NYE OPTICAL CO.

LENSES • LENS DESIGNING
AMATEUR TELESCOPE MAKING
SUPPLIES
BINOCULAR SALES AND REPAIRS
SCHOTT-JENA OBJECTIVE BLANKS
MIRROR BLANKS TO 21.5" DIAM.

CATALOG NUMBER FIVE

•

ASTRONOMICAL & SCIENTIFIC OPTICS

BULK RATE
U.S. POSTAGE
PAID
Permit No. 321
Long Beach, Calif.

Form 3547 Requested

2100 CHERRY AVENUE • LONG BEACH 6, CALIF.
Telephone GEneva 9-1373

Pyrex Mirror Making Kits with the new Velvet Finishing Tools

Diam. Mirror	Thickness	Price
4¼″	¾″	$ 5.70 Postpaid
6″	1″	9.50 Postpaid
8″	1⅜″	12.25 Postage collect
10″	1¾″	21.75 Postage collect
12½″	2⅛″	41.25 Postage collect

Kits include five abrasive powders, including our special superfine finishing abrasive which gives a very superior fine grind for faster polishing, selected pitch, cerium oxide, pyrex mirror and velvet finishing tool. Velvet finishing tools are an entirely new product to the amateur telescope making trade and required considerable research and testing. All are furnished in extra heavy thickness only, to allow maximum rigidity and trueness while grinding.

10% discount on all kits and other supplies to groups of six or more. Write for details.

ANNEALED LOW EXPANSION MIRROR BLANKS

Diameter	Thickness	Approximate Weight	Price F.O.B. Long Beach
16.4″	3″	60 lbs.	$188.00
18.4″	3″	75 lbs.	345.00
21.5″	3″	100 lbs.	468.00

Diameters plus or minus 1/5″

This is a special material which is free from large objectionable bubbles and grinds and polishes easily. Blanks have smooth molded edges and are nicely circular. Pyrex's coefficient of expansion is about 60% of this. Corresponding diameter tile faced steel tool can be supplied for 25% additional.

Velvet Finishing Tools

Diameter	Price	Diameter	Price
4¼″	$1.50	10″	$6.00
6″	2.75	12½″	9.00
8″	3.75	Larger Sizes to Order	

9″ PLATE GLASS MIRROR MAKING KITS — $11.95

Complete Kit with Velvet Finishing Tool

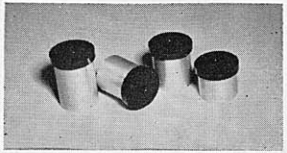
PYREX TELESCOPE BLANKS

Diameter	Price	Price Postpaid
4¼″	$ 2.50	$ 2.90
6″	4.95	5.50
8″	8.15	9.50
10″	15.95	18.50
12½″	32.99	39.85



California Residents, Please Add 4% Sales Tax

Modified Ramsden Eyepieces



$5.50 each, $14.00 per set of any three. ¼", ½", ¾", 1¼", 2", 3" and 4" focal lengths. Attractively mounted in 1¼" O.D. bushing.

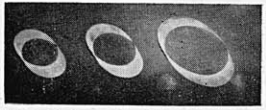
SPECIAL 1/5" FOCAL LENGTH EYEPIECE $15.95 POSTPAID

These are used but in good condition and are actually a complete high quality compound microscope of 50X, equipped with crosshairs (removable). They have a larger field than most eyepieces of this focal length and are far easier to use due to a large eye relief. Overall length 6 - 8". Adapter for 1¼" standard bushing ,$3.75.

Low Expansion Elliptical Diagonals—Aluminized

Minor Axis	Price	Minor Axis	Price
⅝"	$3.75	1¼"	$5.00
¾"	3.75	1½"	6.50
1"	3.75		

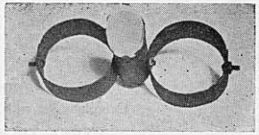
EXTRA THICK PYREX ELLIPTICAL DIAGONALS



Flatness better than ⅛ wave. aluminized and quartz over-overcoated, postpaid.

Minor Axis	Price	Minor Axis	Price
1½"	$ 8.00	2⅜"	$17.95
1¾"	10.00	2¾"	23.95
2"	14.95		

CIRCULAR SPIDERS — $8.50



New design circular spiders to hold elliptical diagonals. Give excellent results. State your diagonal and tube sizes.

Elliptical Diagonal Holders

¾", 1", 1¼" and 1½" minor axis, simple device with little fingers. Painted black. $.50 each.

Abrasives—generous amounts, carefully packaged in plastic.

# 40	$ .45	# 220	$ .35
# 60	.35	# 400	.40
# 80	.35	#1000	.45
#150	.35		

Bulk Abrasive Listed on Page **10**

California Residents. Please Add 4% Sales Tax

Superfine Finishing Abrasive—4-oz. jar (wet) $1.25
If you must hand polish your mirror, use Superfine by all means for a fast, fast polish.

Optical Pitch — Large Bag $.50

Rosin — bag $.50
Ideal for hardening soft pitch, fast and clean.

Sheet Honeycomb Foundation

Use with cerium oxide for a fast polish.

Diameter	Per Piece	2 Pieces
4¼"	$ .50	$ .90
6"	.70	1.10
8"	.85	1.25
10"	1.15	1.65
12½"	1.25	2.00

Optical Beeswax — lump $.40

POLISHING AGENTS

	In Sealed Plastic Bag
London Red Rouge (commercial grade)	3-4 oz. $.50
Standard Red Rouge	3-4 oz. .35
White Rouge	3-4 oz. .75
Cerium Oxide	per oz. .25
Black Rouge	3-4 oz. .50
Zirconium Oxide	3-4 oz. .65

Very Finest Washed Rouge — 4-oz. jar (wet) $1.80
This is an extremely fine rouge which should be used for the final stages of polishing and figuring. Remember that fine sleeks that are invisible to the naked eye cause scattering of light, which results in loss of contrast of the image. A must for mirrors intended for planetary viewing.

SPECIAL PITCHES

Loaded Pitch — 8-oz. $1.50
This pitch is known to resist deformation under polishing heat and pressure, which means that cold pressing can be postponed longer without fear of spoiling figure. We believe that it minimizes turned edge. It was developed abroad during the war.

Hard Green Blocking Pitch — Large bar $.75
Ideal for general purpose cementing. Removable with common solvents.

Super Strength Cement — $1.00 stick
Has tremendous tensile strength. Heat softening, and soluble in alcohol and certain solvents. Ideally suited to cementing small pieces temporarily or permanently.

California Residents, Please Add 4% Sales Tax

Pyrex Convex Spherical Mirrors for Cassegrain Secondaries, Etc.

Specifications are too numerous to list. Write us your requirements.

⅛" Diam. x ⅛" Focal Length Lenses—$1.50 each

Plano convex, well suited for eyepieces.

Simple Long Focal Length Lenses — $4.00

1¼" diameter by 200" focal length. Sunspots easily photographed and observed at prime focus. Craters on moon seen without eyepiece.

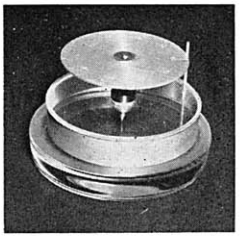
Pyrex Herschel Wedges — $10.00

1¼" x 1.77". For solar viewing. Mount at 45° to path of light. View reflected image off to the side. Reflectance approximately 4½%.

Fused Quartz (Standard and Corning Fused Silica Ultraviolet) and Pyrex optics made to your specifications.

Spherometers — $22.50

For amateur and professional use. Measures —6 inch to +6 inch radius. 5-inch diam. ring. Individually calibrated tables. (Other diameter rings to order.)



PARABOLIC TELESCOPE MIRRORS, PYREX

Diameter	Focal Length	Price
8"	48"	$ 50.00
10"	55"	98.95
12½"	70"	179.95

All Shipped Express Collect

These mirrors come uncoated and are within ⅛ wave, or better, of a perfect parabola. Special tooling enables us to offer these at this low price, with no sacrifice in quality. All of these mirrors can be used with a Barlow lens giving an enormous range of low to high magnifications, yet they do not require long, heavy and expensive tubes to mount them in. Maximum recommended magnifications: 8", 400X to 450X; 10", 600X to 700X; 12½", 850X to 1,000X.

OUR GUARANTEE

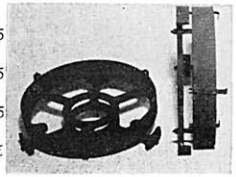
May be returned within 15 days for refund if these mirrors fail to satisfy.

California Residents, Please Add 4% Sales Tax

MIRROR CELLS

These hold your mirror safely in tube, can be perfectly aligned with three adjustment screws. Solid cast aluminum, painted; complete ready to use. Allows proper distributed area support rather than just around the rim.

6"	Mirror Cell for 7"	or larger tube $ 6.75
8"	Mirror Cell for 9"	or larger tube 8.95
10"	Mirror Cell for 11¾"	or larger tube 15.95
12½"	Mirror Cell for 14½"	or larger tube 20.95



REFIGURING

Let us refigure your mirror, if it is not performing too well, to a professional standard of quality.

Refiguring and aluminizing with Hardcoat.

Prices effective April, 1957.

Refiguring prices as given below apply to mirrors of F/6 or greater. Quotations for smaller F/ numbers on request.

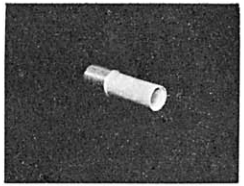
Diameter	Price	Diameter	Price
4¼"	$18.00	10"	$64.00
6"	27.00	12½"	89.00
8"	42.00		

Refiguring consists of correcting your mirror to within ⅛ wave of a theoretically perfect parabola by polishing and does not remove large pits or scratches, nor change the focal length appreciably. Grinding is usually required for the last three situations, for which a reasonable charge is made. We furnish aluminizing; however, shipping charges are borne by the customer. Please include tool with mirror if at all available.

MOUNTED BARLOW LENS

Easily doubles and triples power of your present scope. No adapters nor adjustments necessary. This is a simple special lens, which fits neatly into your 1¼" focuser and takes standard 1¼" outside diam. eyepieces. Merely slip this into your focuser, insert any eyepiece into the other end, focus to sharp clear picture. Takes less than 10 seconds! Price postpaid, only $7.50.

Unmounted Barlow Lens, $3.00 postpaid.



California Residents, Please Add 4% Sales Tax

EQUATORIAL MOUNTING



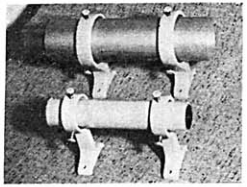
- Machined Sturdy Pipe
- 1¼" Diam. Brass Bearings
- Fully Adjustable Axis for any Location — Equator to North Pole
- Adaptable to Clock Drive or Slow Motions
- Base Fastens Readily to Any Pedestal, or a Simple Post
- Weight only 8½ lbs.
- Mounts Refractor or Reflector 8"or less

Complete as illustrated, $35.00 postpaid.

3⅛" diameter aluminized telescope mirrors, F/12.5. Excellent for beginners. Use with ¼" eyepiece for 150-power telescope. Only $7.50 postpaid.

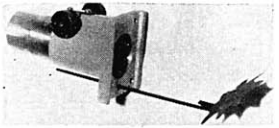
ACHROMATIC FINDER TELESCOPES FOR REFRACTORS AND REFLECTORS

Beautifully mounted in two metal brackets, simple to mount and adjust. (Mounting holes in brackets.) New and used optics. Complete, ready to use with cross-hairs. $9.75 postpaid.



Brackets—Small size, handles up to 1¼" tube. Drilled, tapped, with screws. Complete pair, $3.50 postpaid.
Brackets—Same as above, handles up to 2⅜" tube. Complete pair, $4.95 postpaid.

RACK & PINION FOCUSERS



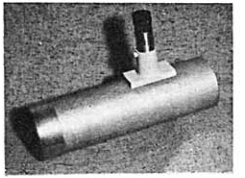
Takes 1¼" O.D. Eyepieces.

Long working distance—smooth operation.

Made from solid cast aluminum and precision machined brass tubes. No soldered parts, rack is milled right into tubing — brass spur gear meshes against this. Two screws adjust pressure. $9.95. One arm diagonal holder, $1.50 additional.

California Residents, Please Add 4% Sales Tax

RICHEST FIELD TELESCOPES



- Superb F/4 Optics, Pyrex Mirror
- First Class Optical Design
- Rack and Pinion Focusing
- Light Steel Tube

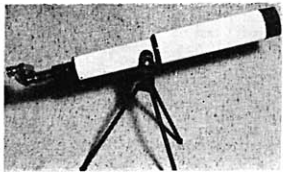
These telescopes allow a wide, rich view of the heavens — are made with an eye on economy, weight, and performance. The 4¼" makes an unsurpassable finder for a large telescope, as it locates much fainter objects than ordinary finders and has the same image orientation. (Mounting brackets, $15.00 additional.)

Diameter	Magnification	Price
4¼"	16X	$ 68.00
6"	22X	115.00
8"	30X	140.00

Postpaid Complete as Illustrated

IMPORTED TELESCOPE

Complete 2" Refractor



- 50-Power Coated Optics
- Lightweight Abbreviated Tripod (Removable)
- Excellent Prism Erector
- Length: 20 inches
- Weight: Less than 2 lbs.
- Extra Long Travel, Fine and Coarse Focus
- Bands and Clouds Visible on Jupiter (4 Moons, too)
- Spots .22 Calibre Rifle Holes at 300 Yards

Complete as illustrated, $29.95 postpaid.

GALVANIZED LIGHT STEEL TELESCOPE TUBES FOR 6" AND 8" SCOPES

Inside Diam.	Length Approx.	Weight Approx.	
7"	60"	8 lbs.	$7.50 plus crating, shipping
9"	72"	13 lbs.	9.95 plus crating, shipping

Longer Sizes Available up to 120" at Small Additional Cost

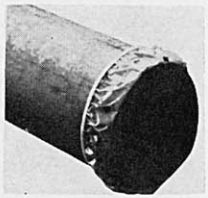
These are clean, unpainted tubes and are easy to cut and drill. They are free from dents and will dissipate heat quickly. Have one neat seam. Our mirror cells will fit these tubes.

California Residents, Please Add 4% Sales Tax

TUBE BLACKENER, INTERIOR JAR $1.70 POSTPAID

One application leaves inside of your tube with a dense, dull black finish for maximum optical efficiency.

PLASTIC TUBE COVERS



Have elastic rim to seal dust completely out of your telescope. Heavy plastic material. Fit tubes from 4½" to 11" diameter. Order two, one for each end. 35¢ each, postpaid.

SHEET CROWN OPTICAL GLASS

¼" thick Nd 1.523, v 58.5 Polished (commercial) both sides, use to make lenses, Schmidt correcting plates, etc. Cut to rectangular shapes free, circles and other shapes extra. 16"x62" Max. size available. 6¢ per sq. in. or $8.64 per sq. ft., postpaid. Minimum order $2.50.

STOCK SHEET PYREX, ½" THICK

Unpolished, use to make mirrors, optical flats, elliptical diagonals, test optics, heat resistant lenses, Herschel Wedges, etc. Cut to rectangular shapes free, circles and other shapes extra. 12"x12" Max. size available. 8¢ per sq. in. or $11.52 per sq. ft., postpaid. Minimum order $2.50.

EXTRA THICK PYREX ELLIPTICAL DIAGONAL BLANKS

Made from Above Material or Thicker

Minor Axis	Price	Minor Axis	Price
1½"	$2.15	2⅜"	$5.40
1¾"	3.33	2¾"	7.25
2"	4.50		

Free from significant chips and bubbles on at least one side. Quantity discounts.

BULK GRINDING ABRASIVES

This is a fast cutting aluminum oxide with shaped grains that bite into the work. It is also tough and stands up longer under severe usage. Excellent for both hand and machine grinding.

Grain Size	5 lb.	25 lb.	50 lb.	100 lb.
#60	$2.25	$10.00	$16.00	$25.00
#150	2.50	11.25	19.00	35.00
#220	2.85	13.00	23.00	40.00

All Quantities Shipped Express Charges Collect

BAUSCH & LOMB RED ROUGE

This comes only in factory sealed cans and is highly recommended by all. In stock ready for shipment. 5 lb. cans, $8.00 packed and postpaid.

California Residents, Please Add 4% Sales Tax

SIMPLE CONVEX LENSES

These are of mixed quality, some being perfect, others having slight chips and defects. Best will be sold first. Use for magnifiers, viewers, condensers, etc. Supply limited.

Diameter	Focal Length	Price
1¾"	3"	50¢
2¼"	2½"	85¢
2½"	5½"	75¢

RADIOMETERS OR SOLAR ENGINES $1.75 POSTPAID



These vanes rotate at high speed when exposed to sunlight, yet are sensitive enough to turn by the light from a match in a dark room. Will never stop going as long as there is light falling on it. Can be used for many interesting experiments. This principle is currently being investigated for space propulsion by many laboratories. Fine gifts. Guaranteed to work. Interesting brochure included.

TELESCOPE OBJECTIVE BLANKS

Grade A American Made, each pair consists of:
1—Borosilicate Crown, Nd 1.5170 v 64.5
1—Dense Flint, Nd 1.6170 v 36.6

Diameter		Diameter	
4¼"	$ 36.75	10¼"	$332.00
6¼"	80.50	12¼"	475.00
8¼"	215.00		

SCHOTT-JENA OBJECTIVE BLANKS

Made by Jena Glass Works, Germany, each pair consists of:
1—Crown, Nd 1.516 v 64.0
1—Flint, Nd 1.620 v 36.3

Diameter	Grade A	Grade B	Diameter	Grade A	Grade B
4"	$23.10	$12.10	6½"	$ 84.70	$46.20
4½"	29.70	15.90	7"	104.00	57.20
5"	38.50	20.90	7½"	242.00	
5½"	52.80	28.60	8"	297.00	
6"	63.80	35.20			

Grade A blanks are fine annealed and tested for striae.

Grade B is cast glass which may contain some fine striae.

California Residents, Please Add 4% Sales Tax

SERVICES

Binocular and Telescope Repair—All makes; cleaning, collimation. painting, etc. Fast, accurate service—reasonable charge. Return postage paid.

DIAMOND SAWING SERVICE

Glass, Pyrex, fused quartz, etc. Handle up to 2½" thick. Free estimates prompt service.

Optical System and Lens Design Consultation and Services—A wide range of experience enables us to offer solutions to many problems in the optical field. We can also save you time and money in locating and designing efficient optics. Complete engineering and blueprinting available. Special telescopes, cameras, projectors, microscopes, interference testing equipment, filters, photometers, precision linear and angular measurement instruments, spectrographs, etc. Inquiries welcomed.

Mirror Testing Service—Complete evaluation by experts $2.00—to 12½" diameter.

New and Used Astronomical Supplies and Optics—Bought, sold and exchanged. What do you have, or what do you want.

QUALITY CONTROL NOTES: These pertain to all items produced by the Nye Optical Co., exceptions being made in writing for specific purposes only.

We endeavor to maintain high optical standards and appreciate the fact that readily visible pits and scratches appear unsightly and may impair resolution and contrast. With this in mind, all defects are kept to an absolute minimum, consistent with practical production techniques. Slight defects are not always cause for rejection unless they lie in an image plane. Items rated as seconds are given a fair and honest rating. Customer suggestions are always welcome.

Items are packed for shipment as soon as they are ready; however, we and our appointed instrumentalities assume no liability for failure to deliver on or before a specified date due to unforseen manufacturing delays or other cause.

No deposit on C.O.D. orders.

Please include a reasonable amount for postage on items which are not designated Ppd.

Shipments of less than $25.00 value are, as a rule, not insured.

Minimum order, $1.00.

Our layaway plan is available at no extra charge. Moderate down payment.