THE 81/2" FULLERSCOPE (ADVANCED) This is the "PULLERSCOPS" illustrated on the front juge, and is the

ultimate in "amall" telescopes. It incorporates everything that the advanced anatour or serious student could wish for. It is ideal for Universities, Schools, Clubs etc. and is perfect for photography. Mounted on the MK.1V Equatorial for maximum stability it has Slow-motions on each axis, with Electric drive in R.A. also Setting circles. ath wave option are used throughout coupled with two Orthoscopic sympleces and an Achromatic Barlow lens. The plastic tube is reinforced and radially counterbalanced. All the usual accessories are there, of course (Mirror cell; Spider; Rack & Pinion focusing mount; Achromatic Finder scope stc.). A special auded attraction, is the 4" Heflector "Quide-Scope" for dead accurate "tracking" during photography. (This has a spherical F.8 Mirror). The tube can be revolved to obtain an easy observing position. Finish is "Hammer" with a white tube and plated fittings. A photograph of this "FULLERSCOPE" together with a more comprehensive description is available on request. (1/6d. in 3d stamps please to cover costs).

The 84" "PULLERSCOPE" (Advanced) - PRICE: £165. 0. 0.

10" TO 1234" FULLERSCOPES These larger 'scopes are available in prices ranging from 150 to £450., and are made to order only. (Two are under construction at the soment. and photos will be available shortly - 1/6d.) Then requesting at quotation PLEASE STATE EXACTLY what you rejuire.

4 SKYMASTER KIT "o" the beginner and the "Junior" Astronomor this Kit to ideal. It has easy to follow instructions and has everything necessary to construct a 4" Newtonian Telescope. (Mirror, flat, tube. cell, eyepiece, Altasamith stand etc.) Makes a useful and instructive present.

FRICE: £6. 17. 6d.

TERMS CASH WITH ORDER . UNIVERSITIAS, SCHOOLS etc. Official order form addepted.

Postage and packing 2/6d. on each complete order.

Orders are dealt with strictly in rotation and I do my best to ensure delivery within 14 days. Receipts by return post.

MK.II & III Equatorials 10/- carriage . MK.IV Equatorials 25/- carriage Pedestal Stands Tripods 7/6 " 25/-

FULLERSCOPE .-THE NEW DIMENSION IN SERIOUS AMATEUR ASTRONOMY.

During the evolution of the Fullerscope, shown and described on the previous pages, every factor relative to accuracy, ease of use, construction, production and appearance has been carefully studied and evaluated, to bring to the customer an attractive accurate & reliable instrument at prices hitherto thought impossible.

You will find the cost walue ratio of these products unsurpassed and all those concerned in the development and subsequent production of Fullerscopes join in wishing you every success in the future of your hobby.

-750 FirehleyRd, N.W.11. 01-455 9028.

FULLERSCOPES

PERFECTION IN TELESCOPES & ACCESSORIES

81/2" FULLER

D FULLER F.SC. 18, ADDISON WAY IONDON NWII TEL. MEADWAY 4879 CALLERS ALWAYS WELCOME.

SCOPE (ADVANCED

MK II & MK III EQUATORIAL MOUNTINGS (ACCESSORIES)

The MT.III. Equatorial Mounting, (pictured right), has been specially designed to carry up to R" Reflectors, and up to A" hermators. It is truly great value, and has everything that could be desired by the amateur, or advanced student. Although the fully suiped mounting is inexpensive by usual standards, to accommodate those with a limited budget or those not desiring all available accessories, Mountings are sold as a "Package deal" consisting of:-

- 1) The Equatorial Head.
- 2) Pedestal Stand (or Tripod).
- 3) 3low-motion H.A. (Manual)
- 4) Electric Drive for R.A. s/m
- 5) Slow-motion Dec. (manual)
- 6) Setting Ciroles.
- 7) Special Saddles.
-) Counte ree 1ghts.

EQUATORIAL HEAD, MKII & MKIII.

These Equatorial heads incorporate the fatert developments and are extremely stable, remaining pleasing on the aye as well as providing maximum steadinese coupled with velvet smooth bearing action. The polar aris is fully adjustable for latitude, and if used with the Pedestal Stand or Tripod, can be adapted to "Altaramith" action for Satellite spotting or Terrestial viewing. The special maidle plate will ascept all tube sizes between 3" and 10", or the "Mavolving Tube Cradles (p.3 No.7) Luge are provided for Slow-motions. THE MR.11 IS UMPRINTED & UMPLATED, OTHER-DEL AS VK.111 STECIFICATION. German Type.

Cast Alloy housings 9" long by 2½" dia. 1" Chrome-plated Frecision ground solid steel shafts. 42" dia, base plate. Saddle plate 12" long by 2½" wide (channel) Looking device on each aris. Weight (head only) 14.1b. Store enamel wrinkle or hummer finish and chrome fittings. (UK.11 Gruginted & Unplated)

PEDESTAL STAND

Because of its great stability the redestal Stand is now incorporated in all 6" & B_{2}^{μ} "PULLERSCOPES" (except Kits). Constructed of heavy gauge galvanised iron tube with cast fest, each of which is 23" long, it stands 30" high and it weights 35.1b (TAICE that of the head alonall) The fest are detachable for easy storage.

PRICE: E8. 10. 0. + (25/- carriag

TRIPOD

This is an Ex. w.D. tripod, all metal. It is suitable for Refr.ctors as well as Reflectors. It extends from V' to 5'. Unfortunitely this tripod is now in short supply, a pity as it is one of the strongest on the market.

PHIC: #4. 10. 0. + (7/6. carriage

DEC SETTING CIRCLE LOCKING KNOB MANUAL

SLOW MOTION RA.

MANUAL SLOW MOTION DEC.

PEDESTAL STAND.

MK III MOUNT COMPLETE

MK III HEAD. PRICE £12-10-0 MK I HEAD PRICE \$ 10

REVOLVING CRADLE.

_ CIRCLE.

RA SETTING

FULLERDRIVE

AUTOMATIC & MANUAL FULLERDRIVES (R.A.) Once your Mount has been aligned correctly, it is necessary to move the 'scope round the Polar aris only, to keep a Star centred in the field-ofview without some form of gearing even at medius powers is difficult. A "FULLERDRIVE" will do this for you AUTOMATICALLY or MANUALLY us required This Blow-Motio. (R.A.) may be bought either WITH the ELECTRIC Drive, or WITHOUT. (The motor can be added later, when desired.) CONSISTING OF .-A) Hellical worm and wheel gears. (AUTOMATIC CLUTCH so that 'scope may be moved without having to dis-engage the gears) Flexible hand-drive cable, firing nuts and instructions. PRICE: £7. 10. 0.) Synchronous electric motor with clutch unit, fixing bracket & instructions. To drive the above Slow-Motion M.A. at 1. rev. in 24 hours. Ideal for photography etc. PRICE: £4. 10. 0. COMPLETE UNIT: 'A' & 'B' above PRICE: £12. 0. 0. SLOW- MOTION (DEC.) in additional asset is Slow-Motion in Dec. This enables very accurate tracking and centering for photography. Details as for 'A' (Section 3 above) PRICE: £7. 10. 0. SETTING CIRCLES These are precision divided, solid Duralimin, circles, 3," dia. x 2" thick, with Stainless Pointers. The RA. HOUR CIRCU "Hour" circle is divided 0-24. each hour subdivided into three subdivisions of 20 minutes. The Dec. circle is 0-90-0-90-0 in five isgree graduations. A beautiful bit of precision engineering by CHARLES FRANK LTD., Glasgow. PRICE: £5. 18. 6d. (Pair) O LO PEC. CIRCU For the "Shallow-of-pockst"(1) are my 6" dia. PHOTOGRAPHS of setting circles. These may be out out, fixed to a wood base and used in the norm way. S.A. 0-6-0-6-0 each hour divided into three sections containing five four-minute graduations. Dec. Circle. Divided 0-90-0-90-0. Marked in 10's divided in 2°. PRICE 10. 0d. (Pair) CRADLES. There are so many different sizes and shapes of telescope "tubes" that it is hard to cater for them all. The basic saddles of the MKs II & III mounts will accept most sizes and shapss of 'scopes but for tubes supplied by syself, I recommend the specially designed "Cradles" these have the following advantages -1. The telescope tube may be revolved round its aris, thus avoiding awkward observing positions. 2. The whole telescope can be removed from the "Cradle" in a few ACTUAL SIZE seconds for storage. 3. The centre of gravity of the tube o n be altered at will to compensate for "estras" - cameras etc. There are special "Cradles" for 2" - 4" Refractors. PRICE per Fair for 2", 3" & 4" Mefractors £3. 15. 6t. PHOTOGRAPHIC " " " 7" Reflector Tubes. £1. 17. Lat. SETTING CIRCLES " " " 9" A 10" Reflector Tubes. £4. 17. 6d. CHARLES FRANK. 3 SETTING CIRCLES

BCOUNTER WEIGHTS Are stocked in the folloding sizes ONLY: 1b., 10 1b., 20 1b., and 30 1b.

PRICE: 2/- par. pound.

N.B. It is far obeaper for you if you use "Weight-lifters" weights, which are available from most good Sports Shope, or direct from Memore, CROSSE Ltd., London. - Approx. 1/1d per. pound.

ANNOUNCING. MARK IN EQUATORIAL MOUNTING. (TELESCORES) Masaive in construction, and yet finger light in action, the W.IV II AV

DUTY EQUATORIAL MOUNTING will handle, with ease, up to 15" Reflectors and up to 3" Refractors. It is used, (as illustrated) on the 85 (Photographic) "PULLERSCOPE", and, of course, on all 10" and 1." models.

Compare its size with that of the MK.III. The shafts are 15" dia. Precision ground, Chrome-plated, Solid Steel, running in D.U. Tlacier bearings, with special oil-less thrust plates, on each aris, to minimise friction. The price, quoted below, is for the basic Equatorial Head (as illustrated on opposite page.) All accessories are available for this model.

Slow motions, Electric Drive, Setting Circles, Special Cradles, Fedestal stand. Counterweights to requirements etc. A quotation to your requirements will be made on request. (PLEASE state SXACTLY what accessories you require.)

FRICE: (Basic model, as illustrated) - 150. 0. od.

ACCESSORIES:

Slow-Motion H.A. - £12.10.0.; Slow-Motion Dec. - £10. 0. 0.; Electric-Drive - £5. 0. 0.; Setting Circles - £6. 10. 0.; Petestal - about £15.0.0.

TUBING.

At Last! a lightweight rigid plastic tube. lighty multer to Reflectors. It is easy to cut and drill, and yet strong, with this material, convection ourrents are reduced to a minimum, so that "shimmer" caused in the tube itself is rare. All my accountries are insigned to fit these tubes. The finish is non-reflective matt black interior, with the natural grey outside .-

UTOCK SILES.

For 6" & 64" mirrors. 7" i.d. x 48" (\$" wall thickness) - ii. 1". 0. " 72" & 8" " 9" i.d. x 5'6" " - i8. 0. 6. " 84" " 10" i.d. x 5'6" " - x8. 10. 0.

For 10" to 123" mirrors I supply only one size. This is 14" i.d. with t" wall thickness. The price is £17. 10. 10 for lengths up to 6' 3".

5

MK TV BASIC HEAD SCALE AI M/M = IFT.

MK II HEAD (FOR COMPARISON).

MIRROR CELLS (6" TO 81/2")

Now you can buy a sharer cell at a low price, and yet having all those things usually only found in more expensive addels. These Mirror Gells are three, joint spring susjension types. This means that the cell proper is expanded for the baseplate which holds it in the table. The priver rests on three asthematically positioned pade thus avoiding any possibility of florture. The Cell itself is fully adjustable for colsimation by means of three spring-loaded whay and loak must between it and the base. After colsimation the whole unit may be removed from the tube, and replaced, without disturbing alignment - this is a very great exect. The cell is fully centilitied to prevent uneven expansion. The finish is duil black anti-reflection paint. Three mirror retaining of the set of the weet the mirror in place without stress. CELLS 6"TO B'2

9 POINT SUSPENSION CELLS

SPIDER

(EXTRA: ALL MIRHOR CELLS CAN BE SUPPLIED ITH BASES TO FIT YOU TUBES ...

STOCK SIZES (Please state tube size when ordering).

For 6" Mirrore		7" or 8" Tubes		** **				63. 10. od.					
For	64		4		141	- 11				***	R3.	15. 6d.	
For	74"	12	9"	or	10"	14		-			£4.	10. 6d.	
For	8.	-11		17	1917	n	-	**			25.	5. Od.	
Por	83"				10"			**			\$5.	15. 04.	

(Other sizes quoted for)

MIRROR CELLS (9 POINT FLOATATION SUSPENSION)

The larger type of mirrors require a flotating NINE point system in order to prevent flotture of the mirrorunder its own weight. The following two cells provide just thins. The cell still consists of two separate units, as described above for $6^{\circ} - 8^{\circ}_{2}^{\circ}$ mirrors, but in the case of 10° and larger mirrors the mirror rests on Three sets of three pads, each set balanced on a mathematically detormined point.

For 10" sirrors 1d" tube £12. 10. 04.

Por 12" " " " £15. 0. 04.

(Other sizes quoted on request).

SPIDERS. These are the three or four vans fully adjustable type, as illustrated. Finish is dull-flat black.

STOCE SIZES (for flats supplied by myself)

For 12" elliptical flats	**	14.4	** ***	£2. 15. 6d.
For 1.9" "	**		** ***	£2. 18. 66.
For 10" and 12" "scopes				£8. 15. 6d.
Flat holders for your own	alliptin	al flat	fromt	Ed. 0. 0d.

RACK & PINION. At last, at a very reasonable price you dan own is real Fack and Finion focusing mount, designed to second both R.A.S. and standard 14" push-fit eyepieces. The e is a full 23" of trave PLUS a 31" R.A.S. threaded Draw-tube. It has a smooth focusing action, with two variable tennsion knobe. The standard model will fit all tube sizes, and a flat-hases version can be supplied on request for square "tubes". The finish is in stoved spame1 (wrinkle or "hammer"). The tubes are plated for wetter resistance.

PRICE: L4. d. 6d.

Draw-tubes (R.A.S.) can be mipplied any length at 15/6d. for a standart $3\frac{1}{2}$ " length PLUS 2/- per inch thereafter. (e.g. a 6" draw-tube would cost 15/6d. Flus $2\frac{1}{2}$ " # 2/- per inch making £1. 0. 6d.)

MIRRORS & OPTICS.

All my mirrors are <u>HAND</u> FIGURED to the degree indicated, and are PikEA. They are Alluminised and <u>Silice hard-conted</u> to protect the normally <u>delicate reflective conting</u>. All <u>Kirrors</u> are <u>GUARANTEED</u> to resolve to the theoretical limit on nights of "good seeing" conditions.

					ical Flats
6" F.S. ; wave.	48" focus -	£9.18.6d.	12" ± wave	flat -	£1. 5. 6d.
6" " "	11	£12. 15.0d.	1 1 1	. 07 -	£2. 10. 5d.
831 11 2 11	64" " -	£16. 16.0d.	1.9" 2 "	HC _	£2. 15. 6d.
81 " 1 "	N N -	£20. 0. 0d.	н. Ен	- 19	£4. 10. 68.
10" F7, F8, or 11 ² " F6, F7 or				mirrors	for to 1/20 £5. 10. 04.

Delivery on 10" and 12" mirrors is up to three months. However I can supply these sixes from another source in a shorter space of time. These latter mirrors are the finest option obtainable in this country. The prices are higher and are given on request.

EVEPIECES all eyepieces are of the highest quality, and are R.A.S. Threaded. The Huyphanian and orthoscopic types are by Meesers, BROADHURST CLARKSON Ltd.

Huyghens.	2"1 3" 1 8"1 8"1 8"	-	23+	3. 04.	
	1/3rd. & 1/4	-	R.3.	10. 04.	
	1/5th & 1/6th.		£4.	4. 0d.	
Orthoscop	10 8"1 8"1 3"1 1"1 2"	-	27.	7. Od.	
Ramsden.	1/3"; "	-	63.	3. Od.	
	11 21 11 121 1	a"	£2.	11. Od.	
Kalner.	"ComeT " syspieces	- 1	"1 1	Pr1 2"	-
Tolles.	1/3""Planetary" eyepi				-

"Finder" Scope with firing bracket

"Erfle". These symplects have a huge field of view, and when used in conjunction with a Barlow lens, they give breath-taking views of the Moon. They are getting scarce now and I can supply only 2" and 2".



£4. 5. 6d.

£4.10. Od.



DOUBLE OR TREBLE YOUR TELESCORES POWER.

By using one of my Achrometic Barlow lenses, you can increase the power of your telescope by up to three times that given by the symplece alone At the same time you keep a large apparent field of view ANP you loose LZDS light than you would with a high-power expited of similar value. To obtain up to three times amplification, an "a" drum-tube is needed; up to 2% times amplification a 62° draw-tube is needed;

BARLON LENS IN CELL. (Fitting my draw-tubes) PRICE: 64, 10. Ot.

SUN DIAGONALS By BROADBURST CLARKSON LTD. The Sun Diagonal allows you to view without dames fire the Jun's Pays.

PHICE: 16: 0. 08.

PHICE: - 26. 15. 04.

The Star Diagonal (chiefly for Refractore, and he you to view in confort stars at him altitude and near the Gerith .

Both the above finds have 3.A.S. threads.



STAR DIAGONALS

6" # 81/2" KITS (EQUATORIALLY MOUNTED).

These two kits contain everything medessary to construct a fully Equatorially mounted Newtonian Reflector Telescope. NEWEP 25 RORE HAS THE AMATCHINE AD THE OFFORTMINEY TO COME THIS SIZE OF TELESCOPE AT SUCH A LOW FRICE. The options are EXACTLY the same as those described on page 9. The Equatorial is the MK.11 (pl & 2., and all other parts are the unpainted versions of the illustrated types. The PARABOLICAL i wave mirror and flat are TUARATTIND to perform to the theoretical limits on nights of "Good-seeing". Instructions are included and the only tools medessary are a screwiriver, pliers, hand-drill or gimlet, rule and paint brush.

Purther accessories can be added to your finished 'scope from these lists. The Mount is fully adaptable for Drives etc.

EACH KIT COMPRISES: - P.8 2 wave Farabolical mirror with elliptical flat., Mirror Cell; Spider flat support; Each and Finion focusing mount; Rigid Plastic Tube; one exeptece; the MK.II Equatorial Mount on tripod, and all instructions.

6" FULLERSCOPE KIT.	PRICE -	£35. 0. 0. (plus	30/- carriage)
8" FULLERSCOPE KIT.	PNICE:-	£47.10. 0. (plus	40/- entringe)





NEDDING.

12

ACCESSORIES.

Star Finler with fixing rings - Star Disconal -

PRICE: £48. 10. 04.

PRICE 1 6-0-0 PRICE \$6-15-0.

THE LITTLE GIANT. (2" REFRACTOR)

This Refructor is a highly efficient telescope having a 2" achromatic Objective lens 40" focus, with the latest "Clear Blooming". It is supplied with a Standard R.A.S. Drawtube, and b" Eyapiece SOx. Supplied in carrying tube. PRICE - £12. 12. 0

ACCESSORIES Portable Clamp Stand (Altazamith) Fixes at once to any fence, post etc. El. 17. 6d. Special Tripod and Altasamuth Mount 6' (part-illustrated R.) PRICE: £10. Barlow Lone in Special Draw-Tube. Gives powers 96x to 240x. PRICE123.19.6d.

THE 6 & 81/2 (ELECTRIC) FULLERSCOPE DELUX ONCE AGAIN TO BREAK THE PRICE MARRIER, DOOD TWO Reflectors. The 6"

85" (Electric) "FULLERSCOPE" Deluz. Each is a bargain in its own right. Look at the illustration opposite, (6" model) and the description following, then compare with any other 'scopes on the market. These two "FULLERSCOPES" are described together in order to mave space, as they differ only in size and price.

REMEMBER, THE 8%" HAS NEARLY TWICE THE LIGHT GATHERING POWER OF THE 6". AS WELL AS GREATER RESOLVING POWER.

COMPRISINGA-

6" es 85" Parabolical mirror ith. wave, Alluminised & Silica hard coated 17", or 1.9" Elliptical Flat. " Fully adjustable Mirror Cell. Fully adjustable "Spider" Flat support. Rigid Plastic Tube, (to eliminate convection currents.) Rack & Pinion focusing mount, with R.A.S. Dram-tube. 1" Achromatic Finder-scope with cross hairs. Eye piece-Barlow combination. (see "Powers" below).

AND

The MK.III EQUATORIAL MOUNTING, Complete as followes-MX.III Equatorial head on Federal mount, Slow-Motion in Dec. (Manual) Slow-Motion in R.A. both manual AND Electrically driven by the "PULLERDRIVE", synchronous electric motor, fully slip-clutched so that the telescope may be swing on its axis, WITHOUT having to dis-engage the gears. Accurately divided Setting Circles by CHARLES FRANK are included, also counter-weight. The tube is fully rotatable in the special oradle, and can be released from the mounting in a matter of seconds. Finish is a White celulosed tube, with Black Wrinkle accessories, all interior fittings are black non-reflection coated, and other fittings are plated.

The "	6"	(Electric)	"FULLERSCOFE"	Delux,	(#th.	wave	PRICE PRICE	1 1	£85. 0. £80. 0.	. b0	
The	81-	(Electric)	"THTLLERSCOPE"	Delux.	th.	wave)	PRICE	111	¥100.0. £95. 0.	0d. 0d.	

POWERS. On 6" from 48x to 320x (carriage 50/-) or collect. On Sh" from 641 to 4271

G'ELECTRIC FULLERSCOPE DELUX.

14

THE 81/2" FULLERSCOPE (ADVANCED)

ultimate in "small" telescopes. It incorporates everything that the advanced anateur or serious student could wish for. It is ideal for Universities, Schools, Clubs etc. and is perfect for photography. Mounted on the MK. IV Equatorial for maximum stability it has Slow-motio: on each aris, with Electric drive in R.A. also Satting circles. ath wave option are used throughout compled with two Orthomacpic sympleces and an Achromatic Barlow lens. The plastic tube is reinforced and radially counterbalanced. All the usual accessories are there, of course (Mirror cell; Spider; Rack & Finion focusing mount; Achromatic Finder scope etc.). A special added attraction, is the 4" Seflector "Guide-Scope" for dead accurate "tracking" during photography. (This has a spherical F.8 Mirror). The tube can be revolved to obtain an easy observing position. Finish is "Hammer" with a white tube and plated fittings. A photograph of this "FULLERSCOPE" together with a more comprehensive description is available on request. (1/6d. in 3d stamps please to cover costs).

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4" SEXMASTER KIT to the beginner and the "Junior" Astronomouthin Kit is ideal. It has easy to follow instructions and has everythin necessary to construct a 4" Newtonian Telescope. (Mirror, flat, tube, cell, eyepiece, Altazamith stand etc.) Makes a useful and instructive present. PEICE: E6, 17, 64.

FEIGER ED. 17. 00.

TERMS CASH WITH ORDER . UNIVERSITIES, SCHOOLS ato. Official order form accepted.

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You will find the cost value ratio of these products unsurpassed and all those concerned in the development and subsequent production of Fullerecopes join in wishing you every success in the future of your hobby.

-750 FirehleyRd, N.W.11. 01-455 9028.