
Flashes per battery set	80 to 250	80 to 250	120 to 800	120 to 1200	120 to 700
Flash Duration	1/5000th sec.	1/1500 to 1/30,000th sec.	1/1000 to 1/30,000th sec.	1/1000 to 1/1500th sec.	1/1000 to 1/30,000th sec.
Connection	Locking Hot Shoe or coaxial cable	Locking Hot Shoe or coaxial cable	Locking Hot Shoe or coaxial cable	Coaxial cable	Locking Hot Shoe or coaxial cable
Flash Head Movements	None	None	0°, 45°, 60°, 90° Bounce	0°, 30°, 60°, 90° Bounce	0°, 45°, 60°, 75°, 90° Bounce 0° to 345° Horizontal axis
Dimensions	97 x 65 x 52mm	93 x 43 x 126mm	118 x 76 x 79mm	105 x 80 x 195mm	110 x 85 x 95mm
Weight (W/out Batts)	110g	220g	220g	360g	355g





## Helios 60 TF Auto

As Helios 50, but with even higher light output, an extra auto range, full ¼ or 1/16th power in manual mode, and for utmost lighting flexibility, 0° - 345° horizontal rotation of the Zoom/bounce head, plus a 'fill-in' mini-head.



*I don't really know how I became the 'Family Photographer' in the first place, but now they even get me to sign their portraits 'Uncle Jim', whether I'm their uncle or not! Naturally, I encourage the family to use flashguns — and the Helios range is so easy to use and such good value for money, from the Helios 28 right up to the Helios 60 with an optical slave flash like I've got. You really can improve your photography with a Helios flashgun — and of course they make ideal gifts.*

## Helios Slave Flash Unit

For multiple flash photography, this small remote unit simply clips to the coaxial cable of the extension flashgun which is fired in automatic synchronisation by light from the main gun. Works with any combination of flashguns, indoors or out, up to 30 feet away, without the need for trailing extension cables.



## Leningrad 4 Exposure Meter



This popular and reliable selenium meter is compact and lightweight with easy-to-read dials. It is accurate and sensitive for incident and reflected light over an exceptionally wide range. Complete with lanyard and leather case.

### Specification

Film speeds: 3-800ASA/6-30°DIN.  
 Shutter speeds: 1/1000th to 15 secs.  
 Apertures: f/1.4-f/22.  
 Cine Scale: 8 to 64fps.  
 Dimensions: 75 x 53 x 28mm  
 Weight: 75g (without case)

## Helios Cds 1 Exposure Meter



A highly sensitive pocket sized Cds exposure meter with all controls (high/low light switch, sliding incident light baffle, battery test button) designed for quick and easy 'one-hand' operation. Complete with zip-up case, lanyard and PX625 battery.

### Specification

Film speeds: 6 to 6,400ASA/9 to 39 Din  
 Shutter speeds: 1/2000th to 30 secs  
 Apertures: f/1.4 to f/45  
 Cine Scale: 8 to 72 f.p.s.  
 Dimensions: 90 x 53 x 20mm  
 Weight: 65g (with battery only)



# HELIOS

## ACCESSORIES

### Helios Aluminium Cases

A range of five sturdy reinforced outfit cases, finished in smart heavy duty aluminium with bright metal trim. All complete with strong carry-handle and locks, two keys and clip-on shoulder strap. Model Nos. TAC-1, TAC-2 and TAC-3 are suitcase style with foam padded lid and base plus replaceable 'diced foam' block, (simply pull out the cubes to the shape and depth required to fit your camera outfit). Model No. TAC-4 is suitcase style, as above, but with rubberised grooved interior and adjustable partitions instead of foam block. Model No. TAC-5 also makes use of rubberised grooved interior and

adjustable partitions, but is an ingenious cantilevered 'toolbox' style with three compartments that fully utilise available space while simultaneously providing ready access to the most comprehensive camera system.

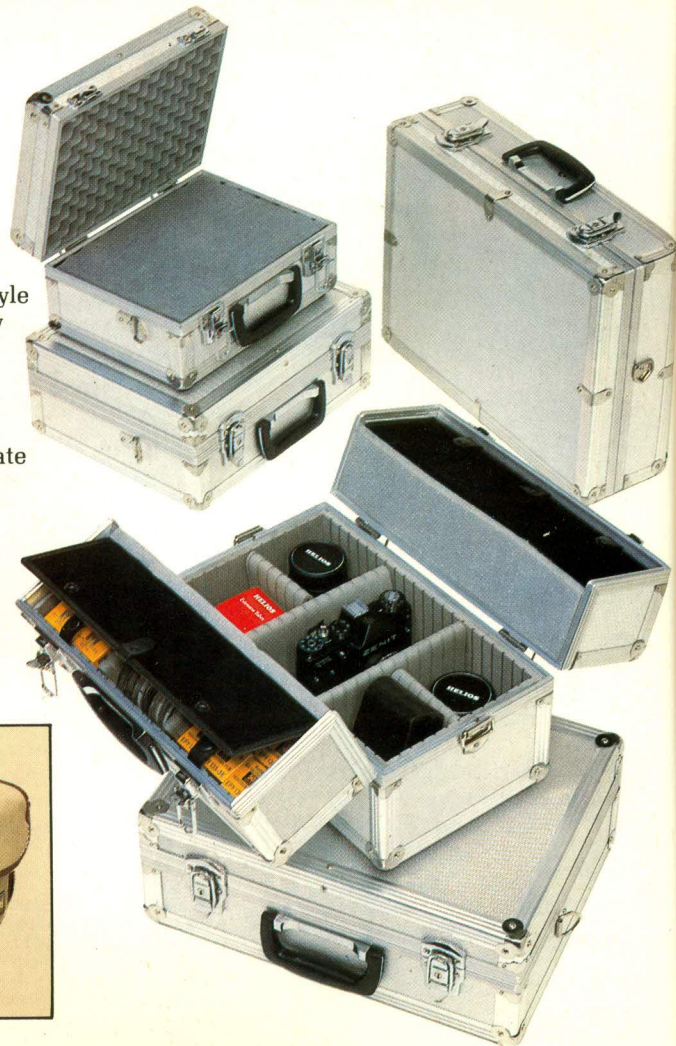
Internal dimensions (all approximate and quoted as Length x Width x Height) are:

TAC-1	-	340 x 270 x 70mm
TAC-2	-	385 x 285 x 75mm
TAC-3	-	285 x 210 x 80mm
TAC-4	-	415 x 300 x 85mm
TAC-5	-	330 x 180 x 100mm

(main compartment plus twin lid compartments — 33 x 85 x 85mm)

### Helios Handybag

Lightweight (just 375g) padded holdall in soft water-repellent military style green material with contrast brown grain vinyl trim. Main compartment (internal dimensions 240 x 125 x 160mm) is fitted with snaplock fastener, protective feet and four partition velcro fastening divider. Two capacious side pockets with press stud fastening. Adjustable webbing shoulder strap.







### Helios Lens Pouches

To give your interchangeable lenses that extra protection. In supple simulated leather with soft pile lining. Drawstrings form a wrist-strap for carrying. Complete with owner's name-tag. Available in 3 sizes, small (for 28/35mm lenses,) medium (for lenses up to 135mm and also ideal for the 8 x 30 Helios monocular) and large (for Zoom lenses and Telephotos up to 300mm).

### Helios 1500E

Neat and compact, yet with room for 35mm camera, interchangeable lenses, filters and other accessories, in the body of the bag and in the outer pocket. Complete with adjustable padded shoulder strap. Size: 180 x 230 x 140mm.



### Omnicad Cadet

Opening in ever-ready style, the Cadet can accommodate a complete SLR outfit. Camera, interchangeable lenses and accessories are held securely in place, yet can be taken out quickly and easily. There is a capacious pocket on the front of the case too. Complete with padded adjustable shoulder strap. Size: 255 x 180 x 165mm.



### Helios De-Luxe Holdall

Strong rigid construction, padded inside and out. Finished in heavy duty dark tan grained vinyl, interior in green. Internal dimensions, 805 x 170 x 155mm. Weight: 2.2Kg. Roomy main compartment with adjustable partitions to make into 5 compartments plus space in lid for lenses or accessories up to 30cm long and an elasticated pocket for filters and small accessories. Lid and base joined by weather proof seal and fitted with strong plated hinges, lock and key. Protective feet on base. Adjustable tripod carrying strap. Strong comfortable hand grip plus quick release padded shoulder strap.



### Helios Tapestry Strap

A strongly woven, bandolier style, neckstrap available in a variety of colourful geometric designs. Fully adjustable with quick release safety clips. Far better for day long comfort than the standard narrow camera strap.



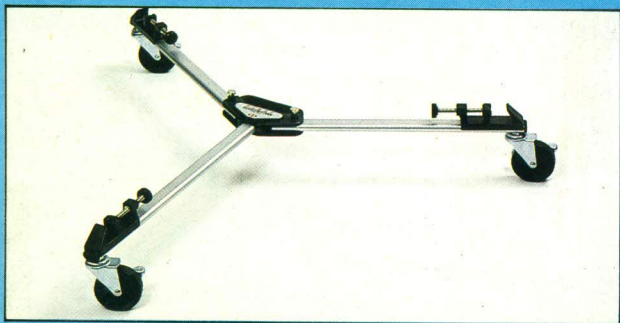
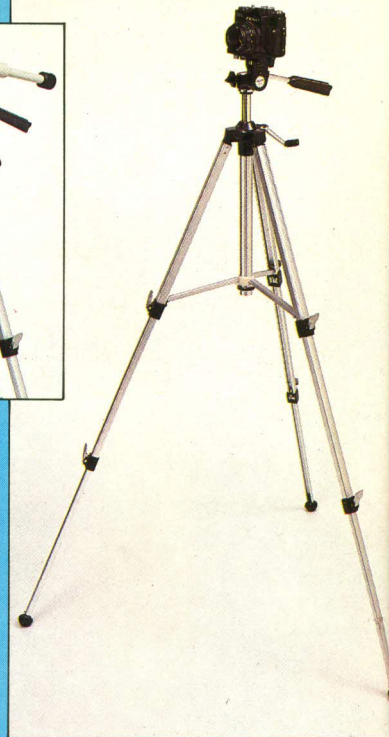
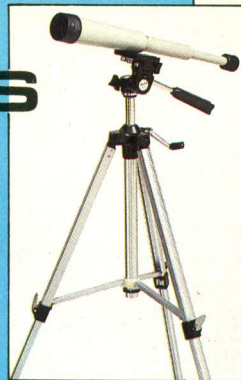
# HELIOS TRIPODS

## Helios Mini Tripod

Small and light enough to take everywhere with you — weighs just 575g, measures 22cm high, closed, 43cm fully extended, making it extremely useful for table top and location work. In an unobtrusive matt black



finish, this tripod features sturdy 3-section 'U' channel legs with positive quick release locking levers, 8.5cm twist-locked centre column fitted with 2-way pan/tilt head and comes complete with its own pouch case.



## Helios T-61 Tripod Dolly

This rigid, yet fully mobile, tripod platform is an accessory the video and movie enthusiast will appreciate — ideal also for lighting equipment and large format cameras. Silent running on 75mm castors with positive toe-action

brakes it will, when erect, take heavyweight tripods with base diameter of 84mm (leg locks adjustable up to 55mm dia), yet with its' built-in handgrip is easily portable too! (Folds down to around 550 x 150mm and weighs 1800g).



## Helios Tripod Case

A supple, simulated leather zip-up carrying case, with soft fabric lining and adjustable shoulder strap. Accepts and protects tripods with an overall size of around 550 x 90mm.

## Helios T-1 Tripod

Sturdy aluminium 3 section "U" channel legs with positive quick-release locking levers and dual spike/rubber tips plus self-erecting centre brace for extra rigidity. Height: Closed 55cm, fully extended 133cm, Weight: 2.4Kg. 28cm geared centre column with screw at base for vertical copying or low level shots. 3 way pan/tilt head with independent controls. Padded platform 60 x 80mm. Bright satin finish with matt black enamel trim. Complete with smart zip-up carrying case and adjustable shoulder strap.



# ZENITH

## ACCESSORIES

### Zenith UPA5M Enlarger

Automatic focusing is a feature of this excellent enlarger. Easily assembled, it packs away completely for transport and storage into the carrying case/baseboard. Supplied complete with lens and 75W lamp.

### Specification

**Lens:** 50mm Industar f/3.5 anastigmat, 4-element. Auto or manual focus 2.5x to 8x. Larger than baseboard (up to 20x) manual only. 24 × 36mm negative carrier. Slip-in masks for ½ frame and sub-miniature. Colour drawer accepts up to four 6 × 6cm filters. Total weight approx. 6.75kg.

### Zenith Darkroom Phototimer

A lever-wound luminous alarm with 1-minute settings up to 50 minutes maximum. For wall-mounting or table-top use. Dial 4½" diameter.

### T-200 Technical Balance

A precision instrument of real quality for the student or general user. Maximum capacity 250g. Aluminium beam, steel knife edges and bearings. 9cm diameter plastic pans. Complete with set of weights in snap-lock case.

### MPP4 Splicer

A soundly-engineered die-cast alloy unit. It can be used for splicing Super 8, standard 8 or 16mm cine film.

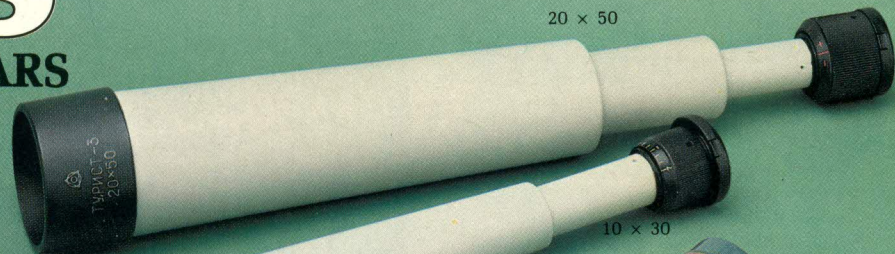




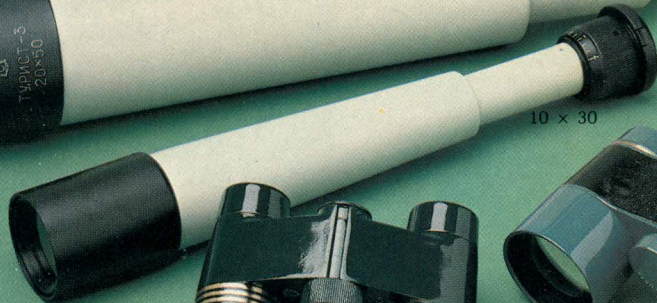
# HELIOS

## TELESCOPES & BINOCULARS

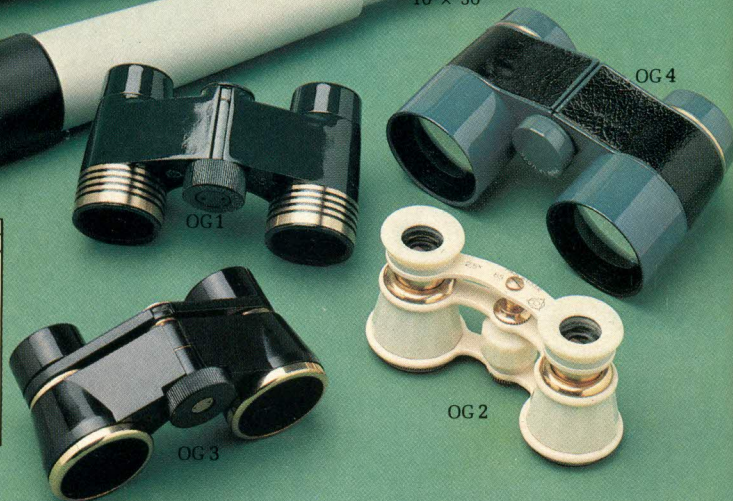
As a photographer, you know very well that the two basic essentials of a good camera are lens quality and thoroughly sound construction. This applies equally to all optical instruments — and it's certainly true of Helios binoculars, monoculars, telescopes and opera glasses. Their fine fully-coated lenses give a sharp and brilliant image and they are engineered to a high standard for long service.



20 x 50



10 x 30



OG 4

OG1

OG 3

OG 2

### TECHNICAL SPECIFICATIONS

	BINOCULARS			TELESCOPES		MONOCULARS		OPERA GLASSES			
	12 x 40	8 x 30	7 x 50	20 x 50	10 x 30	8 x 30	7 x 50	OG4	OG3	OG2	OG1
Magnification	12x	8x	7x	20x	10x	8x	7x	4x	2.5x	2.5x	2.5x
Diaphragm diameter (mm)	40	30	50	50	30	30	50	36	24	24	25
Exit pupil diameter (mm)	3.3	3.8	7.1	2.5	3	3.8	7.1	9	9.6	9.6	10
Relative brightness	10.9	14.4	50.4	6.25	9	14.4	50	81	92.2	92.2	100
Dioptric adjustment	+6	+5	+5	-7 to +15	+10	+5	+5	-5 to +7	-5 to +7	-5 to +7	-5 to +7
Field of view	6°	8°30'	7°	2°	4°	8°30'	7°	7°	12°40'	12°40'	11°40'
Field at 1000(m)	96	132	111	35.6	71.1	132	111	N/A	N/A	N/A	N/A
Twilight performance	21.9	15.5	18.7	31.6	17.3	15.5	18.7	12	7.7	7.7	7.9
Dimensions - L x W x H (mm)	140 x 190 x 60	120 x 155 x 57	200 x 190 x 64	515/215 x 59	350/210 x 59	120 x 60 x 39	200 x 85 x 64	42 x 115 x 50	35 x 107 x 50	34 x 100 x 53	32 x 105 x 55
Weight (g)	850	660	980	600	250	300	450	270	140	140	150

### USAGE CHART

PURPOSE	BINOCULARS			TELESCOPES		MONOCULARS		OPERA GLASSES			
	12 x 40	8 x 30	7 x 50	20 x 50	10 x 30	8 x 30	7 x 50	OG4	OG3	OG2	OG1
General use		•	•	•	•	•	•	•			
Touring		•		•	•	•	•	•			
Sports		•		•	•	•	•	•			
Theatre								•	•	•	•
Nature		•		•	•	•	•				
Target spotting	•	•		•	•	•	•				
Yachting/Marine use			•	•	•	•	•				
Night use	•		•	•	•	•	•				

This information is provided for guidance only so does not have to be rigidly adhered to. In the final analysis much will depend on how comfortable you feel using the equipment. Your local photographic dealer, sports shop or specialist optician is also available to give help and demonstration.

### Helios Opera Glasses

Any visit to the theatre would gain enormously in enjoyment with a pair of these elegant opera glasses. They can of course be used outdoors too — and there the OG1 and OG4 models have the advantage of internal focusing, which protects the mechanism from dust and moisture. All models are supplied complete with leather case.



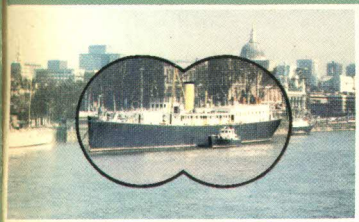
## Helios Binoculars, Monoculars and Telescopes

All Helios binoculars have centre-wheel focusing and an adjustable right eye-piece. They are supplied with filters for giving a bright image even in conditions of unsatisfactory light, and are complete with neck-strap and carrying-case and strap. The 8 × 30 monocular is not supplied with a case, but the telephoto lens pouch shown previously will do the job very well. Helios telescopes too are supplied with filters and each has a carrying case and strap. Tripod available for 20 × 50 telescope (see page 26)

7 × 50  
recommended  
for night and  
marine use.

8 × 30 for all-round use

12 × 40 especially  
good performance  
at long range



Monoculars,  
handy for spectator sports

8 × 30 without case

7 × 50 with case



# ZENITH

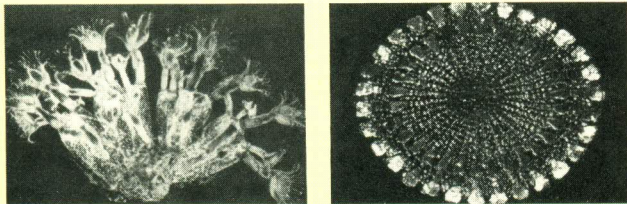
## PHOTOMICROGRAPHY

Discover a whole new world of photography with your Zenith SLR camera, by simply attaching the camera body to any Zenith Biolam microscope using the special 42mm adaptor shown here. This combination is ideal for serious scientific study or purely to create an infinite range of colourful and fascinating effects.

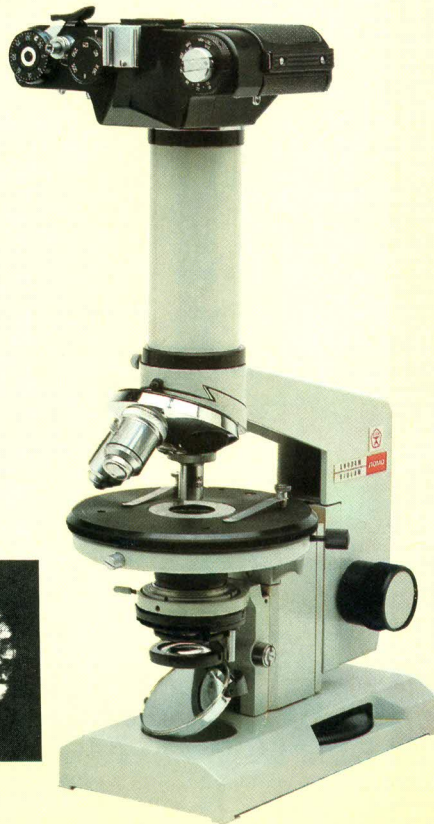
### Zenith Biolam Microscopes

All TOE microscopes share family characteristics with TOE cameras: optical excellence fine precision engineering, robust construction and moderate prices. There are models especially suitable for schools and colleges as well as specialised instruments for industrial and research use.

The model shown here is the Biolam R21 incorporating a rotating stage designed primarily for photomicrography with the special + CA-3 camera adaptor.



For information on the full range of Zenith microscopes contact your dealer or Zenith House direct.



## TOE. the photographic friend of the family

Our aim is to help you and your family improve and enrich your photography, to give you the greatest possible satisfaction from it. With this in mind, we select our products with every care, choosing them to offer you fine quality at reasonable prices, testing them to make sure that they will give you good results and long service, expanding our range so that you can expand your range too.

Through close contact with your local Stockists we keep up to date with what enthusiasts are looking for in equipment and accessories. We hope this brochure shows that we are succeeding in meeting your needs, and particularly that it will widen your photographic horizons and help to make your photography more and more rewarding.





### Expert Servicing

The spacious Service Department at Zenith House has specialist equipment for checking and rectifying any faults which may develop in photographic equipment, and repairing any damage which may occur. Our highly skilled servicing staff includes a

team of technicians from the manufacturers, so that you can be sure your equipment will have the best possible attention. We maintain a very extensive stock of spare parts and make every effort to "turn round" repairs as quickly as we can.

### The T.O.E. "Passport to Service"

This truly meaningful **2 Year Guarantee** accompanies every T.O.E. reflex camera we sell. It is your assurance that the camera has been fully inspected by experts in the UK and that any defects arising from faulty workmanship or materials will be rectified without charge if the camera is returned within two years of the date of purchase. You can trust T.O.E. to do everything possible to ensure that your equipment gives you complete satisfaction.





# Some other products from T.O.E.

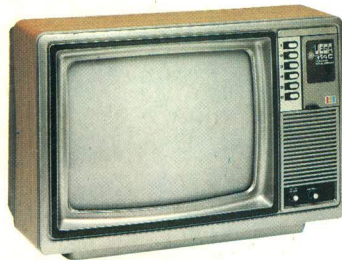


## Vega Snowcap Refrigerators and Freezers

A choice of models to suit every household need — among the features are; brilliant white easy-clean cabinets, luxury interior fittings, magnetic seal, levelling feet, thermostat control — all economical in both price and operation.

## Vega Radio, TV and Hifi

The new extended range of home entertainment products brings you up to date with the latest in electronic equipment. VHF, LW, MW and SW Radios Mini Hifi, Speaker systems, Headphones, Colour and B/W Televisions — a great choice from a great range.



## Vega Clocks

A superb selection of clocks from the latest quartz timepieces to classic traditional models — a clock to suit every setting and every taste.



## Zenith Biolam Microscopes

T.O.E. microscopes share family characteristics with Zenith cameras: optical excellence, fine precision engineering, robust construction and moderate prices. There are models especially suitable for schools and colleges, as well as specialised instruments for industrial and research use.



## Your T.O.E. Stockist:

**Technical & Optical Equipment (London) Ltd.,**  
Zenith House, The Hyde, Edgware Road, London NW9 6EE.  
Telephone: 01-200 6505. Telex: 261874.  
Telegrams: TECOPTIC London NW9.

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