

I N T E G R A F
P. O. Box 586
Lake Forest, IL 60045

Telephone: 708-234-3756
FAX: 708-615-0835

SUGGESTIONS FOR PHYSICS INSTRUCTORS:

(Assuming that you have a Helium-Neon laser of 0.5 or more milliwatt of output) buy a HOLOKIT, which consists of: 1 box of 2.5"x2.5" plates, 30 pl/bx, a JD-2 developing kit, a beam spreader, a copy of LASER HOLOGRAPHY, and a copy of HOLOGRAPHY. HOLOKIT \$ 70.00

95.35

HOLOGRAPHIC FILMS AND PLATES:

The emulsion 8E75 (for HeNe red laser light) is suitable for both transmission and reflection holograms, using a single processing procedure. Its sensitivity is approximately 200 ergs/cm². The following sizes are available.

1 sheet, 30cm x 40cm film, in a tube	\$ 22.00	22.00 EA
3 sheets, 30cm x 40cm each (in a tube)	40.00	13.33 EA
6 sheets, 30cm x 40cm each (in a tube)	70.00	11.66 EA
2.5x2.5 inch glass plates, 30 plates/box	45.00	1.50 EA
4 x 5 inch glass plates, 20 plates/box	87.75	4.39 EA
8 x 10 inch glass plates, 10 plates/box	145.20	14.52 EA
32 cm x 43 cm glass plates, 10 plates/box	243.00	24.30 EA

Other sizes, spectral sensitivities, and formats are available on written request.

CHEMICAL DEVELOPER

JD-2 is a complete kit containing all the chemicals and instructions for processing both transmission and reflection holograms. Enough for 6 sheets of 30x40cm film or a box of 2.5 x 2.5 or 4 x 5 inch plates. \$ 12.00

← Now using JD-4

BEAM SPREADER

First surfaced concave mirror for spreading the laser light. Used for making seven types of holograms as described by the booklet "Laser Holography - Experiment You Can Do". \$ 15.00

INSTRUCTIONS:

LASER HOLOGRAPHY - Experiments You Can Do, by Tung H. Jeong. Detailed instructions at the most elementary level on how to make seven different kinds of holograms at the lowest cost. Suitable for absolute beginners. \$3.00 for one. \$5.00 for two. \$6.00 for three, shipped (if prepaid). Orders over 50, \$1.00 each.

HOLOGRAPHY, by Tung H. Jeong. A pamphlet which gives detailed explanations on how many kinds of holograms work, including holographic movies. Uses high school level physics without mathematics. \$ 4.00

278-0563

LASERS: Integraf does not sell lasers. Call MWK Industries at 714-~~956-8497~~ for surplus HeNe lasers. For new lasers, call Melles Griot, 714-261-5600. Buy any HeNe laser with outputs over 1.0 milliwatt. Polarized output is not necessary, but desirable when you become advanced.

DEMONSTRATION HOLOGRAMS:

NEW !!!! A live hologram of WILLIAM SHAKESPEARE (actually an actor), IN FULL COLOR, 4" x 5", ready to be mounted on your favorite picture frame. Viewable with ordinary light. Watch him crack a smile as you look from left to right! Great gift for friends (especially English majors). Order 10 or more: \$10.00 each. 1 to 9: \$15.00

4" x 5" glass transmission hologram, viewable with small HeNe laser and a curved mirror (see above). Shows a 20-foot deep 3-D scene of a live-size person inside a real laboratory. Complete with mounting and viewing instructions. Hand-made **NEW ITEM** discussed in the new Resnick and Halliday text. \$ 60.00

A 35mm mounted hologram of exactly the same full size lab. scene above. The real image can be projected onto a screen with a HeNe laser with full size image. \$ 18.00

8" x 10" transmission hologram of a full size telephone with a magnifier in front. Good for classroom demonstrations. Real image can be projected onto a screen using a small HeNe laser. A very deep and sharp three dimensional virtual image can be observed using a HeNe laser or filtered mercury light. The film hologram is mounted between glass plates. A hand-made classic. \$ 50.00

Holopak™: a set of six 35 mm holograms, each representing a different type to be used for explaining the basic principles. The package consists of two holographic diffraction gratings, one each of the following types of holograms: single channel transmission, two channel transmission, white light reflection, and focused image transmission. Useful for classroom teaching. \$ 36.00

2" x 80mm diameter cylindrical hologram, showing the continuous 360 degree view of a Volkswagon. Mounted on a clear Plexiglas tube. To be viewed with laser or filtered mercury or sodium light. For everyone. \$ 45.00

TERMS:

Terms: NET 30, FOB Lake Forest (if FOB destination is required, add 5% to prices). Purchases by individuals must be prepaid or shipped COD by UPS. Unless specified above, add 5% (in U.S.) for shipping (but not less than \$1.75). For Illinois residents, add 6.5% sales tax. Foreign orders must be paid in U.S. dollars in the form of cashier checks or checks negotiable in U.S. banks, and include actual freight costs.

Integraf is a minority owned small business and is an equal opportunity employer.

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<u>TYPE</u>	<u>PRODUCT CODE</u>	<u>SIZE</u>	<u>PLATES PER PACKAGE</u>	<u>LIST PRICE</u>
8E56 HD NAH	ELOG 0135	4" x 5"	20	\$ 95.65
8E56 HD NAH	ELOG 0160	8" x 10"	10	\$158.25
8E56 HD NAH	ELOG 0185	30cm x 40cm	10	\$269.75
8E75 HD NAH	ELOG 0200	2.5" x 2.5"	30	\$ 46.60
8E75 HD NAH	ELOG 0224	4" x 5"	20	\$ 96.65
8E75 HD NAH	ELOG 0250	8" x 10"	10	\$158.25
8E75 HD NAH	ELOG 0285	30cm x 40cm	10	\$269.75
8E75 HD NAH	ELOG 0286	32cm x 43cm	10	\$269.75
10E75 HD NAH	ELOG 0300	2.5" x 2.5"	30	\$ 46.60
10E75 HD NAH	ELOG 0525	4" x 5"	20	\$ 95.65
10E75 HD NAH	ELOG 0550	8" x 10"	10	\$158.25

←
Used to use.
Now using
PFG-D1

<u>TYPE</u>	<u>PRODUCT CODE</u>	<u>SIZE</u>	<u>SHEETS PER PACKAGE</u>	<u>LIST PRICE</u>
<u>CUT SHEET FILM</u>				
8E56 T3 HD NAH	EL2G 0193	30cm x 40cm	50	\$333.90
8E75 T3 HD NAH	EL2G 0110	4" x 5"	100	\$ 89.65
8E75 T3 HD NAH	EL2G 0140	8" x 10"	100	\$287.25
8E75 T3 HD NAH	EL2G 0200	30cm x 40cm	50	\$333.90
8E75 T3 HD NAH	EL2G 0200	50cm x 60cm	25	\$388.80
10E75 PL AH	EL2G 0325	4" x 5"	100	\$ 89.65

ROLL FILM

8E56 T3 HD NAH	EL2G 0183	114cm x 10m	1 Roll	\$479.50
8E75 T3 HD NAH	EL2G 0280	70mm x 30.5m	1 Roll	\$115.35
8E75 T3 HD NAH	EL2G 0700	10" x 100'	1 Roll	\$408.10
8E75 T3 HD NAH	EL2G 0296	114cm x 10m	1 Roll	\$479.50
10E75 P1 NAH NP	EL2G 0345	35mm x 100'	2 Rolls	\$110.80
10E75 P1 NAH	EL2G 0558	70mm x 100'	1 Roll	\$115.35

T3 - triacetate base, base thickness - 7 mil. (175 microns).

P1 - polyester base, thickness - 4 mil. (100 microns).

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Keystone Scientific Co.

P.O. BOX 22 THORNDALE, PA. 19372

(215) 269-2709

Bahaa Saleh
University of Wisconsin
Electrical and Computer Engineering
1415 Johnson Drive
Madison, WI 53706

Dear Bahaa Saleh,

As an authorized distributor for Agfa, Ilford and Kodak holographic products, we are able to maintain a complete inventory of the most popular film and plate sizes.

Our prices are generally 5% below list price.

I have enclosed a copy of our standard price list showing some of the products we stock for immediate delivery. Other products not listed can be shipped within 2 days.

We now offer an additional 5% discount to qualified schools and educational facilities.

I have also enclosed a brochure describing our Holographic Film and Plate Processing Kit. These chemistry kits are ideal for schools and other low volume applications. The Ilford developer and bleach produce extremely bright transmission and reflection holograms, have an 18 month shelf life and are non-toxic and non-caustic.

We welcome the opportunity to supply all of your holographic products with immediate delivery and lower prices. We also will be glad to supply technical assistance and to answer any questions you might have. Please feel free to call.

Sincerely,



Edward J. Kelly
President

EK/cg
enclosures



KEYSTONE SCIENTIFIC CO.

P.O. BOX 22, THORNDALE, PA USA 19372

PHONE: (215)384-8092

PRICE LIST

APRIL 1989

AGFA HOLOGRAPHIC PLATES

8E56-HD NAH	4 x 5 in.	20	83.40
8E56-HD NAH	8 x 10 in.	10	137.90
8E56-HD NAH	30 x 40 cm	10	230.85
8E75-HA NAH	2.5 x 2.5 in.	30	40.25
8E75-HD NAH	4 x 5 in.	20	83.40
8E75-HD NAH	8 x 10 in.	10	137.90
8E75-HD NAH	30 x 40 cm	10	230.85
8E75-HD NAH	32 x 43 cm	10	230.85
10E56 NAH	4 x 5 in.	20	83.40
10E75 NAH	4 x 5 in.	20	83.40
10E75 NAH	8 x 10 in.	10	137.90

AGFA HOLOGRAPHIC FILMS

8E56-HD NAH	30 x 40 cm	50	299.30
8E75-HD NAH	4 x 5 in.	100 (50/\$49)	81.10
8E75-HD NAH	30 x 40 cm	50	299.30
10E75 AH	4 x 5 in.	100	81.10
8E56-HD NAH	114cm	10m roll	422.00
8E75-HD NAH	70mm	100' roll	102.50
8E75-HD NAH	10 in.	100' roll	365.80
8E75-HD NAH	114cm	10m roll	422.00
10E56 NAH	35mm	100' roll	48.70
10E56 AH	70mm	100' roll	78.80
10E75 NAH	35mm	100' roll	48.70
10E75 NAH	70mm	100' roll	102.50

EASTMAN KODAK HOLOGRAPHIC PLATES

649F (B)	2 x 2 in.	36	226.00
649F (B)	4 x 5 in.	36	316.60
649F (B)	8 x 10 in.	12	265.85

EASTMAN KODAK HOLOGRAPHIC FILMS

S0253	35mm	12/100' roll	1237.50
S0253	70mm	6/150' roll	1232.60
649F	35mm	12/125' roll	1081.80
649F	70mm	6/125' roll	1077.30

ILFORD HOLOGRAPHIC PLATES

7611 (G)	4 x 5 in.	20	85.10
7612 (G)	8 x 10 in.	10	144.60
7613 (G)	12 x 16 in.	10	242.40
7614 (G)	20 x 24 in.	2	166.90

ILFORD HOLOGRAPHIC SHEET FILMS

6456 (G)	8 x 10 in.	25	59.40
6455 (G)	12 x 16 in.	25	141.80
(G)	20 x 24 in.	25	354.40
6457 (R)	8 x 10 in.	25	59.40
6454 (R)	12 x 16 in.	25	141.80
8011 (R)	20 x 24 in.	25	354.40

PROCESSING CHEMICALS

EASTMAN KODAK MONOBATH DEVELOPER/STOP BATH/BLEACH KIT	14.50/quart
	14.00/kit



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CHEMICAL DISPENSER		
(#100)	Push button controlled	7400.00
(100XT)	Computer controlled (Includes IBM compatible XT)	7900.00
PROCESSING HEAD		
(#A35)	for 35mm film	3500.00
(#A70)	for 70mm film	3500.00
(#A25)	for 2 1/2" plate	3500.00
BOLT-DOWN BASE		
(#110)	for processing head	115.00
SHUTTER ASSEMBLY		
(#120)	with magnetic base	225.00
FILM CASSETTE		
(#235)	for 35mm film	12/20.00
(#270)	for 70mm film	3/42.00
DAYLIGHT FILM LOADER		
(#335)	for 35mm film	35.00
(#370)	for 70mm film	175.00
HOLOGRAM VIEWER		
(#435)	for 35mm film	120.00
(#470)	for 70mm film	140.00
CHAMBER PLATE KIT		
(#535)	for 35mm film	390.00
(#570)	for 70mm film	390.00
(#525)	for 2 1/2" plate	290.00
PLATE HOLDER		
(#B25)	clamp type, w/magnetic base for 2 1/2" plate	230.00
PLATE STAND		
(#P25)	Pin type, w/magnetic base for 2 1/2" plate	230.00

Please call for price and delivery of any products not listed. We will be glad to discuss modifications of our standard processing systems as well as custom equipment for special applications.



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