

by Don Lancaster

Stupendous Stuff Sources

Three centermost key secrets to your personal technical, craft or art venture are (1) Becoming and keeping informed; (2) Not trying to reinvent the wheel; and (3) Not getting ripped off by your suppliers.

What I thought I'd do this month is reach way down into my super-secret personal resource file, and pull out the finest of the good guys for you...

Advance Process Supply

400 North Noble Street
Chicago, IL 60622
(312) 829-1400

Stocks a rather wide variety of silk screen materials and supplies, both for electronic and sign purposes. Their "fuzzy" self-flocking plastasol inks are rather unique.

AIN Plastics

249 East Sandford Blvd.
Mount Vernon, NY 10550
(914) 668-6800

This plastics wholesaler has an in-depth selection of the engineering and commercial materials. Rigid vinyl is often a good and low cost choice for modelmaking uses.

APDA

20525 Mariani Avenue Bldg 33G
Cupertino, CA 95014
(800) 282-2732

The Apple Programmer's and Developer's Association was cheaper and better when it was independent, but this is your best source for insider technical info and software on all Apple and Macintosh products. Their \$25 yearly membership remains a bargain.

Association of Energy Engineers

Box 1026
Lilburn, GA 30226
(404) 925-9558

Professional and technical info on solar and wind energy is getting very hard to pin down, with practically all of the trade journals having folded. This one remains as a useful, although totally establishment, source. Also heavy into co-generation, and efficient appliances.

Dick Blick

Box 1267
Galesburg, IL 61401
(800) 447-8192

A good direct mail art supply house, also heavy into silk screen and signmaking stuff. Lots of interesting materials available in small lots without staggering minimum orders.

BMUG

1442A Walnut Street #153
Berkeley, CA 94709
(415) 849-9114

Probably the best all-around Macintosh user's group. Outstanding bound newsletters, public domain software, and shareware. Loosely associated with Farallon Computing.

C & H Sales

Box 5356
Pasadena, CA 91107
(800) 325-9465

Here's where you go for surplus "big mutha" raw iron. Motors, instruments, hydraulics, steppers, valves, controls. Most at outstanding prices but limited availability.

Circuit Cellar Ink

4 Park Street Suite 20
Vernon, CT 06066
(203) 875-2751

Steve Ciarcia's hands-on answer to my Hardware Hacking columns. Very heavy into computer applications, especially embedded microcontrollers. His other emphasis areas include security, machine vision, remote controls, and telecommunications.

Coburn

1650 Corporate Road
Lakewood, NJ 08701
(201) 367-5511

Makes highly unusual and decorative sheet materials, including prismatics, foils, glow-in-the-darks, diffraction gratings, glitters. Some are laser printable; others are not. Sample evaluation packages available.

Constantine

2050 Eastchester Road
Bronx, NY 10461
(212) 792-1600

A woodworker's supply catalog. Heavy into exotic woods and veneers, unusual and quality tools. Free catalogs available.

Dialog Information Services

3460 Hillview Avenue
Palo Alto, CA 94304
(415) 858-2700

Hundreds of millions of technical references spread out over several hundred instantly accessible data bases. Far and away the best way to research any subject. Hint: use your local librarian. They can dramatically reduce costs. Typical price for 50 key abstracts in a field is around \$25.

Die-O-Perf

1721 East Pioneer Drive
Irving, TX 75061
(800) 843-2807

Has low cost die cut goodies that laser print beautifully. Stuff like perforated self-mailers, coupon sheets, rolodex cards, tickets, tags. Usual cost is a nickel a sheet.

ECG/Phillips

70 Empire Drive
West Seneca, NY 14224
(716) 325-2620

One of the two leading sources of repair, replacement, hacker, and educational semiconductors. Has outstanding cross references and technical mini-manuals. The competition includes NTE Electronics.

EDLCO

PO Box 5373
Asheville, NC 28813
(704) 255-8765

The name is short for Educational Lumber Company. Has all varieties of Appalachian hardwoods and exotic imports. Nothing like cocobolo or wenge to liven up your products. Reasonable prices, good delivery.

Edmund Scientific

101 East Gloucester Pike
Barrington, NJ 08007
(609) 573-6250

The yuppie reign of terror here has at long last ended, and the Perrier-filled birdbaths are no more. Edmund is once again a good source of optics, electronic surplus, and scientific stuff. Now has superconductivity kits.

Evergreen Scale Models

12808 Northeast 125th Way
Kirkland, WA 98034
(206) 823-0458

Precut white styrene for modelmaking uses, especially in the sizes favored by architects, model railroaders, and dollhouse builders. Stocked by some larger hobby shops.

Fair Radio Sales

Box 1105
Lima, OH 45802
(419) 227-6573

The oldest of the old line surplus houses, still stocking original World War II electronic gear. Particularly handy for older and higher voltage components, hard-to-get technical info. One of my favorites, I've bought everything from altimeters to servos from them.

Fomebords

2211 North Elston Avenue
Chicago, IL 60614
(312) 278-9200

Cardboard used to be cardboard and posterboard used to be posterboard, but today there are dozens of hi-tech materials available for architectural studies, models, and exhibits. Great stock selection.

Grainger

2738 Fulton Street
Chicago, IL 60612
(312) 638-0536

A major wholesale source for motors, air conditioners, electrical tools, and such. In most larger cities. Some locations actually try to enforce their wholesale-only policy, so you may need a letterhead and a tax stamp.

Heath Company

PO Box 1288
Benton Harbor, MI 49022
(616) 982-3200

The largest manufacturer of electronic kits in the world. Their self-study educational electronic courses are far better than any of the mail-order trade schools. Outstanding reputation and unconditional guarantees. No matter how much a mess you make of their products, they will fix them for free.

Home Power

PO Box 130
Hornbrook, CA 96044
(916) 475-3179

Appears to be the last remaining user-oriented alternate energy publication. \$10 per year. Full of ads and tech articles on solar power, low voltage appliances, and windmills.

Hygienic Manufacturing

1245 Home Avenue
Akron, OH 44310
(216) 633-8460

A great and very low priced source of rubber tubing and sheeting, as well as doing custom die-cutting. Far cheaper than most electronic materials sources.

Jerryco

601 Linden Place
Evanston, IL 60202
(708) 475-8440

The finest mail order surplus store in the world. Period. Where else can you get a matched set of 24 US Army urine specimen bottles for use as wedding presents? Insanely low prices on many items. Unusual materials for unusual uses. This one is a "must have".

K & S Engineering

6917 West 59th Street
Chicago, IL 60638
(312) 586-8503

Good source of modelmaking aluminum, stainless, and brass sheet and tubing in small sizes. Has racks in larger hobby shops.

Kepto Circuit Systems

630 Axminster Drive
Fenton, MO 63026
(314) 343-1630

Probably the best source for small quantity experimenter printed circuit materials and supplies. Use the dry resist pre-coated boards and their ammonium persulfate etchant for the best results.

Lazer Products

12741 East Caley Suite 130
Englewood, CO 80155
(303) 792-5277

Supplies for copier and laser toner cartridge reloading that can reduce your page costs by 15:1 or higher. Also hard recoats drums for extended life.

Lindsay Publications

PO Box 583
Manteno, IL 60950
(815) 468-3668

A unique direct mail book store that specializes in reprinting old machine shop and antique electronics texts. Hundreds of hands-on titles on everything from stained glass to perpetual motion machines. Request both of their free machine shop and electronic catalogs. Get on their mailing list.

Machine Design

1100 Superior Avenue
Cleveland, OH 44144
(216) 696-7000

A very good mechanical engineering trade journal. They are fussy about their free subscriptions, so sound like a real engineer when you fill out your qualification card.

McMaster-Carr

Box 54960
Los Angeles, CA 90054
(213) 692-5911

The super hardware stores that industry shops at. Branches in all larger cities. Try to cop one of their humongous 2400 page catalogs. Stocks at least one each of everything, but does not discount.

Robert A. Main & Sons

555 Goffle Road
Wyckoff, NJ 07481
(201) 447-3700

Makes a bewildering array of hooks, points, and pins. Not that they are at all old line or anything, but they still offer several different styles of 78 RPM phono needles. All the items in their catalog scream "Use me!".

Maxim

120 San Gabriel Drive
Sunnyvale, CA 94086
(408) 737-7600

Innovative smaller microchip manufacturer. Unique and low cost products include video switches, micropower regulators, supervisors, A/D & D/A, power op-amps, lots more. Chips that cry to be used.

Measurement and Control

2994 West Liberty Avenue
Pittsburgh, PA 15216
(412) 343-9666

A free trade journal with extensive ads and advertiser-written technical articles for sensors, transducers, and other industrial instrumentation. They also publish the Pollution Equipment News magazine.

Meredith Instruments

6403 North 59th Avenue
Glendale, AZ 85301
(602) 934-9387

The best hacker source for surplus lasers and related optics. Prices start around \$25. Also has a light show BBS up at (602) 867-7258.

Metalphoto

18531 South Miles Road
Cleveland, OH 44128
(216) 475-0555

Manufactures photosensitized and partially anodized aluminum plates. You expose these, develop them, and boil them in sealing glop to make very durable nameplates, front panels, or vandal-resistant interpretive signs.

MIX Bookshelf

6400 Hollis Street Suite 12
Emeryville, CA 94608
(800) 233-9604

Probably the largest collection in the world on audio, electronic music, television, and video production books and software. Associated with both MIX Magazine (audio production) and Electronic Musician (synthesizers, etc.).

Model Railroader

1027 North 7th Street
Milwaukee, WI 53233
(414) 272-2060

Besides unusual tools and techniques, this hobby magazine has far and away the finest technical writing and technical illustration of any publication anywhere ever. Use it as a style and layout manual, and hope to someday be able to communicate that well. Should be required reading for any tech writer.

Motion Magazine

Box 6430
Orange, CA 92613
(714) 974-0200

Free trade journal that covers steppers, servo motors, linear actuators, the power control semiconductors, and general robotics stuff. Pricy products but full of good technical ideas and resources.

Mouser Electronics

11433 Woodside Avenue
Santee, CA 92071
(800) 346-6873

Electronic distributor with low minimums, low pricing, and extensive stock. Very hacker friendly. Carries semiconductors, ic's, relays, resistors, capacitors, inductors, hardware, and all the usual goodies. Largely imports.

Northeastern Scale Models

PO Box 727
Methuen, MA 01844
(508) 688-6019

Precision precut wood shapes in the sizes used by architects, model railroaders, and dollhouse builders. Think of them as a miniature lumberyard.

NTE Electronics

44 Farrand Street
Bloomfield, NJ 07003
(201) 748-5089

The second major source of semiconductors for replacement, service, education, and hacker experimenting. A virtual carbon copy of ECG, they also have lots of good cross reference and technical data books available.

Nuts and Volts

Box 1111
Placentia, CA 92670
(714) 632-7721

An all-ads mail order shopper specifically for hardware hackers, ham radio operators, CB folks, computer users, and satellite pirates. Their low-price ads are attractive for most shoestring technical startups.

PaperPlus

300 Oceangate #800
Long Beach, CA 90802
(800) 272-7377

If you've ever tried buying paper from an old line source, you know the hassles. Instead, try these walk-in paper supermarkets now in most states. Especially useful for book-on-demand publishers. Also stocks certificates, bumper sticker stock, acetates and polyesters.

PCIM

2472 Eastman Avenue
Ventura, CA 93003
(805) 658-0933

Used to be called Power Conversion and Intelligent Motion. Another free trade journal for the robotics crowd. Covers steppers, servos, motors, linear actuators, and their electronic control components.

Player Piano Company

704 East Douglas
Wichita, KS 67202
(316) 263-3241

Well, just because it is there, I guess. Unusual source for very unusual tools, materials, and techniques. Has hobby robotics potential, especially for low pressure pneumatics.

Printer's Shopper

PO Drawer 1056
Chula Vista, CA 92012
(800) 854-2911

Not really a shopper, but a monthly mail-order catalog for a major printing equipment tools, materials, inks, and supplies house. Many hundreds of items listed. Their prices are usually better than buying locally.

Quick Printing

1680 Southwest Bayshore Blvd
Port Saint Lucie, FL 34984
(407) 879-6666

Probably the best of the instant printer trade journals. Full of ads for papers, materials, tools, supplies, badges, bumperstickers, menus, and tags. Usually gives you several free copies and then will hit you up for an overpriced subscription.

Quill Office Products

Box 4700
Lincolnshire, IL 60197
(312) 634-4800

Traditionally a leading mail-order discounter of office products. These days, though, the local office supply superstores are giving them a run for the money. Wait for Quill's sales; they are often genuine loss leaders.

Radio-Electronics

500-B Bi-County Blvd
Farmingdale, NY 11735
(516) 293-3000

Yeah, I write for them. Even so, they are just about the best newstand electronic mag. They also publish Popular Electronics, which is really the old name wrapped around their own Hands-On Electronics.

Real Goods

966 Mazzoni Street
Ukiah, CA 95482
(800) 762-7325

A major direct-mail supplier of alternate lifestyle products, including home power, home business, home craft type of goodies. One of the last of a vanishing breed.

Rohm Corporation

8 Whatney
Irvine, CA 92713
(714) 855-0819

US distributor of unique integrated circuits including FM wireless stereo broadcasters, melody chips, plus bunches of similar consumer electronic goodies. Free catalogs and often free samples. Very low prices.

SAE

400 Commonwealth Drive
Warrendale, PA 15096
(412) 776-4840

Used to be the Society for Automotive Engineers. This one is about as establishment as you can get, but they do stock a wide variety of books and monographs on car electronics, unusual engines, and vehicular technology in general.

Samsung Semiconductor

3725 North First Street
San Jose, CA 95134
(408) 434-5400

Distributor of a mind-blowing variety of Korean microcircuits. To any hardware hacker, their data books (especially Linear, Volume I) reads like a page-turning pulp novel. Their low cost chips are all "gottahaves".

SignCraft

1938 Hill Avenue
Fort Myers, FL 33906
(813) 939-4644

The very best magazine for the sign painting trade. Their competitors are too hung up on snotty billboard politics. Signcraft can be an excellent idea source, besides containing ads for unusual tools and materials.

Small Parts

Box 381966
Miami, FL 33238
(305) 751-0856

The greatest robotics store in the world, only they don't know it. Besides their stocking everything your hardware store never heard of, they custom cut smaller quantities of aluminum, brass, and plastic sheet, rod, or extrusions for you. Small orders welcome.

Southern Sign Supply

127 Roesler Road
Glen Burnie, MD 21061
(301) 768-8600

A competitor to Advance, these folks also stock silk screen materials and specialized tools for printed circuit and commercial use. Big fat catalog. Reasonable prices.

Speleonics

Box 5283
Bloomington, IN 47402
(812) 339-7305

One of my favorite examples of an extremely well done "labor of love" technical newsletter, this one covers technical stuff of interest to cavers. Covers the very low frequency radio communications, direction finding, altimeters, improved light sources, more.

Surplus Traders

Winters Lane Box 276
Alburt, VT 05440
(514) 739-9328

The old ETCO operation set up for direct mail surplus electronics. Ridiculously low prices on many items. As with all electronic surplus, availability is on a catch-as-catch-can basis.

Synergetics

Box 809
Thatcher, AZ 85552
(602) 428-4073

Sneaky, huh? Synergetics is me, stocking lots of classic books on hardware hacking, as well as the ongoing book-on-demand published reprints from my columns. PostScript, too.

Thompson and Thompson

23072 Lake Center Drive #100
El Toro, CA 92630
(714) 855-3838

Has very good pricing on modified and rebuilt PostScript laser printers. Manufactures those glompenstractors and other essential tools for toner cartridge reloading. Has a free helpline.

3M Scotch Color Key

3M Center B 223-2N-01
Saint Paul, MN 55144
(800) 328-1186

Color Key is an unusual photographic material intended for color proofing. But it has zillions of other uses, for anyplace you'd want to (1) reverse a photographic image, or (2) create an image using clear and colored areas on a plastic sheet. No darkroom needed. You contact print in the sun and develop by wiping on glop. Be sure to check out their related do-it-yourself Scotchcal dialplates.

Transfer Print Foils

Box 518
East Brunswick, NJ 08816
(201) 238-1800

One of the leading suppliers of foils for hot stamping and custom printing. And, their free Foiled Again newsletter is something you gotta get on its name alone.

U&lc

2 Dag Hammarskjold Plaza
New York, NY 10017
(212) 371-0699

One of the most bizarre free trade journals in the world, U&lc covers Upper and Lower Case typography. Free alphabets and off-the-wall layout ideas with each oversize issue. Be sure to sound like an ad agency art director when requesting your free sub.

Uhlricht's Periodicals Dictionary

1180 Avenue of the Americas
New York, NY 10016
(212) 916-1600

Herein lie the keys to the kingdom. Found on the reference shelf at your local library, this gem lists over 50,000 trade journals, many of them free. If I were to shorten this resource directory to a single entry, Uhlricht's would be it, hands down. No contest.

UMI

300 North Zeeb Road
Ann Arbor, MI 48106
(800) 521-3044

They used to be called University Microfilms International. They can get you a reprint of most anything printed anywhere. Faster than interlibrary loan, and cheaper than Dialog. You do have to know exactly what you want.

Unibind

4125 Prospect Drive
Carmichael, CA 95608
(916) 967-6401

Supplies the thermal perfect binding system I use for my book-on-demand publications. You jog your sheets, place them into a vinyl cover, and drop them in a toaster-style heater.

United States Plastics

1390 Neubrecht Road
Lima, OH 45801
(408) 559-7778

A good plastic wholesaler with a wide stock selection. Particularly strong on unusual fittings and adaptors you can't find locally.

Value Plastics

3350 Eastbrook Drive
Fort Collins, CO 80525
(303) 233-8306

The pneumatic components for low pressure robotics are often unreasonably expensive. These folks have lots of cheap connectors and connector systems, including a line of custom you-bond-it manifold kits.

Van Dyke's Restorers

Woonsocket, ND 57385
(800) 843-3320

Yet another unusual source for parts, tools, and ideas. These are aimed mostly at antique and restoration buffs. Has exotic woods.

Velo-Bind

650 Alamanor Avenue
Sunnyvale, CA 94086
(800) 538-1798

Their Personal Velobinder system is an attractive way of binding 30 or fewer sheets together in a non-perfect, but reasonably professional manner. You can pick your own cover materials, or else use theirs.

Roger Wagner Publishing
1050 Pioneer Way, Ste P
El Cajon, Ca 92020
(619) 442-0522

Roger's Hyperstudio is a mentor class product for the Apple IIs. This Hypercard-style package provides excellent sound and full color graphics. It includes a microphone and all necessary hardware.

Guy Wicker
30437 Fairfax
Southfield, MI 48076
(313) 647-1820

Cold fusion is very much in the news these days. Apparently the excess heat production is real and seems to have an atomic origin. Guy offers very low cost experimenter's cold fusion kits and related products.

Whole Earth Review
27 Gate Five Road
Sausalito, CA 94965
(415) 332-1716

Still at the same old stall after all these years. The indispensable quarterly follow-up to the Whole Earth Catalog and progeny. Of the 437 magazines I subscribe to, this one is good old number two, and right up their behind MAD. Nothing else comes even remotely close. They are starting to publish on CD-ROM and also run The Well, a unique BBS system.

Woodworker's Store
21801 Industrial Blvd.
Rogers, MN 55374
(612) 428-2899

The last of our woodworking triad that also includes Constantine and Edelco. Unusual and exotic woods and veneers, specialty tools, idea books, router bits, whatever.

Xicor
1511 Buckeye Drive
Milpitas, CA 95035
(408) 432-8888

Their unique EEPOT products make fine low cost remote digital volume controls. Free samples on letterhead requests.

.

Well, that is sort of a sampler of several of my very favorite resources. My entire *Names and Numbers* directory appears in the appendix. ♦

Microcomputer pioneer and guru Don Lancaster is the author of 26 books and countless articles. Don now maintains a no-charge technical helpline you will find at (602) 428-4073, besides offering all of his own books, reprints, and various services. He also has a free brochure

chock full of his new insider desktop publishing secrets waiting just for you. Your best calling times are 8-5 on weekdays, Mountain Standard Time. Or you can reach Don by way of his Synergetics, at Box 809, Thatcher, AZ 85552.