

Don Lancaster's

RESOURCE BIN

number seventy nine

Finding semiconductor and IC data.

Our usual reminder here that the *Resource Bin* is now a two-way column. You can get tech help, consultant referrals and off-the-wall networking on nearly any electronic, *tinaja questing*, personal publishing, money machine, or computer topic by calling me at (520) 428-4073 weekdays 8-5 Mountain Standard Time.

I'm now in the process of setting up my new *Guru's Lair* web site you will find at (where else?) www.tinaja.com This is the place you'll go for instant tech answers. Among the many files in our library, you will find complete reprint sets for all of the *Resource Bin* and other columns. Plus a brand new **Research InfoPack Service**.

You will get the best results if you have both *Netscape Communicator* and *Acrobat Reader 3.0* installed.

Finding Semiconductor Data

There's been some revolutionary changes in how and where you go to get info on both older and modern transistors and integrated circuits. So I thought we'd do an update for this month. One key question is whether we are about to see...

The End of Bingo Cards?

Most electronics suppliers seem to have made the stupendous discovery that their users would rather receive info on their products right now and hassle free. Rather than waiting for several weeks for catch-as-catch-can results. As a result, nearly everybody now has instant "real" data sheets and ap notes on the web. In the superb quality *Adobe Acrobat* .PDF format.

Your cost of delivering a catalog online approaches zero. Full color is virtually free. But the cost of a hard catalog by mail is a dollar or more. Possibly five for a fat data manual.

More details on "24-7" publishing are found in **PUBL24-7.PDF**

It also turns out that the real buyers

are *much* more attracted to instant web availability than those literature collectors. This is creating a "death spiral" in which hard sales from bingo card responses are clearly heading south. In a very big hurry.

If it costs five cents per dollar sale to process bingo requests, then the cards can be a useful choice for the advertiser. If it costs five dollars per dollar sale, they obviously are not. *E.E. Times* is one of the earliest of the major electronics trade journals to drop bingo cards entirely.

I also personally no longer offer bingo cards because they have simply stopped being cost effective.

The really big new development in getting semi info is...

Questlink

Otherwise called www.questlink.com Which is a more or less unbiased and independent site that has gathered

NEXT MONTH: Don goes over some fundamentals of electronic test gear.

together all of the major data sheets and ap notes from most of the major and minor manufacturers.

This free site is spectacularly good. Here is a brief summary of a few of the goodies you'll find...

Application note search
Board level product index
Company listings
Discrete device index
EDA design tools index
EE news find
Industry events
Integrated circuit index
Online media guide
Product search
Technology reports
Wisdom web site links

Best of all, though, is their sample service. You can instantly order one or two parts by VISA at any time. A modest premium is charged for this service. But well worth it.

Chip Directory

Check out this free web site found at www.hitex.com. You can search for new integrated circuits six ways from Sunday. Plus find listings of pinouts, discover which manufacturers have many dozens of those free CD ROMs available, view recommended books, and explore their external links.

More EE Web Sites

There are now many thousands of useful electronics engineering web sites. Many of which deal in one way or another with semiconductor info. I have got links to many of these at my www.tinaja.com/eeweb01.html. Here's a random sampling of a few of the more important ones...

CMP Net at www.techweb.com Industry news, ap notes, new products, much more. This one is sponsored by *E E Times* magazines and its stablemates. Sadly, their site is uselessly slow.

Ultimate List at www.infinet.com/~fincato/electron.html A mind boggling collection of linkings to everything electronic. Distributors, magazines, personal pages, reference, directories, data sheets, PICs and more.

An EE Toolbox at www.eg3.com These folks do believe they are the largest online resource in electronics. And back it up with many thousands of useful online files and links. This one is very well done.

Dana's Source at pw1.netcom.com/~dwsmith/index.html is an English version of a German site with an extensive listing of more than 1100 electronics related links. This site is often a very good starting point.

EE Compendium at [www.geocities.com/Reserach Triangle/1495/](http://www.geocities.com/Reserach%20Triangle/1495/) A personal collection of highly useful Electronic Engineering links. Includes bunches of publications, parts, PIC's, and lots of assorted additional links.

Guru's Lair at www.tinaja.com. Hey, that's me. Large and fast loading site provides you an eclectic collection of computers and electronics tutorials, links, and resource access.

Electrical Engineering Links from www.mindspring.com/~brucec/links3.htm. Another labor-of-love guide that was designed for working engineers and hobbyists. Hundreds of links that are organized into broad categories.

Electronics Links and Resources at 207.34.139.253/users/sgl/html/jo4.htm Yet another well arranged personal collection of useful sites, grouped by electronic circuits, distributors, parts and device manufacturers, electronic education, software, online resources, and other personal link pages.

Electronics Resources at members.home.net:80/darrellg/html/electronics_resources.html is a personal page with scads of links to search engines, reference, newsgroups, microprocessors, repair sites, data sheets, standards orgs, and even the ee labs.

Circuit Center at www.darkportal.com/c/index.htm Fancy graphics site with links to pinouts, software, circuits, suppliers, components, magazines, up to usenet, basics, and tutorials.

ECG and NTE

Your pair of "best" directories to replacement semiconductors have long been from *Philips ECG* and *NTE Electronics*. These competing sources both offer fat printed catalogs which vary from free to cheap depending on exactly who you are. Their respective web sites are at www.ecgproducts.com and nteinc.com

Both offer easy and free online part number searches. Both outfits resell equivalent replacements for hundreds of thousands of transistors, integrated circuits, plus most other electronic goodies. They both sell direct as well as providing carded and shelved ic's at leading distributors.

Both of these directories are "must haves" in any home or student lab.

Another useful directory is that *E.I.T.D. Electronic Industry Telephone Directory* from *Chilton Publishing*. The

website is www.ecnmag.com/eitd They have a free online search service. But these days, it's just as quick to get to the actual chip manufacturer's site than it is to look up a number to play telephone tag with.

Frequently overlooked is *Radio Shack*. They do have a cheap and fine *Semiconductor Reference Guide* that is really big on foreign semiconductors. Radio Shack also has a "behind the counter" service where you can get just about any electronic part. As well as detailed technical manuals and such. The usefulness and competence here will very much depend on the particular store you select. I've found Dave and Larry at *Audio Visions* here in Thatcher to be quite helpful.

I. C. Master

The people at *Electronic Products* magazine have long issued the pricey *I. C. Master* directory for integrated circuits. Historically, these annually updated printed indexes once were the industry standard place to go for chip reference info. Older copies were especially useful for finding dated and otherwise problem chip info.

These days, the list price is \$195 for their printed version and \$235 for a searchable CD ROM version. That printed version also does score you password access to their web site, which lets you do online searches and linking to actual data sheets. Several *Nuts & Volts* advertisers now offer discounted versions.

I dunno. As I wander around the web, I do see bunches of one-time industry standard dominant winners who have not yet picked up on the key web rule of "Give a lot away to sell a little". I question why anybody would pay for a service that you can find elsewhere for free.

Other obvious "ain't got the faintest clue" examples are *Books in Print*, who clearly and utterly have been blown away by *Amazon* (check my search link www.tinaja.com/amlink01.html). Or else my one time recommended favorite *Ulrich's Periodical's Dictionary*, who seem to have gotten completely shot out of the saddle by that free *Oxbridge Media Finder*. Check my links on this and lots of related research tools at www.tinaja.com/webwb01.html

Yet some others have found great opportunities here. For instance, a number of sites now offer free *Medline* to everybody. *Medline* is the super expensive research source which the doctors themselves use. You can find

new from DON LANCASTER

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Intro to PostScript Video	\$29.50
PostScript Reference II	\$34.50
PostScript Tutorial/Cookbook	\$22.50
PostScript by Example	\$32.50
Understanding PS Programming	\$29.50
PostScript: A Visual Approach	\$22.50
PostScript Program Design	\$24.50
Thinking in PostScript	\$22.50
LaserWriter Reference	\$19.50
Type 1 Font Format	\$16.50
Acrobat Reference	\$24.50
Whole works (all PostScript)	\$380.00
Technical Insider Secrets	FREE

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FREE SAMPLES

Check Don's Guru's Lair at <http://www.tinaja.com> for interactive catalogs and online samples of Don's unique products. Searchable reprints and reference resources, too. Tech help, hot links to cool sites, consultants. email: don@tinaja.com

FREE US VOICE HELPLINE VISA/MC

SYNERGETICS
Box 809-NV
Thatcher, AZ 85552
(520) 428-4073

FREE Catalog: <http://www.tinaja.com>

SEMICONDUCTOR AND IC INFO RESOURCES

Adobe Acrobat System
1585 Charleston Rd
Mountain View CA 94039
(800) 833-6687

Allied Electronics
PO Box 1544
Ft Worth TX 76101
(800) 433-5700

Audio Visions
E Hwy 70
Thatcher AZ 85552
(520) 428-7625

Books in Print
121 Chanlon Rd
New Providence NJ 07974
(908) 464-6800

Circuit Specialists
PO Box 3047
Scottsdale AZ 85271
(800) 811-5208

Compendex
1 Castle Point Terrace
Hoboken NJ 07030
(201) 216-8500

Dialog Information Svcs
3460 Hillview Ave
Palo Alto CA 94304
(415) 858-2700

Digi-Key
701 Brooks Ave S
Thief River Falls MN 56701
(800) 344-4539

EDN Magazine
275 Washington St
Newton MA 02158
(617) 964-3030

EE Times
600 Community Dr
Manhasset NY 11030
(516) 562-5000

EITD
1 Chilton Way
Radnor PA 19089
(610) 964-4137

Electronic Comp News
1 Chilton Way
Radnor PA 19089
(610) 964-4137

Electronic Design
611 Rt #46 W
Hasbrouck Heights NJ 07604
(201) 393-6060

Electronic Products
645 Stewart Ave
Garden City NY 11530
(516) 227-1300

Global Eng Documents
15 Inverness Way East
Englewood CO 80112
(800) 854-7179

IC Master
645 Stewart Ave
Garden City NY 11530
(516) 227-1300

IHS Group
15 Inverness Way E
Englewood CO 80112
(800) 525-7052

Inspec/IEEE
445 Hoes Ln
Piscataway NJ 08855
(800) 678-IEEE

Jameco Electronics
1355 Shoreway Rd
Belmont CA 94002
(415) 592-8097

Luke Systems Intl
27827 Via Armistosa #101
Agoura Hills CA 91301
(818) 991-9373

MathSci
Box 6248
Providence RI 02940
(401) 455-4000

MCM Electronics
650 Congress Pk Dr
Centerville OH 45459
(513) 434-0031

Mouser Electronics
11433 Woodside Ave
Santee CA 92071
(800) 346-6873

Newark Electronics
228 E Lake St
Addison IL 60101
(312) 941-7200

NTE Electronics
44 Farrand St
Bloomfield NJ 07003
(923) 748-5089

Oxbridge
150 5th Ave #202
New York NY 10011
(212) 741-0231

Philips/ECG
1001 Snapps Ferry Rd
Greeneville TN 77744
(423) 636-5693

Rochester Electronics
10 Malcolm Hoyt Dr
Newburyport MA 01950
(508) 462-9332

Sunset Silicon Prods
402A Ridgefield Cr
Clinton MA 01510
(508) 365-6108

Synergetics
Box 809
Thatcher AZ 85552
(520) 428-4073

a number of freebie Medline links at my www.tinaja.com/beewb01.html

A second collection of fee-based services is offered by the *IHS Group* in their *D.A.T.A.* series of parametric info for electronics components. These CD ROM's are quite expensive. But their *Replacement Series and Discontinued Devices Data* is apparently a definitive source for older semiconductors and integrated circuits. Cost is \$135.

These same people also apparently operate *Global Engineering Documents*, who can find you reprints on nearly any standard or technical paper.

Some of their related products now include...

Digest Discete Semiconductors Library
Digest Integrated Circuits Library
Parametric Access Library
Specialty References Library
Surface-Mounted Devices Set
Replacement & Discontinued Devices Library
Edward's Encyclopedia of Connectors

Yet another fee based device info service is *Webstir* that you'll find at www.info-quick.com These people are purportedly a quality content service for larger electronics outfits. Yearly group memberships here can run as high as \$12,500. Private memberships are a steal at \$750.

Again, its going to be interesting to see if these fee-based services can survive the freebie web sites. New times take new methods.

Obsolete Semi Sources

Several firms specialize in stocking older and out of date semiconductors. The leader here seems to be *Rochester Electronics*, while *Luke Systems* is also a big player. There's also a *Sunset Silicon* who will build your ancient integrated circuits from the ground up, starting with the original masks or a reasonable clone of them.

A nearby firm is *Circuit Specialists*. They seem to have a long term stock of once popular experimenter and homebrew circuits that are quite hard to find elsewhere. Most of these chips are low in cost. Your quantity one orders are welcome. Their website is found at www.cir.com

Distributor Catalogs

Most of those old line distributors (such as *Allied* or *Newark*, or the new age ones (such as *Jameco*, *Mouser* or *Digi-Key*) have lots of semiconductor and integrated circuit listings in their catalogs. These tend to be catch as catch can as they are pretty much limited to current production of only those vendors that the distributor represents. But these catalogs are certainly highly useful for info on at least some newer parts.

I've noticed that *MCM Electronics* has a pretty extensive stocking for foreign and replacement ic's and discrete semiconductors.

Let me know your favorites here.

Trade Journals

Those electronic trade journals are your first source of info on upcoming and newer products. These are often free to qualified subscribers. They are easily reached through many of the previously mentioned links. Or you can get a nearly complete list via the *Oxbridge Media Finder* link you'll find at www.tinaja.com/webwb01.html.

My favorites here are *E.E. Times*, *Electronic Design*, *EDN*, *Electronic Products*, and the *Electronic Component News*. Plus a large handful of more specialized titles.

We saw a lot more on these back in [RESBN62.PDF](#), [RESBN57.PDF](#), and in [RESBN49.PDF](#) All can be downloaded at www.tinaja.com/resbn01.html

Newsgroups

Often you can pick up info on an oddball chip by asking for help in one of the Usenet newsgroups. You might start off with one of these...

[misc.industry.electronics](#)
[sci.electronics](#)
[sci.electronics.components](#)
[sci.electronics.equipment](#)
[sci.electronics.misc](#)
[sci.electronics.repair](#)
[sci.electronics.design](#)

This Month's Contest

Lots of additional links to related sites are in my *Electrical Engineering*

library at www.tinaja.com/eeweb01.html
You can also pin down most anything on any technical subject by using my *InfoPack* service you'll newly find at www.tinaja.com/info01.html

Let's have us several contests for this month. Firstoff, tell me about an old line "ain't got a clue" fee-based service that now has one or more free web replacements. Or newly useful substitutes. Especially needed is the freebie *Dialog* stuff, such as *Inspec*, *MathSci*, *Compendex*, and all the rest of the serious research gang.

What have you found so far?

So much is happening so fast on the web, that the chances are good I've

missed a biggie or two here. So, as our second contest, please tell me about any of your favorite sources for semiconductor info that I may have missed here.

There should be a largish pile of my new *Incredible Secret Money Machine II* books going to the dozen or so better entries, plus an all-expense-paid (FOB Thatcher, AZ) *tinaja quest* for two that will go to the very best of all.

To be fair to everyone, all entries must be written and submitted via snailmail. Send all your *written* entries to me here at *Synergetics*, rather than to *Nuts & Volts* editorial.

Let's hear from you. ♦

Microcomputer pioneer and guru Don Lancaster is the author of 35 books and countless tech articles. Don maintains his no-charge US tech helpline found at (520) 428-4073, besides offering all of his own books, reprints, and consulting services. Don also offers a free catalog full of his unique products and resource secrets. The best calling times are 8-5 on weekdays, Mountain Standard Time.

Don is the webmaster of his Guru's Lair found at <http://www.tinaja.com>

Full reprints and preprints of all Don's columns and ongoing tech support appear here. You can reach Don at Synergetics, Box 809, Thatcher, AZ 85552. Or send any messages to don@tinaja.com

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