

RF design™

Directory Issue October 31, 1995



Listings for Nearly 1400 RF Companies

In the race to market, we offer you a few shortcuts.



If you need magnetics for your prototype, our Designers Kits can get you off and running fast!

Each assortment puts a wide range of values right at your fingertips. So there's no need to waste hours calling around for samples or winding your own.

And when you're ready for production, you'll find we stock just about all these parts at low, factory-direct prices.

Call today and you can have your kit tomorrow! To order phone 800/322-2645.

Surface Mount Kits

0805CS Surface Mount Inductors

Inductance: 3.3 nH - 220 nH
19 values (10 of each) Kit C103 \$60

0805HS Surface Mount Inductors

Inductance: 3.3 nH - 220 nH
19 values (10 of each) Kit C106 \$60

1008CS Surface Mount Inductors

Inductance: 4.7 nH - 10 μ H
42 values (10 of each) Kit C100 \$125

1008HS Surface Mount Inductors

Inductance: 10 nH - 1 μ H
28 values (10 of each) Kit C107 \$100

Micro "Spring" Air Core Inductors

Inductance: 1.65 nH - 12.54 nH
9 values (12 of each) Kit C108 \$50

Mini "Spring" Air Core Inductors

Inductance: 2.5 nH - 43 nH
10 values (12 of each) Kit C102 \$60

Common Mode Data Line EMI Filters

Att. bandwidth: 15 dBm, 1.5 - 300 MHz
DC current capacity: 100 mA
2, 3, 4, 8 line, surface mount and leaded
(4 of each) Kit D103 \$75

DC-DC Converter Inductors - DT Series

Inductance: 1 - 1000 μ H
Current: 0.8 - 5 Amps
38 values (3 of each) Kit C104 \$95

DC-DC Converter Inductors - DO Series

Inductance: 1 - 1000 μ H
Current: 0.07 - 6.8 Amps
38 values (3 of each) Kit C105 \$90

RF Inductor Kits

"Unicoil" 7/10 mm Tuneable Inductors

Inductance: .0435 μ H - 1.5 μ H
49 shielded, 49 unshielded (2 each)
Kit M102 \$60

"Unicoil" 5 mm Tuneable Inductors

Inductance: 9 nH - 281 nH
19 Shielded, 19 unshielded (2 each)
Kit M105 \$60

"Slot Ten" 10 mm Tuneable Inductors

Inductance: 0.7 μ H - 1143 μ H
18 shielded, 18 unshielded (3 each)
Kit M100 \$60

"Slot Seven" 7 mm Tuneable Inductors

Inductance: 0.094 μ H - 275 μ H
39 values (3 of each) Kit M106 \$60

Axial Lead Chokes

Inductance: 0.1 μ H - 1000 μ H
25 values (5 of each) Kit F102 \$50

Horizontal Mount Inductors Tuneable and fixed

Inductance: 31.5 nH - 720 nH
33 values (3 of each) Kit M104 \$60

Low Pass LC Filters

Poles: 3, 5 and 7
Cutoff frequency: 17 MHz
Impedance: 50 Ohms
3 filters (4 of each) Kit D102 \$60

Power Magnetics Kits

Common Mode Line Chokes

Current: 0.25 - 8.1 Amps rms
Inductance: 731 μ H - 10.5 mH
8 styles (14 total pieces) Kit P202 \$100

Current Sensors

Sensing range: 0.02 - 35 Amps
Freq. resp.: 20 - 50+ kHz
Transformer and sensor-only versions
10 styles (17 total pieces) Kit P203 \$50

Base/Gate Driver Transformers

Inductance: 1.5 mH min.
Frequency: 10 - 250 kHz
2 single, 2 double section (2 of each)
Kit P204 \$50

Compact Vertical Mount Power Inductors

Current: 0.6 - 3.5 Amps
Inductance: 10 μ H - 330 μ H
19 styles (3 of each) Kit P210 \$85

Power Filter Chokes

Current: 3, 5, 10 Amps
Inductance: 5 μ H - 300 μ H
18 styles (48 total pieces) Kit P205 \$75

Axial Lead Power Chokes

Current: 0.04 - 4.3 AC Amps
Inductance: 3.9 μ H - 82 mH
30 values (2 of each) Kit P209 \$150

Coilcraft

...MORE NEW 3 VOLT RF ICs FOR YOUR HANDHELD WIRELESS PRODUCTS



NEC's 3 Volt ICs not only reduce power consumption in your wireless designs, they help reduce your parts count, improve the reliability, and simplify assembly.

We're committed to 3 Volt Silicon technology. These parts are just a sampling of the wide variety of the semiconductors we stock.

We also stock 5 Volt ICs — plus NEC's huge family of discrete devices. Many of these transistors are characterized at 1 to 3 Volts, and most are available in a number of package styles, including the new ultra-miniature 0.8 X 1.6 mm NEC "19" package.

For a FREE Product Selection Guide, call your nearest CEL Sales Office. Or circle the number below.



Dozens of 3 Volt Amplifiers, Prescalers, Up & Downconverters, IQ Mods & Demods, and Transistor Arrays, including:

UPC8104GR **new**

IQ Modulator
with Up Converter
800 MHz to 2.4 GHz
2.7 to 5.5 V Supply Voltage

UPC8106T/09T

Up Converters
800 MHz — 2.4 GHz
7 dB CG @ 1.9 GHz
2.7 to 5.5 V Supply Voltage

UPC2758T

Downconverter
100 MHz — 2.4 GHz
17 dB CG @ 2.0 GHz
+6 dBm IP₃

UPC2762T/63T

Driver Amplifiers
100 MHz — 1.9 GHz
14 or 20 dB Gain and
+7 dBm P_{1dB} @ 1.9 GHz

UPC2768GR **new**

Downconverter
DC — 450 MHz
80 dB Conversion Gain
On-chip Oscillator

UPC2771T **new**

Wideband Amplifier
100 MHz — 2.1 GHz
21 dB Gain and
+11.5 dBm P_{1dB} @ 900 MHz

...plus a wide variety of Silicon Devices for 5 Volt applications, including:

UPC2709T

Wideband Amplifier
100 MHz — 2.3 GHz
23 dB Gain
+8 dBm P_{1dB} @ 900 MHz

UPC2766GR **new**

IQ Demodulator
35 dB AGC Dynamic Range
Flat Response to 1 GHz RF
DC—100 MHz I/Q Output

UPC2721GR

High Compression Point
Downconverter
900 MHz — 2.0 GHz
21 dB Conversion Gain

UPB1505GR **new**

Prescaler
÷64/128/256
3 GHz Guaranteed RF Input
High Input Sensitivity

...plus dozens of discrete transistors including three new small signal bipolar series:

new	PART*	NF (dB)	G _A (dB)	V/IC	f _{TEST} (GHz)
	NE68619	1.7	10.0	2V/3mA	2.0
	NE68719	1.5	8.0	1V/3mA	2.0
	NE68819**	1.6	8.0	3V/7mA	2.0

* AVAILABLE IN SIX DIFFERENT PLASTIC PACKAGES, INCLUDING THE ULTRAMINIATURE NEC "19" PACKAGE
** LOW PHASE NOISE DEVICE

CEL California Eastern Laboratories

NEC

CEL Headquarters 4590 Patrick Henry Drive, Santa Clara, CA 95054-1817; (408) 988-3500 FAX (408) 988-0279 Santa Clara, (408) 988-7846 Los Angeles, CA (310) 645-0985
San Diego, CA (619) 450-4395 Bellevue, WA (206) 644-3307 Richardson, TX (214) 437-5487 Olathe, KS (913) 780-1380 Woodridge, IL (708) 241-3040
Timonium, MD (410) 453-6600 Middleton, MA (508) 762-7400 Hackensack, NJ (201) 487-1155 Snellville, GA (404) 978-4443

© 1995 CALIFORNIA EASTERN LABORATORIES

INFO/CARD 5

Return To: Alan Victor 10/95

design feature

7 Sensitivity Calculation for Narrowband Matching Networks

There are many matching network topologies available to the RF engineer. This article looks at component sensitivity as a criterion for selecting a particular topology. Graphs produced by a program, *SENS*, illustrate which components in which topologies are most sensitive.

—Radu Ursuleanu

product listings & company index

Note: To precisely locate a product in the directory, please use the subject index on page 12.

- 15 **Discrete Components** – capacitors, crystals/resonators, diodes, inductors, integrated circuits, resistors, RF transformers, transistors, vacuum tubes
- 26 **Modular Components** – amplifiers, detectors, fiber optic links, filters, frequency multipliers, limiters, mixers, modulators, noise sources, oscillators
- 38 **System Subassemblies** – amplifiers, frequency converters, frequency synthesizers, motion/proximity sensors, receivers, RF modems, switching matrices, tone encoders/decoders, transmitters
- 44 **Transmission Components** – antenna positioners, antennas, attenuators, cable assemblies, coaxial cable, delay lines, directional couplers, equalizers, fiber optic components, filter assemblies, isolators/circulators, loads, multicouplers, multiplexers/diplexers, phase shifters, power dividers/combiners, relays, RF connectors, switches, terminations, tuners
- 61 **CAD/CAE Software & Systems** – software, hardware
- 62 **Materials & Hardware** – batteries, cabinets and enclosures, ceramics, coatings - environmental, component/hybrid packages, crystal blanks, electronic hardware, equipment racks, ferrites and iron powders, heat sinks, insulating materials, manufacturing equipment, PC boards, sockets, substrates, tools
- 65 **Test Equipment** – amplifiers (lab), antenna measurement systems, calibrators/standards, dummy loads, field intensity meters, frequency counters, modulation analyzers, modulation meters, network analyzers, noise figure meters, noise generators, oscilloscopes, power meters, probes, propagation/path simulators, pulse generators, RLC/impedance bridges, signal level meters, signal/sweep generators, spectrum analyzers, SWR analyzers, test fixtures, wave/distortion analyzers
- 73 **Services** – antenna measurement, circuit assembly, consultants, custom hybrids, EMC testing, equipment calibration, instrument rental/leasing, PC layout/fabrication, plating/coating, software development, textbooks/handbooks, training/education
- 75 **EMC Products** – absorbers, AC line filters, anechoic chambers, conductive adhesives, conductive coatings, conductive plastics, EMI filter components, ESD control devices, gaskets/finger stock, hum stop filters, shielded enclosures, shielding, surge and transient protectors, test cells, test equipment & systems
- 79 **Product Sales** – distributors, manufacturers' representatives

80 Company Index – RF companies from A to Z.

6 Editorial

11 How to Use the RF Design Directory

12 Subject Index

122 Advertiser Index

RFdesign

1996 Directory Staff

Editor

Barbara Katinsky (770) 618-0160

Assistant Editor

Faye Burel

Makeup Editor

Lisa Sutherland (770) 618-0396

RF DESIGN (ISSN:0163-321X USPS: 453-490) is published monthly and semi-monthly in October. Directory Issue 1995. Vol.18, No. 11. *RF Design* is a registered trademark of Argus Inc. Copyright 1995 by Argus Business, a division of Argus Inc., 6151 Powers Ferry Road NW, Atlanta, GA 30339, (404) 955-2500. Editorial and advertising offices at 6300 S. Syracuse Way, Suite 650 Englewood, CO 80111, (303) 220-0600. Printed in USA. Second-Class Postage paid at Atlanta, GA and at additional mailing offices. Subscription office: *RF Design* P.O. Box 1077, Skokie, IL 60076. Subscriptions are \$41 per year (\$72 for two years) in the United States; \$62 (surface mail) or \$102 (Air Mail) per year for foreign countries. Payment must be made in U.S. funds and accompany request. If available, single copies and back issues are \$8.00 each (in the U.S.). This publication is available on microfilm/fiche from University Microfilms International, 300 Zeeb Road, Ann Arbor, MI 48106 USA (313) 761-4700. Authorization to photocopy items for internal, personal or educational classroom use is granted by *RF Design*, provided the appropriate fee is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923 and provided the number of copies is fewer than 100. For authorization, contact the Copyright Clearance Center at (508) 750-8400. The Transactional Reporting Service fee code is: 0163-321X/95/\$3.00. For those seeking 100 or more copies, please contact the magazine at (303) 220-0600.

SUBSCRIPTION INQUIRIES: (708) 647-0756.

POSTMASTER & SUBSCRIBERS: Please send address changes to R.F. Design, P.O. Box 1077, Skokie, IL 60076.

...Fast Fax... BROADBAND RF AMPLIFIERS

SOLID STATE POWER FOR:

- EMC/RFI Testing
- Susceptibility Testing
- Laser Modulation
- HF Transmitters
- TV & Signal Distribution
- Ultrasonics
- General Laboratory Use



NEW!
Model 607L
0.8-1000MHz
7 Watts

✓	Model	Class	Freq. Range	Power	Gain
	1040L	B	10kHz-500kHz	400W	55dB(±1dB)
	1140LA	B	9kHz-250kHz	1100W	55dB(±1dB)
	AP-400B	B	80kHz-2.7MHz	400W	55dB(±1.5dB)
	240L	A	20kHz-10MHz	40W	50dB(±1.5dB)
	2100L	A	10kHz-12MHz	100W	55dB(±1.5dB)
	A25-25PA	A	300kHz-30MHz	25W	51dB(±1.5dB)
	A-150	A	300kHz-35MHz	150W	55dB(±1dB)
	A-300	A	300kHz-35MHz	300W	55dB(±1dB)
	A-500	A	300kHz-35MHz	500W	60dB(±1dB)
	A-1000	A	300kHz-35MHz	1000W	60dB(±1.5dB)
	325LA	A	250kHz-150MHz	25W	50dB(±1.5dB)
	3100LA	A	250kHz-150MHz	100W	55dB(±1.5dB)
	3200L	A	250kHz-120MHz	200W	55dB(±1.5dB)
	400AP	A	150kHz-300MHz	3W	37dB(±1dB)
	403LA	A	150kHz-300MHz	3W	37dB(±1dB)
	411LA	A	150kHz-300MHz	10W	40dB(±1.5dB)
	525LA	A	1MHz-500MHz	25W	50dB(±1.5dB)
	550L	A	1.5MHz-400MHz	50W	50dB(±1.5dB)
	5100L	A	1.5MHz-400MHz	100W	50dB(±1.5dB)
	604L	A	0.5MHz-1000MHz	4W	40dB(±1.5dB)
	607L	A	0.8MHz-1000MHz	7W	43dB(±2dB)
	630L	A	400MHz-1000MHz	30W	51dB(±2dB)
	6100L	AB	400MHz-1000MHz	100W	51dB(±2dB)

FOR PRIORITY SERVICE

Copy and fax this ad to us at
(716) 427-7839

Fill in your name, address and fax
or phone in the spaces below!
Place a ✓ in the far left column for
specifications on specific models.

Name: _____	Job Title: _____	Company: _____	☐ Mail To: _____	☐ Call: _____	☐ Fax: _____
-------------	------------------	----------------	---	--------------------------------------	-------------------------------------

Check here to receive complete catalog in mail: ☐

PHONE: (716) 292-7440 • FAX: (716) 427-7839

WORLD HEADQUARTERS

ENI • A Division of Astec America, Inc. • 100 Highpower Road • Rochester, NY 14623
Tel: (716) 292-7440 • Fax: (716) 427-7839

SALES & SERVICE OFFICES

FREMONT, CA • Tel: (510) 353-4ENI (4364); AUSTIN, TX • Tel: (512) 339-8949; WELWYN GARDEN CITY, UK • Tel: (0707) 371558
GERLINGEN, GERMANY • Tel: (0715) 621095; TOKYO, JAPAN • Tel: 0425 229011; OSAKA, JAPAN • Tel: 06 367-0823

INFO/CARD 11

ENI®

RFD DIR 1995

This Directory is Meant to be USED!

By Gary A. Breed
Editor

There are two kinds of directories in the electronics industry. One kind includes lots of catalog pages, long lists of distributors and manufacturers' representatives, and a lot of weight and space on your shelf. That kind of directory is fine if you are selecting general-purpose electronic components that don't require a lot of thought.

The *RF Design Directory* represents the other kind of directory — one that contains essential information relating product types to the companies that supply them. This directory helps you quickly find out who makes the components, instruments, software, or whatever RF stuff you need.

This simple, direct approach is the most efficient way to locate sources for RF products, which are rarely "universal" in their specifications. RF products are unique, reflecting the expertise of each company that makes them. No two companies make power transistors that are exactly alike, functions included in a frequency synthesizer IC vary widely, signal generators and spectrum analyzers have different features and options. On top of this inherent differences, a custom or semi-custom product may be what you need to get exactly the performance you want.

The *RF Design Directory* puts you directly in contact with the manufacturer — no wading through huge listings of reps (they will get involved later), no sifting through unrelated and not-quite-appropriate standardized component specs (chances are good that you already have a regular supplier for the easy stuff). You want to find the one best product that meets your specs, a simple concept.



We have organized the directory to be just as simple. Suppose you are working on a built-in-test subsystem and need a noise diode. You look under our Discrete Components section, find the Diodes subsection, which has a Noise category listing about 20 companies. Perhaps you are familiar with some of those companies, and want to check out a few others that aren't well-known to you. Go to the Company Index where all the companies in the directory are listed alphabetically. Just look up the companies you want, grab the phone or put your request on the fax machine.

It's almost as easy as looking things up in the Yellow Pages! Find the category and go through the list of suppliers. Like the Yellow Pages, there are some nearby advertisements from companies who hope that you will call them first, and some bold-face listings to catch your eye. It's all basic information, arranged to be found quickly.

We've worked hard to find the companies that make RF-related products of all sorts. New companies are being started, and existing companies are adding RF products lines. We probably missed a few of these folks; if you can't find a particular RF company, please let us know.

There is only one purpose for the *RF Design Directory* — to be used! So, for the next year, put this annual Directory where you can grab it any time you need to find an RF product. In minutes, you will know who to call to track it down.

President — Argus Integrated Media
Stephen Stoneburn

Editorial and Advertising Offices
6300 S. Syracuse Way, Suite 650
Englewood, CO 80111
(303) 220-0600 Fax: (303) 267-0234

Vice President and Group Publisher
David Premo

Editor and Associate Publisher
Gary A. Breed

Technical Editor
Andrew M. Kellett

Assistant Editor
Christopher A. LaMorte

Consulting Editor
Andy Przepelski, *The Shedd Group*

Editorial Review Board
Madjid A. Belkerdid, *Univ. of Central Florida*
Alex Burwasser, *RF Products*
Dave Krautheimer, *MITEQ, Inc.*
Ed Oxner, *InterFET Corporation*
Raymond Sicotte, *American Microwave Corp.*
Robert J. Zavrel, Jr., *Consultant*

Corporate Editorial Director
Robin Sherman

Account Executives
Janell Count Gordon Henderson
Mike Henry Tisha Hill
Cindy Solomonson

Classified Advertising Manager
Shannon Shuman

Vice President — Special Advertising
Drew DeSarle

Vice President — Production and Promotion
Cherryl Greenman

Production Manager
Jenny Black

Reprints Manager
Vivian Peterson

Vice President — Marketing Research Director
Tina D'Aversa-Williams

Vice President — Circulation
Doug Florenzie

Creative Director
Brian Buxton

Art Director
Pamela Bobe

Staff Artist
Susumu Komatsu

List Rental Manager
Etta Davis

Argus Integrated Media Corporate Offices
6151 Powers Ferry Rd., N.W.
Atlanta, GA 30339-2941
Tel: (404) 955-2500



A Division of Argus Inc.



President — Argus Inc.
Scott Smith

Vice President, Finance — Argus Inc.
Wayne Otterbourg, C.P.A.

Senior Vice President — Argus Inc.
Arthur E. Sweum

President — Argus Trade Shows
Joe Randall

Subscription inquiries: (708) 647-0756

Sensitivity Calculation for Narrowband Matching Networks

By Radu Ursulean
"Gh. Asachi" University

There are many matching network topologies available to the RF engineer. This article looks at component sensitivity as a criterion for selecting a particular topology, and displays graphs produced by the program, SENS, which illustrate which components in which topologies are most sensitive.

A lot of work has been devoted to the study of narrowband matching networks. Most authors focused on finding design formulas for these networks [1, 2, 3], finding formulas for improved efficiency [2, 5], or writing computer programs to ease the design [1, 2, 3, 4]. This extensive work led to many design methods with different valued circuit elements for the same topologies. The designer has to decide which is the most suitable circuit for his application. Criteria like realizability and frequency characteristics seem to be weak since most of design formulas led to good results from these points of view.

The design engineer faces other challenges when designing automatic tuning systems. The challenges are: which circuit element should be modified (and in which way) in order to obtain the desired result, and how efficient is the modification (the more efficient the modification, the faster the tuning).

Another problem is the selection of tolerances; it is well known that small-tolerance parts can dramatically raise costs. So the problem is how to assign large-tolerance parts to some circuit elements without sacrificing performance.

A good design must also take into account the effect of environmental factors on the circuit. So it is good to know to which circuit elements the circuit performance is sensitive and how environmental changes affect the values of those elements.

Sensitivity as a Criterion

Reference 6 defines sensitivity (s) as the measure of change in some network performance characteristic (F) resulting from a change in one (or several) elements in the circuit (x). Supposing that changes are small, differ-

ential sensitivity is defined as

$$s = \frac{dF}{dx} \quad (1)$$

When needed, this definition can be replaced by the following:

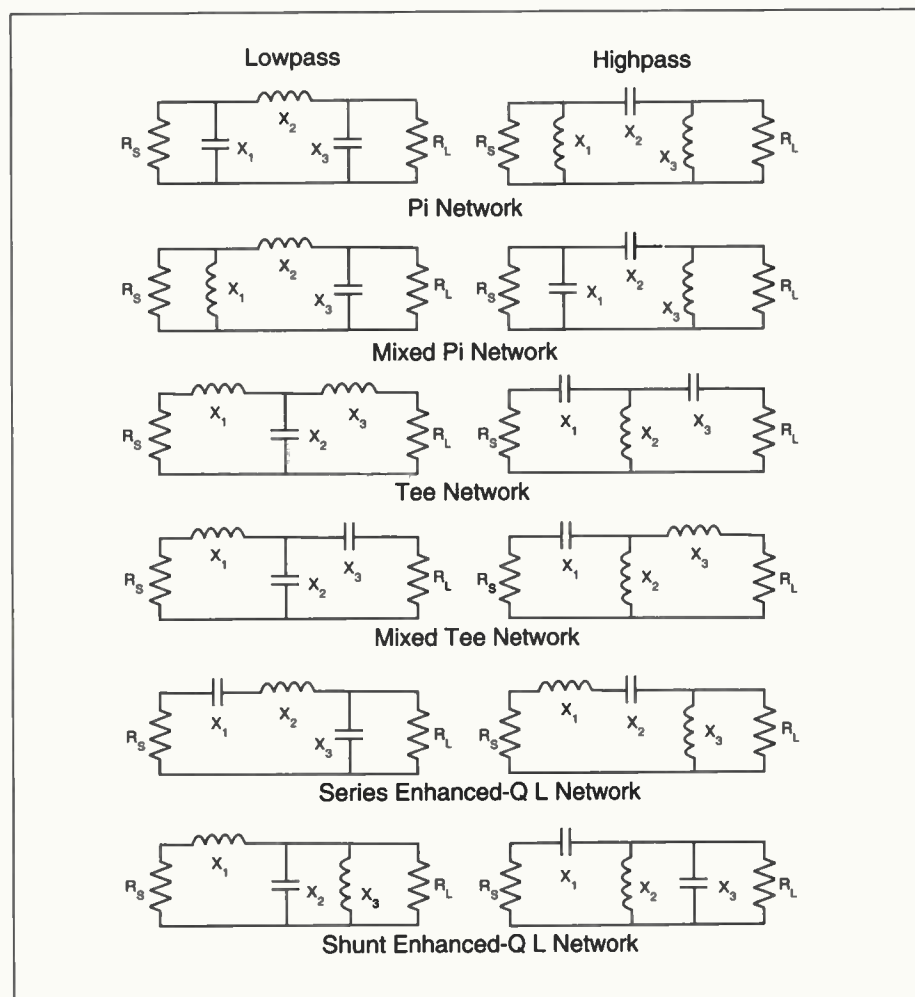


Figure 1. Narrowband matching network topologies.

$$S = \frac{dF}{dx} \cdot \frac{x}{F} \quad (2)$$

where S is named normalized sensitivity. The last definition is particularly useful when a comparison between sensitivities for different circuit elements is needed.

To compute the sensitivity, the following three-element networks were chosen: pi, mixed-pi, shunt enhanced-Q L network, tee and mixed-tee, as defined in reference 1. They are presented in Figure 1 for the two types of frequency characteristic: lowpass and highpass.

The resistances to be matched are R_S (source resistance) and R_L (load resistance). In what follows we assume that R_S is smaller than R_L ($R_S < R_L$).

Most authors focus on low-sensitivity designs. From this point of view, the sensitivity of the load resistance, R_L , with respect to the reactances, is zero only for sensitivities with respect to X_2 (for shunt enhanced-Q L network) and X_3 (for both shunt and series enhanced-

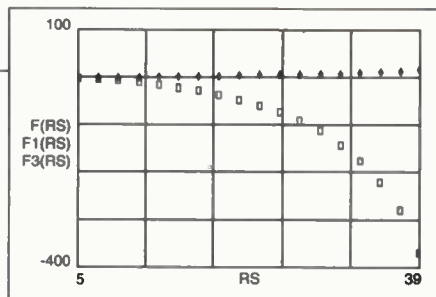


Figure 2. Sensitivities of R_S with respect to X_1 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_L = 50$, $Q = 5$.

Q L networks) and only for $R_L = 2(R_S)$. Sensitivity of the source resistance R_S , with respect to the reactances is zero for sensitivities with respect to X_1 (for shunt and series enhanced-Q L networks) and X_2 (for series enhanced-Q L network), only if $R_L = 2(R_S)$.

As a general observation, the pi and mixed-pi networks showed higher sensitivities especially when R_L and R_S are close enough to each other, as shown in Figures 2 to 13.

All the sensitivities rise when the Q used in the design is rising. The Q fac-

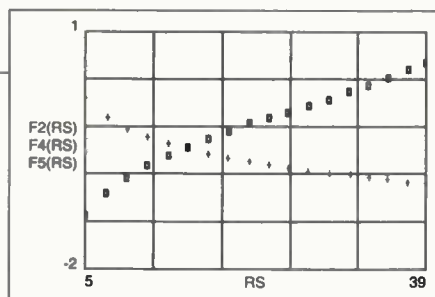


Figure 3. Sensitivities of R_S with respect to X_1 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q L (diamond) networks. $R_L = 50$, $Q = 5$.

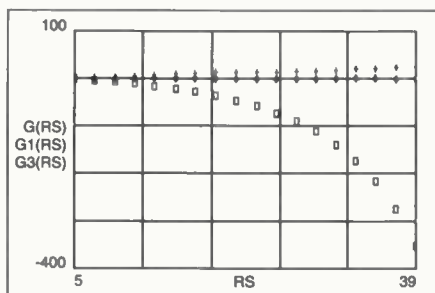


Figure 4. Sensitivities of R_S with respect to X_2 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_L = 50$, $Q = 5$.

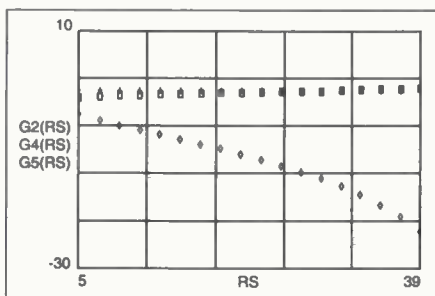


Figure 5. Sensitivities of R_S with respect to X_2 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q L (diamond) networks. $R_L = 50$, $Q = 5$.

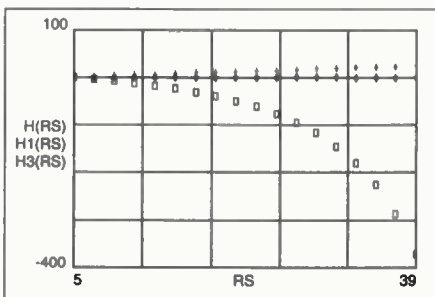


Figure 6. Sensitivities of R_S with respect to X_3 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_L = 50$, $Q = 5$.

ADVANCED CRYSTAL OSCILLATORS

VALPEY-FISHER

A SUBSIDIARY OF **MATEC**

For SONET • SDH • ATM Applications

- **Hybrid VXCO**
- **Tight Frequency Stability Crystal Clock Oscillators (± 20 ppm)**
- **Choice of output logic levels:**
 - ☐ HCMOS/TTL
 - ☐ ACNOS/TTL
 - ☐ ECL/PECL

1-800-982-5737 Ext. 244

VALPEY-FISHER CORPORATION
75 SOUTH STREET; HOPKINTON, MA 01748
(508) 435-6831 • FAX (508) 497-6377

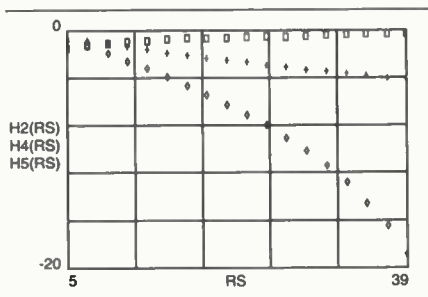


Figure 7. Sensitivities of R_S with respect to X_3 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q (diamond) networks. $R_L = 50$, $Q = 5$.

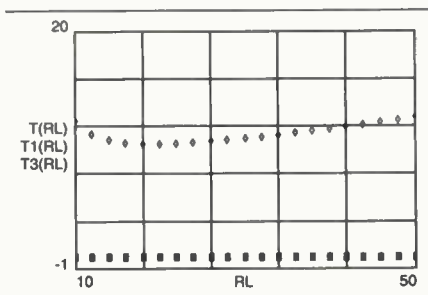


Figure 8. Sensitivities of R_L with respect to X_1 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_S = 5$, $Q = 5$.

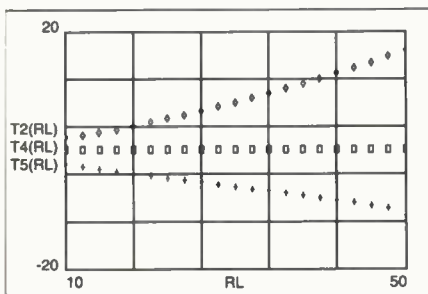


Figure 9. Sensitivities of R_L with respect to X_1 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q L (diamond) networks. $R_S = 5$, $Q = 5$.

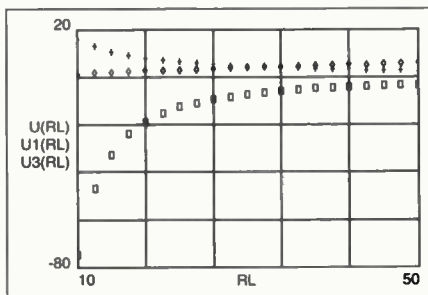


Figure 10. Sensitivities of R_L with respect to X_2 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_S = 5$, $Q = 5$.

tor is $Q = Q_0(1-\eta)$ where Q_0 is the unloaded quality factor and η is the efficiency of the power transfer through the circuit. So, lower efficiency also means higher sensitivities. Looking at all sensitivities (computed both for R_L and R_S) one topology is far better than the others – the series enhanced-Q L network. Surprisingly, one commonly used network, the pi-network, shows poor sensitivity performances. Of course, this isn't

always a drawback; in automatic tuning systems this network can help to improve the speed of tuning.

A Sensitivity Calculation Program

I developed a program called "SENS" for two purposes: 1) to compute any sensitivity of R_L (load resistance) and R_S (source resistance) with respect to any reactance of a specified network in one point; and 2) to present a global behav-

HCMOS/TTL & Sinewave • Surface Mount & Thru-Hole

WE'VE GOT A LOT TO SAY ABOUT TCXOs...

BUT THIS AD HAS LIMITED BANDWIDTH.



When it comes to TCXOs, you've got more options now than ever before. Logic. Packaging. Frequency stability. Temperature range.

We'd like to tell you everything you need to know, but there's not enough room here. Design specs. Quality stats. Availability. Pricing. You've got questions. We've got answers. If you're wired to the Internet, come visit our web site or *e-mail any questions to ecliptek-sales@ecliptek.com*

If you like the human touch, our customer support team has all the bandwidth you'll ever need. They're knowledgeable, responsive, flexible and reliable. Committed to making Ecliptek your TCXO supplier.

Dial 1-800-ECLIPTEK for accurate answers, guaranteed quality and on-time delivery. Data sheets available 24-hours by fax-on-demand.



1-800-ECLIPTEK • (714) 433-1200 • (714) 433-1234 Fax

<http://www.ecliptek.com/ecliptek/>

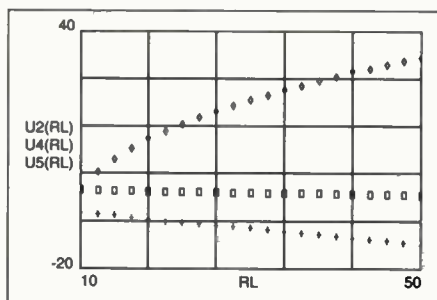


Figure 11. Sensitivities of R_L with respect to X_2 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q L (diamond) networks. $R_S = 5$, $Q = 5$.

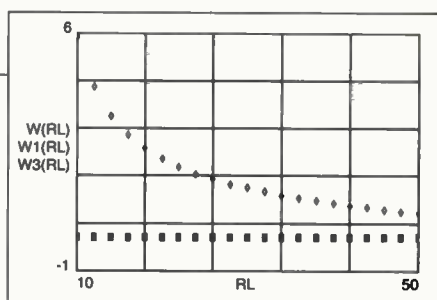


Figure 12. Sensitivities of R_L with respect to X_3 for pi (cross), mixed pi (square) and mixed tee (diamond) networks. $R_S = 5$, $Q = 5$.

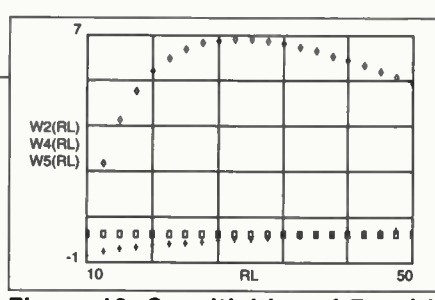


Figure 13. Sensitivities of R_L with respect to X_3 for standard tee (cross), series enhanced-Q L (square) and shunt enhanced-Q L (diamond) networks. $R_S = 5$, $Q = 5$.

ior of the reactances of the networks and the sensitivities of R_L or R_S , using graphics. It's easy to understand that in both cases, R_L , R_S and Q being given, the reactances are computed first.

The user can choose the type of network from the frequency characteristic point of view (lowpass or high-pass), the types of sensitivities (normalized or not) and single point calculus or graphics. In single point computation mode the user must choose the values of R_L , R_S and Q , the type of the sensitivity desired (by choosing the

resistance and the reactance) and the type of the network. In graphics mode a whole interval is needed for one resistance and a single value for the other, a value for Q , and for every trace (up to six) the type of the network and the type of the trace (reactance or sensitivity). All graphs are traced using the same resistance. By means of a cursor, the values of the points are displayed on the screen, offering a global image of the behavior of the circuit, in spite of different scales used for each drawing. In

graphics mode one can easily compare different networks and sensitivities.

The program is written in C and runs on any PC/AT 286 computer (with 640k RAM and VGA) or better.

Conclusion

Computing the sensitivities of the three most commonly used reactances in narrowband matching networks could be the answer for choosing the right circuit topology. This can be easily achieved using the computer program, "SENS," described in this article. RF

ELISRA COMMUNICATION PRODUCTS

SYNTHESIZED UPCONVERTERS/DOWNCONVERTERS SERIES MW-DC/UC



- Low phase noise models
- S/C/X/Ku-Band modules
- 70 MHz or 140 MHz IF
- INTELSAT and EUTELSAT standards
- Low microphonic design
- 3.5 inches high, 19-inch rack

ELISRA MICROWAVE DIVISION

On your wave length
elisra electronic systems ltd.

48 Mivtza Kadash Street, Bene Beraq 51203, Israel
Tel: 972-3-7545655/5639, Fax: 972-3-7545299

SENS is available through Argus Direct Marketing. To order, write: RF Design Software, Argus Direct Marketing Dept., 6151 Powers ferry Rd., N.W., Atlanta, GA 30339-2941 call: (770) 618-0398 or fax: (770) 618-0347. Ask for disk RFD-DR95. U.S. price, including shipping, is \$25.00.

Bibliography

1. Burwasser, A.J., "TI-59 Program Computes Values For 14 Matching Networks," *RF Design* November/ December 1984, p.12.
2. Albulet, M., "A New CAD Method for Narrowband Matching Circuits," *RF Design*, May 1994, p.52.
3. Davis, F., "Matching Network Designs with Computer Solutions," Motorola Application Note, A.N. 267.
4. Novak, S., "CAD for Lumped Element Matching Circuits," *RF Design*, February 1989.
5. Christiansen, J., "Antenna Matching Systems," *Global Communications*, Third Quarter, 1985.
6. Brayton, R.K., Spence, R., *Sensitivity and Optimization*, Elsevier Scientific Publishing Company, 1980.

About The Author



Radu Ursulean received an MSEE from Technical University "Gh. Asachi" of Iasi, Romania in 1982. Between 1982 and 1986 he was involved in designing RF circuits for a consumer electronics factory in the same town. Since 1986 he has worked as a university lecturer at the EE Department of "Gh. Asachi" University. He can be reached by phone at 032-211992 or you can write to him at the following address: Str. Gr. Ureche Nr. 3, Bloc "Gh. Sontu", ap. 10, Iasi, 6600, ROMANIA.

RF design 1996 directory

How To Use the Directory

The Directory is divided into two major sections:

1. Products Index

Products and Services available to the industry are presented under 10 major categories: Discrete Components; Modular Components; System Subassemblies; Transmission Components; CAD/CAE Software & Systems; Materials & Hardware; Test Equipment; Services; EMC Products and Product Sales. Each of the categories is then broken down into specific products and services, and the suppliers are listed alphabetically under those headings which are applicable to their businesses.

This section begins on page 15.

HEROTEK, INC.
222 N. Wolfe Rd.
Sunnyvale, CA 94086
408 730-1702; Fax: 408 730-4015
John Tatum, Sales Mgr.



HEWLETT PACKARD CO.
1400 Fountain Grove Pkwy.
Santa Rosa, CA 95403
(707) 577-2484; Fax: (707) 577-5669
Pat Thompson
See Our Ad On Page 75.

RF EMC Products

TEST EQUIPMENT & SYSTEMS

ANTENNAS

A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
Adaptive Technology, Inc.
Amplifier Research
Antenna Design & Manufacturing Corp.
Antenna Research Associates, Inc.
Antenna Technology
Carnel Labs
Carston Electronics
Tony Chapman Electronics, Ltd.

For addresses, telephone and fax numbers, and contact names, turn to the Company Index.

2. Company Index

Suppliers of products and services are listed alphabetically by company name in this section. Also included are their addresses, telephone and fax numbers, and contact names and titles. Advertisers are indicated by a blue highlight over their name and a reference to the page on which their advertisement appears. In some cases, companies have purchased optional features, such as logos or target ads, to go with their listings.

This section begins on page 80.

General Information. Please refer to the Table of Contents on page 4 to find the major categories of interest to you. If you are looking for a specific product or service and are not sure under which heading it falls, consult the Subject Index on pages 12-13 for a complete alphabetically-arranged listing of categories.

How to Get Listed

If Your Company Is Already Listed:

About six months before publication date, questionnaires showing company name, address, telephone and fax numbers, and contact person, as listed in the last Directory, are sent to companies in our files. At this time, any necessary changes should be made and forms returned to the Directory Department.

If Your Company Is Not Listed:

If you wish to be listed in next year's Directory, contact us and let us know. A questionnaire will be sent to your attention in next year's mailing.

General Instructions:

To ensure that your listing will appear in the Directory, please return the questionnaire by the deadline indicated. You may use our return envelope or send it to Directory Department, Argus Business, 6151 Powers Ferry Rd. NW, Atlanta, GA 30339, 770 618-0276, Fax: 770 618-0476.

We do not list companies who have not returned questionnaires; any company previously listed, but not responding in four years, is dropped from the Directory.

RF subject index

A

Absorbers.....	75
AC Line Filters	75, 76
Adhesives, Conductive	76
Amplifiers	
Broadband.....	26, 38
High Dynamic Range	26, 38
Hybrid.....	26
Intermediate Frequency	38, 39
Lab	65, 66
Limiting.....	26, 28
LNA	39
Log	28, 39
Other	28, 40
RF Power	39, 40
Video	28
Analyzers	
Modulation.....	67
Network	67
Spectrum	72
SWR.....	72
Wave/Distortion	72
Anechoic Chambers.....	76
Antenna Measurement.....	73
Antenna Measurement Systems	66
Antenna Positioners.....	44
Antennas	
Broadband.....	44
Cellular/PLS/WLAN.....	44
EMC/EMI	44
HF	44
Microwave	44, 45
Other	45
Test Equipment	78
UHF.....	45
VHF.....	45
Attenuators	
Coaxial	45, 46
High Power.....	46
Other	48
PC Mount	46
PIN	46, 47
Programmable.....	47, 48
Step.....	48
Variable	48

B

Batteries.....	62
----------------	----

C

Cabinets and Enclosures	62
Cable Assemblies	48, 49
CAD/CAE Software/Systems	61, 62
Calibration Equipment.....	74, 76
Calibrators/Standards	66
Capacitors	
Chip.....	15
Fixed, With Leads	15
High Power.....	15
Other	16
Vacuum	15
Variable	15, 16

Ceramics	62, 63
Chambers, Anechoic.....	76
Circuit Analysis/Design Software	61
Circuit Assembly	73
Circuit Optimization Software	61
Circuits	21, 22, 23
Circulators	55
Coatings/Plating Services	75
Coatings	
Conductive	76
Environmental	63
Coaxial Cable.....	49
Combiners, Power	57, 58
Component/Hybrid Packages	63
Components	
EMI Filter	76
Fiber Optic.....	55
Conductive Adhesives	76
Conductive Coatings.....	76
Conductive Plastics.....	76
Connectors, RF	58, 59
Consultants	73, 74
Converters, Frequency	40
Cores	
Ferrite	20
Iron	21
Correctors, Fiber Optic.....	55
Counters, Frequency	66
Couplers, Directional.....	49, 50, 51
Crystal Blanks	63
Crystals/Resonators	
Ceramic Piezo.....	16
Filters	30
LC.....	16
Other	18
Quartz	16, 18
SAW	18
Custom Hybrids	74

D

Decoders, Tone	43
Delay Lines	49
Detectors.....	28
Diodes	
Detector.....	18, 19
Noise	19
Other	20
PIN	19
Schottky	19
Tunnel	20
Varactor.....	20
Diplexers	56, 77
Directional Couplers.....	49, 50, 51
Discrete Components	15-25
Distortion Analysers	72
Distributors.....	79
Dividers, Power	57
Dummy Loads	66

E

Education	75
Electromagnetic Analysis.....	61
Electromechanical Switches	59
Electronic Hardware.....	63
EMC	
Products	75-78
Receivers	42, 78
Testing	74

EMI

Filter Components.....	76
Probes.....	70, 78
Receivers	42, 78
Enclosures	62, 77
Equalizers	51
Equipment Calibration.....	74, 76
Equipment Manufacturing	64
Equipment Racks	63
ESD Control Devices	76

F

Ferrite Cores	20
Ferrites and Iron Powders.....	63
Fiber Optic Components	
Connectors	55
Detectors.....	55
Laser	55
Optical Cable.....	55
Fiber Optic Links	40
Fiber Optic Modulators.....	32
Field Intensity Meters.....	66
Field Strength Meters.....	78
Filter Assemblies	
Bandpass	51, 52
Cavity	52
Coaxial	52, 53
Helical	53
Highpass	53
Lowpass	53, 54
Notch	54, 55
Other	55
Tunable	55
Filters	
AC Line	75, 76
Active	29, 30
Crystal	30
Hum Stop	77
LC.....	30
Other	30
Finger Stocks	77
Fixtures, Test	72
Frequency Converters	40
Frequency Counters	66
Frequency Multipliers.....	30, 31
Frequency Synthesizers	40, 42

G

Gaskets/Finger Stock.....	77
Generators	
EMI	78
Noise	67
Pulse	70
Signal/Sweep	72

H

Handbooks	75
Hardware	62-65
Heat Sinks.....	63, 64
Hum Stop Filters	77
Hybrid Amplifiers	26
Hybrid Packages	63
Hybrids, Custom	74

I

Impedance Bridges	70
-------------------------	----

RF subject index

Inductors	
Chip	20
Ferrite Cores	20
Fixed	20, 21
Iron Powder Cores	21
Other	21
Variable	21
Instrument Rental/Leasing	74
Insulating Materials	64
Integrated Circuits	
Application Specific (ASIC)	21, 22
Conversion (ADC/DAC)	22
GAAs MMIC/RFIC	22
High Speed Digital/Mixed Signal	22
High Speed Opamps	22
Other	23
RF/IF (<500 MHz)	22
Silicon MMIC/RFIC (>500 MHz)	22
Video Amp and Mux	23
Interference Locators	78
Iron Cores	21
Iron Powders	63
Isolators/Circulators	55
L	
Limiters	31
Line Filters, AC	75, 76
Links, Fiber Optic	40
Loads	56
Locators, Interference	78
M	
Manufacturers' Representatives	79
Manufacturing Equipment	64
Materials/Hardware	62-65
Materials, Insulating	64
Matrices, Switching	43
Meters	
Field Intensity	66
Field Strength	78
Hazard	78
Modulation	67
Noise Figure	67
Power	67, 70
Signal Level	70
Mixers	
Active	31
Diode Double Balanced	31
High Dynamic Range	31
Image Reject	31, 32
Other	32
Modems	42
Modular Components	26-36
Modulation Analyzers	67
Modulation Meters	67
Modulators	
AM	32
Fiber Optic	32
FM/PM	32
FSK	32
Other	33
PSK	33
Pulse	33
QPSK	33
Motion/Proximity Sensors	42
Multicouplers	56
Multiplexers/Diplexers	56, 57
Multipliers, Frequency	30, 31

N

Network Analyzers	67
Noise Diodes.....	19
Noise Figure Meters.....	67
Noise Generators.....	67
Noise Sources.....	33

Oscillators	
Clock	33
Crystal	34
High Stability (TXCO/OCXO)	34
LC	34
Other	36
Phase Locked	34, 36
SAW	36
VCO	36
Oscilloscopes	67

• • • • •
P

PC Boards.....	64, 65
PC Layout/Fabrication	74, 75
Phase Shifters.....	57
Plastics, Conductive.....	76
Platings/Coating Services	75
Platings	75
Positioners, Antenna	44
Powders, Iron	63
Power Dividers/Combiners	57, 58
Power Meters	67, 70
Probes.....	70, 78
Product Sales.....	79
Propagation/Path Simulators	70
Protectors, Surge & Transient.....	78
Proximity Sensors	42
Pulse Generators	70

P

Receivers	42, 78
Relays	
Mechanical	58
Multipole	58
Other	58
Solid State	58
Vacuum	58
Resistors	
Chip	23
High Power	23
Non-Inductive	23
Other	23
Resonators	16, 18
RF Connectors	58, 59
RF Modems	42, 43
RF Transformers	
High Power	23
Small Signal	23, 24
RLC/Impedance Bridges	70

5

Sales Product.....	79
Sensors, Motion/Proximity	42
Services	73-75
Shielded Enclosures	77
Shielding	
Coatings	77
Foil	77
Formed Metal	77
Laminate	77
Magnetic.....	77
Other	77
Shifters, Phase.....	57
Signal Level Meters	70

Signal/Sweep Generators	72
Simulators, Propagation/Path	70
Sockets	65
Software	
Circuit Analysis/Design	61
Circuit Optimization	61
Electromagnetic Analysis	61
EMC/TEMPEST	61
Other	62
PC Board Design	61
System Analysis/Design	61, 62
Test	78
Time Domain Analysis	62
Transmission Line	62
Software Development	75
Spectrum Analyzers	72
Substrates	65
Surge and Transient Protectors	78
Switches	
Electromechanical	59, 60
Other	60
Solid State	60
Switching Matrices	43
SWR Analyzers	72
Synthesizers, Frequency	40, 42
System Analysis Design Software	
.....	61, 62
System Subassemblies	38-43

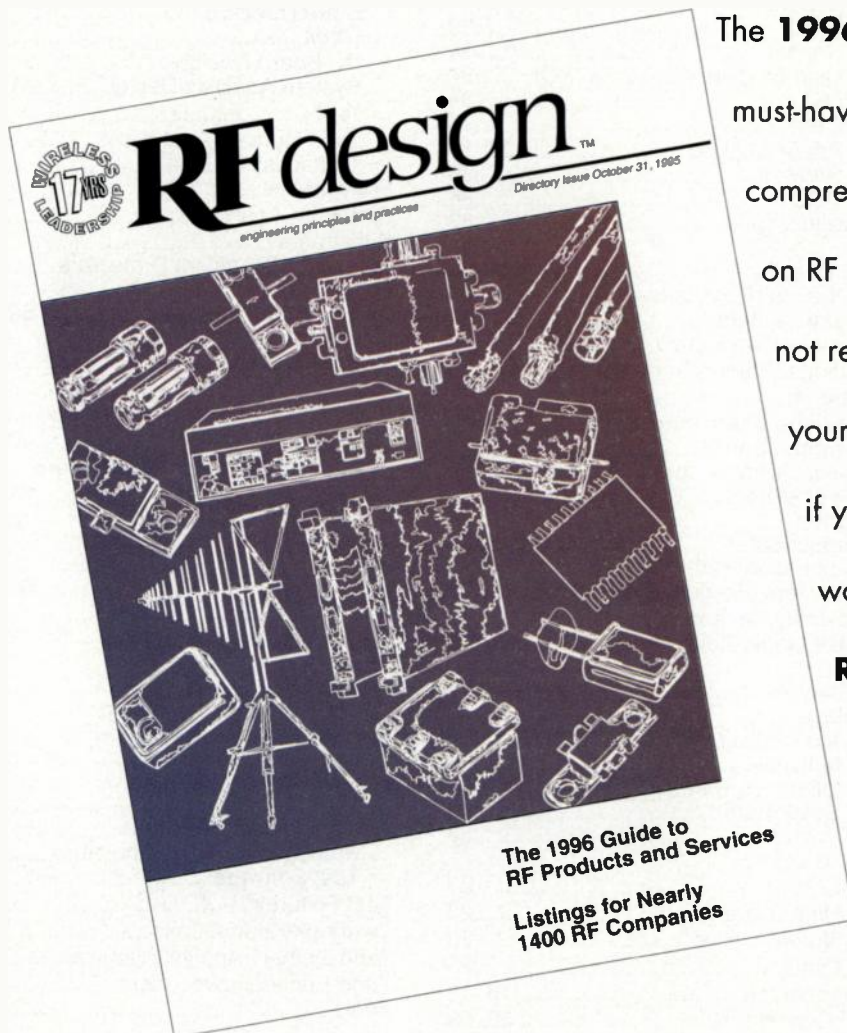
T

Terminations	60, 61
Test Cells	78
Test Equipment	65-72, 78
Test Equipment & Systems	
Antennas	78
EMI Generators	78
EMI Probes	78
EMI/EMC Receivers	78
Field Strength Meters	78
Hazard Meters	78
Interference Locators	78
Propagation/Path Simulators	70
Test Software	78
Test Fixtures	72
Textbooks/Handbooks	75
Time Domain Analysis Software	62
Tone Encoders/Decoders	43
Tools	65
Training/Education	75
Transient Protectors	78
Transformers	23, 24
Transistors	
GAAs FET	24
Other	25
RF Power Bipolar	24
RF Power FET	24
Small Signal Bipolar	24, 25
Small Signal FET	25
Transmission Components	44-61
Transmission Line Software	62
Transmitters	43
Tuners	61

.....
v

Vacuum Tubes	
Receiving	25
Transmitting	25
W	
Wave/Distortion Analyzers	72

THE 1996 RF DESIGN DIRECTORY



The **1996 RF DESIGN DIRECTORY** is a must-have for RF engineers who need comprehensive, up-to-date information on RF products and vendors. If you're not reaping the benefits of having your own copy at your fingertips, or if you know of colleagues who would like their own copies of the **RF DESIGN DIRECTORY**, order today.

1996 RF DESIGN DIRECTORY: \$29.95 (domestic), \$44.95 (outside U.S.)

Yes! Please send me _____ copies of the 1996 RF DESIGN DIRECTORY at \$29.95 (domestic), \$44.95 (outside U.S.) per copy. Payment must accompany order. Georgia residents add 6% sales tax.

Company _____ Phone () _____

Name _____ Title _____

Address (No P.O. box numbers) _____

City _____ State _____ Zip _____

Send to: Argus Direct Marketing
6151 Powers Ferry Road, NW
Atlanta, GA 30339-2941

RF design

RF discrete components

CAPACITORS

CHIP

AVX Corp. A Kyocera Group Co.
AVX Filters Corp.
AVX Ltd.
AVX Tantalum Corp.
Robert G. Alle Co., Inc.
Alpha Industries, Inc.
American Technical Ceramics Corp.
Arco Electronics
Atlantic Microwave Ltd.
Brennan Associates
California Micro Devices Corp.
Capax Technologies, Inc.
Castle Microwave
Centre Capacitor
Tony Chapman Electronics, Ltd.
Circuit Components, Inc.
Communication Concepts, Inc.
Communications Specialists, Inc.
Compensated Devices, Inc.
Compex Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cornell Dubilier
Dale Electronics, Inc.
Dielectric Laboratories, Inc.
Digi-Key Corp.
First Source, Inc.
Frequency Sources, Inc.
HD Communications
Ion Beam Milling, Inc.
Iskra, Inc.
Johanson Technology Inc.
Loral Microwave FSI Semiconductor Div.
M/A-Com, Inc., Semiconductor Div.
MMC Electronics America Inc.
Maxwell Laboratories, Inc. - Sierra Div.
Metelics Corp.
Microelectronics
Microelectronics, U.S.A.
Mini-Circuits
Mini-Systems, Inc.
Morgan Matroc - Unilator Div.
Mouser Electronics
Murata Electronics North America
NEC Electronics, Inc.
National Electronics
North American Capacitor Co.
Oxley, Inc.
PACCOM
Panasonic Industrial Co./Matsushita Electric
Pascall Microwave Ltd.
Philips Components
Polyflon Co.
Radio Materials Corp.
Richardson Electronics, Ltd.
Roederstein
Senah
Shokai Far East Ltd.
Siemens Components Inc. - Special Products Div.
Spectrum Control, Inc.
Sprague
Sprague-Goodman Electronics, Inc.
Surplus Sales of Nebraska
TDK Corp. of America
Taiyo Yuden (USA), Inc.
Tecdia, Inc.
Tokin America, Inc.
Venkel

FIXED, WITH LEADS

AVX Corp. A Kyocera Group Co.
AVX Filters Corp.
AVX Ltd.
AVX Tantalum Corp.
Robert G. Alle Co., Inc.
American Technical Ceramics Corp.
Arco Electronics
Bradford Electronics

Brennan Associates
Capax Technologies, Inc.
Capcon, Inc.
Castle Microwave
Centre Capacitor
Cera-Mite Corp.
Ceramic Devices, Inc.
Tony Chapman Electronics, Ltd.
Circuit Components, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Condenser Products
Cornell Dubilier
Corry Micronics, Inc.
Dale Electronics, Inc.
Dielectric Laboratories, Inc.
Digi-Key Corp.
Electronic Concepts, Inc.
First Source, Inc.
HD Communications
High Energy Corp.
Illinois Capacitor, Inc.
Iskra, Inc.
Joseph Electronics, Inc.
L.C.R. Electronics, Inc.
Loral Microwave FSI Semiconductor Div.
MMC Electronics America Inc.
Maida Development Co.
Maxwell Laboratories, Inc.
Maxwell Laboratories, Inc. - Sierra Div.
Microelectronics
Microelectronics, U.S.A.
Morgan Matroc - Unilator Div.
Mouser Electronics
Murata Electronics North America
NEC Electronics, Inc.
National Electronics
North American Capacitor Co.
Okaya Electric America, Inc.
Oxley, Inc.
PACCOM
Panasonic Industrial Co./Matsushita Electric
Pascall Microwave Ltd.
Philips Components
Polyflon Co.
Power Electronic Components
Quality Components Inc.
RTRON Corp.
Radio Materials Corp.
Richardson Electronics, Ltd.
Roederstein
S&EI Mfg.
Seacor, Inc.
Senah
Shokai Far East Ltd.
Siemens Components Inc. - Special Products Div.
Sprague
Sprague-Goodman Electronics, Inc.
Surplus Sales of Nebraska
TDK Corp. of America
Taiyo Yuden (USA), Inc.
Tusonix Inc.

HIGH POWER

CSI Capacitors
Capax Technologies, Inc.
COMET North America, Inc.
Dielectric Laboratories, Inc.
North American Capacitor Co.
Polyflon Co.
Sprague-Goodman Electronics, Inc.
Surcom Associates, Inc.

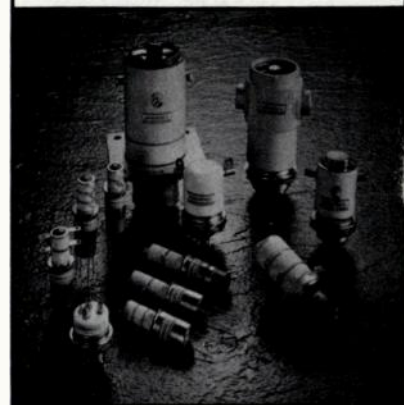
VACUUM

ARS Electronics
COMET North America, Inc.
Joslyn Jennings Corp.
Power Electronic Components
Richardson Electronics, Ltd.
Shokai Far East Ltd.
Surcom Associates, Inc.
Surplus Sales of Nebraska

VARIABLE

AVX Corp. A Kyocera Group Co.
Arco Electronics
Centre Capacitor
Tony Chapman Electronics, Ltd.
COMET North America, Inc.
Dale Electronics, Inc.
Digi-Key Corp.
Dura Electronic Sales
HD Communications
Johanson Mfg. Corp.
E.F. Johnson Co.
Joslyn Jennings Corp.
Kilo Tec
Loral Microwave FSI Semiconductor Div.
Maida Development Co.
Microelectronics
Microelectronics, U.S.A.
James Millen Electronic Mfg.
Mouser Electronics
Murata Electronics North America
National Communications Electronics, Inc.
National Electronics
North American Capacitor Co.
Oxley, Inc.
Philips Components
Polyflon Co.
Richardson Electronics, Ltd.
Shokai Far East Ltd.

CERAMIC RF CAPACITORS C-D/SANGAMO MICA RF CAPACITORS

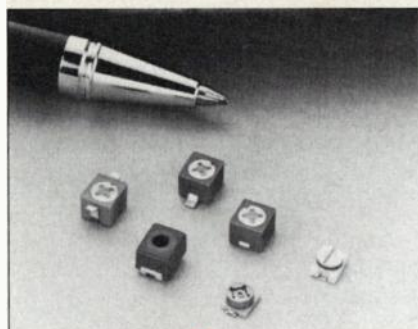


JENNINGS VACUUM CAPACITORS VACUUM RELAYS

SURCOM ASSOCIATES, INC.

2215 Faraday Avenue, Suite A
Carlsbad, California 92008
TEL (619) 438-4420
FAX (619) 438-4759

INFO/CARD 26



Surftrim® Surface Mount Trimmer Capacitors

- 4 sizes:
3.2 x 4.5 x 1.7 mm
3.2 x 3.8 x 1.5 mm
4.0 x 4.5 x 2.7 mm (sealed)
5.2 x 4.3 x 3.2 mm (sealed-split stator)
- 6 mounting configurations
- Carrier and reel or bulk pack
- 0.4 to 50 pF in 17 cap ranges
- Operates to 85°C

Phone, fax or write today for
Bulletins SG-305 and SG-310



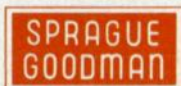
1700 Shames Drive, Westbury, NY 11590
Tel: 516-334-8700 • Fax: 516-334-8771

INFO/CARD 25



Airtrim® Air Dielectric Multiturn Trimmers

- Q (min): 5000 at 100 MHz
 - Nine mounting styles including surface mount
 - Designed to meet MIL-C-14409D
 - Operating temp: -65°C to +125°C
 - Standard cap ranges: 0.35 to 3.5 pF, 0.6 to 6 pF, and 0.8 to 10 pF
 - Multiturn resolution
 - Extremely stable over temperature, frequency, voltage, etc.
 - Rated voltage: 250 VDC
 - Self-resonant frequency: >5 GHz
 - Insulation resistance: >10⁸ MΩ
- Phone, fax or write today for
Engineering Bulletin SG-660.



1700 Shames Drive, Westbury, NY 11590
Tel: 516-334-8700 • Fax: 516-334-8771

INFO/CARD 38

RF discrete components

CAPACITORS (Cont'd) VARIABLE (Cont'd)

Sprague-Goodman Electronics, Inc.
Surcom Associates, Inc.
Surplus Sales of Nebraska
Trim-Tronics, Inc.
Tusonix Inc.
Voltronics

OTHER

Atlantic Magnetics, Inc. (Magnetic components)
CSI Capacitors (High voltage pulse & filter)
Cesiwid, Inc. (Memory backup)
COMET North America, Inc. (Gas-filled)
Corry Micronics, Inc. (Threaded)
Dale Electronics, Inc. (Wet, foil, tantalum)
High Voltage Components, Inc. (Ceramic RF fixed)
L.C.R. Electronics, Inc. (Suppression X₂&Y)
MIC Technology Corp. (Thin film deposited)
M-Pulse Microwave
Microelectronics
Mini-Systems, Inc. (MOS Caps)
Morgan Matroc - Unilator Div. (RF power)
Oxley, Inc. (Surface Mount)
Philips Components (Ceramic Film, Aluminum Elec.)
RCD Components, Inc. (Network)
Seacor, Inc. (Film)
Siemens Components Inc. - Special Products Div. (Fixed Electrolytic, Fixed Tantalum, Surface-Mount Film, Polyester)
Surcom Associates, Inc. (MICA, Transmitting)
Texas Spectrum Electronics, Inc. (Feed-Thru)
United Glass to Metal Sealing Inc. (Feed Thrus)
Zycon Corporation - Buried Capacitance™ (Buried Capacitance™)

CRYSTALS/ RESONATORS CERAMIC PIEZO

AVX Corp. A Kyocera Group Co.
AVX Ltd.
Alpha Industries, Inc.
CTS Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Crystal Semiconductor Corp.
Crystek Crystal Corp.
Digi-Key Corp.
FDK America, Inc.
Fujitsu Microelectronics, Semiconductor Div.
M-Tron Industries, Inc.
Morgan Matroc - Electro Ceramics Div.
Morgan Matroc - Unilator Div.
Motorola Ceramic Products
Murata Electronics North America
National Electronics
Oakbury Components, Ltd.
Panasonic Industrial Co./Matsushita Electric
Penstock, Inc., An Avnet Co.
Radio Materials Corp.
Raltron Electronics Corp.
Shokai Far East Ltd.
TDK Corp. of America
Tauber-Dreyer Corp.
Tellurian Technologies, Inc.
Tokin America, Inc.
Toko America, Inc.

LC

Crystek Crystal Corp.
Digi-Key Corp.
Murata Electronics North America
Netcom, Inc.
OPT Industries

Penstock, Inc., An Avnet Co.
Piezo Technology, Inc.
Pole/Zero Corp.
Q-Tech Corp.
ST Microsonics
Shokai Far East Ltd.
TDK Corp. of America
Tele Quarz Group
Temex Electronics, Inc.
Toko America, Inc.

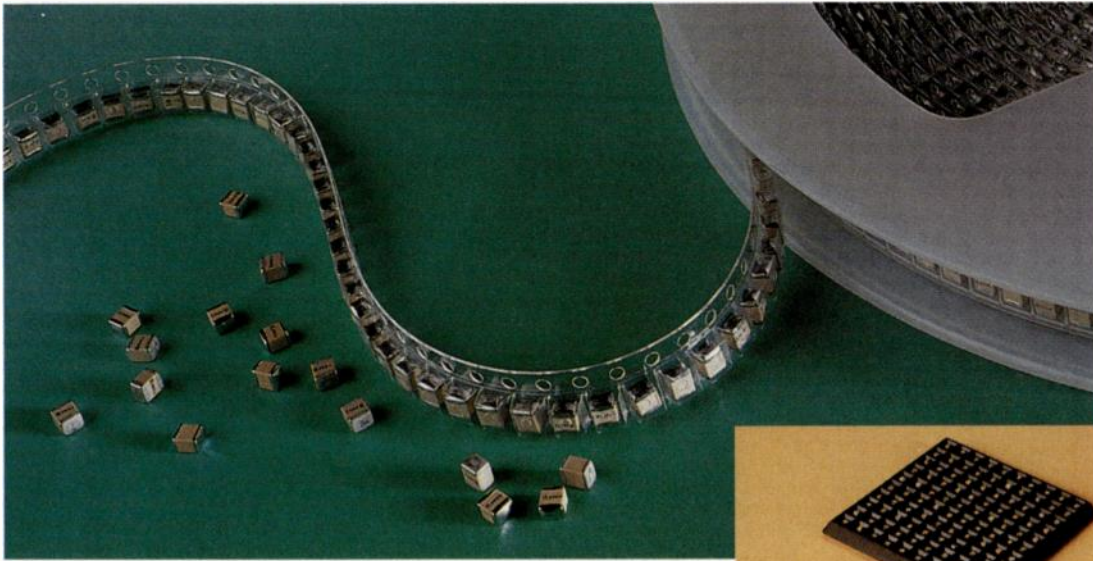
QUARTZ

AVX Corp. A Kyocera Group Co.
AVX Ltd.
American KSS, Inc.
Anderson Electronics, Inc.
Atlantic Microwave Ltd.
Bliley Electric Co.
Bomar Crystal Co.
Brennan Associates
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
CTS Corp.
CTS Corp. - Frequency Controls Div.
Cal Crystal Lab, Inc. / Comclok, Inc.
Cambio International
CINOX Corp.
Colorado Crystal Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Connor-Winfield Corp.
Croven Crystals Ltd.
Crystal Semiconductor Corp.
Crystek Crystal Corp.
Dale Electronics, Inc.
Digi-Key Corp.
EDC Frequency Products
Ecliptek Corp.
Efratom
Electro Dynamics Crystal Corp.
Epson America Inc., Component Sales
Fox Electronics
Frequency Electronics, Inc.
Frequency Management
P.R. Hoffman Materials Processing
Hy-Q International (USA) Inc.
Hybrids International, Ltd.
Innovative Frequency Control Products, Inc.
International Crystal Mfg. Co., Inc. (ICM)
Jan Crystals
KS Electronics
KVG North America, Inc.
K-W Manufacturing Co., Inc.
Kolinker Industrial Equip., Ltd.
Lap-Tech, Inc.
Lebow Co.
M-Tron Industries, Inc.
Micro Crystal Div.
NEL Frequency Controls, Inc.
National Electronics
Netcom, Inc.
Oak Frequency Control Group
Oakbury Components, Ltd.
Penstock, Inc., An Avnet Co.
Piezo Crystal Co., Inc.
Piezo Technology, Inc.
Pletronics, Inc.
Q-Tech Corp.
Quartztek, Inc.
Raltron Electronics Corp.
Reeves-Hoffman
ST Microsonics
Saronix
Selko Instruments, Inc.
Sentry Mfg. Co.
Shokai Far East Ltd.
Standard Crystal Corp.
Surplus Sales of Nebraska
TEW North America
Tauber-Dreyer Corp.

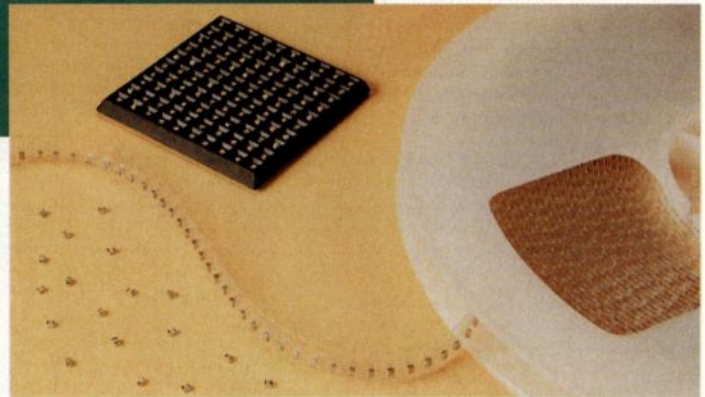
Re-Introducing a Classic...

ATC's 100 Series

High Q Superchips®



ATC's multilayer porcelain capacitors feature low ESR/ESL, low noise, ultra-stable performance and high reliability. Available in B case size (.110" x .110") shown above, and A case size (.055" x .055"), at right. C and E case sizes are also available.



CASE SIZE	DIMENSIONS	CAP. VAL. RANGE (pF)	RATED WVDC	QUALITY FACTOR (Q)	TEMPERATURE COEFFICIENT
A	.055" x .055"	0.1 to 100	150	> 10,000 @ 1 MHz	+90 ±20 PPM/°C
B	.110" x .110"	0.1 to 1000	50 to 500	>10,000 @ 1 MHz	+90 ±20 PPM/°C (-55°C to +125°C); +90 ±30 PPM/°C (+125°C to +175°C)
C	.250" x .250"	1 to 2700	300 to 2500	>10,000 (1 to 1000 pF) @ 1 MHz; >10,000 (1100 to 2700 pF) @ 1 KHz	+90 ±30 PPM/°C
E	.375" x .375"	1 to 5100	750 to 3600	>10,000 (1 to 1000 pF) @ 1 MHz; >10,000 (1100 to 5100 pF) @ 1 KHz	+90 ±30 PPM/°C



CALL (516) 547-5700

American Technical Ceramics

One Norden Lane, Huntington Station, N.Y. 11746-2102 • phone (516) 547-5700 • fax (516) 547-5748 • e-mail: atc@interserv.com

INFO/CARD 1



RF discrete components

CRYSTALS/ RESONATORS (Cont'd) QUARTZ (Cont'd)

Tele Quarz Group
Tele Quarz USA Inc.
Tellurian Technologies, Inc.
Temex Electronics, Inc.
Toyocom U.S.A., Inc.
United States Crystal Corp.

Valpey-Fisher Corp./Carlisle
Xtal Technologies, Ltd.

SAW

AVX Corp. A Kyocera Group Co.
AVX Ltd.
Andersen Laboratories
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
CTS Corp.
Corn Dev

Digi-Key Corp.
Frequency Electronics, Inc.
Fujitsu Microelectronics, Semiconductor Div.
Hazeltine Corp.
P.R. Hoffman Materials Processing
Murata Electronics North America
Oakbury Components, Ltd.
Panasonic Industrial Co./Matsushita Electric
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Phonon Corp.
RF Monolithics, Inc. (RFM)
Raytheon Co., MPTD
Sawtek, Inc.
Shokai Far East Ltd.
Siemens Components Inc. - Special Products Div.
TEW North America
Tele Quarz Group
Teledyne Electronic Technologies (Los Angeles)
Toko America, Inc.
Toyocom U.S.A., Inc.

OTHER

Brimrose Corp. of America (Bulk acoustic wave)



Control Devices, Inc.

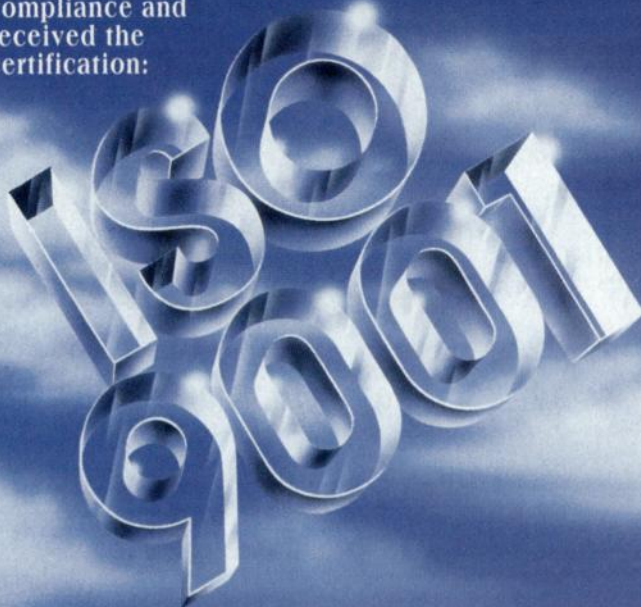
Control Devices, Inc. (Ceramic)
Eclipse Corp. (SMT)
Efratom Time & Frequency Products Inc.
(Rubidium)
Frequency and Time Systems, Inc. (BVA)
Morgan Matroc - Unilator Div. (Dielectric resonators)
NEOS Technologies, Inc.
Q-Tech Corp. (Oscillators & Other Hybrids; LCC)
Raltron Electronics Corp.
Reeves-Hoffman (Crystal Blanks)
Rockwell International (Mechanical)
Siemens Components Inc. - Special Products Div.
(Microwave ceramic)
Standard Crystal Corp. (To 200 MHZ)
United Glass to Metal Sealing Inc. (Holders)
Valpey-Fisher Corp./Carlisle (High Freq. Fund.; Inverted MESA; Ring Supported; Plated Wafers)

DIODES DETECTOR

Advanced Semiconductor, Inc.
Aerowave Inc.
Atlantic Microwave Ltd.
Brimrose Corp. of America
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Custom Components, Inc.
Dura Electronic Sales
Hewlett-Packard Co. Components Group
Joseph Electronics, Inc.
Krytar, Inc.
Loral Microwave FSI Semiconductor Div.
M/A COM
M/A-COM, Inc., Semiconductor Div.
M-Pulse Microwave
Metelics Corp.
Microwave Device Technology Corp.
Microwave Distributors Co.
MIDISCO
Mitek Co.
Mouser Electronics
Pascall Microwave Ltd.

»Working Together« for Quality

When offering top performance products we have to challenge every employee for achieving top quality levels. ■ The KVG team has successfully proved their ISO 9001 compliance and received the certification:



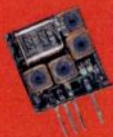
■ For superior quartz crystals, oscillator and filter products from the ISO 9001 certified source, talk to us.
■ KVG North America Inc.



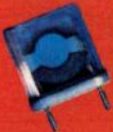
Together for quality.



The oscillators with the quartz crystals from KVG measure absolutely everything, even before you'll see or hear it.



Oscillators with quartz crystals deliver the quality you need, quartz-precise.



Communication and measurement technique. Worldwide. KVG.



KVG
North America Inc.
2240 Woolbright
Road, Suite 320 A
Boynton Beach
FL 33426-6325
Tel. (407) 734-9007
Fax (407) 734-9008

RF discrete components

Penstock, Inc., An Avnet Co.
 Philips Semiconductors - Discrete Semiconductors
 Richardson Electronics, Ltd.
 Surplus Sales of Nebraska
 Teleplex, Inc. (Alford Div.)
 Thomson Components and Tubes Corp.
 Thor Electronics Corp.
 Venkel

NOISE

Advanced Semiconductor, Inc.
 Alpha Industries, Inc.
 Atlantic Microwave Ltd.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Dura Electronic Sales
 Joseph Electronics, Inc.
 Knox Semiconductor, Inc.
 Loral Microwave FSI Semiconductor Div.
 M/A COM
 M/A-Corn, Inc., Semiconductor Div.
 MDF Products, Inc.
 M-Pulse Microwave
 Micronetics, Inc.
 Microwave Device Technology Corp.
 Noise Com, Inc.
Penstock, Inc., An Avnet Co.
 Richardson Electronics, Ltd.
 Surplus Sales of Nebraska
 Thor Electronics Corp.
 Venkel

PIN

Advanced Semiconductor, Inc.
 Robert G. Alle Co., Inc.
 Alpha Industries, Inc.
 Castle Microwave
 Tony Chapman Electronics, Ltd.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Davicom Technologies Inc.
 Dura Electronic Sales
 Frequency Sources, Inc.
 Hewlett-Packard Co. Components Group
 Hytek Microsystems, Inc.
 Joseph Electronics, Inc.
 Loral Microwave FSI Semiconductor Div.
 M/A COM
 M/A-Corn, Inc., Semiconductor Div.
 M-Pulse Microwave
 Metelics Corp.
 Microwave Device Technology Corp.
 Mitsubishi Electronics America
 Oakbury Components, Ltd.
 Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
 Richardson Electronics, Ltd.
 Shokai Far East Ltd.
 Surplus Sales of Nebraska
 Temic
 Thomson Components and Tubes Corp.
 Thor Electronics Corp.
 Venkel

SCHOTTKY

AIL Systems Inc.
 Advanced Semiconductor, Inc.
 Alpha Industries, Inc.
 California Micro Devices Corp.
 Castle Microwave
 Central Semiconductor Corp.
 Tony Chapman Electronics, Ltd.
 Compensated Devices, Inc.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Custom Components, Inc.
 Digi-Key Corp.
 Dura Electronic Sales
 Hewlett-Packard Co. Components Group
 Joseph Electronics, Inc.

Krytar, Inc.
 Loral Microwave FSI Semiconductor Div.
 M/A COM
 M/A-Corn, Inc., Semiconductor Div.
 M-Pulse Microwave
 Metelics Corp.
 Micro International, Inc.
 Microwave Device Technology Corp.
 Mouser Electronics
 National Electronics
 Oakbury Components, Ltd.
Penstock, Inc., An Avnet Co.

Philips Semiconductors - Discrete Semiconductors
 Richardson Electronics, Ltd.
 Surplus Sales of Nebraska
 Thomson Components and Tubes Corp.
 Thor Electronics Corp.
 Venkel

Boldface listing indicates advertiser.

Two of the World's Smallest Footprints



The North American Ant



The TOKO LL1608 Chip Inductor

Actual Size

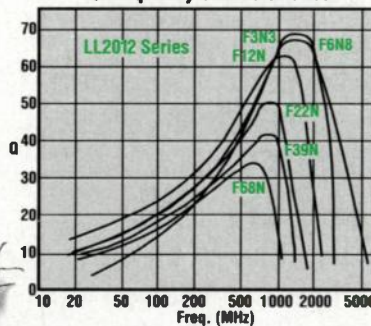
But Only Toko Has the Inductance You Need

Pack more components into smaller designs with the world's smallest chip inductors. Available in a wide range of inductances, these low profile devices give your design important advantages.

Call 1-800-PIK-TOKO today for specifications, samples, and prototyping kits. We'll also include a **FREE** RF Spectrum Chart, your complete product guide to applications across the RF Spectrum.

- 0603 package for smallest size and 0805 package for higher Qs
- E-12 Series pitch **NOW** from 1.2 to 470nH
- Ideal for high frequency designs up to 3GHz eliminates coupling between parts, delivering the highest possible SRF. Inherently more reliable and consistent versus wire wound types
- Tape and reel packaging for high volume, low cost automated manufacturing
- 5% tolerance available

Q-Frequency Characteristics



TOKO

Toko America, Inc. 1250 Feehanville Drive Mt. Prospect, IL 60056

ASICs

Analog &
Mixed-Signal

THE RIGHT PROCESSES

- CMOS
- Bipolar
- Bi-CMOS

DC to 2 GHz

FULL CUSTOM DESIGNS

A/Ds & DACs
PLL, Frequency Synthesis
Mixers & Amplifiers
Modulators & Detectors
Video Processing
Instrumentation
Mixed Mode Control
Switch Capacitor
FIR Filters

INTEGRATED VALUE

RF, analog and digital combined on-chip to increase your product performance with fewer parts. Designed for test, yield and reliability to meet your production and cost goals whether your volumes are 100s or 1,000,000s per year.

RTG has the signal processing experience to make your next ASIC a success. RTG uses a top-down design methodology and the latest Cadence IC design tools to quickly design and deliver integrated circuits for commercial, military and hi-rel markets.

RTG, Inc.

2790 Skypark Dr./ P.O. Box 3986
Torrance, CA 90510

In Los Angeles near the airport

Call: (310) 534-3016

Fax: (310) 534-3728

e-mail: sales@rtg.com

RF discrete components

DIODES (Cont'd) TUNNEL

M/A COM
Venkel

VARACTOR

AIL Systems Inc.
Advanced Semiconductor, Inc.
Alpha Industries, Inc.
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dura Electronic Sales
Frequency Sources, Inc.
Joseph Electronics, Inc.
Knox Semiconductor, Inc.
Litton Solid State Div.
Loral Microwave FSI Semiconductor Div.
M/A COM
M/A-Com, Inc., Semiconductor Div.
M-Pulse Microwave
MSI Electronics, Inc.
Metelics Corp.
Micro International, Inc.
Microwave Device Technology Corp.
Mitsubishi Electronics America
National Electronics
Oakbury Components, Ltd.
Pascali Microwave Ltd.
Penstock, Inc., An Avnet Co.
Richardson Electronics, Ltd.
Shokai Far East Ltd.
Surplus Sales of Nebraska
Thomson Components and Tubes Corp.
Thor Electronics Corp.
Toko America, Inc.
Toshiba America Electronic Components, Inc.
Venkel

OTHER

Brimrose Corp. of America (Mer cad telluride photo detector)
Central Semiconductor Corp. (General purpose, switching, low leakage, Zener & high voltage)
Custom Components, Inc. (Tunnel)
Dura Electronic Sales (Tunnel)
Iskra, Inc. (Silicon rectifier)
Joseph Electronics, Inc.
Knox Semiconductor, Inc. (Zener current limiter)
Litton Solid State Div. (GUNN)
Loral Microwave FSI Semiconductor Div.
M-Pulse Microwave (Tunnel)
Menlo Industries (Tunnel)
Micro International, Inc. (Zener)
Microwave Device Technology Corp. (Gunn)
Philips Semiconductors - Discrete Semiconductors (Zener/switching small signal)
Richardson Electronics, Ltd. (Gunn impatt)
Tech-Ceram Corp. (Ceramic diode pkgs.)
United Glass to Metal Sealing Inc. (Custom Packaging)

INDUCTORS

CHIP

Robert G. Alle Co., Inc.
BI Technologies Corp.
Bipolarics, Inc.
Dale Electronics, Inc.
DeYoung Mfg., Inc.
Digi-Key Corp.
Dura Electronic Sales
Ecliptek Corp.
FDK America, Inc.
HD Communications

Loral Microwave FSI Semiconductor Div.
J.W. Miller Div. - Bell Industries, Inc.
Ohmite Mfg. Co., Inc.
Penstock, Inc., An Avnet Co.
Piconics, Inc.
RCD Components, Inc.
Remtec, Inc.
Richardson Electronics, Ltd.
Siemens Components Inc. - Special Products Div.
Spectrum Electronics/Sagami
Stetco, Inc.
Surplus Sales of Nebraska
TDK Corp. of America
Toko America, Inc.
Vanguard Electronics
Venkel

FERRITE CORES

Advanced Ferrite Technology, Inc.
Automatic Coil/Raven Ind.
BI Technologies Corp.
Caddell-Burns Mfg. Co., Inc.
Ceramic Magnetics, Inc.
Coil Specialty Co.
Coilcraft
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dale Electronics, Inc.
DeYoung Mfg., Inc.
Digi-Key Corp.
Eminetics
FDK America, Inc.
Fair-Rite Products Corp.
Ferronics, Inc.
Gettysburg Transformer Corp.
Goguen Industries, Inc.
Iskra, Inc.
Kilo Tec
Lodestone Pacific
MMG North America
Microwave Components, Inc. (MCI)
J.W. Miller Div. - Bell Industries, Inc.
Mouser Electronics
Murata Electronics North America
National Magnetics Group, Inc.
Neosid (Canada) Ltd.
North Hills Electronics, Inc.
OPT Industries
Palomar Engineers
Penstock, Inc., An Avnet Co.
Philips Components
Pico Electronics, Inc.
RCD Components, Inc.
RTRON Corp.
Radio Television Products Corp.
Siemens Components Inc. - Special Products Div.
South American Development Corp.
Sprague-Goodman Electronics, Inc.
Standex Electronics
Stetco, Inc.
Surplus Sales of Nebraska
TDK Corp. of America
TTE, Inc.
Texas Spectrum Electronics, Inc.
3L Global Electronics
West Coast Magnetics
Xtal Technologies, Ltd.

FIXED

AVX Ltd.
American Precision Industries
Automatic Coil/Raven Ind.
BI Technologies Corp.
Barker & Williamson
Brennan Associates
C.J. Enterprises
Caddell-Burns Mfg. Co., Inc.
Capcon, Inc.
Tony Chapman Electronics, Ltd.

RF discrete components

Coil Specialty Co.

Coilcraft

Component Distributors, Inc. (TX)

Component Distributors, Inc. (FL)

Cornell Dubilier

Dale Electronics, Inc.

DeYoung Mfg., Inc.

Digi-Key Corp.

ESC Electronics Corp.

Ecliptek Corp.

Electro-Assemblies

Eminetics

Frequency Sources, Inc.

Goguen Industries, Inc.

Kintron Laboratories, Inc.

Microelectronics, U.S.A.

Microwave Components, Inc. (MCI)

James Millen Electronic Mfg.

J.W. Miller Div. - Bell Industries, Inc.

Mouser Electronics

National Electronics

North Hills Electronics, Inc.

OPT Industries

Ohmite Mfg. Co., Inc.

Oxley, Inc.

Pace Transducer Co., Div. of C.J. Instruments, Inc.

Panasonic Industrial Co./Matsushita Electric

Penstock, Inc., An Avnet Co.

Pico Electronics, Inc.

Piconics, Inc.

RCD Components, Inc.

RTRON Corp.

Radio Television Products Corp.

SAE Power, Inc.

Shokai Far East Ltd.

South American Development Corp.

Spectrum Electronics/Sagami

Sprague-Goodman Electronics, Inc.

Standex Electronics

Stetco, Inc.

Surplus Sales of Nebraska

TDK Corp. of America

Taiyo Yuden (USA), Inc.

Texas Spectrum Electronics, Inc.

3L Global Electronics

Tokin America, Inc.

Toko America, Inc.

Vanguard Electronics

Vernitron Corp.

Voltronics

West Coast Magnetics

IRON POWDER CORES

Arnold Engineering

Atlantic Magnetics, Inc.

Automatic Coil/Raven Ind.

Aydin Corp. (West)

BI Technologies Corp.

Caddell-Burns Mfg. Co., Inc.

Coil Specialty Co.

Coilcraft

Component Distributors, Inc. (TX)

Component Distributors, Inc. (FL)

Cortec, Inc.

Dale Electronics, Inc.

DeYoung Mfg., Inc.

Digi-Key Corp.

Eminetics

Goguen Industries, Inc.

Lodestone Pacific

MMG North America

Micrometals, Inc.

Microwave Components, Inc. (MCI)

J.W. Miller Div. - Bell Industries, Inc.

National Magnetics Group, Inc.

Neosid (Canada) Ltd.

OPT Industries

Palomar Engineers

Penstock, Inc., An Avnet Co.

Pico Electronics, Inc.

Quality Components Inc.

RTRON Corp.

Radio Television Products Corp.

SAE Power, Inc.

South American Development Corp.

Standex Electronics

Stetco, Inc.

Surplus Sales of Nebraska

3L Global Electronics

Vernitron Corp.

West Coast Magnetics

VARIABLE

American Precision Industries

Automatic Coil/Raven Ind.

Caddell-Burns Mfg. Co., Inc.

Tony Chapman Electronics, Ltd.

Coil Specialty Co.

Coilcraft

Component Distributors, Inc. (TX)

Component Distributors, Inc. (FL)

Dale Electronics, Inc.

Digi-Key Corp.

Dura Electronic Sales

Ecliptek Corp.

Electro-Assemblies

Goguen Industries, Inc.

Kilo Tec

Kintron Laboratories, Inc.

Lodestone Pacific

Microwave Components, Inc. (MCI)

J.W. Miller Div. - Bell Industries, Inc.

National Electronics

North Hills Electronics, Inc.

OPT Industries

Penstock, Inc., An Avnet Co.

Piconics, Inc.

Radio Television Products Corp.

SAE Power, Inc.

Shokai Far East Ltd.

Spectrum Electronics/Sagami

Sprague-Goodman Electronics, Inc.

Standex Electronics

Surplus Sales of Nebraska

Taiyo Yuden (USA), Inc.

3L Global Electronics

Toko America, Inc.

Vanguard Electronics

Voltronics

West Coast Magnetics

OTHER

Advanced Ferrite Technology, Inc. (Ferrite tuner)

Automatic Coil/Raven Ind. (Toroidal)

Aydin Corp. (West) (Chokes)

C.J. Enterprises

Caddell-Burns Mfg. Co., Inc. (High current)

Coil Specialty Co. (SMT)

Dale Electronics, Inc. (Power)

Giltron, Inc. (RF heating coils)

Goguen Industries, Inc. (Air coils)

Lodestone Pacific (Mounts and headers)

MIC Technology Corp. (Thin film spiral)

MMC Electronics America Inc. (Chip Ferrite Read)

Microwave Components, Inc. (MCI) (Air Core)

Pace Transducer Co., Div. of C.J. Instruments, Inc.

Piconics, Inc.

Radio Television Products Corp. (Toroidal)

Siemens Components Inc. - Special Products Div.

(Ferrite accessories)

Standex Electronics (Custom & Helical

Resonators; Surface Mount)

INTEGRATED CIRCUITS

APPLICATION SPECIFIC (ASIC)

AIL Systems Inc.

Allen Avionics, Inc.

American Microsystems, Inc.

Analog Devices Inc., Computer Labs Div.

Analog Solutions

Axon Corp.

Bipolarics, Inc.

Calogic Corp.

Castle Microwave

Component Distributors, Inc. (TX)

Component Distributors, Inc. (FL)

Consumer Microcircuits, Ltd.

Elantec

Engelhard Corp.

Epitronics Corp.

Fujitsu Microelectronics, Semiconductor Div.

GEC Plessey Semiconductors, Inc.

Gennum Corp.

Graychip

Harris Semiconductor

Hewlett-Packard Co. Components Group

Hypres, Inc.

Infotag Systems Inc.

Intellon Corp.

M/A COM

M/A-Com, Inc., Microelectronics Div.

MX-COM, Inc.

Megadyne Corp.

Motorola Semiconductor Products Sector

(Phoenix)

NEC Electronics, Inc.

OKI Semiconductor

Pacific Monolithics

Panasonic Industrial Co./Matsushita Electric

Pegasus Data Systems

Philips Semiconductors - Integrated Circuits

Analog ASIC Advantage

Your product can benefit from integration of its analog electronics on a custom microchip. Don't miss opportunities for improved performance, higher reliability, reduced size and lower cost.

Call us today for an evaluation of your product's Application Specific Integrated Circuit needs. We'll show you how to take full advantage of analog ASICs.

Analog Solutions Electronics Engineering Consultants

Custom and Semi-custom Analog Integrated Circuit Design

5484 White Place, Boulder, CO 80303 303 442-5083 800 726-2564

INFO/CARD 4

RF discrete components

INTEGRATED CIRCUITS (Cont'd)

APPLICATION SPECIFIC (Cont'd)

Presco, Inc.
Quality Semiconductor
REL Labs, Inc.
RTG, Inc.
Raytheon Electronics, Advanced Device Cen.
Senah
Silicon Systems
Sipex
Spectrum Control, Inc.
Stanford Telecom - Telecom Products Group
Talbot Technology Corp. (T-Tech)
Tauber-Dreyer Corp.
Texas Instruments Inc., Microwave Military Components
Toshiba America Electronic Components, Inc.

CONVERSION (ADC/DAC)

Analog Devices (Norwood)
Analog Devices (Wilmington)
Analogic Corp.
Burr-Brown Corp.
Comlinear Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Datel, Inc.
Digi-Key Corp.
Fujitsu Microelectronics, Semiconductor Div.
GEC Plessey Semiconductors, Inc.
Harris Semiconductor
Hypres, Inc.
ILC Data Device Corp.
International Microcircuits, Inc. (IMI)
Linear Technology Corp.
Maxim Integrated Products
Micro Networks Co.
Motorola Semiconductor Products Sector (Phoenix)
Qualcomm, Inc. VLSI Products
RTG, Inc.
Signal Processing Technologies, Inc.
Sipex
Thor Electronics Corp.
Triquint Semiconductor

GAAS MMIC/RFIC

AEL Defense Corp.
AIL Systems Inc.
Alpha Industries, Inc.
Anadigics, Inc.
Brennan Associates
California Eastern Laboratories
Castle Microwave
Celeritek, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Daico Industries
Dura Electronic Sales
Epitronics Corp.
Frequency Electronics, Inc.
Fujitsu Compound Semiconductor, Inc.
GEC-Marconi Materials Technology, Ltd.
Harris Semiconductor
Hewlett-Packard Co. Components Group
Hexwave, Inc.
Hittite Microwave Corp.
ITT GTC
Kaman Sciences Corp. - Locus
Litton Solid State Div.
M/A COM
Maxim Integrated Products
Millitech Corp.
Motorola Semiconductor Products Sector (Phoenix)
Novacom
OKI Semiconductor

Oakbury Components, Ltd.
Pacific Monolithics
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
RF Micro Devices
Raytheon Co., MPTD
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
ST Olektron Corp.
Samsung Microwave Semiconductor
Spectrum Elektrotechnik GmbH
Stanford Microdevices
Teledyne Electronic Technologies (Mountain View)
Texas Instruments Inc., Microwave Military Components
Thor Electronics Corp.
Triquint Semiconductor
Watkins-Johnson Co.

HIGH SPEED DIGITAL/MIXED SIGNAL

American Microsystems, Inc.
Anadigics, Inc.
Analog Devices Inc., Computer Labs Div.
Analog Devices (Norwood)
Analog Devices (Wilmington)
Array Microsystems, Inc.
Bipolarics, Inc.
Brennan Associates
California Eastern Laboratories
Castle Microwave
Comlinear Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Elantec
Exar Corp.
Fujitsu Compound Semiconductor, Inc.
Fujitsu Microelectronics, Semiconductor Div.
GEC Plessey Semiconductors, Inc.
Graychip
Harris Semiconductor
Hewlett-Packard Co. Components Group
Hypres, Inc.
International Microcircuits, Inc. (IMI)
Joseph Electronics, Inc.
M/A COM
Maxim Integrated Products
Mirage Systems
Motorola Semiconductor Products Sector (Phoenix)
Motorola Semiconductor Products Sector (Tempe)
NEC Electronics, Inc.
Pacific Monolithics
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Integrated Circuits
Proxim, Inc. Digital RF Product Line
Qualcomm, Inc. VLSI Products
RF Micro Devices
RTG, Inc.
Richardson Electronics, Ltd.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Los Angeles)
Thor Electronics Corp.
Triquint Semiconductor

HIGH SPEED OPAMPS

Analog Devices (Norwood)
Analog Devices (Wilmington)
Burr-Brown Corp.
Calogic Corp.
Comlinear Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Elantec
GEC Plessey Semiconductors, Inc.
Harris Semiconductor
Joseph Electronics, Inc.
Linear Technology Corp.
M/A COM

Maxim Integrated Products
Motorola Semiconductor Products Sector (Phoenix)
Motorola Semiconductor Products Sector (Tempe)
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Richardson Electronics, Ltd.
Thor Electronics Corp.

RF/IF (<500 MHZ)

AEL Defense Corp.
AIL Systems Inc.
Anadigics, Inc.
Analog Devices Inc., Computer Labs Div.
Analog Devices (Norwood)
Analog Devices (Wilmington)
Brennan Associates
Burr-Brown Corp.
C&S Hybrid, Inc.
California Eastern Laboratories
Castle Microwave
Comlinear Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Exar Corp.
Frequency Electronics, Inc.
Fujitsu Compound Semiconductor, Inc.
Fujitsu Microelectronics, Semiconductor Div.
GEC Plessey Semiconductors, Inc.
Gennum Corp.
Harris Semiconductor
Hewlett-Packard Co. Components Group
Hypres, Inc.
ITT GTC
KDI/Triangle Electronics, Inc.
M/A COM
MX-COM, Inc.
Motorola Semiconductor Products Sector (Phoenix)
Motorola Semiconductor Products Sector (Tempe)
Mouser Electronics
NEC Electronics, Inc.
Pacific Monolithics
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Integrated Circuits
Qualcomm, Inc. VLSI Products
RF Micro Devices
RTG, Inc.
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
Senah
Siliconix, Inc.
Spectrum Control, Inc.
Temic
Thor Electronics Corp.
Toko America, Inc.

SILICON MMIC/RFIC (>500 MHZ)

Alpha Industries, Inc.
Analog Devices (Norwood)
Analog Devices (Wilmington)
Bipolarics, Inc.
Brennan Associates
California Eastern Laboratories
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Hewlett-Packard Co. Components Group
Joseph Electronics, Inc.
Motorola Semiconductor Products Sector (Phoenix)
Motorola Semiconductor Products Sector (Tempe)
Penstock, Inc., An Avnet Co.
RF Micro Devices
Richardson Electronics, Ltd.
Senah
Stanford Microdevices
Thor Electronics Corp.

RF discrete components

VIDEO AMP AND MUX

AIL Systems Inc.
Allen Avionics, Inc.
Analog Devices (Norwood)
Analog Devices (Wilmington)
Berkeley Varitronics Systems, Inc.
Burr-Brown Corp.
Calogic Corp.
Castle Microwave
Comlinear Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Datel, Inc.
Digi-Key Corp.
Elantec
GEC Plessey Semiconductors, Inc.
Harris Semiconductor
Joseph Electronics, Inc.
Linear Technology Corp.
Motorola Semiconductor Products Sector (Tempe)
Quality Semiconductor
Senah
Thor Electronics Corp.

OTHER

American Microsystems, Inc. (Memory, DLD Baseband Transceivers)
Analog Devices (Norwood) (Complete IF Subsystems)
Analog Devices (Wilmington) (Wireless Chipsets)
Berson & Associates (Data book)
Calogic Corp. (High Speed, High Voltage CRT Driver Amplifiers)
Elantec
General Microcircuits Corp. (Pin diode drivers)
Impellimax (Hybrid circuits)
Linear Technology Corp. (Filter ICs, Power Supply ICs)
RTG, Inc. (Bipolar, CMOS, Bi-CMOS)
Reeves-Hoffman (Packages)
Signal Processing Group (SPG) (Analog, Mixed-Signal)
Symbionics Networks Ltd. (XI Radio Modem)

RESISTORS

CHIP

AVX Corp. A Kyocera Group Co.
AVX Ltd.
Robert G. Alle Co., Inc.
Amitron, Inc.
Atlantic Microwave Ltd.
BI Technologies Corp.
Barry Industries Inc.
Bradford Electronics
Caddock Electronics
California Micro Devices Corp.
Tony Chapman Electronics, Ltd.
Communications Specialists, Inc.
Compensated Devices, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Component General, Inc.
Comsat RSI Mark Antennas
Dale Electronics, Inc.
Digi-Key Corp.
EMC Technology, Inc.
Florida RF Labs, Inc.
HD Communications
Hokuriku USA, Ltd.
IRC Inc.
International Mfg. Svcs., Inc. (IMS)
Ion Beam Milling, Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
MMC Electronics America Inc.
Mini-Systems, Inc.
Mouser Electronics

National Electronics
Oakbury Components, Ltd.
Ohmite Mfg. Co., Inc.
PACCOM
Panasonic Industrial Co./Matsushita Electric
Philips Components
Piconics, Inc.
RCD Components, Inc.
REL Labs, Inc.
RF Power Components, Inc.
Raltron Electronics Corp.
Senah
Shokai Far East Ltd.
State of the Art, Inc.
Surplus Sales of Nebraska
Tauber-Dreyer Corp.
Techno Div., Dale Electronics, Inc.
Thin Film Technology
Venkel
Wilbrecht Electronics, Inc.

HIGH POWER

Robert G. Alle Co., Inc.
Angstrohm Precision, Inc.
BI Technologies Corp.
Barry Industries Inc.
Brennan Associates
Caddock Electronics
Caddock Electronics, Inc.
Cesiwid, Inc.
Component General, Inc.
Dale Electronics, Inc.
Digi-Key Corp.
EMC Technology, Inc.
First Source, Inc.
Florida RF Labs, Inc.
HD Communications
IRC Inc.
Ion Beam Milling, Inc.
KDI/Triangle Electronics, Inc.
Mouser Electronics
Murata Electronics North America
Ohmite Mfg. Co., Inc.
The Ohmweve Co., Inc.
Philips Components
RCD Components, Inc.
RF Power Components, Inc.
Remtec, Inc.
Richardson Electronics, Ltd.
Senah
Surplus Sales of Nebraska
Techno Div., Dale Electronics, Inc.
Venkel

NON-INDUCTIVE

Robert G. Alle Co., Inc.
BI Technologies Corp.
Caddock Electronics
Caddock Electronics, Inc.
Cesiwid, Inc.
Communication Concepts, Inc.
Component General, Inc.
Dale Electronics, Inc.
EMC Technology, Inc.
First Source, Inc.
Florida RF Labs, Inc.
IRC Inc.
International Mfg. Svcs., Inc. (IMS)
KDI/Triangle Electronics, Inc.
Mouser Electronics
Ohmite Mfg. Co., Inc.
The Ohmweve Co., Inc.
PACCOM
Philips Components
RCD Components, Inc.
RF Power Components, Inc.
Richardson Electronics, Ltd.
Senah
Surplus Sales of Nebraska
T&M Research Products, Inc.

OTHER

Caddock Electronics, Inc. (High voltage resistor networks)
Cesiwid, Inc. (Bulk ceramic high voltage)
Comsat RSI Mark Antennas (S.I.P., D.I.P.)
Dale Electronics, Inc. (Low value, metal strip)
Ferro ECA Electronics Co. (Thick film)
Hybrids International, Ltd.
International Mfg. Svcs., Inc. (IMS) (Microwave)
Iskra, Inc. (Varistors)
MIC Technology Corp. (Thin film)
Maida Development Co.
Philips Components (Melts, Metal Film)
Thermotronics, Inc., Midwest Components Group (Thermistors)
Zycon Corporation - Buried Capacitance™ (ResistAIR)

RF TRANSFORMERS

HIGH POWER

Aydin Corp. (West)
Brennan Associates
Ceramic Magnetics, Inc.
Coil Specialty Co.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Giltron, Inc.
Goguen Industries, Inc.
Joseph Electronics, Inc.
Lorch Microwave
M/A COM
Microwave Communications Labs
National Communications Electronics, Inc.
North Hills Electronics, Inc.
OPT Industries
Palomar Engineers
Philips Semiconductors - Discrete Semiconductors
Pico Electronics, Inc.
RCD Components, Inc.
RFI Corp.
Santek
Surplus Sales of Nebraska
Teleplex, Inc. (Alford Div.)
Vanguard Electronics
West Coast Magnetics

SMALL SIGNAL

Anatech Electronics
Antenna Engineering Ltd.
Atlantic Magnetics, Inc.
A. R. Blanck
Brennan Associates
Ceramic Magnetics, Inc.
Coil Specialty Co.
Coilcraft
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dale Electronics, Inc.
DeYoung Mfg., Inc.
Digi-Key Corp.
ESC Electronics Corp.
Eddor Magnetics
Electro-Assemblies
First Source, Inc.
Goguen Industries, Inc.
Joseph Electronics, Inc.
Lorch Microwave
M/A COM
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Microsignals, Inc.

RF discrete components

RF TRANSFORMERS

(Cont'd)

SMALL SIGNAL (Cont'd)

Microwave Communications Labs
J.W. Miller Div. - Bell Industries, Inc.
Mini-Circuits
Nano Pulse Industries
National Communications Electronics, Inc.
Netcom, Inc.
North Hills Electronics, Inc.
OPT Industries
Opamp Labs, Inc.
Palomar Engineers
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Pico Electronics, Inc.
Piconics, Inc.
Picosecond Pulse Labs, Inc.
Quintech Electronics & Communications Inc. (QEC)
RCD Components, Inc.
RF Power Systems
RF Prime, Inc.
Radio Television Products Corp.
Raytheon Co., MPTD
Richardson Electronics, Ltd.
SAE Power, Inc.
ST Olektron Corp.
Santek
Shokai Far East Ltd.
South American Development Corp.
Spectrum Electronics/Sagami
Surplus Sales of Nebraska
Synergy Microwave Corp.
TDK Corp. of America
T&M Research Products, Inc.
TTE, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teleplex, Inc. (Alford Div.)
Tokin America, Inc.
Toko America, Inc.
TRAK Microwave Corp.
Vanguard Electronics
Vari-L Company, Inc.
Vernitron Corp.
Vortex Microwave Corp.
Watkins-Johnson Co.
Werlatone, Inc.
West Coast Magnetics

TRANSISTORS

GAAS FET

Alpha Industries, Inc.
California Eastern Laboratories
Castle Microwave
Celeritek, Inc.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Dura Electronic Sales
Fujitsu Compound Semiconductor, Inc.
GEC-Marconi Materials Technology, Ltd.
GTC
Harris Semiconductor
Hewlett-Packard Co. Components Group
Hexwave, Inc.
Joseph Electronics, Inc.
Litton Solid State Div.
Microwave Technology
Mitsubishi Electronics America
Novacom
OKI Semiconductor
Oakbury Components, Ltd.
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Raytheon Co., MPTD
Raytheon Electronics, Advanced Device Cen.
Reliance Comm/Tec
Richardson Electronics, Ltd.
Samsung Microwave Semiconductor
Shokai Far East Ltd.
Stanford Microdevices
Surplus Sales of Nebraska
Texas Instruments Inc., Microwave Military Components
Thor Electronics Corp.
Toshiba America Electronic Components, Inc.
Venkel

RF POWER BIPOLAR

ARS Electronics
Advanced Semiconductor, Inc.
Bipolarics, Inc.
California Eastern Laboratories
Castle Microwave
Central Semiconductor Corp.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Dura Electronic Sales
GHZ Technology

GTC

HD Communications
Hewlett-Packard Co. Components Group
Joseph Electronics, Inc.
M/A COM
M/A-Com, Inc., Power Hybrid Operation
Micro International, Inc.
Mitsubishi Electronics America
Motorola Semiconductor Products Sector (Phoenix)
Mouser Electronics
Oakbury Components, Ltd.
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Richardson Electronics, Ltd.
SGS-Thomson Microelectronics
Senah
Shokai Far East Ltd.
Stanford Microdevices
Surplus Sales of Nebraska
Temic
Thor Electronics Corp.
Toshiba America Electronic Components, Inc.
Venkel

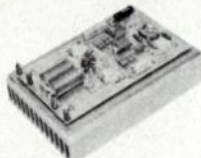
RF POWER FET

Advanced Power Technology Inc.
Advanced Semiconductor, Inc.
Brennan Associates
California Eastern Laboratories
Castle Microwave
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Directed Energy, Inc. (DEI)
Fujitsu Compound Semiconductor, Inc.
GHZ Technology
HD Communications
Hexwave, Inc.
Joseph Electronics, Inc.
M/A COM
M/A-Com, Inc., Power Hybrid Operation
Microwave Technology
Mitsubishi Electronics America
Motorola Semiconductor Products Sector (Phoenix)
Mouser Electronics
Novacom
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Polyfet RF Devices
Richardson Electronics, Ltd.
SGS-Thomson Microelectronics
Semelab PLC
Senah
Stanford Microdevices
Surplus Sales of Nebraska
Thor Electronics Corp.
Toshiba America Electronic Components, Inc.
Venkel

SMALL SIGNAL BIPOLAR

Advanced Semiconductor, Inc.
Bipolarics, Inc.
California Eastern Laboratories
Calogic Corp.
Castle Microwave
Central Semiconductor Corp.
Tony Chapman Electronics, Ltd.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
GTC
Hewlett-Packard Co. Components Group
Joseph Electronics, Inc.
M/A COM

HF LINEAR AMPLIFIERS - BROADBAND TRANSFORMERS



HF AMPLIFIERS per MOTOROLA BULLETINS

Complete Parts List for HF Amplifiers Described in the MOTOROLA R.F. Device Data

AN758 300W	EB63 140W
AN752 140W	EB27A 300W
AN778L 20W	EB104 600W
AN778M 20W	AR305 300W
AR313 300W	

NEW!! 1K WATT 2-50 Mhz Amplifier MOTOROLA AR347

POWER SPLITTERS and COMBINERS 2-30MHz

600 Watt PEP 2-Port	\$ 69.95
1000 Watt PEP 2-Port	\$ 79.95
1200 Watt PEP 4-Port	\$ 89.95

100 WATT 420-450 Mhz PUSH-PULL LINEAR

AMPLIFIER - SSB-FM-ATV

KEB67-PK (KIT)	\$159.95
KEB67-PCB (PC Board)	\$ 18.00
KEB67-I (Manual)	\$ 5.00

We also stock Hard-to-Find parts

CHIP CAPS—Kemet/ATC	
METALCLAD MICA CAPS—Unelco/Semco	
RF POWER TRANSISTORS	
MINI—CIRCUIT MIXERS	
SSL-1 (1-500Mhz)	\$ 6.50
SSL-1X (10-1000Mhz)	\$ 7.95

ARCO TRIMMER CAPACITORS

Broadband HF Transformers

Add \$4.50 for shipping and handling.

2 METER VHF AMPLIFIERS
35 Watt Model 335A.....\$ 79.95 Kit
75 Watt Model 875A.....\$119.95 Kit
Available in kit or wired/boxed

For detailed information and prices, call or write for our free catalog.



CCI Communication Concepts Inc.
508 Millstone Drive • Beavercreek, OH 45344-5840 • (513) 426-8800
FAX (513) 429-3911



RF discrete components

Micro International, Inc.
Mitsubishi Electronics America
Motorola Semiconductor Products Sector
(Phoenix)
Mouser Electronics
National Electronics
Oakbury Components, Ltd.
Panasonic Industrial Co./Matsushita Electric
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete
Semiconductors
Powerex, Inc.
Richardson Electronics, Ltd.
Semelab PLC
Senah
Shokai Far East Ltd.
Stanford Microdevices
Surplus Sales of Nebraska
Temic
Thor Electronics Corp.
Toshiba America Electronic Components, Inc.
Venkel

SMALL SIGNAL FET

Advanced Semiconductor, Inc.
Aromat Corp.
California Eastern Laboratories
Calogic Corp.
Castle Microwave
Central Semiconductor Corp.
Tony Chapman Electronics, Ltd.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Digi-Key Corp.
Fujitsu Compound Semiconductor, Inc.
GEC-Marconi Materials Technology, Ltd.
Joseph Electronics, Inc.
Litton Solid State Div.
M/A COM
Micro International, Inc.
Microwave Technology
Mitsubishi Electronics America
Motorola Semiconductor Products Sector
(Phoenix)
Mouser Electronics
Oakbury Components, Ltd.
Panasonic Industrial Co./Matsushita Electric
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete
Semiconductors

Powerex, Inc.
Raytheon Co., MPTD
Richardson Electronics, Ltd.
Semelab PLC
Senah
Shokai Far East Ltd.
Siliconix, Inc.
Stanford Microdevices
Surplus Sales of Nebraska
Temic
Thor Electronics Corp.
Toshiba America Electronic Components, Inc.
Venkel

OTHER

ARS Electronics (Motorola)
Communication Concepts, Inc.
GHZ Technology (Bias Devices)
Joseph Electronics, Inc.
Litton Solid State Div. (PHEMT)
Tauber-Dreyer Corp. (High Power MOSFETs)
Tech-Ceram Corp. (Transistor pkgs.)
United Glass to Metal Sealing Inc. (To-Headers)

EEV, Inc.
Econco
Giltron, Inc.
Henry Radio, Inc.
Joseph Electronics, Inc.
Litton Electron Devices
Litton Systems Electron Devices Div.
Logimetrics, Inc.
Pascall Microwave Ltd.
Penta Laboratories, Inc.
Power Electronic Components
Radio Research Instrument Co., Inc.
Raytheon Co., MPTD
Richardson Electronics, Ltd.
Shokai Far East Ltd.
Surplus Sales of Nebraska
Svetlana Electron Devices
Thor Electronics Corp.
Varian X-ray Tube Products

VACUUM TUBES

RECEIVING

ARS Electronics
Accutest Instruments Inc.
Burle Industries, Inc. - Tube Products Div.
Communication Concepts, Inc.
EEV, Inc.
Enon Microwave Inc.
Henry Radio, Inc.
Joseph Electronics, Inc.
Pascall Microwave Ltd.
Penta Laboratories, Inc.
Richardson Electronics, Ltd.
Rock Hill Interference Lab
Shokai Far East Ltd.
Surplus Sales of Nebraska
Svetlana Electron Devices
Thor Electronics Corp.

TRANSMITTING

ARS Electronics
Accutest Instruments Inc.
Burle Industries, Inc. - Tube Products Div.
Castle Microwave
Communication Concepts, Inc.

**Add your Logo
or Target Ad
in the next
RF DESIGN DIRECTORY.**

Call 1-800-443-4969

R.F. MODULES AND AMPLIFIERS

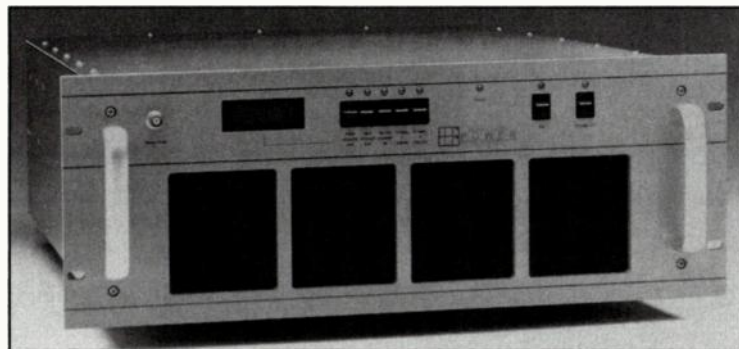
Modules

4W-700W

5MHz-500MHz

From stock

Ask for catalog



Amplifiers

to 2 kW

5MHz-500MHz

Custom designs

Short lead times



CALL

Toll free

1-800-986-9700

FAX

1-408-986-1438

529 B Forman Dr., Campbell, CA 95008

RF modular components

AMPLIFIERS BROADBAND

AIL Systems Inc.
 AKON, Inc.
 Alpha Industries, Inc.
 American Microwave Technology
Amplifier Research
 Analog Devices Inc., Computer Labs Div.
 Analog Devices (Wilmington)
 Applied Specialties, Inc.
 Applied Systems Engineering, Inc.
 Atlantic Microwave Ltd.
 Avianka, Inc.
 Brennan Associates
 Burle Industries, Inc. - Tube Products Div.
 CTT, Inc.
 Calogic Corp.
 Castle Microwave
 Comlinear Corp.
Communication Concepts, Inc.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Cougar Components
 Datel, Inc.
 Dawn Electronics, Inc.
 Densitron Microwave Ltd.
 Dressler HF Technik GMBH
 Dyma Engineering
 Dynetics, Inc.
 EM Research Engineering, Inc.
ENI - a div. of Astec America, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
 First Source, Inc.
 GEC Plessey Semiconductors, Inc.
 GTC
 HD Communications
 Herotek, Inc.
ITS Electronics, Inc.
 Integrated Component Systems, Inc.
 JCA Technology, Inc.
 Joseph Electronics, Inc.
Kalmus Engineering, Inc.
 M.S. Kennedy Corp.
LCF Enterprises
 Lambda RF Systems
 Lectronic Research Labs
 Litton Solid State Div.
 Lucas Zeta
 M/A COM
 M/A-Com, Inc., Microelectronics Div.
 MDF Products, Inc.
 Marlow Electronics Ltd.
 Marquis Microwave Products
 McDonald Associates
 Menlo Industries
 Micro Hybrids, Inc.
 Micro-Precision Technologies, Inc.
 Microwave Communications Labs
 Microwave Power Devices, Inc.
 Microwave Power, Inc.
 Microwave Solutions, Inc.
 Microwave Technology
 Mid-Atlantic RF Systems, Inc.
 Milcom Intl.
 Millitech Corp.
 Milliwave
 Mini-Circuits
 Miteq, Inc.
 Motorola Semiconductor Products Sector
 (Phoenix)
 NEC Electronics, Inc.
 National Communications Electronics, Inc.
 Novacom
 OKI Semiconductor
 Opamp Labs, Inc.
 Optical Electronics, Inc.
 Oriel Instruments

PTEK
 P.G. Electronics, Ltd.
 Pacific Amplifier Corp.
 Pascall Electronics, Ltd.
 Pasternack Enterprises
Penstock, Inc., An Avnet Co.
 Petrond Microwave
 Picosecond Pulse Labs, Inc.
 Polyfet RF Devices
 Q-Bit Corp.
 Quintech Electronics & Communications Inc.
 (QEC)
 REL Labs, Inc.
 RF Power Labs, Inc.
 Raytheon Electronics, Advanced Device Cen.
 Richardson Electronics, Ltd.
 Ross Engineering Corp.
 ST Microwave Corp. California Operations
 Sci Tran Products
 Senah
 Shason Microwave Corp.
Silicon Valley Power Amplifiers
 Sonoma Instrument
 Spectrum Elektrotechnik GmbH
 Steinbrecher Corp.
 Synergy Microwave Corp.
 Tauber-Dreyer Corp.
 Technical Research and Mfg., Inc. (TRM, Inc.)
 Teledyne Electronic Technologies (Mountain View)
 Trontech, Inc.
 UHF Associates
 Ultra Lasertech, Inc.
 Veritech Microwave
 Vortex Microwave Corp.
 Watkins-Johnson Co.
 Wide Band Engineering Co., Inc.

HIGH DYNAMIC RANGE

CTT, Inc.
 Cougar Components
 Datel, Inc.
 Log Tech, Inc.
 Miteq, Inc.
 Pacific Amplifier Corp.
 ST Microwave Corp. California Operations
 Sci Tran Products
 Steinbrecher Corp.
 Tauber-Dreyer Corp.

HYBRID

AIL Systems Inc.
 Amplifonix, Inc.
 Analog Devices Inc., Computer Labs Div.
 Apex Microtechnology Corp.
 Atlantic Microwave Ltd.
 Brennan Associates
 C&S Hybrid, Inc.
 CTT, Inc.
 California Amplifier, Inc.
 Calnet Electronics, Inc.
 Calogic Corp.
 Castle Microwave
 Tony Chapman Electronics, Ltd.
 Comlinear Corp.
 Command Sciences Locus
Communication Concepts, Inc.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Comsat RSI Mark Antennas
 Cougar Components
 Daico Industries
 Datel, Inc.
 Dawn Electronics, Inc.
 Densitron Microwave Ltd.
 Dyma Engineering
Elisra Electronic Systems, Ltd.
 First Source, Inc.
 GEC Plessey Semiconductors, Inc.
 HD Communications
 Hexwave, Inc.

Hytek Microsystems, Inc.
ITS Electronics, Inc.
 International Sensor Sys., Inc.
 KDI/Triangle Electronics, Inc.
 M.S. Kennedy Corp.
 Lectronic Research Labs
 M/A-Com, Inc., Microelectronics Div.
 M-Tron Industries, Inc.
 Marquis Microwave Products
 Menlo Industries
 Micro Hybrids, Inc.
 Micro Networks Co.
 Micro-Precision Technologies, Inc.
 Microwave Distributors Co.
 Microwave Power Devices, Inc.
 Microwave Power, Inc.
 Microwave Solutions, Inc.
 Microwave Technology
 MIDISCO
 Milliwave
 Miteq, Inc.
 Mitsubishi Electronics America
 Motorola Semiconductor Products Sector
 (Phoenix)
 NEC Electronics, Inc.
 Natel Engineering Co., Inc.
 Oakbury Components, Ltd.
 Opamp Labs, Inc.
 Optical Electronics, Inc.
 Pacific Monolithics
Penstock, Inc., An Avnet Co.
 Petrond Microwave
 Philips Semiconductors - Discrete
 Semiconductors
 Q-Bit Corp.
 RDL, Inc.
 REL Labs, Inc.
 Radar Tech, Inc.
 Raytheon Electronics, Advanced Device Cen.
 REMEC
 Richardson Electronics, Ltd.
 SGS-Thomson Microelectronics
 ST Microwave Corp. California Operations
 Sci Tran Products
 Semelab PLC
 Senah
 Shason Microwave Corp.
 Signal Management, Ltd.
 Sipex
 TE Systems
 Taiyo Yuden (USA), Inc.
 Technical Research and Mfg., Inc. (TRM, Inc.)
 Tektron Micro Electronics, Inc.
 Teledyne Electronic Technologies (Mountain View)
 Teledyne Electronic Technologies (Los Angeles)
 Temic
 Watkins-Johnson Co.

LIMITING

AIL Systems Inc.
 AKON, Inc.
 Alpha Industries, Inc.
 Amplifonix, Inc.
 Analog Devices (Wilmington)
 Atlantic Microwave Ltd.
 Brennan Associates
 CTT, Inc.
 California Amplifier, Inc.
 Castle Microwave
 Comlinear Corp.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Cougar Components
 Densitron Microwave Ltd.
 First Source, Inc.
 GEC Plessey Semiconductors, Inc.
 Herotek, Inc.
ITS Electronics, Inc.
 JCA Technology, Inc.
 KDI/Triangle Electronics, Inc.

Solid State Amplifiers

Low Noise & HIGH POWER

3 year warranty

low noise quiet



LA-1A545-001

1.5-1.6 GHz
127,000 MTBF
Flight Qualified

"Freed from lossy isolators, these amplifiers offer low noise and high gain for L-Band communications."

—Microwaves & RF

The World's Best Low Noise Amplifier

Serial No.	Nominal Gain (dB)	Gain Flatness (dB)	Port 1 dB Comp. (dBm)	Input Return Loss (dB min)	Output Return Loss (dB min)	Noise Figure (dB max)	Current (mA)
921101	58.7	0.3	>+13	-22.2	-20.3	0.47	103.3
921102	56.5	0.0	>+13	-21.8	-22.9	0.51	94.2
921103	56.7	0.0	>+13	-21.3	-25.8	0.57	97.8
921104	56.7	0.1	>+13	-21.8	-18.8	0.60	97.6
921105	57.2	0.0	>+13	-21.1	-29.0	0.57	100.3
921106	57.2	0.2	>+13	-21.1	-26.9	0.60	100.0
921107	56.9	0.0	>+13	-20.6	-20.7	0.54	102.7
921108	56.5	0.2	>+13	-21.5	-25.0	0.54	102.2
921109	56.4	0.1	>+13	-20.6	-28.7	0.53	96.9
921110	57.1	0.3	>+13	-22.1	-22.2	0.57	95.5

The LA-1A545-001 is flight qualified and is designed to fully comply with the requirements of GPS, INMARSAT®, ARINC®, and MSAT®.

LA-1A545-002

"Drop-in" Low gain (25dB) option for MSAT® applications.

LA-11A712A2-001

KU-Band low noise amplifier.

FREQUENCY	GAIN	NOISE FIGURE	VSWR INPUT	OUTPUT
2.7 - 2.9 GHz	30dB	.8dB	1.5	1.5
9.0 - 9.5 GHz	32dB	1.3 dB	1.25	1.5
11.7 - 12.2 GHz	57dB	1.2dB	1.25	1.5
18.1 - 18.6 GHz	15dB	2.0dB	1.8	1.8
19.0 - 19.5 GHz	20dB	2.5 dB	2.0	2.0

Other models covering frequency bands up to 26.5 GHz are available.



ITS ELECTRONICS INC.

MICROWAVE COMPONENTS AND SUBSYSTEMS
200 Edgeley Blvd. Unit #24

Concord, Ontario L4K 3Y8 CANADA
Tel. (905) 660-0405 • Fax (905) 660-0406

Response, Innovation, Craftsmanship

2 year warranty

high power STRONG

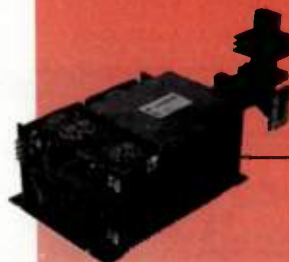


PA-1A497-001

250 watt L-Band power amplifier.

PA-1A21A4-002

200 watt solid state linear power amplifier.



PA-5A856A4-005

50 watt C-Band uplink solid state linear power amplifier.

P/N	Frequency GHz	Output Power @ 1dB GCP W/dBm	Gain dB	Gain Flatness dB	VSWR IN	OUT	Noise Figure dB
2PA47	2.5-2.8	50/47	50	+/-1	1.5:1	1.5:1	10
2PA50	2.5-2.8	100/50	50	+/-1	1.5:1	1.5:1	10
3PA37	3.7-4.2	5/37	47	+/-1	1.5:1	1.5:1	10
3PA40	3.7-4.2	10/40	50	+/-1	1.5:1	1.5:1	10
4PA37	4.4-5.0	5/37	47	+/-1	1.5:1	1.5:1	10
4PA43	4.4-5.0	20/43	50	+/-1	1.5:1	1.5:1	10
5PA40	5.03-5.09	10/40	47	+/-1	1.5:1	1.5:1	10
5PA43	5.03-5.09	20/43	40	+/-1	1.5:1	1.5:1	10
6PA33	5.92-6.43	2/33	37	+/-1	1.5:1	1.5:1	7
6PA47	5.92-6.43	50/47	47	+/-1	1.5:1	1.5:1	7
6PA50	5.92-6.43	100/50	50	+/-1	1.5:1	1.5:1	7
6PA37	6.4-7.2	5/37	47	+/-1	1.5:1	1.5:1	7
7PA33	7.1-7.7	2/33	37	+/-1	1.5:1	1.5:1	7
7PA40	7.1-7.7	10/40	47	+/-1	1.5:1	1.5:1	7
8PA46	7.9 - 8.4	40/46	46	+/-1	1.5:1	1.5:1	7
9PA37	8.5-9.6	5/37	47	+/-1	1.5:1	1.5:1	7
10PA40	9.5-10.5	10/40	47	+/-1	1.5:1	1.5:1	7
11PA37	10.7-11.7	5/37	47	+/-1	1.5:1	1.5:1	7
12PA40	11.7-12.2	10/40	47	+/-1	1.5:1	1.5:1	7
13PA40	12.7-13.2	10/40	47	+/-1	1.5:1	1.5:1	7
14PA40	14.0-14.5	10/40	47	+/-1	1.5:1	1.5:1	7
14PA43	14.0-14.5	20/43	50	+/-1	1.5:1	1.5:1	7
14PA46	14.0-14.5	40/46	50	+/-1	1.5:1	1.5:1	7
15PA33	14.5-15.3	2/33	47	+/-1	1.5:1	1.5:1	7
15PA36	14.5-15.3	4/36	50	+/-1	1.5:1	1.5:1	7
15PA37	14.5-15.3	5/37	50	+/-1	1.5:1	1.5:1	7
18PA33	18.1-18.7	2/33	30	+/-1	1.5:1	1.5:1	14
21PA23	21.2-22.4	2/23	20	+/-1	1.5:1	1.5:1	10
23PA23	22.4-23.6	2/23	20	+/-1	1.5:1	1.5:1	10

RF modular components

AMPLIFIERS (Cont'd)

LIMITING (Cont'd)

Linearizer Technology, Inc.
Littion Solid State Div.
Log Tech, Inc.
Lucas Zeta
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Marquis Microwave Products
Menlo Industries
Microwave Distributors Co.
Microwave Technology
MIDISCO
Miteq, Inc.
Opamp Labs, Inc.
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
Q-Bit Corp.
Radar Tech, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Olektron Corp.
Sci Tran Products
Senah
Spectrum Elektrotechnik GmbH
Technical Research and Mfg., Inc. (TRM, Inc.)
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Veritech Microwave
Watkins-Johnson Co.
Western Microwave, Inc.

LOG

AEL Defense Corp.
AIL Systems Inc.
AKON, Inc.
American Microwave Corp.
Analog Devices Inc., Computer Labs Div.
Analog Devices (Wilmington)
Atlantic Microwave Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
GEC Plessey Semiconductors, Inc.
Lectronic Research Labs
Linearizer Technology, Inc.
Log Tech, Inc.
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Megadyne Corp.
Menlo Industries
Miteq, Inc.
Oakbury Components, Ltd.
Optical Electronics, Inc.
Oriel Instruments
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
Radar Tech, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Olektron Corp.
S.T. Research Corp.
Senah

Spectrum Elektrotechnik GmbH
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Veritech Microwave
Western Microwave, Inc.

VIDEO

AIL Systems Inc.
AML Communications
Alpha Industries, Inc.
Analog Devices Inc., Computer Labs Div.
Analog Devices (Wilmington)
Apcom, Inc.
Apex Microtechnology Corp.
Berkeley Varitronics Systems, Inc.
Calogic Corp.
Comlinear Corp.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dawn Electronics, Inc.
Dyma Engineering
Elantec
Eon Instrumentation, Inc.
GEC Plessey Semiconductors, Inc.
Harris Semiconductor
Joseph Electronics, Inc.
M.S. Kennedy Corp.
M/A-Com, Inc., Microelectronics Div.
Matrix Systems Corp.
Megadyne Corp.
Menlo Industries
Motorola Semiconductor Products Sector (Phoenix)
Opamp Labs, Inc.
Optical Electronics, Inc.
Penstock, Inc., An Avnet Co.
RDL, Inc.
REL Labs, Inc.
ST Microwave Corp. California Operations
Sci Tran Products
Senah
Siliconix, Inc.
Spectrum Elektrotechnik GmbH
Teledyne Electronic Technologies (Los Angeles)
Temic
UHF Associates
Western Microwave, Inc.

OTHER

Apcom, Inc. (Distribution amps)
Apex Microtechnology Corp. (Monolithics)
Applied Systems Engineering, Inc. (Power)
Aydin Corp. (West) (Microwave high power)
Brounley Associates (Select band)
Delta Microwave, Inc. (Filter/Amplifier Assembly)
Dynetic Systems Co. (Servo)
EM Research Engineering, Inc. (Power)
Ehrhorn Technological Operations, Inc. (HF/VHF linear)
Elisra c/o Eximin Telecom
Hittite Microwave Corp. (MMIC power amps, MMIC variable gain amps)
ITS Electronics, Inc. (Power, low noise Pulsed)
Innovative Technology (RF Circuit Packaging)
Instrument Research Co. (Pulse)
Linearizer Technology, Inc. (Linearizers)
M/A COM (GaAs MMIC)
Merrimac Industries, Inc. (Isolating)
Microwave Power Devices, Inc. (RF, Microwave Power)
Microwave Solutions, Inc. (Low noise, high power)
Pascall Electronics, Ltd.
Quintech Electronics & Communications Inc. (QEC) (CATV, M/W)
RTG, Inc. (Custom Monolithic & Hybrid)
SMI (NY) (Housings)
Spectrum Elektrotechnik GmbH (High Power Amplifiers, Low Noise Amplifiers)
Trontech, Inc. (Wide dynamic range)



948 Years Experience!

When reliability and accuracy count, call us. 948 years of combined employee crystal experience and 43 years of service to businesses like yours translates into our dedication to the quality products and customer satisfaction that you deserve.

- ENGINEERING AND DESIGN SUPPORT
- EXPERIENCED SALES STAFF
- CRYSTAL ANALYSIS
- EXPEDITE SERVICE
- CUSTOM CRYSTALS TO YOUR SPECS
- MICRO-BALANCED/LAB CRYSTALS
- SOON TO BE ISO 9001 CERTIFIED
- LIFETIME CRYSTAL GUARANTEE





Call or FAX for more information about Crystals, Elements, Oscillators and Accessories.

WHEN QUALITY COUNTS. . .

INTERNATIONAL CRYSTAL MANUFACTURING CO., INC.

PHONE 1-800-725-1426 • 24-HOUR FAX 1-800-322-9426

P.O. BOX 26330 • OKLAHOMA CITY, OK 73126

DETECTORS

AEL Defense Corp.
Advanced Control Components, Inc.
Alan Industries, Inc.
Anritsu Wiltron
Atlantic Microwave Ltd.
Brennan Associates
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Custom Microwave Components
Daico Industries
Dajem Technology Co.
EDO Corp/Barnes Engineering Div.
Giga-Tronics, Power Measurements Div.
HD Communications
Herotek, Inc.
Hypres, Inc.
JFW Industries, Inc.
Krytar, Inc.
M/A COM
M-Tron Industries, Inc.
Marlow Electronics Ltd.
Menlo Industries
Metelics Corp.
Mica Microwave Corp.
Micronetics, Inc.
Microwave Distributors Co.
MIDISCO
Millitech Corp.
Optical Coating Laboratory, Inc.
Penstock, Inc., An Avnet Co.
REMEC
Robinson Laboratories
ST Microwave Corp. California Operations
Shokai Far East Ltd.
Solder Absorbing Technology, Inc.
Spectrum Elektrotechnik GmbH
Taiyo Yuden (USA), Inc.
Talbot Technology Corp. (T-Tech)
Teledyne Electronic Technologies (Los Angeles)
Telonic Berkeley, Inc.
Temic
Tokin America, Inc.
Trilithic Inc.
Wavetek Corp. (IN)
Western Microwave, Inc.
Wide Band Engineering Co., Inc.

FILTERS

ACTIVE

AKON, Inc.
Arco Electronics
Atlantic Microwave Ltd.
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Consumer Microcircuits, Ltd.
Control Concepts Corp.
Dale Electronics, Inc.
Datel, Inc.
Dyma Engineering
Frequency Devices Inc.
HD Communications
Electronic Research Labs
M-Tron Industries, Inc.
Marlow Electronics Ltd.
Micro Hybrids, Inc.
Microwave Communications Labs
Murata Electronics North America
Netcom, Inc.
Opamp Labs, Inc.
Penstock, Inc., An Avnet Co.
Precision Filters, Inc.
REL Labs, Inc.
ST Microsonics
Selectone Corp.
Shokai Far East Ltd.

RFM's Wireless SAW Components.

High-Tech Magic!



We've used our high-tech magic skills to develop both surface acoustic wave (SAW) and surface-mount technologies (SMT) to offer you superior component design choices for your applications.

SAW Components for Low-Power Wireless

RFM offers over eighty SMT and through-hole SAW devices to support the design of low-power, unlicensed, UHF radio applications worldwide. Choose from SAW resonators for transmitter and LO applications, plus receiver RF filters and delay lines.

SAW Filters for Wireless Telecommunications

We offer SAW IF filters for digital wireless applications including GSM, DCS 1800, PCS 1900, IS-54B, CDPD, DECT, CDMA, and Inmarsat, plus IEEE 802.11 WLAN systems.

Take a look at what our high-tech magic can do for your designs! Call RFM at (214) 233-2903 to talk to an application engineer or to request a free data book.



RF Monolithics, Inc.
4441 Sigma Road
Dallas, TX 75244 U.S.A.

RF modular components

FILTERS (Cont'd)

ACTIVE (Cont'd)

Spectrum Elektrotechnik GmbH
Sterling Technology, Inc.
TDK Corp. of America
TTE, Inc.
Talbot Technology Corp. (T-Tech)
Teledyne Electronic Technologies (Los Angeles)

CRYSTAL

AKON, Inc.
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
Cambio International
Comstron, Div. of Aeroflex Laboratories, Inc.
Filtronetics, Inc.
Fox Electronics
Frequency Electronics, Inc.
HD Communications
Hy-Q International (USA) Inc.
Hybrids International, Ltd.
International Crystal Mfg. Co., Inc. (ICM)
KS Electronics
KVG North America, Inc.
Kolinker Industrial Equip., Ltd.
Lectronic Research Labs
Microsignals, Inc.
Microwave Distributors Co.
MIDISCO
Morgan Matroc - Electro Ceramics Div.
National Electronics
Netcom, Inc.
Networks International Corp.
Novacom
OPT Industries
Oak Frequency Control Group
Oakbury Components, Ltd.
Piezo Technology, Inc.
Quartztek, Inc.
Reeves-Hoffman
ST Microsonics
ST Olektron Corp.
Sentry Mfg. Co.
Shokai Far East Ltd.
Sokol Crystal Products, Inc.
Spectrum Elektrotechnik GmbH
TEW North America
Tauber-Dreyer Corp.
Tele Quarz USA Inc.
Temex Electronics, Inc.
Thomson Components and Tubes Corp.
Xtal Technologies, Ltd.

LC

AIL Systems Inc.
AVX Ltd.
Allen Avionics, Inc.
Anthony RF Track Microwave
Arco Electronics
Atlantic Microwave Ltd.
Brennan Associates
California Micro Devices Corp.
Capcon, Inc.
Captor Corp.
Castle Microwave
Ceramic Devices, Inc.
Colcraft
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI Mark Antennas
Comstron, Div. of Aeroflex Laboratories, Inc.
Daden Associates, Inc.
EMI Filter Co.
ESC Electronics Corp.
Elisra Electronic Systems, Ltd.
Eminetics
FSY Microwave, Inc.
Faraday Technology, Ltd.
Filtronetics, Inc.

Genisco Electronics/Potter Production Corp.
HD Communications
Integrated Microwave Corp.
Ion Beam Milling, Inc.
JMK, Inc.
KR Electronics
KS Electronics
KW Microwave Corp.
Lark Engineering
Lectronic Research Labs
Log Tech, Inc.
Lorch Microwave
Maxwell Laboratories, Inc. - Sierra Div.
Microsignals, Inc.
Microwave Filter Co., Inc.
Mini-Circuits
Murata Electronics North America
Netcom, Inc.
Networks International Corp.
North Hills Electronics, Inc.
OPT Industries
Oakbury Components, Ltd.
Oxley, Inc.
Pascall Electronics, Ltd.
Passive Power Products
Penny Technologies, Inc.
Piconics, Inc.
Piezo Technology, Inc.
Pole/Zero Corp.
Power Dynamics, Inc.
Quartztek, Inc.
Quintech Electronics & Communications Inc. (QEC)
RCD Components, Inc.
RDL, Inc.
RFI Corp.
RS Microwave Co.
RTRON Corp.
REMEC
ST Microwave Corp. California Operations
ST Olektron Corp.
Salisbury Engineering, Inc.
Shokai Far East Ltd.
Silver Cloud Manufacturing Co.
Sokol Crystal Products, Inc.
Spectrum Electronics/Sagami
Sterling Technology, Inc.
Stetco, Inc.
Superconductor Technologies Inc.
Synergy Microwave Corp.
TDK Corp. of America
TTE, Inc.
Taiyo Yuden (USA), Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Temex Electronics, Inc.
Texas Spectrum Electronics, Inc.
Toko America, Inc.
Trilithic Inc.
Vortex Microwave Corp.
Wavetek Corp. (IN)

SAW

AIL Systems Inc.
AVX Corp. A Kyocera Group Co.
Andersen Laboratories
Arco Electronics
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
Tony Chapman Electronics, Ltd.
Com Dev
Fox Electronics
Fujitsu Microelectronics, Semiconductor Div.
HD Communications
KVG North America, Inc.
Lectronic Research Labs
Murata Electronics North America
OKI Semiconductor
Oakbury Components, Ltd.

Panasonic Industrial Co./Matsushita Electric
Pascall Microwave Ltd.
Phonon Corp.
RF Monolithics, Inc. (RFM)
Sawtek, Inc.
Shokai Far East Ltd.
Sokol Crystal Products, Inc.
Tele Quarz USA Inc.
Thomson Components and Tubes Corp.
Toko America, Inc.

OTHER

Communications & Energy Corp. (Passive)
Compass Communications, Inc.
Control Devices, Inc. (Ceramic)
Curtis Industries (RFI-EMI)
Daico Industries (Threshold)
Dajem Technology Co. (Dielectric, waveguide, coax, microstrip)
Eminetics (PCB)
Labtech Ltd. (PTFE)
Lark Engineering (Surface mount)
Lorch Microwave (Ceramic, cavity, tunable, waveguide)
Novacom (Distributed)
Premier Microwave Corp. (Microwave)
Quintech Electronics & Communications Inc. (QEC) (Micro Strip)
Radian Technology, Inc. (Microwave)
Rockwell International (Mechanical)
Silver Cloud Manufacturing Co. (Electronic Display)
Solder Absorbing Technology, Inc. (Temperature)
Spectrum Elektrotechnik GmbH (Equalizer)
Stetco, Inc. (RFI/EMI)
Tauber-Dreyer Corp. (Microwave)
Teleplex, Inc. (Alford Div.) (Transmission Line)
Texas Spectrum Electronics, Inc. (EMI/RFI)
Toko America, Inc. (Ceramic)
Trilithic Inc.
Tusonix Inc. (EMI/REI)
United Glass to Metal Sealing Inc. (Packaging)
Watkins-Johnson Co. (YIG)

FREQUENCY MULTIPLIERS

AIL Systems Inc.
Alpha Industries, Inc.
Analog Devices (Norwood)
Atlantic Microwave Ltd.
Brennan Associates
C&S Hybrid, Inc.
Castle Microwave
Catel Telecommunications
Com Dev
Communication Solutions, Inc.
Communication Techniques, Inc.
Comsat RSI - Anghel Laboratories
Daden Associates, Inc.
Dajem Technology Co.
Dura Electronic Sales
EM Research Engineering, Inc.
Elisra c/o Eximlin Telecom
Elisra Electronic Systems, Ltd.
Frequency Electronics, Inc.
Frequency Sources, Inc.
GEC Plessey Semiconductors, Inc.
Greenray Industries
HD Communications
Herotek, Inc.
Hewlett-Packard Co. Components Group
ITS Electronics, Inc.
JHP Industrial Co., Inc.
KW Microwave Corp.
Lectronic Research Labs

Boldface listing indicates advertiser.

RF modular components

Lucas Zeta
M/A COM
M/A-Corn, Inc., Antenna and Cable Div.
M/A-Corn, Inc., Microelectronics Div.
Magnum Microwave Corp.
Marlow Electronics Ltd.
Micro Networks Co.
Microsource, Inc.
Microwave Communications Labs
Microwave Device Technology Corp.
Millitech Corp.
Milliwave
Minaret Radio
Miteq, Inc.
Optical Electronics, Inc.
Pan Datacomm, Inc.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Pulsar Microwave Corp.
RDL, Inc.
Raytheon Co., MPTD
REMEC
Richardson Electronics, Ltd.
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Steinbrecher Corp.
Synergy Microwave Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Techtrol Cyclonetics, Inc.
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
TRAK Microwave Corp.
Vortex Microwave Corp.
Watkins-Johnson Co.
Wilmanco

LIMITERS

AEL Defense Corp.
Advanced Control Components, Inc.
Alpha Industries, Inc.
Analog Devices (Norwood)
Anritsu Wiltron
Brennan Associates
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cougar Components
Custom Microwave Components
Daden Associates, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
Frequency Sources, Inc.
GEC Plessey Semiconductors, Inc.
General Microwave Corp.
Herotek, Inc.
ITS Electronics, Inc.
Lectronic Research Labs
Linearizer Technology, Inc.
Loral Microwave FSI Semiconductor Div.
M/A COM
M/A-Corn, Inc., Microelectronics Div.
MCC Norsal
Marlow Electronics Ltd.
Metelics Corp.
Mica Microwave Corp.
Microwave Communications Labs
Microwave Distributors Co.
MIDISCO
Millitech Corp.
Mini-Circuits
Miteq, Inc.
Oakbury Components, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Q-Bit Corp.
REMEC
Richardson Electronics, Ltd.
Robinson Laboratories
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH

Synergy Microwave Corp.
Teledyne Electronic Technologies (Los Angeles)
Texas Instruments Inc., Microwave Military Components
Vortex Microwave Corp.
Watkins-Johnson Co.

MIXERS

ACTIVE

AEL Defense Corp.
Anadigics, Inc.
Analog Devices (Norwood)
Analog Devices (Wilmington)
Atlantic Microwave Ltd.
Brennan Associates
Calogic Corp.
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dura Electronic Sales
First Source, Inc.
Fujitsu Microelectronics, Semiconductor Div.
GEC Plessey Semiconductors, Inc.
General Services Engineering, Inc.
ITS Electronics, Inc.
Lectronic Research Labs
M/A COM
M/A-Corn, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Microwave Communications Labs
Microwave Device Technology Corp.
Milliwave
Mini-Circuits
Miteq, Inc.
Pacific Monolithics
Penstock, Inc., An Avnet Co.
RF Micro Devices
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
ST Olektron Corp.
Spectrum Elektrotechnik GmbH
Tauber-Dreyer Corp.
Watkins-Johnson Co.

DIODE DOUBLE BALANCED

Alpha Industries, Inc.
American Microwave Corp.
Anaren Microwave, Inc.
Atlantic Microwave Ltd.
Avianka, Inc.
Brennan Associates
C&S Hybrid, Inc.
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dura Electronic Sales
Elisra Electronic Systems, Ltd.
Epsilon Lambda Electronics Corp.
First Source, Inc.
General Services Engineering, Inc.
HD Communications
Hewlett-Packard Co. Components Group
Hittite Microwave Corp.
JHP Industrial Co., Inc.
Lectronic Research Labs
Loral Microwave - Narda
Lorch Microwave
M/A COM
M/A-Corn, Inc., Microelectronics Div.
MCC Norsal
Magnum Microwave Corp.
Merrimac Industries, Inc.
Microsignals, Inc.
Microwave Device Technology Corp.
Microwave Distributors Co.
MIDISCO
Mini-Circuits
Miteq, Inc.
Pacific Monolithics

Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Pulsar Microwave Corp.
RF Prime, Inc.
Richardson Electronics, Ltd.
Robinson Laboratories
ST Microwave Corp. California Operations
ST Olektron Corp.
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Synergy Microwave Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
Texas Instruments Inc., Microwave Military Components
TRAK Microwave Corp.
Vari-L Company, Inc.
Vortex Microwave Corp.
Watkins-Johnson Co.
Western Microwave, Inc.

HIGH DYNAMIC RANGE

AIL Systems Inc.
Anadigics, Inc.
Atlantic Microwave Ltd.
Brennan Associates
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dajem Technology Co.
Dura Electronic Sales
Elisra Electronic Systems, Ltd.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
Lectronic Research Labs
Log Tech, Inc.
Lorch Microwave
M/A-Corn, Inc., Microelectronics Div.
Magnum Microwave Corp.
Marlow Electronics Ltd.
Miteq, Inc.
Pacific Monolithics
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
RF Micro Devices
RF Prime, Inc.
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Olektron Corp.
Synergy Microwave Corp.
Tauber-Dreyer Corp.
Tele-Tech Corp.
TRAK Microwave Corp.
Vari-L Company, Inc.
Vortex Microwave Corp.
Watkins-Johnson Co.
Western Microwave, Inc.

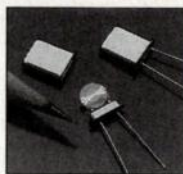
IMAGE REJECT

AIL Systems Inc.
Anaren Microwave, Inc.
Atlantic Microwave Ltd.
Brennan Associates
C&S Hybrid, Inc.
Castle Microwave
Command Sciences Locus
Dajem Technology Co.
Dura Electronic Sales
Elisra Electronic Systems, Ltd.
First Source, Inc.
Hittite Microwave Corp.
JHP Industrial Co., Inc.
Lorch Microwave
M/A-Corn, Inc., Microelectronics Div.
MCC Norsal
Magnum Microwave Corp.

**We deliver great
performance,
by any measure!**

CRYSTALS

- High Frequency fundamental crystals up to 155.52 MHz for oscillator or filter applications.



- Standard AT cut crystals and blanks, fundamental or overtone.
- Rugged, tight tolerance motional parameters.
- Low Frequencies (1 KHz to 1 MHz).



OSCILLATORS

For applications in telecommunications, instrumentation and RF/microwave.

- OCXO's including miniature oscillators for high stability applications, i.e., Telecom Stratum 3 and 3E.
- VCXO's: 14 & 24 PIN DIL packages, discrete packages.
- Special frequency clock oscillators, 14 pin DIL package.
- TCXO's: 14 PIN DIL packages and discrete packages, special applications.

CRYSTAL FILTERS

- From 1 KHz to 155 MHz fundamentals.
- 155 MHz and up utilizing overtone crystals.

HERMETIC SEAL PACKAGING

- Glass to metal sealed crystal bases, TO-styles, terminals, headers, tub plug-ins and microwave power packs.
- Relay headers for sealed relays.
- Battery terminals.
- In-house machining and plating facilities.

For more information on our products or a catalog, call us at 717-243-5929 or FAX 717-243-0079. In Canada call: BIRDE Marketing Inc. at 905-477-7722.



REEVES-HOFFMAN
DIVISION DYNAMICS CORPORATION OF AMERICA

400 W. NORTH STREET • CARLISLE, PA 17013

**ERROR FREE!
ON TIME! EVERY TIME!**

RF modular components

MIXERS (Cont'd)

IMAGE REJECT (Cont'd)

Merrimac Industries, Inc.
Microwave Communications Labs
Miteq, Inc.
Pacific Monolithics
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Pulsar Microwave Corp.
RF Micro Devices
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
Robinson Laboratories
ST Microwave Corp. California Operations
ST Olektron Corp.
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Synergy Microwave Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
TRAK Microwave Corp.
Vari-L Company, Inc.
Vectronics Microwave Corp.
Vortex Microwave Corp.
Watkins-Johnson Co.
Western Microwave, Inc.

OTHER

Epsilon Lambda Electronics Corp. (EHF)
Labtech Ltd. (PTFE)
MCC Norsal (SSBM QIFM)
Magnum Microwave Corp. (Harmonic mixers)
Merrimac Industries, Inc. (Bi-phase)
Miteq, Inc. (Triple Balanced, Biasable, Mesfet)
Premier Microwave Corp. (Microwave)
RTG, Inc. (Custom Monolithic & Hybrid)
Richardson Electronics, Ltd. (Harmonic)
Synergy Microwave Corp. (Sub-harmonic)
Tele-Tech Corp.
United Glass to Metal Sealing Inc. (Packaging)
Vari-L Company, Inc. (Load insensitive)
Vectronics Microwave Corp. (Balanced Quad IF)

MODULATORS

AM

ATCI
American Microwave Corp.
Atlantic Microwave Ltd.
Catel Telecommunications
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dajem Technology Co.
Dirad Defense Systems Corp.
Dyma Engineering
Elisra Electronic Systems, Ltd.
Epsilon Lambda Electronics Corp.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
Gemtronic Engineering, Ltd.
General Services Engineering, Inc.
JHP Industrial Co., Inc.
KDI/Triangle Electronics, Inc.
Lectronic Research Labs
M/A-Com, Inc., Microelectronics Div.
Merrimac Industries, Inc.
Pacific Monolithics
Pan Datacomm, Inc.
Penstock, Inc., An Avnet Co.
Proxim, Inc. Digital RF Product Line
Quintech Electronics & Communications Inc. (QEC)
RE America, Inc.
Richardson Electronics, Ltd.
Robinson Laboratories
Shokai Far East Ltd.

Synetcom Digital, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
UHF Associates
Vortex Microwave Corp.

FIBER OPTIC

Micracor

FM/PM

ATCI
Catel Telecommunications
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dajem Technology Co.
Dirad Defense Systems Corp.
Dyma Engineering
Elisra Electronic Systems, Ltd.
Eon Instrumentation, Inc.
Epsilon Lambda Electronics Corp.
GEC Plessey Semiconductors, Inc.
Gemtronic Engineering, Ltd.
General Services Engineering, Inc.
JHP Industrial Co., Inc.
Lectronic Research Labs
Luff Research
M/A-Com, Inc., Microelectronics Div.
M-Tron Industries, Inc.
Merrimac Industries, Inc.
Pacific Monolithics
Pan Datacomm, Inc.
Proxim, Inc. Digital RF Product Line
Qualcomm, Inc. VLSI Products
Quintech Electronics & Communications Inc. (QEC)
RE America, Inc.
Richardson Electronics, Ltd.
ST Olektron Corp.
Shokai Far East Ltd.
Synetcom Digital, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tektron Micro Electronics, Inc.
Tele-Tech Corp.
UHF Associates

FSK

AEL Defense Corp.
ATCI
Advanced Communications Systems, Inc.
Analog Engineering, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cynetics Corp.
Dajem Technology Co.
Dirad Defense Systems Corp.
Elisra Electronic Systems, Ltd.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
Gemtronic Engineering, Ltd.
General Services Engineering, Inc.
JHP Industrial Co., Inc.
Lectronic Research Labs
M/A-Com, Inc., Microelectronics Div.
M-Tron Industries, Inc.
Merrimac Industries, Inc.
Microwave Communications Labs
Oakbury Components, Ltd.
Pacific Monolithics
Pan Datacomm, Inc.
Penstock, Inc., An Avnet Co.
Proxim, Inc. Digital RF Product Line
Qualcomm, Inc. VLSI Products
RE America, Inc.
RF Micro Devices
Richardson Electronics, Ltd.
ST Olektron Corp.
Shokai Far East Ltd.
Synetcom Digital, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Vortex Microwave Corp.

RF modular components

PSK

Cynetics Corp.
Dirad Defense Systems Corp.
Hewlett-Packard Co. Components Group
Miteq, Inc.
ST Olektron Corp.
Synetcom Digital, Inc.
Tele-Tech Corp.
Vortex Microwave Corp.

PULSE

American Microwave Corp.
Applied Systems Engineering, Inc.
Atlantic Microwave Ltd.
Catel Telecommunications
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Daico Industries
Dajem Technology Co.
Dirad Defense Systems Corp.
General Microwave Corp.
General Services Engineering, Inc.
Instrument Research Co.
Lectronic Research Labs
M-Tron Industries, Inc.
Maxwell Laboratories, Inc.
Merrimac Industries, Inc.
Micronetics, Inc.
Microwave Communications Labs
Miteq, Inc.
Pascall Electronics, Ltd.
Proxim, Inc. Digital RF Product Line
RFI Corp.
Radio Research Instrument Co., Inc.
Richardson Electronics, Ltd.
Robinson Laboratories
ST Microwave Corp. California Operations
Shokai Far East Ltd.
Synetcom Digital, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
Tricor Flight Systems Inc. - Electronic Systems Div.
Vectronics Microwave Corp.
Veritech Microwave

QPSK

ATCI
Advanced Communications Systems, Inc.
Analog Engineering, Inc.
Anaren Microwave, Inc.
Castle Microwave
Component Distributors, Inc. (FL)
Dajem Technology Co.
Deskin Research Group, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
Gemtronic Engineering, Ltd.
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
Marlow Electronics Ltd.
McDonald Associates
Merrimac Industries, Inc.
Microsignals, Inc.
Microwave Communications Labs
Mini-Circuits
NEC Electronics, Inc.
Pacific Monolithics
Pan Datacomm, Inc.
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
Proxim, Inc. Digital RF Product Line
Pulsar Microwave Corp.
Qualcomm, Inc. VLSI Products
RF Micro Devices
RF Prime, Inc.
Richardson Electronics, Ltd.
ST Microwave Corp., Arizona Operations
ST Olektron Corp.

Shokai Far East Ltd.
Sigtek, Inc.
Stanford Telecom - Telecom Products Group
Synergy Microwave Corp.
Tele-Tech Corp.
TRAK Microwave Corp.
Vectronics Microwave Corp.
Vortex Microwave Corp.

OTHER

Cynetics Corp. (QAM)
Dajem Technology Co. (DPSK)
Deskin Research Group, Inc. (M-ary)
Dirad Defense Systems Corp. (QAM & MSK)
Hitite Microwave Corp. (BPSK)
Impellimax (Switch drivers)
Merrimac Industries, Inc. (SSB)
Microsignals, Inc. (I&Q, Vector)
Miteq, Inc. (Single Sideband)
Pegasus Data Systems (VPSK)
Qualcomm, Inc. VLSI Products (M-FSK, M-PSK)
RTG, Inc. (Custom Monolithic & Hybrid)
Sigtek, Inc. (Spread spectrum)
Stanford Telecom - Telecom Products Group (QPSK)
Synetcom Digital, Inc. (QAM)
Technical Research and Mfg., Inc. (TRM, Inc.) (Vector)
Vectronics Microwave Corp. (Vector, PSK)

NOISE SOURCES

Atlantic Microwave Ltd.
Communication Techniques, Inc.
Densitron Microwave Ltd.
Dura Electronic Sales
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
Lectronic Research Labs
MDF Products, Inc.
Maury Microwave Corp.
Micronetics, Inc.
Millitech Corp.
Noise Com, Inc.
Q-Tech Corp.
RE America, Inc.
Standard Crystal Corp.
Veritech Microwave
Watkins-Johnson Co.

OSCILLATORS CLOCK

AVX Corp. A Kyocera Group Co.
AVX Ltd.
Andersen Laboratories
Anderson Electronics, Inc.

Bliley Electric Co.
Bomar Crystal Co.
Brennan Associates
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
CTS Corp.
CTS Corp. - Frequency Controls Div.
Cal Crystal Lab, Inc. / Comclock, Inc.
Cambio International
Champion Technologies, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Connor-Winfield Corp.
Crystek Crystal Corp.
Dale Electronics, Inc.
Datum/Austron
EDC Frequency Products
Ecliptek Corp.
Efratom
Efratom Time & Frequency Products Inc.
Electro Dynamics Crystal Corp.
Epson America Inc., Component Sales
Fox Electronics
Frequency Management
Greenray Industries
Hy-Q International (USA) Inc.
Hybrids International, Ltd.
Integrated Circuit Systems (ICS)
International Microcircuits, Inc. (IMI)
Jan Crystals
KS Electronics
Lap-Tech, Inc.
Lectronic Research Labs
MF Electronics Corp.
M-Tron Industries, Inc.
Micro Crystal Div.
Micro Networks Co.
Mouser Electronics
Murata Electronics North America
NEL Frequency Controls, Inc.
National Electronics
Novacom
Oak Frequency Control Group
Oscillatek
Piezo Technology, Inc.
Pletronics, Inc.
Q-Tech Corp.
REL Labs, Inc.
RF Monolithics, Inc. (RFM)
Raltron Electronics Corp.
Reeves-Hoffman
Richardson Electronics, Ltd.
ST Microsonics
Saronix
Seiko Instruments, Inc.
Sentry Mfg. Co.
Shokai Far East Ltd.
Sokol Crystal Products, Inc.



FREQUENCY PRODUCTS

ELECTRO DYNAMICS CRYSTAL CORP.

Crystals

- Microprocessor
- Military Spec/QPL
- Communication
- Custom Crystals

Oscillators

- Hybrid Clock
- TCXO
- VCXO
- Custom Oscillators

9075 Cody Overland Park KS 66214

Phone (800) EDC-XTAL Fax (913) 888-1260

INFO/CARD 9

RF modular components

OSCILLATORS (Cont'd)

CLOCK (Cont'd)

Standard Crystal Corp.
TEW North America
Tauber-Dreyer Corp.
Tele Quarz Group
Tele Quarz USA Inc.
Teledyne Electronic Technologies (Los Angeles)
Tellurian Technologies, Inc.
Toyocom U.S.A., Inc.
United States Crystal Corp.
Vectron Laboratories, Inc.

CRYSTAL

AVX Corp. A Kyocera Group Co.
Anderson Electronics, Inc.
Atlantic Microwave Ltd.
Bliley Electric Co.
Brennan Associates
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
CTS Corp.
CTS Corp. - Frequency Controls Div.
Cal Crystal Lab, Inc. / Comclock, Inc.
Cambio International
Castle Microwave
Champion Technologies, Inc.
Communication Techniques, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Connor-Winfield Corp.
Crystal Semiconductor Corp.
Crystek Crystal Corp.
Dale Electronics, Inc.
Datum/Austron

EDC Frequency Products

EMF Systems

Ecliptek Corp.

Efratom

Electro Dynamics Crystal Corp.

Electronic Research Co.

Elisra Electronic Systems, Ltd.

Epson America Inc., Component Sales

Fox Electronics

Frequency and Time Systems, Inc.

Frequency Electronics, Inc.

Frequency Management

Frequency Sources, Inc.

Greenray Industries

Hy-Q International (USA) Inc.

Hybrids International, Ltd.

HYTEK Microsystems, Inc.

Isotemp Research, Inc.

KS Electronics

KVG North America, Inc.

Kolinker Industrial Equip., Ltd.

Lap-Tech, Inc.

Lelectronic Research Labs

Lucas Zeta

Luff Research

MF Electronics Corp.

MTI-Milliren Technologies, Inc.

M-Tron Industries, Inc.

Marlow Electronics Ltd.

Micro Crystal Div.

Microwave Communications Labs

Murata Electronics North America

NEL Frequency Controls, Inc.

National Electronics

Networks International Corp.

Novacom

Oak Frequency Control Group

Oakbury Components, Ltd.

Oscillatek

Pan Datacomm, Inc.

Piezo Crystal Co., Inc.

Piezo Technology, Inc.

Pletronics, Inc.

Q-Tech Corp.

Quintech Electronics & Communications Inc. (QEC)

RDL, Inc.

Raltron Electronics Corp.

Reeves-Hoffman

Richardson Electronics, Ltd.

ST Microsonics

ST Olektron Corp.

Saronix

Seiko Instruments, Inc.

Sentry Mfg. Co.

Shokai Far East Ltd.

Sokol Crystal Products, Inc.

Standard Crystal Corp.

TEW North America

Tauber-Dreyer Corp.

Techtrol Cyclonetics, Inc.

Tele Quarz Group

Tele Quarz USA Inc.

Test Equipment Corp.

Toyocom U.S.A., Inc.

TRAK Microwave Corp.

United States Crystal Corp.

Vectron Laboratories, Inc.

Wenzel Associates, Inc.

Wilmanco

HIGH STABILITY (TXCO/OCXO)

AIL Systems Inc.

AVX Corp. A Kyocera Group Co.

Alpha Industries, Inc.

Atlantic Microwave Ltd.

Bliley Electric Co.

Brennan Associates

C-Mac Quartz Crystals

C-MAC Quartz Crystals, Ltd.

CTS Corp.

CTS Corp. - Frequency Controls Div.

Cambio International

Castle Microwave

Champion Technologies, Inc.

Comsat RSI - Anghel Laboratories

Connor-Winfield Corp.

Crystek Crystal Corp.

Dale Electronics, Inc.

Datum/Austron

EMCO High Voltage Co.

EMF Systems

Efratom

Electronic Research Co.

Fox Electronics

Frequency and Time Systems, Inc.

Frequency Electronics, Inc.

Frequency Sources, Inc.

Greenray Industries

Hybrids International, Ltd.

HYTEK Microsystems, Inc.

Isotemp Research, Inc.

KS Electronics

KVG North America, Inc.

Lelectronic Research Labs

Lucas Zeta

MTI-Milliren Technologies, Inc.

Magnum Microwave Corp.

Micro Networks Co.

Microwave Device Technology Corp.

Miteq, Inc.

Murata Electronics North America

NEL Frequency Controls, Inc.

Novacom

Oak Frequency Control Group

Oscillatek

Pan Datacomm, Inc.

Piezo Crystal Co., Inc.

Piezo Technology, Inc.

Programmed Test Sources, Inc.

Q-Tech Corp.

RDL, Inc.

Raltron Electronics Corp.

Reeves-Hoffman

ST Microwave Corp., Arizona Operations
ST Olektron Corp.

Saronix

Sentry Mfg. Co.

Shokai Far East Ltd.

Spectrum Elektrotechnik GmbH

Tauber-Dreyer Corp.

Techtrol Cyclonetics, Inc.

Tele Quarz Group

Tele Quarz USA Inc.

Teledyne Electronic Technologies (Los Angeles)

Tellurian Technologies, Inc.

Test Equipment Corp.

Thomson Components and Tubes Corp.

Toyocom U.S.A., Inc.

TRAK Microwave Corp.

Vectron Laboratories, Inc.

Watkins-Johnson Co.

Wenzel Associates, Inc.

Westec Communications, Inc.

LC

Atlantic Microwave Ltd.

Brennan Associates

Castle Microwave

Connor-Winfield Corp.

EMF Systems

Electronic Surveillance Components, Inc.

Frequency Sources, Inc.

Greenray Industries

Integrated Component Systems, Inc.

KS Electronics

Lelectronic Research Labs

Luff Research

Magnum Microwave Corp.

Micro Networks Co.

NEL Frequency Controls, Inc.

Q-Tech Corp.

Quintech Electronics & Communications Inc.

(QEC)

RDL, Inc.

Shokai Far East Ltd.

Signal Microwave Electronics

Tele Quarz Group

Vectron Laboratories, Inc.

PHASE LOCKED

AIL Systems Inc.

Alpha Industries, Inc.

Andersen Laboratories

Atlantic Microwave Ltd.

Berkeley Varitronics Systems, Inc.

Brennan Associates

C-Mac Quartz Crystals

C-MAC Quartz Crystals, Ltd.

CTS Corp. - Frequency Controls Div.

Cambio International

Castle Microwave

Champion Technologies, Inc.

Communication Techniques, Inc.

Component Distributors, Inc. (TX)

Component Distributors, Inc. (FL)

Comsat RSI - Anghel Laboratories

Connor-Winfield Corp.

Continental Microwave Technology Inc.

Crystek Crystal Corp.

Dajem Technology Co.

Datum/Austron

Delphi Components, Inc., a div. of Aura Systems, Inc.

EF Data Corp.

EM Research Engineering, Inc.

EMF Systems

Efratom

Electronic Research Co.

Electronic Surveillance Components, Inc.

Elisra Electronic Systems, Ltd.

Ferretec Products/Litton Solid State

Fox Electronics

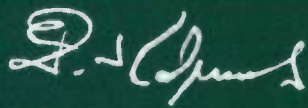
Frequency and Time Systems, Inc.

Over the last couple of years, we've seen EMC issues evolve from technical "what" questions to regulatory "when" statements. EMC is now, and at Kalmus we're addressing it head on."

"Our new Model 7100LC 100 watt RF power amplifier is a case in point. It has been designed specifically for EMC test applications. And, true to the Kalmus tradition of manufacturing highly functional, yet extremely cost competitive amplifiers, the 7100LC, we believe, is the smallest, lightest and least expensive 100 watt RF amplifier for EMC testing on the market."

"Another very important way we're addressing EMC is through our new affiliation with Thermo Voltek Corporation, a company focused upon all aspects of EMC. As a member of the Thermo Voltek family, we share their mission and can now offer our customers enhanced sales and service capabilities through Thermo Voltek's worldwide organization."

"As we move closer to global EMC regulations, Kalmus remains steadfast to its engineering heritage and is committed to producing reliable and cost effective RF amplifiers for EMC testing. Call Kalmus or your Thermo Voltek distributor for complete information."



Frank Kalmus
Technical Director

Frank Kalmus is the founder of Kalmus (formerly Kalmus Engineering Inc.), a division of Thermo Voltek Corporation. As Kalmus' principal design engineer, he has designed over 200 RF amplifiers used for EMC test, medical/MRI, general laboratory, and communications applications.



STRAIGHT TALK ABOUT EMC AMPLIFIERS.



*Designed specifically
for EMC testing,
we believe Kalmus*

Model 7100LC is the smallest, lightest, and least expensive 100 watt RF amplifier on the market. All functions can be remotely controlled via the optional Kalmus Model IF488, pictured (IEEE-488/RS-232 Interface), or hardwired.

MODEL 7100LC 100 Watt Broadband RF Power Amplifier

- Frequency range: 80-1000 MHz Broadband
- MOS-FET circuitry
- Power output: 100 watt CW minimum
- Remote capability and outputs
- Remote functions: all front panel controls - AC, Gain, Output Limit, ALC Speed, Blanking, VSWR Protection
- ± 0.8 dB typical ALC gain flatness
- VSWR tolerance: infinite, without damage
- Protection: open, short, temperature, excessive drive power
- Forward and Reflected Power meter
- Automatic Level Control (ALC): output level may be set to a fixed level of $\pm 1/2$ dB, with input variation up to 10 dB; selectable response time
- Size: 48 cm x 48 cm x 17.8 cm

All Kalmus products are supported through Thermo Voltek's exclusive worldwide network of service and calibration facilities. Please call Kalmus or an authorized Kalmus distributor for complete information on this model, as well as other EMC test systems for EFT, SURGE, ESD, and PQF. 1-800-344-3341



Kalmus • 21820 - 87th S.E. • Woodinville, WA 98072 USA
Tel: (206) 485-9000 • Fax: (206) 486-9657

Distributor:

KeyTek • 260 Fordham Road • Wilmington, MA 01887 USA
(800) 753-9835 • Tel: (508) 658-0880 • Fax: (508) 657-4803

Kalmus and KeyTek are divisions of Thermo Voltek Corporation and Thermo Electron Corporation. Offices and service centers worldwide. ©Thermo Voltek Corporation. Specifications subject to change without notice.

Thermo Voltek

COMTEST BENELUX • COMTEST ITALIA • COMTEST UK • KALMUS • KEYTEK • VERIFIER • UVC

RF modular components

OSCILLATORS (Cont'd) PHASE LOCKED (Cont'd)

Frequency Electronics, Inc.
Greenray Industries
Hewlett-Packard Co. Components Group
Hybrids International, Ltd.
Integrated Circuit Systems (ICS)
Integrated Component Systems, Inc.
International Microcircuits, Inc. (IMI)
KDI/Triangle Electronics, Inc.
KS Electronics
Lectronic Research Labs
Litton Solid State Div.
Loral Microwave - Narda West
Lucas Zeta
Luff Research
M/A COM
MF Electronics Corp.
Magnum Microwave Corp.
Marlow Electronics Ltd.
Micro Networks Co.
Microsource, Inc.
Microwave Communications Labs
Microwave Device Technology Corp.
Mid-Atlantic RF Systems, Inc.
Millitech Corp.
Milliwave
Miteq, Inc.
NEL Frequency Controls, Inc.
Oak Frequency Control Group
Oakbury Components, Ltd.
Optical Electronics, Inc.
Oscillatek
Pacific Monolithics
Pan Datacomm, Inc.
Piezo Technology, Inc.
Q-Tech Corp.
Qualcomm, Inc. VLSI Products
RDL, Inc.
Raltron Electronics Corp.
ST Microwave Corp., Arizona Operations
ST Olektron Corp.
Sciteq Electronics, Inc.
Sentry Mfg. Co.
Shokai Far East Ltd.
Signal Microwave Electronics
Spectrum Elektrotechnik GmbH
Syntek Corp.
Tampa Microwave Lab, Inc.
Tauber-Dreyer Corp.
Techtrol Cyclonetics, Inc.
Tektron Micro Electronics, Inc.
Tele Quarz Group
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Test Equipment Corp.
TRAK Microwave Corp.
Vectron Laboratories, Inc.
Watkins-Johnson Co.
Wenzel Associates, Inc.
Westec Communications, Inc.
Z-Communications, Inc.

SAW

AVX Corp. A Kyocera Group Co.
AVX Ltd.
Andersen Laboratories
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
Frequency Electronics, Inc.
Fujitsu Microelectronics, Semiconductor Div.
Lectronic Research Labs
MAJR Products
Murata Electronics North America
Oakbury Components, Ltd.
Pascall Microwave Ltd.
RF Monolithics, Inc. (RFM)
Raytheon Co., MPTD
Sawtek, Inc.
Shokai Far East Ltd.
Sokol Crystal Products, Inc.
Tele Quarz Group
Teledyne Electronic Technologies (Los Angeles)

VCO

AIL Systems Inc.
AVX Corp. A Kyocera Group Co.
AVX Ltd.
Alpha Industries, Inc.
Anadigics, Inc.
Analog Engineering, Inc.
Andersen Laboratories
Atlantic Microwave Ltd.
Berkeley Varitronics Systems, Inc.
Brennan Associates
C-Mac Quartz Crystals
C-MAC Quartz Crystals, Ltd.
C&S Hybrid, Inc.
CTS Corp.
California Amplifier, Inc.
Castle Microwave
Champion Technologies, Inc.
Communication Techniques, Inc.
Comsat RSI - Anghel Laboratories
Connor-Winfield Corp.
Crystek Crystal Corp.
Delphi Components, Inc., a div. of Aura Systems, Inc.

EDC Frequency Products

EMF Systems
Ecliptek Corp.
Electronic Research Co.
Electronic Surveillance Components, Inc.
Emhiser Micro-Tech
Epsilon Lambda Electronics Corp.
FDK America, Inc.
Fox Electronics
Frequency Management
Frequency Sources, Inc.
Fujitsu Microelectronics, Semiconductor Div.
Greenray Industries
Hewlett-Packard Co. Components Group
Hitrite Microwave Corp.
Hybrid-Tek, Inc.
Hybrids International, Ltd.
Hytek Microsystems, Inc.
Integrated Circuit Systems (ICS)
Integrated Component Systems, Inc.
International Microcircuits, Inc. (IMI)
KS Electronics

KVG North America, Inc.

Lectronic Research Labs
Litton Solid State Div.
Lucas Zeta
Luff Research
M/A COM
M/A-Corn, Inc., Microelectronics Div.
MF Electronics Corp.
MTI-Milliren Technologies, Inc.
M-Tron Industries, Inc.
Magnum Microwave Corp.
Marlow Electronics Ltd.
Micro Networks Co.
Micronetics, Inc.
Microwave Communications Labs
Microwave Device Technology Corp.
Mid-Atlantic RF Systems, Inc.
Millitech Corp.
Miteq, Inc.
Murata Electronics North America
NEL Frequency Controls, Inc.
National Communications Electronics, Inc.
Oakbury Components, Ltd.
Pacific Monolithics
Panasonic Industrial Co./Matsushita Electric
Pascall Microwave Ltd.
Q-Tech Corp.
RDL, Inc.

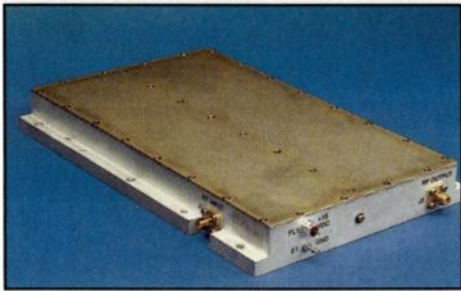
RF Monolithics, Inc. (RFM)

Radian Technology, Inc.
Raytheon Co., MPTD
Richardson Electronics, Ltd.
ST Microwave Corp., Arizona Operations
ST Olektron Corp.
Saronix
Sentry Mfg. Co.
Shokai Far East Ltd.
Signal Microwave Electronics
Sokol Crystal Products, Inc.
Spectrum Elektrotechnik GmbH
Spinnaker Microwave
Synergy Microwave Corp.
Taiyo Yuden (USA), Inc.
Tauber-Dreyer Corp.
Techtrol Cyclonetics, Inc.
Tele Quarz Group
Tele Quarz USA Inc.
Teledyne Electronic Technologies (Mountain View)
Tellurian Technologies, Inc.
Texas Instruments Inc., Microwave Military Components
Toyocom U.S.A., Inc.
TRAK Microwave Corp.
Vari-L Company, Inc.
Vectron Laboratories, Inc.
Watkins-Johnson Co.
Wenzel Associates, Inc.
Westec Communications, Inc.
Z-Communications, Inc.

OTHER

Applied Systems Engineering, Inc. (Oscillators Cavity)
C-Mac Quartz Crystals (TCXO/OCXO)
C-MAC Quartz Crystals, Ltd. (TCXO/OCXO)
Dajem Technology Co. (Microwave & higher freq.)
EDC Frequency Products (TCXO)
EMF Systems (DROs)
Efratom Time & Frequency Products Inc. (Rubidium)
Electronic Surveillance Components, Inc. (DRO)
Epsilon Lambda Electronics Corp. (Gunn OSC)
Ferretec Products/Litton Solid State (YIG)
Fox Electronics (Programmable Oscillators, SMT-TCXO)
Frequency Management (TCXO, VCXO, OSC)
Greenray Industries (TCXOs)
Hewlett-Packard Co. Components Group
Hybrids International, Ltd. (TCXO/VCXO)
ILC Data Device Corp. (Reference)
Isotemp Research, Inc. (Crystal ovens)
KVG North America, Inc. (VCXO, TCXO, OCXO)
Litton Solid State Div. (DRO YIG OSC)
MTI-Milliren Technologies, Inc. (Temp. Compensated)
Magnum Microwave Corp. (Cavity)
Maury Microwave Corp. (Noise Diode Generator)
Microwave Device Technology Corp. (Cavity Stabilized)
Miteq, Inc. (DROs)
NEL Frequency Controls, Inc. (TCXO)
Oscillatek (Ovenized, Temperature-compensated, Voltage Controlled)
Piezo Technology, Inc.
Q-Tech Corp. (MCXO)
Quintech Electronics & Communications Inc. (QEC) (DRO)
ST Microwave Corp., Arizona Operations (Dielectric Resonator OSC FMCW)
Sokol Crystal Products, Inc. (TCXO, TCUCXO)
Spectrum Elektrotechnik GmbH (Dielectric - Resonator Oscillator, Digitally Tunned Oscillator, Phase-Locked Oscillator)
Standard Crystal Corp. (VCXO & ECL)
TRAK Microwave Corp. (DSO)
United Glass to Metal Sealing Inc. (Platforms)
Watkins-Johnson Co. (YIG)

CLASS A LINEAR AMPLIFIER MODULE



Model AM88258-10 is a class A, linear amplifier operating over the full 800-2450 MHz frequency range, with 10 watts of output power at the 1 dB compression point. Operating voltage is +15 VDC at 7 amps. Operating temperature of 0 to +71°C baseplate. Module size is 5.9"W x 9.4"D x 1.1"H. Instrument style is also available.

Comtech Microwave Products Corp., Power Systems Technology Div.
Melville, NY 11747 (516) 777-8900

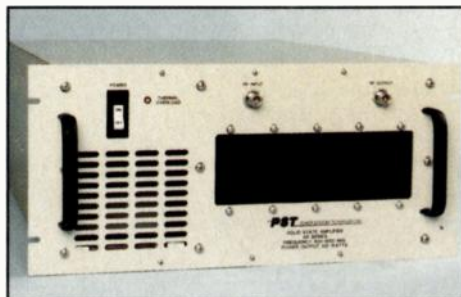
CLASS AB LINEAR AMPLIFIER



Model BHE88967-400 operates class AB over the 800-960 MHz frequency range, with an output power of 400 watts PEP. Gain is 60 dB typical with IMD products of -28 dBc at full power output. Power requirements are +24 VDC at 28 amps. Size is 16"W x 16"D x 7"H.

Comtech Microwave Products Corp.
Power Systems Technology Div.
Melville, NY 11747 (516) 777-8900

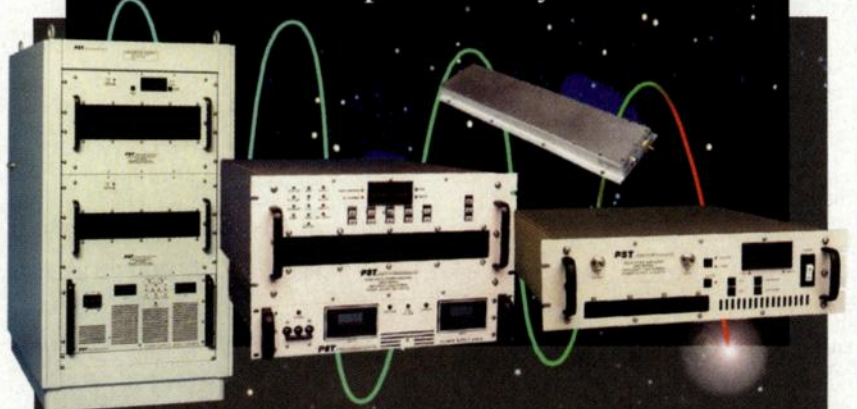
CLASS A LINEAR AMPLIFIER



Model AR88168-100 is a class A, solid-state device that operates from 800 to 1600 MHz, with a 100 W output power at the 1 dB compression point, and an infinite load VSWR. Operating temperature is 0 to +50°C. Size is 19"W x 26"D x 8.75"H.

Comtech Microwave Products Corp.
Power Systems Technology Div.
Melville, NY 11747 (516) 777-8900

HIGH POWER DESIGNS Get Amplified By PST



Solid State High Power Amplifiers for Wireless Communications, Telecommunications, Test Systems, Defense Systems, EMC\EMI Instrumentation...and Beyond

SERIES	RANGE (MHz)	POWER OUTPUT (W)
AM* Class A Linear	1 to 2000	2 to 50
AM* Cellular	800 to 3000	10 to 100
AR Class A Linear	.01 to 2000	2 to 100
AR Cellular	800 to 3000	10 to 200
UFA Feed Forward	810 to 960	To 20 avg/250 peak
BHE/BHC AB Linear	.01 to 1800	100 to 1000
CHC Class C	1750 to 2120	50 to 500
PHE/PHC Pulse	100 to 3500	5 to 4000 peak

* Module - not rack mountable

- Superior performance and maximum reliability under all operating conditions
- Accommodating modular design • Multi-octave bandwidths
 - High gain ratings and low bandpass ripple
- Fully protected, including circuit, thermal, load VSWR, and input/output overdrive
- Complete customization capabilities

For immediate assistance: Call (516) 777-8900



Comtech Microwave Products Corp., 105 Baylis Road, Melville, NY 11747 Fax: (516) 777-8877

RF system subassemblies

AMPLIFIERS BROADBAND

ATCI
Advanced Control Components, Inc.
AKON, Inc.
American Microwave Technology
Amplidyne Inc.
Amplifier Research
Anritsu Wiltron
Applied Specialties, Inc.
Applied Systems Engineering, Inc.
Astron Corp.
Atlantic Microwave Ltd.
Avcom of Virginia
Avianka, Inc.
Brennan Associates
Brimrose Corp. of America
Burle Industries, Inc. - Tube Products Div.
CTT, Inc.
Castle Microwave
Celeritek, Inc.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
DB Control
Davicom Technologies Inc.
Dressler HF Technik GMBH
Dyma Engineering
Dynamics, Inc.
EF Data Corp.
EM Research Engineering, Inc.
ENI - a div. of Astec America, Inc.
Elisra c/o Eximlin Telecom
Elisra Electronic Systems, Ltd.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
GTC
General Services Engineering, Inc.
Harris Rf Communications
Herotek, Inc.
Hewlett-Packard Co. Components Group
IPT Corporation
ITS Electronics, Inc.
Instruments For Industry, Inc.
JCA Technology, Inc.
Joseph Electronics, Inc.
Kalmus Engineering, Inc.
LCF Enterprises
Lambda RF Systems
Lectronic Research Labs
Litton Solid State Div.
Logimetrics, Inc.
Lucas Weinschel (see Weinschel)
Lucas Zeta
M/A-Com, Inc., Microelectronics Div.
MCL, Inc.
MDF Products, Inc.
Marlow Electronics Ltd.
Marquis Microwave Products
Matrix Systems Corp.
Menlo Industries
Microwave Communications Labs
Microwave Power Devices, Inc.
Microwave Power, Inc.
Mid-Atlantic RF Systems, Inc.
Milcom Intl.
Milliwave
Mini-Circuits
Miteq, Inc.
National Communications Electronics, Inc.
OKI Semiconductor
Oriental Instruments
PTEK
Pacific Amplifier Corp.
Pacific Monolithics
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.

Philips Semiconductors - Discrete
Semiconductors
Power Systems Technology
Q-Bit Corp.
Quintech Electronics & Communications Inc.
(QEC)
RF Power Labs, Inc.
RF Prototype Systems
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Systron Donner Corp.
Sci Tran Products
Senah
Shason Microwave Corp.
Silicon Valley Power Amplifiers
Sonoma Instrument
Spectrum Elektrotechnik GmbH
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Teledyne Electronic Technologies (Mountain View)
Trontech, Inc.
UHF Associates
Ultra Lasertech, Inc.
Veritech Microwave
Viewsonics, Inc.
Vortex Microwave Corp.
Watkins-Johnson Co.
Weinschel, a div. of Sierra Networks Inc.

HIGH DYNAMIC RANGE

AIL Systems Inc.
AML Communications
Advanced Control Components, Inc.
AKON, Inc.
Amplidyne Inc.
Amplifier Research
Anadigics, Inc.
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Avianka, Inc.
Brennan Associates
Burle Industries, Inc. - Tube Products Div.
CTT, Inc.
California Amplifier, Inc.
Castle Microwave
Celeritek, Inc.
Celwave RF
Command Sciences Locus
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Davicom Technologies Inc.
Dressler HF Technik GMBH
Dura Electronic Sales
Dyma Engineering
Elisra c/o Eximlin Telecom
Elisra Electronic Systems, Ltd.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
GTC
Hewlett-Packard Co. Components Group
ITS Electronics, Inc.
Kaman Sciences Corp. - Locus
Lectronic Research Labs
Linearizer Technology, Inc.
Log Tech, Inc.
Lucas Zeta
Lunar Industries, Inc.
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Marquis Microwave Products
Menlo Industries
Microwave Power Devices, Inc.
Mid-Atlantic RF Systems, Inc.
Milcom Intl.
Mini-Circuits
Miteq, Inc.
Nova Engineering, Inc.

Omnipoint Corp.
Pacific Amplifier Corp.
Pacific Monolithics
Pascall Electronics, Ltd.
Penstock, Inc., An Avnet Co.
Power Systems Technology
Q-Bit Corp.
RDL, Inc.
Raytheon Electronics, Advanced Device Cen.
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Systron Donner Corp.
Sci Tran Products
TE Systems
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Trontech, Inc.
Veritech Microwave
Viewsonics, Inc.
Watkins-Johnson Co.

INTERMEDIATE FREQUENCY

AEL Defense Corp.
ATCI
Advanced Control Components, Inc.
AKON, Inc.
Amplifier Research
Amplifonix, Inc.
Anadigics, Inc.
Analog Devices (Wilmington)
Analog Engineering, Inc.
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Avianka, Inc.
Brennan Associates
C&S Hybrid, Inc.
CTT, Inc.
California Amplifier, Inc.
Castle Microwave
Command Sciences Locus
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dyma Engineering
EF Data Corp.
Elisra c/o Eximlin Telecom
Elisra Electronic Systems, Ltd.
Eon Instrumentation, Inc.
First Source, Inc.
GEC Plessey Semiconductors, Inc.
HD Communications
Hewlett-Packard Co. Components Group
IPT Corporation
ITS Electronics, Inc.
KDI/Triangle Electronics, Inc.
Lectronic Research Labs
Log Tech, Inc.
Lucas Zeta
M/A COM
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Matrix Systems Corp.
Menlo Industries
Mid-Atlantic RF Systems, Inc.
Mini-Circuits
Miteq, Inc.
Nova Engineering, Inc.
Oakbury Components, Ltd.
P.G. Electronics, Ltd.
Pacific Monolithics
Pan Datacomm, Inc.
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Q-Bit Corp.
RDL, Inc.
RF Micro Devices
Radar Tech, Inc.

RF system subassemblies

Ramar Communications, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Olektron Corp.
Sci Tran Products
Syntecom Digital, Inc.
TE Systems
TEW North America
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
TRAK Microwave Corp.
Trontech, Inc.
Viewsonics, Inc.
Vortex Microwave Corp.
Western Microwave, Inc.

LNA

AIL Systems Inc.
AML Communications
ATCI
Advanced Control Components, Inc.
AKON, Inc.
Alpha Industries, Inc.
Amplidyne Inc.
Amplifier Research
Amplifonix, Inc.
Analog Engineering, Inc.
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Avcom of Virginia
Avianka, Inc.
Brennan Associates
C&S Hybrid, Inc.
CTT, Inc.
California Amplifier, Inc.
Castle Microwave
Celeritek, Inc.
Command Sciences Locus
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Daden Associates, Inc.
Daico Industries
Densitron Microwave Ltd.
Dyma Engineering
EF Data Corp.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
FDK America, Inc.
First Source, Inc.
GEC-Marconi Materials Technology, Ltd.
HD Communications
Herotek, Inc.
Hewlett-Packard Co. Components Group
ITS Electronics, Inc.
Interad, Ltd.
JCA Technology, Inc.
Kaman Sciences Corp. - Locus
LCF Enterprises
LNR Communications, Inc.
Lectronic Research Labs
Litton Solid State Div.
Lunar Industries, Inc.
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Marquis Microwave Products
Maxtech, Inc.
Menlo Industries
Microwave Communications Labs
Microwave Technology
Mid-Atlantic RF Systems, Inc.
Milcom Intl.
Milliwave
Mini-Circuits
Miteq, Inc.
Nova Engineering, Inc.
Oakbury Components, Ltd.

Pacific Monolithics
Pan Datacomm, Inc.
Penstock, Inc., An Avnet Co.
Q-Bit Corp.
RF Micro Devices
Ramar Communications, Inc.
Raytheon Co., MPD
Raytheon Electronics, Advanced Device Cen.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Systron Donner Corp.
Samsung Microwave Semiconductor
Shason Microwave Corp.
Sonoma Instrument
Spectrum Elektrotechnik GmbH
TE Systems
Tampa Microwave Lab, Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Trontech, Inc.
UHF Associates
Veritech Microwave
Watkins-Johnson Co.
Wilmanco

LOG

AEL Defense Corp.
AIL Systems Inc.
AKON, Inc.
American Microwave Corp.
Analog Devices (Wilmington)
Atlantic Microwave Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
GEC Plessey Semiconductors, Inc.
Hewlett-Packard Co. Components Group
Lectronic Research Labs
Log Tech, Inc.
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Megadyne Corp.
Menlo Industries
Mirage Systems
Miteq, Inc.
Oakbury Components, Ltd.
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Radar Tech, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
ST Olektron Corp.
Spectrum Elektrotechnik GmbH
Teledyne Electronic Technologies (Los Angeles)
Western Microwave, Inc.

RF POWER

AIL Systems Inc.
ATCI
AccSys Technology, Inc.
Advanced Control Components, Inc.
American Microwave Technology
Ameritron
Amplidyne Inc.
Amplifier Research
Analog Engineering, Inc.
Applied Specialties, Inc.
Applied Systems Engineering, Inc.
Astron Corp.
Atlantic Microwave Ltd.
Aydin Vector Div.
Berkeley Varitronics Systems, Inc.
Brennan Associates

Brounley Associates
Burle Industries, Inc. - Tube Products Div.
C&S Hybrid, Inc.
CTT, Inc.
California Amplifier, Inc.
Castle Microwave
Celeritek, Inc.
Celwave RF
Tony Chapman Electronics, Ltd.
Comark Communications, Inc.
Comdel, Inc.
Command Sciences Locus
Component Distributors, Inc. (FL)
Component Distributors, Inc. (TX)
Cubic Communications, Inc.
DB Control
Datron World Communications, Inc.
Davicom Technologies Inc.
Decibel Products
Densitron Microwave Ltd.
Dressler HF Technik GMBH
Dura Electronic Sales
Dyma Engineering
EF Data Corp.
EM Research Engineering, Inc.
ENI - a div. of Astec America, Inc.
Ehrhorn Technological Operations, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
Emhiser Research Inc.
Frequency Products, Inc.
Fujitsu Compound Semiconductor, Inc.
G.C. Electronics Co.
GTC
General Services Engineering, Inc.
Giltron, Inc.
Green Mountain Radio Research Co.
HD Communications
Harris Rf Communications
Henry Radio, Inc.
Herotek, Inc.
Hewlett-Packard Co. Components Group
Hewlett Packard Co. Direct Mktg. Organization
Hexwave, Inc.
IPT Corporation
ITS Electronics, Inc.
Instruments For Industry, Inc.
Interad, Ltd.
KDI/Triangle Electronics, Inc.
Kalmus Engineering, Inc.
Kaman Sciences Corp. - Locus
LCF Enterprises
Lambda RF Systems
Lectronic Research Labs
Linearizer Technology, Inc.
Litton Electron Devices
Litton Solid State Div.
Log Tech, Inc.
Logimetrics, Inc.
Lucas Zeta
Lunar Industries, Inc.
M/A COM
M/A-Com, Inc., Microelectronics Div.
MCL, Inc.
Marlow Electronics Ltd.
Marquis Microwave Products
Maxtech, Inc.
Menlo Industries
Microwave Communications Labs
Microwave Power Devices, Inc.
Microwave Power, Inc.
Microwave Technology
Mid-Atlantic RF Systems, Inc.
Milcom Intl.
Mini-Circuits
Mitec Electronics, Ltd.
National Communications Electronics, Inc.
Nova Engineering, Inc.
Oakbury Components, Ltd.
PTEK

RF system subassemblies

AMPLIFIERS (Cont'd)

RF POWER (Cont'd)

P.G. Electronics, Ltd.
Pacific Amplifier Corp.
Pacific Monolithics
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Power Systems Technology
Q-Bit Corp.
RF Micro Devices
RF Power Labs, Inc.
RF Power Products
Radio Research Instrument Co., Inc.
Ramar Communications, Inc.
Raytheon Co., MPTD
Raytheon Electronics, Advanced Device Cen.
Remtron, Inc.
Republic Electronics, a Division of Microwave Power Devices, Inc.
Richardson Electronics, Ltd.
ST Keltec Corp.
ST Microwave Corp. California Operations
ST Systron Donner Corp.
Sci Tran Products
Scientific Atlanta
Senah
Shason Microwave Corp.
Silicon Valley Power Amplifiers
Spectrum Elektrotechnik GmbH
Sunair Electronics, Inc.
TE Systems
T/MAC, Inc.
Tactical Electronics Corp.
Taiyo Yuden (USA), Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Los Angeles)
Telemetry Technologies, Inc.
Trontech, Inc.
UHF Associates
Varian X-ray Tube Products
Viewsonics, Inc.
VoCom Products Co., L.L.C.

OTHER

AML Communications (Cellular power)
Comdel, Inc. (Plasma power)
DB Control (Traveling Wave Tube Amplifiers, High Voltage Power Supplies)
Daden Associates, Inc. (Pre amplifiers)
Dynetic Systems Co. (Servo)
Efratom Time & Frequency Products Inc. (Stratum Oscillators)
Ehrhorn Technological Operations, Inc. (RF power generators)
Erbtec Engineering Inc. (Custom designs)
GTC (S.S. replace for TWT)
ITS Electronics, Inc. (Microwave Pulsed)
Innovative Technology (Prototyping RF)
Linearizer Technology, Inc. (Linearizers)
Locus, Inc. (OEM Systems)
Micro-Now Instrument Co. Inc. (Microwave Signal Sources)
Microwave Power Devices, Inc. (Microwave Power)
NEOS Technologies, Inc. (Laser diode driver)
Odetics (GPS Frequency)
Ortel (Fiber Optic Transmitters)
Pacific Amplifier Corp. (Pulse)
Pascall Microwave Ltd. (Microwave power)
Quintech Electronics & Communications Inc. (QEC) (CATV)
RF Power Products (Matching Network)
Rache Corp. (Laser cut carriers)
Republic Electronics, a Division of Microwave Power Devices, Inc. (Radar Environment)

Simulators at RF)
SMI (NY) (Housings)
Trontech, Inc. (Feed forward)

FIBER OPTIC LINKS

Micracor

FREQUENCY CONVERTERS

AEL Defense Corp.
AIL Systems Inc.
ATCI
AACOM Systems
Accutest Instruments Inc.
Adaptive Technology, Inc.
AKON, Inc.
American Microwave Corp.
Anadigics, Inc.
Analogic Corp.
Analog Engineering, Inc.
Anaren Microwave, Inc.
Apcom, Inc.
Apron Laboratories, Inc.
Atlantic Microwave Ltd.
Avcom of Virginia
Behlman Electronics, Inc., a subsidiary of Astrosystems
Burr-Brown Corp.
C&S Hybrid, Inc.
CTT, Inc.
California Amplifier, Inc.
California Eastern Laboratories
Castle Microwave
Catal Telecommunications
Command Sciences Locus
Communication Solutions, Inc.
Communication Techniques, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI - Anghel Laboratories
Condor Systems
Continental Microwave Technology Inc.
Daden Associates, Inc.
Dajem Technology Co.
Datel, Inc.
Delphi Components, Inc., a div. of Aura Systems, Inc.
Densitron Microwave Ltd.
Dirad Defense Systems Corp.
Dura Electronic Sales
EF Data Corp.
EM Research Engineering, Inc.
EMF Systems
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
FG Engineering Co.
Frequency Electronics, Inc.
Frequency Products, Inc.
Frequency Sources, Inc.
GEC Plessey Semiconductors, Inc.
Herotek, Inc.
IPT Corporation
ITS Electronics, Inc.
Intellon Corp.
JCA Technology, Inc.
JHP Industrial Co., Inc.
KDI/Triangle Electronics, Inc.
LNR Communications, Inc.
Lectronic Research Labs
Litton Solid State Div.
Lorch Microwave
Lucas Zeta
M/A COM
M/A-Corn, Inc., Government Products Operation
M/A-Corn, Inc., Microelectronics Div.
Magnum Microwave Corp.
Marlow Electronics Ltd.

Maury Microwave Corp.
Maxtech, Inc.
Menlo Industries
Micro Networks Co.
Microwave Communications Labs
Mid-Atlantic RF Systems, Inc.
Milliwave
Miteq, Inc.
Nova Engineering, Inc.
Omnipoint Corp.
Pacific Monolithics
Pan Datacomm, Inc.
Pascall Electronics, Ltd.
Quintech Electronics & Communications Inc. (QEC)
RF Microsystems, Inc.
RF Prototype Systems
Radar Tech, Inc.
Ramar Communications, Inc.
Raytheon Co., MPTD
REMEC
ST Microwave Corp., Arizona Operations
ST Microwave Corp. California Operations
ST Olektron Corp.
S.T. Research Corp.
ST Systron Donner Corp.
Sci Tran Products
Spectrum Elektrotechnik GmbH
Steinbrecher Corp.
Synetcom Digital, Inc.
TIW Systems, Inc.
Talbot Technology Corp. (T-Tech)
Tampa Microwave Lab, Inc.
Technical Research and Mfg., Inc. (TRM, Inc.)
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Test Equipment Corp.
TRAK Microwave Corp.
Veritech Microwave
Vortex Microwave Corp.
Watkins-Johnson Co.
Westec Communications, Inc.
Western Microwave, Inc.
Wilmanco

FREQUENCY SYNTHESIZERS

A&A Engineering
AIL Systems Inc.
ATCI
Accutest Instruments Inc.
Advanced Communications Systems, Inc.
Analogic Corp.
Analog Engineering, Inc.
Anaren Microwave, Inc.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Brennan Associates
Brimrose Corp. of America
Castle Microwave
Tony Chapman Electronics, Ltd.
Communication Solutions, Inc.
Communication Techniques, Inc.
Compass Communications, Inc.
Comsat RSI - Anghel Laboratories
Comstron, Div. of Aeroflex Laboratories, Inc.
Continental Microwave Technology Inc.
Dajem Technology Co.
Delphi Components, Inc., a div. of Aura Systems, Inc.
Deskin Research Group, Inc.
Dirad Defense Systems Corp.
EF Data Corp.
EM Research Engineering, Inc.
EMF Systems
Electronic Surveillance Components, Inc.

AGILE FREQUENCY GENERATORS-DIRECT SYNTHESIZERS

Accurate, stable frequencies on command, fast switching. For NMR, SATCOM, Surveillance, ATE, Laser, Fluorescence, Clock Sources. Low noise/jitter. Sources adapting to your needs with options. High demonstrated reliability. 20,000+ delivered in 20 years.

	Frequency Range	Resolution	Switching Time ¹	Phase-Continuous Switching ²	Rack-Mount Cabinet Dim. ³	Remote-Control Interface	Price Example ⁴
PTS 040	.1-40 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$5,330.00 (1 Hz resol., OCXO freq. std.)
PTS 120	90-120 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$5,330.00 (1 Hz resol., OCXO freq. std.)
PTS 160	.1-160 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$6,495.00 (1 Hz resol., OCXO freq. std.)
PTS 250	1-250 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$7,440.00 (1 Hz resol., OCXO freq. std.)
Type 1 PTS 310	.1-310 MHz	1 Hz	1-20 μ s	standard	3½"H×19"W	BCD (std) or GPIB (opt)	1 Hz resol., OCXO: \$6,425.00
Type 2							1 Hz resol., OCXO: \$5,850.00
PTS 500	1-500 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$8,720.00 (1 Hz resol., OCXO freq. std.)
PTS 620	1-620 MHz	optional .1 Hz to 100 KHz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$9,625.00 (1 Hz resol., OCXO freq. std.)
PTS 1000	0.1-1000 MHz	optional .1 Hz to 100 KHz	5-10 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$11,830.00 (1 Hz resol., OCXO freq. std.)
PTS 3200	1-3200 MHz	1 Hz	1-20 μ s	optional	5¼"H×19"W	BCD (std) or GPIB (opt)	\$14,850.00 (1 Hz resol., OCXO freq. std.)
PTS x10	user specified 10 MHz decade	1 Hz	1-5 μ s	standard	3½"H×19"W	BCD (std) or GPIB (opt)	\$3,000.00 (1 Hz resol., OCXO freq. std.)
PTS D310	two channels .1-310 MHz	.1 Hz	1-20 μ s	standard	5¼"H×19"W	BCD (std) or GPIB (opt)	\$8,560.00 (.1 Hz resol., OCXO freq. std.)
PTS D620	two channels 1-620 MHz	.1 Hz/.2 Hz	1-20 μ s	standard	5¼"H×19"W	BCD (std) or GPIB (opt)	\$13,240.00 (.1 Hz/.2 Hz resol., OCXO freq. std.)



1 Switching Time is dependent on digit (decade) switched; see detailed instrument specifications.

2 For applicable digits, see detailed instrument specifications.

3 Bench cabinets are 17" wide.

4 Prices are U.S. only and include Manual and Remote (BCD) Control; PTS 3200 Digital Front Panel.

PROGRAMMED TEST SOURCES, INC.

P.O. Box 517, 9 Beaver Brook Rd., Littleton, MA 01460 Tel: 508-486-3400 FAX: 508-486-4495

RF system subassemblies

FREQUENCY SYNTHESIZERS (Cont'd)

Ellsra c/o Eximin Telecom
Ellsra Electronic Systems, Ltd.
 Fox Electronics
 Frequency Electronics, Inc.
 Frequency Products, Inc.
 Frequency Sources, Inc.
 GEC Plessey Semiconductors, Inc.
 Gemtronic Engineering, Ltd.
 General Services Engineering, Inc.
 IPT Corporation
 Innovation First
 Integrated Component Systems, Inc.
 International Microcircuits, Inc. (IMI)
 JHP Industrial Co., Inc.
 Joseph Electronics, Inc.
 Keithley Instruments, Inc.
 Lectronic Research Labs
 Loral Microwave - Narda West
 Lucas Zeta
 Luff Research
 M/A COM
 M/A-Com, Inc., Microelectronics Div.
 M-Tron Industries, Inc.
 Magnum Microwave Corp.
 Marlow Electronics Ltd.
 Microsource, Inc.
 Microwave Communications Labs
 Mid-Atlantic RF Systems, Inc.
 Millitech Corp.
 Miteq, Inc.
 Nova Engineering, Inc.
 Novatech Instruments
 Oakbury Components, Ltd.
 Odetics
 Omnipoint Corp.
 Pan Datacomm, Inc.
 Pegasus Data Systems
 Pentek, Inc.
Programmed Test Sources, Inc.
 Proxim, Inc. Digital RF Product Line
 Qualcomm, Inc. VLSI Products
 Quatech, Inc.
 RE America, Inc.
 RF Microsystems, Inc.
 RF Prototype Systems
 Radian Technology, Inc.
 Rapid Systems
 Remtron, Inc.
 Richardson Electronics, Ltd.
 Rohde and Schwarz GMBH Co.
 SFS Systems, Inc.
 ST Microwave Corp., Arizona Operations
 S.T. Research Corp.
 ST Systron Donner Corp.
 Scientific Atlanta
 Sciteq Electronics, Inc.
Signal Microwave Electronics
 Spectrum Elektrotechnik GmbH
 Stanford Telecom - Telecom Products Group
 Sunair Electronics, Inc.
 Syntecom Digital, Inc.
 Syntek Corp.
 Syntest Corp.
 Talbot Technology Corp. (T-Tech)
 Techrol Cyclonetics, Inc.
 Tektron Micro Electronics, Inc.
 Teledyne Electronic Technologies (Los Angeles)
 Test Equipment Corp.
 TRAK Microwave Corp.
 Vari-L Company, Inc.
 Watkins-Johnson Co.
 Westec Communications, Inc.
 Wiltron Co.
 Z-Communications, Inc.

MOTION/ PROXIMITY SENSORS

Brennan Associates
 C.J. Enterprises
 Carmel Labs
 Castle Microwave
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 EDO Corp/Barnes Engineering Div.
 GEC-Marconi Materials Technology, Ltd.
 ILC Data Device Corp.
 KDI/Triangle Electronics, Inc.
 Murata Electronics North America
 Omron Electronics, Inc.
 Pacific Monolithics
 Telsor Corp.

RECEIVERS

AEL Defense Corp.
 AIL Systems Inc.
 ATCI
 AACOM Systems
 Adaptive Technology, Inc.
 Aerocomm
 Aerotron-Repco Sales, Inc.
 AKON, Inc.
 American Microwave Corp.
 Anadigics, Inc.
 Analog Devices (Norwood)
 Analog Engineering, Inc.
 Andrew Scicom, Inc.
 Anritsu Wiltron
 Apcom, Inc.
 Apex Systems, Inc.
 Apron Laboratories, Inc.
 Avcom of Virginia
 Axonn Corp.
 Aydin Vector Div.
 Bellsonics, Inc.
 Broadband Communications Products, Inc.
 Broadcast Microwave Services, Inc.
 California Amplifier, Inc.
 Castle Microwave
 Catel Telecommunications
 Tony Chapman Electronics, Ltd.
 Communication Solutions, Inc.
 Communication Techniques, Inc.
 Compass Communications, Inc.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Comsat RSI - Anghel Laboratories
 Conдор Systems
 Cubic Communications, Inc.
 Cynetics Corp.
 Dajem Technology Co.
 Datron World Communications, Inc.
 Deskin Research Group, Inc.
 Digital Wireless Corp.
 Dirad Defense Systems Corp.
 Dyma Engineering
 Dynamic Sciences, Inc.
 Dynetics, Inc.
Ellsra c/o Eximin Telecom
 Emhiser Research Inc.
 FG Engineering Co.
 Frequency Electronics, Inc.
 Frequency Products, Inc.
 Frequency Sources, Inc.
 GEC Plessey Semiconductors, Inc.
 Garmin International
 General Services Engineering, Inc.
 HDS, Inc.
 Harris Rf Communications
 IPT Corporation
ITS Electronics, Inc.
 Innovation First
 Intellon Corp.
 Interad, Ltd.

JCA Technology, Inc.
 JHP Industrial Co., Inc.
 LNR Communications, Inc.
 Laser Diode, Inc.
 Lectronic Research Labs
 Litton Solid State Div.
 Locus, Inc.
 Lunar Industries, Inc.
 M/A COM
 M/A-Com, Inc., Government Products Operation
 M/A-Com, Inc., Microelectronics Div.
 Marlow Electronics Ltd.
 McDonald Associates
 Menlo Industries
 Microdyne Corp.
 Microsignals, Inc.
 Microsource, Inc.
 Microwave Communications Labs
 Microwave Device Technology Corp.
 Mid-Atlantic RF Systems, Inc.
 Millitech Corp.
 Miteq, Inc.
 Morrow Technologies Corp.
 Motorola Wireless Data Group
 Nova Engineering, Inc.
 Omnipoint Corp.
 Pacific Monolithics
 Pan Datacomm, Inc.
 Pascall Electronics, Ltd.
 Pegasus Data Systems
 Pentek, Inc.
 R.F. Industries
 RF Microsystems, Inc.
RF Monolithics, Inc. (RFM)
 RF Neulink
 RF Prototype Systems
 Radar Tech, Inc.
 Radian Technology, Inc.
 Raytheon Electronics, Advanced Device Cen.
 Remtron, Inc.
 Rohde and Schwarz GMBH Co.
 ST Microwave Corp., Arizona Operations
 ST Microwave Corp. California Operations
 S.T. Research Corp.
 Sci Tran Products
 Scientific Atlanta
 Sigtek, Inc.
 Somersoft
 Stanford Telecom - Telecom Products Group
 Steinbrecher Corp.
 Sunair Electronics, Inc.
 Syntecom Digital, Inc.
 Tactical Electronics Corp.
 Talbot Technology Corp. (T-Tech)
 Teledyne Electronic Technologies (Mountain View)
 Teledyne Electronic Technologies (Los Angeles)
 Temic
 Test Equipment Corp.
 Tricor Flight Systems Inc. - Electronic Systems Div.
 UHF Associates
 Watkins-Johnson Co.
 Westec Communications, Inc.

RF MODEMS

ATCI
 AACOM Systems
 Aerotron-Repco Sales, Inc.
 Analog Devices (Norwood)
 Analog Devices (Wilmington)
 Analog Engineering, Inc.
 Apex Systems, Inc.
 Axonn Corp.
 Aydin Vector Div.
 Broadband Communications Products, Inc.
 Catel Telecommunications
 Compass Communications, Inc.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)

Boldface Indicates Advertiser

RF system subassemblies

Cynetics Corp.
 Dajem Technology Co.
 Dataradio Corp.
 Datron World Communications, Inc.
 Deskin Research Group, Inc.
 Digital Wireless Corp.
 Dirad Defense Systems Corp.
 Dyma Engineering
 EF Data Corp.
 FG Engineering Co.
 GRE America, Inc.
 Gemtronic Engineering, Ltd.
 Harris Rf Communications
 IPT Corporation
 Intellon Corp.
 Lectronic Research Labs
 M-Tron Industries, Inc.
 MX-COM, Inc.
 Microwave Communications Labs
 Miteq, Inc.
 Monicor Electronic Corp.
 Motorola (AL)
 Motorola Wireless Data Group
 Nova Engineering, Inc.
 Omnipoint Corp.
 Pan Datacomm, Inc.
 Pegasus Data Systems
 Proxim, Inc. Digital RF Product Line
 R.F. Industries
 RF Microsystems, Inc.
 RF Neulink
 RF Prototype Systems
 Remtron, Inc.
 Ritron, Inc.
 Sci Tran Products
 Signatron Technology Corp.
 Sigtek, Inc.
 Somersoft
 Stanford Telecom - Telecom Products Group
 Syntecom Digital, Inc.
 TIW Systems, Inc.
 Tactical Electronics Corp.
 Talbot Technology Corp. (T-Tech)
 Teledyne Electronic Technologies (Mountain View)
 Vortex Microwave Corp.

SWITCHING MATRICES

AEL Defense Corp.
 AIL Systems Inc.
 ATCI
 AKON, Inc.
 Apcom, Inc.
 Brennan Associates
 Castle Microwave
 Catel Telecommunications
 Communication Solutions, Inc.
 Custom Microwave Components
 Cytec Corp.
 Dajem Technology Co.
 Dielectric Communications
 DowKey Microwave Corp.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
 Frequency Electronics, Inc.
 Harris Rf Communications
 Hewlett Packard Co. Direct Mktg. Organization
 JFW Industries, Inc.
 Jay-El, DMT, Ducommun Inc.
 Joslyn Jennings Corp.
 KDI/Triangle Electronics, Inc.
 K&L Microwave, Inc.
 Keithley Instruments, Inc.
 Lorch Microwave
 M/A-Com, Inc., Microelectronics Div.
 Marlow Electronics Ltd.
 Micronetics, Inc.
 MIDISCO
 Opamp Labs, Inc.
Penstock, Inc., An Avnet Co.

Quintech Electronics & Communications Inc. (QEC)
 Robinson Laboratories
 ST Olektron Systems
 Sci Tran Products
 Signal Management, Ltd.
 Signal Switch Co.
 Spectrum Elektrotechnik GmbH
 Technical Research and Mfg., Inc. (TRM, Inc.)
 Teledyne Electronic Technologies (Mountain View)
 Vortex Microwave Corp.
 Watkins-Johnson Co.

tone ENCODERS/DECODERS

ATCI
 AACOM Systems
 Advanced Communications Systems, Inc.
 Analog Devices (Norwood)
 Aydin Vector Div.
 Communications Specialists, Inc.
 Consumer Microcircuits, Ltd.
 Dajem Technology Co.
 Dirad Defense Systems Corp.
 Dyma Engineering
 Emhiser Research Inc.
 Eon Instrumentation, Inc.
 Fujitsu Microelectronics, Semiconductor Div.
 IPT Corporation
 M-Tron Industries, Inc.
 MX-COM, Inc.
 Midian Electronics
 Norcomm Corp.
 OKI Semiconductor
 Oakbury Components, Ltd.
 Palomar Engineers
 Quintech Electronics & Communications Inc. (QEC)
 R.F. Industries
 RF Neulink
 Remtron, Inc.
 Selectone Corp.
 Syntecom Digital, Inc.

TRANSMITTERS

ATCI
 AACOM Systems
 Aerocomm
 Aerotron-Repco Sales, Inc.
 Analog Engineering, Inc.
 Apex Systems, Inc.
 Applied Systems Engineering, Inc.
 Apron Laboratories, Inc.
 Axonn Corp.
 Aydin Vector Div.
 Broadcast Microwave Services, Inc.
 C.J. Enterprises
 Castle Microwave
 Catel Telecommunications
 Comark Communications, Inc.
 Communication Solutions, Inc.
 Communication Techniques, Inc.
 Compass Communications, Inc.
 Comsat RSI - Anghel Laboratories
 Cynetics Corp.
 Dajem Technology Co.
 Datron World Communications, Inc.
 Densitron Microwave Ltd.
 Deskin Research Group, Inc.
 Digital Wireless Corp.
 Dirad Defense Systems Corp.
 Dressler HF Technik GMBH
 Dyma Engineering
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
 Emhiser Research Inc.
 FG Engineering Co.

Frequency Products, Inc.
 Frequency Sources, Inc.
 GEC Plessey Semiconductors, Inc.
 General Services Engineering, Inc.
 HDS, Inc.
 Harris Rf Communications
 Henry Radio, Inc.
 IPT Corporation
 Innovation First
 Intellon Corp.
 Interad, Ltd.
 Laser Diode, Inc.
 Litton Solid State Div.
 Locus, Inc.
 Logimetrics, Inc.
 Lucas Zeta
 Lunar Industries, Inc.
 M/A COM
 M-Tron Industries, Inc.
 Marlow Electronics Ltd.
 Microwave Communications Labs
 Microwave Device Technology Corp.
 Microwave Power Devices, Inc.
 Mid-Atlantic RF Systems, Inc.
 Motorola Wireless Data Group
 Nova Engineering, Inc.
 Omnipoint Corp.
 Pacific Amplifier Corp.
 Pacific Monolithics
 Pan Datacomm, Inc.
 Pegasus Data Systems
Power Systems Technology
 R.F. Industries
 RF Microsystems, Inc.
RF Monolithics, Inc. (RFM)
 RF Neulink
 RF Prototype Systems
 Raytheon Electronics, Advanced Device Cen.
 Remtron, Inc.
 ST Microwave Corp., Arizona Operations
 ST Systron Donner Corp.
 Sigtek, Inc.
 Somersoft
 Steinbrecher Corp.
 Sunair Electronics, Inc.
 Syntecom Digital, Inc.
 Tactical Electronics Corp.
 Teledyne Electronic Technologies (Los Angeles)
 Temic
 Tricor Flight Systems Inc. - Electronic Systems Div.
 UHF Associates
 Viewsonics, Inc.
 Westec Communications, Inc.

**Include your Logo
 or Target Ad
 in the next
 RF DESIGN DIRECTORY**

Call 1-800 443-4969

RF transmission components

ANTENNA POSITIONERS

A.H. Systems, Inc.
ATCI
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Research Associates, Inc.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
Cubic Defense, Inc.
Deskin Research Group, Inc.
Dyma Engineering
Dynetic Systems Co.
EMCI
Eastern Microwave Corp.
Flam & Russell, Inc.
ILC Data Device Corp.
Joseph Electronics, Inc.
McDonald Associates
Microflect Co., Inc.
NSI
Oakbury Components, Ltd.
Rohde and Schwarz GMBH Co.
Rotating Precision Mechanisms, Inc.
Scientific Atlanta
TIW Systems, Inc.
Technical Systems Associates, Inc.
Telex Communications, Inc.
Tricor Flight Systems Inc. - Electronic Systems Div.
Watkins-Johnson Co.

ANTENNAS BROADBAND

AEL Defense Corp.
A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
Alpha Industries, Inc.
Alpha Products, Inc.
Amplifier Research
Anaren Microwave, Inc.
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Research Associates, Inc.
Antennaco, Inc.
Astron Corp.
Barker & Williamson
Centurion Intl, Inc.
Tony Chapman Electronics, Ltd.
Childs Antennas
Condor Systems
Continental Microwave and Tool Co. Inc.
Cubic Defense, Inc.
Dajem Technology Co.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Deskin Research Group, Inc.
Dorne & Margolin, Inc.
Dyma Engineering
EMCO
Eastern Microwave Corp.
Epsilon Lambda Electronics Corp.
HAMEG Instruments, Inc.
Harris Rf Communications
Hazeltine Corp.
A. J. Hoeft/ETA Engineers
IBEX Group, Inc.
Joseph Electronics, Inc.
Kilo Tec
Kintronic Laboratories, Inc.

Labtech Ltd.
Lectronic Research Labs
Litton-Airtron Div.
Loral Randtron Systems
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
McDonald Associates
Micro Communications, Inc.
Microwave Design & Mfg. (MDM)
NSI
R.F. Technologies Corp.
Radiation Systems, Inc., Mark Antennas Div.
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Seavey Engineering Associates, Inc.
Sensor Systems, Inc.
Shokai Far East Ltd.
Simplicity Tool Corp.
Sinclair Technologies, Inc.
Spectrum Elektrotechnik GmbH
Syndetix, Inc.
Talley Communications Corp.
Technical Systems Associates, Inc.
Teleplex, Inc. (Alford Div.)
Telex Communications, Inc.
Test Equipment Corp.
Ultracast, Inc.
Unadilla Antenna Manufacturing Co.
Vortex Microwave Corp.
Watkins-Johnson Co.
Wayne Kerr, Inc./Farnell

CELLULAR/PCS/WLAN

Allen Telecom Group, Inc.
Antenna Design & Manufacturing Corp.
Antennaco, Inc.
Berkeley Varitronics Systems, Inc.
Centurion Intl, Inc.
Dynatech Tactical Communications, Inc.
Richard Hirschmann of America, Inc.
M/A COM
Marquis Microwave Products
Millitech Corp.
Talley Communications Corp.
Unadilla Antenna Manufacturing Co.

EMC/EMI

A.H. Systems, Inc.
A.P.I. Testing Equipment
Alpha Industries, Inc.
Amplifier Research
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Research Associates, Inc.
Astron Corp.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
Capcon, Inc.
Carnel Labs
Tony Chapman Electronics, Ltd.
Childs Antennas
Continental Microwave and Tool Co. Inc.
Dajem Technology Co.
Datron/Transco, Inc.
Dynamic Sciences, Inc.
EMCI
EMCO
Eastern Microwave Corp.
Electro Rent Corp.
HAMEG Instruments, Inc.
A. J. Hoeft/ETA Engineers
Huber + Suhner, Inc.
IBEX Group, Inc.
Instruments For Industry, Inc.
Labtech Ltd.
Lectronic Research Labs

Lucas Epsco, Inc.
M/A COM
Magnetic Radiation Laboratories, Inc.
McDonald Associates
Microwave Design & Mfg. (MDM)
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Seavey Engineering Associates, Inc.
Shokai Far East Ltd.
Simplicity Tool Corp.
Syndetix, Inc.
Talley Communications Corp.
Technical Systems Associates, Inc.
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Ultracast, Inc.
Watkins-Johnson Co.
Wayne Kerr, Inc./Farnell

HF

AEL Defense Corp.
AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Aerocomm
Amplifier Research
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Antenna Research Associates, Inc.
Astron Corp.
Barker & Williamson
Centurion Intl, Inc.
Tony Chapman Electronics, Ltd.
Childs Antennas
Cushcraft/Signals
Dajem Technology Co.
Datron World Communications, Inc.
Deskin Research Group, Inc.
Dyma Engineering
Eastern Microwave Corp.
Flam & Russell, Inc.
HAMEG Instruments, Inc.
Harris Rf Communications
Hazeltine Corp.
JEF Consultant, Inc.
Kilo Tec
Kintronic Laboratories, Inc.
Labtech Ltd.
Larsen Electronics, Inc.
Lectronic Research Labs
McDonald Associates
Microwave Communications Labs
Microwave Design & Mfg. (MDM)
James Millen Electronic Mfg.
Mirage Systems
Poly-Circuits, Inc. - an M-WAVE Co.
Radiall, Inc.
Rohde and Schwarz GMBH Co.
Shokai Far East Ltd.
Syndetix, Inc.
Talley Communications Corp.
Tauber-Dreyer Corp.
Teleplex, Inc. (Alford Div.)
Telex Communications, Inc.
Test Equipment Corp.
Ultracast, Inc.
Unadilla Antenna Manufacturing Co.
Vortex Microwave Corp.
Watkins-Johnson Co.

MICROWAVE

A.H. Systems, Inc.
Antenna Design & Manufacturing Corp.
Berkeley Varitronics Systems, Inc.
Condor Systems
Dynatech Tactical Communications, Inc.
HDS, Inc.
Litton Solid State Div.
Loral Randtron Systems
M/A COM

RF transmission components

Marquis Microwave Products
Premier Microwave Corp.
SMI (NY)
Spectrum Elektrotechnik GmbH
Talley Communications Corp.
Tauber-Dreyer Corp.

UHF

AEL Defense Corp.
A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Allen Telecom Group, Inc.
Alpha Industries, Inc.
Amplifier Research
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Antenna Research Associates, Inc.
Antennaco, Inc.
Astron Corp.
Berkeley Varitronics Systems, Inc.
Centurion Intl, Inc.
Tony Chapman Electronics, Ltd.
Childs Antennas
Cubic Defense, Inc.
Cushcraft/Signals
Dajem Technology Co.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Deskin Research Group, Inc.
Dielectric Communications
Digital Wireless Corp.
Dorne & Margolin, Inc.
Dyma Engineering
Eastern Microwave Corp.
Flam & Russell, Inc.
G.C. Electronics Co.
HAMEG Instruments, Inc.
Harris Rf Communications
Hazeltine Corp.
Richard Hirschmann of America, Inc.
Howell Laboratories, Inc.
Huber + Suhner AG
Interad, Ltd.
JEF Consultant, Inc.
Joseph Electronics, Inc.
Kintronic Laboratories, Inc.
Labtech Ltd.
Larsen Electronics, Inc.
Lectronic Research Labs
Litton-Airtron Div.
Loral Randtron Systems
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
Marquis Microwave Products
McDonald Associates
Micro Communications, Inc.
Microwave Design & Mfg. (MDM)
Microwave Distributors Co.
James Millen Electronic Mfg.
Oneida Electronic Mfg. Co., Inc.
Pesa-Micro Communications, Inc.
RF Micro Devices
R.F. Technologies Corp.
Radiation Systems, Inc., Mark Antennas Div.
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Scala Electronic Corp.
Scientific Atlanta
Scientific Research Labs
Sensor Systems, Inc.
Shokai Far East Ltd.
Simplicity Tool Corp.
Sinclair Technologies, Inc.
Syndetix, Inc.
Talley Communications Corp.

Tauber-Dreyer Corp.
Technical Systems Associates, Inc.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telex Communications, Inc.
Test Equipment Corp.
Til-Tek Antennas, Inc.
UHF Associates
Ultracast, Inc.
Unadilla Antenna Manufacturing Co.
Vortex Microwave Corp.
Watkins-Johnson Co.
Wilmanco

VHF

AEL Defense Corp.
A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Allen Telecom Group, Inc.
Alpha Industries, Inc.
Amplifier Research
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Antenna Research Associates, Inc.
Antennaco, Inc.
Astron Corp.
Berkeley Varitronics Systems, Inc.
Centurion Intl, Inc.
Tony Chapman Electronics, Ltd.
Childs Antennas
Cubic Defense, Inc.
Cushcraft/Signals
Dajem Technology Co.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Deskin Research Group, Inc.
Dielectric Communications
Dorne & Margolin, Inc.
Dyma Engineering
Eastern Microwave Corp.
Flam & Russell, Inc.
G.C. Electronics Co.
HAMEG Instruments, Inc.
Harris Rf Communications
Hazeltine Corp.
Richard Hirschmann of America, Inc.
Howell Laboratories, Inc.
Interad, Ltd.
JEF Consultant, Inc.
Joseph Electronics, Inc.
Kilo Tec
Kintronic Laboratories, Inc.
Labtech Ltd.
Larsen Electronics, Inc.
Lectronic Research Labs
Litton-Airtron Div.
Loral Randtron Systems
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
McDonald Associates
Micro Communications, Inc.
Microwave Design & Mfg. (MDM)
Microwave Distributors Co.
James Millen Electronic Mfg.
Pesa-Micro Communications, Inc.
R.F. Technologies Corp.
Radiation Systems, Inc., Mark Antennas Div.
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Scala Electronic Corp.
Scientific Research Labs
Sensor Systems, Inc.
Shokai Far East Ltd.
Simplicity Tool Corp.
Sinclair Technologies, Inc.
Syndetix, Inc.
Talley Communications Corp.

Tauber-Dreyer Corp.
Technical Systems Associates, Inc.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telex Communications, Inc.
Test Equipment Corp.
Til-Tek Antennas, Inc.
Toko America, Inc.
Ultracast, Inc.
Unadilla Antenna Manufacturing Co.
Vortex Microwave Corp.
Watkins-Johnson Co.

OTHER

Airtron Corp. (Microwave)
Antenna Design & Manufacturing Corp. (Satcom
VHF/UHF LOS, LPDA TYAGI's)
Astron Corp. (Active receive antennas)
Barth Electronics, Inc. (Time Domain)
C.J. Enterprises
Communications & Energy Corp. (MMDS anten-
nas)
Cushcraft/Signals (220-900-2400)
Dajem Technology Co. (Microwave)
Deskin Research Group, Inc. (C&K band)
Dielectric Communications
Dorne & Margolin, Inc. (UHF Satcom)
Dyma Engineering
Eastern Microwave Corp. (Rotary joints)
Epsilon Lambda Electronics Corp. (EHF)
Flann Microwave Instruments, Ltd. (Microwave)
Foxcom (Fiberoptic antenna remoting)
HDS, Inc. (Microwave)
Hazeltine Corp. (Phased arrays)
Richard Hirschmann of America, Inc. (Mobile 30-
50 MHz)
JEF Consultant, Inc. (Microwave)
Kintronic Laboratories, Inc. (Microwave)
Labtech Ltd. (PTFE)
Litton Solid State Div. (MMW)
M/A COM (Dipole)
Rache Corp. (Laser cut antenna elements)
Radio Research Instrument Co., Inc. (Radar)
Republic Electronics, a Division of Microwave
Power Devices, Inc. (EW Simulators .5-186Hz
Radiating)
Seavey Engineering Associates, Inc.
(Antennas/Feeds 1-40 GHz)
Sensor Systems, Inc. (TCAS, GPS SATCOM)
Symbionics Networks Ltd. (24 GHz Spread
Spectrum)
Syndetix, Inc. (High Power Custom)
TCI/BR Communications
TIW Systems, Inc. (Satellite)
Teleplex, Inc. (Alford Div.) (Broadcast)
Thin Film Technology (Patch)
Til-Tek Antennas, Inc. (Cellular & microwave)
Toko America, Inc. (GPS)
A.J. Tuck Co. (Electroformed Waveguide)

ATTENUATORS COAXIAL

A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Alan Industries, Inc.
Anritsu Wiltron
Applied Specialties, Inc.
Arra, Inc.
Astrolab, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Ava Electronics Corp.
Barth Electronics, Inc.
Berkeley Varitronics Systems, Inc.
Bird Electronic Corp.
Brennan Associates
Castle Microwave

RF transmission components

ATTENUATORS (Cont'd)

COAXIAL (Cont'd)

Tony Chapman Electronics, Ltd.
Coaxial Components Corp. (FL)
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Coaxial Dynamics, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI Mark Antennas
Custom Microwave Components
Daico Industries
Dajem Technology Co.
Davicom Technologies Inc.
Dielectric Communications
Dorado International Corp.
Dura Electronic Sales
Dyma Engineering
EMC Technology, Inc.
Eagle
Elcom Systems, Inc.
Electro Com
Electro Impulse Laboratory, Inc.
Electro Rent Corp.
Ellsra Electronic Systems, Ltd.
First Source, Inc.
Gilbert Engineering Co., Inc.
HD Communications
HAMEG Instruments, Inc.
Henry Radio, Inc.
Howell Laboratories, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
Inmet Corp.
JFW Industries, Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
Kay Elemetrics Corp.
Kings Electronics Co., Inc.
Lectronic Research Labs
LEMO RF, Inc.
Litton Solid State Div.
Loral Microwave - Narda
Lorch Microwave
Lucas Weinschel (see Weinschel)
M/A COM
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
MECA Electronics, Inc.
Matrix Systems Corp.
Meca Electronics, Inc.
Merrimac Industries, Inc.
Micro Coax Components, Inc.
Microlab/FXR
Micronetics, Inc.
Microwave Communications Labs
Microwave Distributors Co.
MIDISCO
Midwest Microwave
Mini-Circuits
NT-T Inc./HH Smith
Naptech
National Magnetics Group, Inc.
Nemal Electronics, Inc.
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Picosecond Pulse Labs, Inc.
Quintech Electronics & Communications Inc.
(QEC)
RE America, Inc.
RF Connectors
R.F. Industries
RF Power Components, Inc.
R.F. Technologies Corp.
RLC Electronics, Inc.
Radiall, Inc.

Radio Research Instrument Co., Inc.
Rohde and Schwarz GMBH Co.
Sage Laboratories, Inc.
Senah
Shokai Far East Ltd.
Solitron/Vector Microwave Products, Inc.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Synergy Microwave Corp.
Talley Communications Corp.
Tauber-Dreyer Corp.
Telonic Berkeley, Inc.
Test Equipment Corp.
Test Probes, Inc.
TRAK Microwave Corp.
Trilithic Inc.
Tucker Electronics
Viewsonics, Inc.
Waveline, Inc.
Wavetek Corp. (IN)
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates
Wiltron Co.

HIGH POWER

A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Alpha Industries, Inc.
Applied Specialties, Inc.
Arra, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Barry Industries Inc.
Barth Electronics, Inc.
Berkeley Varitronics Systems, Inc.
Bird Electronic Corp.
Brennan Associates
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Component General, Inc.
Comsat RSI - Anghel Laboratories
Dajem Technology Co.
Davicom Technologies Inc.
Dielectric Communications
Dura Electronic Sales
Dyma Engineering
EMC Technology, Inc.
Eagle
Electro Impulse Laboratory, Inc.
Enon Microwave Inc.
First Source, Inc.
Florida RF Labs, Inc.
HD Communications
Howell Laboratories, Inc.
Huber + Suhner AG
Inmet Corp.
Ion Beam Milling, Inc.
JFW Industries, Inc.
KDI/Triangle Electronics, Inc.
Lectronic Research Labs
Loral Microwave - Narda
Lorch Microwave
Lucas Epco, Inc.
Lucas Weinschel (see Weinschel)
Lucas Zeta
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Microelectronics Div.
MECA Electronics, Inc.
Meca Electronics, Inc.
Microwave Communications Labs
Microwave Resources, Inc.
MIDISCO
Millitech Corp.
National Magnetics Group, Inc.
Pasternack Enterprises

Potter Production Corp.
Premier Microwave Corp.
RF Power Components, Inc.
R.F. Technologies Corp.
RLC Electronics, Inc.
Raytheon Co., MPTD
Sci Tran Products
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Talley Communications Corp.
Tauber-Dreyer Corp.
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Trilithic Inc.
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates

PC MOUNT

Alan Industries, Inc.
Atlantic Microwave Ltd.
BI Technologies Corp.
Brennan Associates
Castle Microwave
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Component General, Inc.
Comsat RSI Mark Antennas
Daico Industries
EMC Technology, Inc.
Elcom Systems, Inc.
HD Communications
JFW Industries, Inc.
KDI/Triangle Electronics, Inc.
Lectronic Research Labs
Lorch Microwave
Merrimac Industries, Inc.
Microwave Communications Labs
MIDISCO
Mini-Circuits
Oakbury Components, Ltd.
Pacific Monolithics
Pascall Electronics, Ltd.
Quintech Electronics & Communications Inc.
(QEC)
RLC Electronics, Inc.
REMEC
Richardson Electronics, Ltd.
Shokai Far East Ltd.
Surplus Sales of Nebraska
Synergy Microwave Corp.
TTE, Inc.
Talley Communications Corp.
Tauber-Dreyer Corp.
Teledyne Relays
Test Equipment Corp.
TRAK Microwave Corp.

PIN

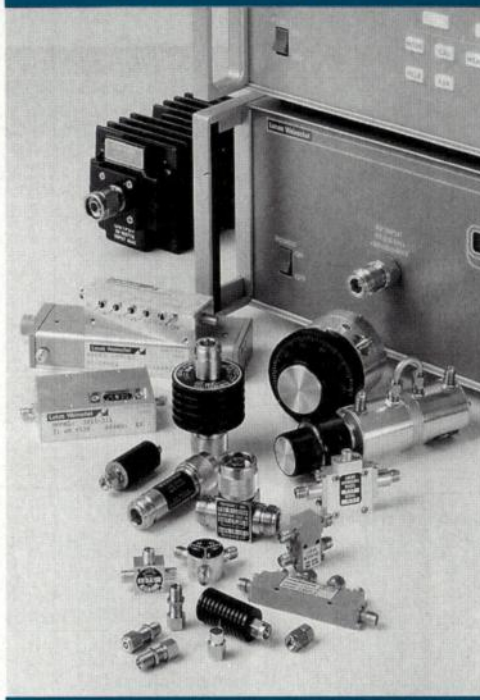
Alpha Industries, Inc.
American Microwave Corp.
Amplifonix, Inc.
Anaren Microwave, Inc.
Atlantic Microwave Ltd.
Brennan Associates
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI - Anghel Laboratories
Custom Microwave Components
Daico Industries
Dajem Technology Co.
Davicom Technologies Inc.
Ellsra c/o Eximin Telecom
Ellsra Electronic Systems, Ltd.
Enon Microwave Inc.
General Microwave Corp.
HD Communications
Hewlett-Packard Co. Components Group
JFW Industries, Inc.

KDI/Triangle Electronics, Inc.
 Lectronic Research Labs
 Loral Microwave FSI Semiconductor Div.
 Lorch Microwave
 M/A-Com, Inc., Microelectronics Div.
 MCC Norsal
 Marlow Electronics Ltd.
 Merrimac Industries, Inc.
 Micronetics, Inc.
 Microsignals, Inc.
 Microwave Communications Labs
 Microwave Device Technology Corp.
 Millitech Corp.
 Oakbury Components, Ltd.
 Q-Bit Corp.
 Quintech Electronics & Communications Inc.
 (QEC)
 RLC Electronics, Inc.
 REMEC
 Richardson Electronics, Ltd.
 Robinson Laboratories
 ST Olektron Corp.
 Shokai Far East Ltd.
 Spectrum Elektrotechnik GmbH
 Surplus Sales of Nebraska
 Synergy Microwave Corp.
 Talley Communications Corp.
 Tauber-Dreyer Corp.
 Test Equipment Corp.
 Texas Instruments Inc., Microwave Military
 Components
 TRAK Microwave Corp.
 Vectronics Microwave Corp.
 Vortex Microwave Corp.
 Waveline, Inc.

PROGRAMMABLE

A.P.I. Testing Equipment
 Accutest Instruments Inc.
 Airtron Corp.
 Alan Industries, Inc.
 Alpha Industries, Inc.
 American Microwave Corp.
 Anritsu Wiltron
 Arra, Inc.
 Atlantic Coast Instruments Inc.
 Atlantic Microwave Ltd.
 Brennan Associates
 Castle Microwave
 Tony Chapman Electronics, Ltd.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Comsat RSI - Anghel Laboratories
 Daico Industries
 Dajem Technology Co.
 Dura Electronic Sales
 EMC Technology, Inc.
 Electro Rent Corp.
Elisra Electronic Systems, Ltd.
 Flann Microwave Instruments, Ltd.
 General Microwave Corp.
 HD Communications
 Hewlett-Packard Co. Components Group
 Hittite Microwave Corp.
 JFW Industries, Inc.
 KDI/Triangle Electronics, Inc.
Kay Elemetrics Corp.
 Lectronic Research Labs
 Loral Microwave - Narda
 Lorch Microwave
Lucas Weinschel (see Weinschel)
 M/A-Com, Inc., Microelectronics Div.
 MCC Norsal
 Marlow Electronics Ltd.
 Matrix Systems Corp.
 Merrimac Industries, Inc.
 Micronetics, Inc.
 Microwave Communications Labs
 Microwave Device Technology Corp.
 Midwest Microwave

World Class Solutions!



Attenuators

- Fixed (Up to 500 Watts)
- Programmable
- Variable & Step
- Mil & Space Qualified

Directional Couplers

- Dual Directional
- Octave
- Hybrid
- Broadband

Terminations & Loads

- Up to 500 Watts
- Mil & Space Qualified

Power Splitters & Dividers

- Resistive & Wilkinson

Precision Adapters & Connector Systems

- All Connector Series Adapters
- PLANAR CROWN® Connector System
- Blind-Mate Connector Systems

Measurement Systems

- Attenuation Measurement
- Power Calibration
- Signal Generator Calibration



Weinschel

a division of **Sierra Networks, Inc.**

P.O. BOX 6001 GAITHERSBURG, MD 20884-6001
 301-948-3434 • 800-638-2048 • FAX: 301-948-3625

ISO-9001 Certified!

RF transmission components

ATTENUATORS (Cont'd) PROGRAMMABLE (Cont'd)

Millitech Corp.
Naptech
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Quintech Electronics & Communications Inc. (QEC)
RF Micro Devices
RLC Electronics, Inc.
REMEC
Robinson Laboratories
Rohde and Schwarz GMBH Co.
Sci Tran Products
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Talley Communications Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Telonic Berkeley, Inc.
Trilithic Inc.
Tucker Electronics
Vectronics Microwave Corp.
Waveline, Inc.
Wavetek Corp. (IN)
Wavetek Corp. (CA)
Weinschel, a div. of Sierra Networks Inc.
Wiltron Co.

STEP

A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Airtron Corp.
Alan Industries, Inc.
Alpha Industries, Inc.
American Microwave Corp.
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Brennan Associates
California Micro Devices Corp.
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Daico Industries
Dajem Technology Co.
Dura Electronic Sales
Electro Rent Corp.
Elisra c/o EximIn Telecom
Elisra Electronic Systems, Ltd.
HD Communications
Hittite Microwave Corp.
JFW Industries, Inc.
Key Elemetrics Corp.
Lectronic Research Labs
Loral Microwave FSI Semiconductor Div.
Loral Microwave - Narda
Lorch Microwave
Lucas Weinschel (see Weinschel)
M/A-Com, Inc., Microelectronics Div.
Micronetics, Inc.
Microwave Communications Labs
Microwave Resources, Inc.
MIDISCO
Midwest Microwave
Mini-Circuits
Naptech
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Penstock, Inc., An Avnet Co.
Quintech Electronics & Communications Inc. (QEC)
RLC Electronics, Inc.
Robinson Laboratories
Rohde and Schwarz GMBH Co.

ST Olektron Corp.
Sci Tran Products
Shokai Far East Ltd.
Signal Switch Co.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Talley Communications Corp.
Telonic Berkeley, Inc.
Test Equipment Corp.
Trilithic Inc.
Tucker Electronics
Viewsonics, Inc.
Waveline, Inc.
Wavetek Corp. (IN)
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates
Wiltron Co.

VARIABLE

A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Alpha Industries, Inc.
Anaren Microwave, Inc.
Applied Specialties, Inc.
Arra, Inc.
Atlantic Microwave Ltd.
Brennan Associates
Castle Microwave
Tony Chapman Electronics, Ltd.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Custom Microwave Components
Daico Industries
Dajem Technology Co.
Dielectric Communications
Dura Electronic Sales
Elisra Electronic Systems, Ltd.
General Microwave Corp.
HD Communications
Hittite Microwave Corp.
Howell Laboratories, Inc.
Hybrid-Tek, Inc.
JFW Industries, Inc.
KDI/Triangle Electronics, Inc.
Key Elemetrics Corp.
Lectronic Research Labs
Littion Solid State Div.
Loral Microwave FSI Semiconductor Div.
Loral Microwave - Narda
Lorch Microwave
Lucas Weinschel (see Weinschel)
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
Matrix Systems Corp.
Merrimac Industries, Inc.
Microlab/FXR
Micronetics, Inc.
Microwave Communications Labs
Midwest Microwave
Millitech Corp.
Naptech
Pacific Monolithics
Pascall Microwave Ltd.
Pasternack Enterprises
Piconics, Inc.
Q-Bit Corp.
RLC Electronics, Inc.
Raytheon Co., MPTD
REMEC
Richardson Electronics, Ltd.
Rohde and Schwarz GMBH Co.
ST Olektron Corp.
Samsung Microwave Semiconductor
Sci Tran Products
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska

Synergy Microwave Corp.
Talley Communications Corp.
Tauber-Dreyer Corp.
Test Equipment Corp.
Texas Instruments Inc., Microwave Military Components
TRAK Microwave Corp.
Trilithic Inc.
Tucker Electronics
Vortex Microwave Corp.
Waveline, Inc.
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates

OTHER

Amitron, Inc. (Chip Attenuators)
Continental Microwave and Tool Co. Inc. (Waveguide, Fixed)
EMC Technology, Inc. (Chip)
Flann Microwave Instruments, Ltd. (Microwave)
Fotec, Inc. (Fiber optic)
Hybrid-Tek, Inc. (Analog)
Impellimax (Attenuator linearizers)
Merrimac Industries, Inc. (Phase constant)
Mini-Systems, Inc. (Chip, Fixed)
Quintech Electronics & Communications Inc. (QEC) (Remote Control)
Radio Research Instrument Co., Inc. (Waveguide)
Raytheon Electronics, Advanced Device Cen. (MMIC)
SMI (NY) (Housings)
ST Olektron Corp.
Thin Film Technology (Chip)
Vectronics Microwave Corp. (Analog)
Weinschel Associates (Piston attenuator)

CABLE ASSEMBLIES

AMP
Alpha Wire Corp.
Anritsu Wiltron
Antenna Design & Manufacturing Corp.
Antennaco, Inc.
Applied Engineering Products
Applied Specialties, Inc.
Astrolab, Inc.
Atlantic Microwave Ltd.
Berkeley Varitronics Systems, Inc.
Bi-Tronics, Inc.
Brennan Associates
Brim Electronics, Inc.
C.E. Precision Assemblies, Inc.
C&M Corp.
Ceramaseal
Childs Antennas
Coaxial Components Corp. (FL)
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Concord Electronics Corp.
Connecting Devices, Inc.
Connectronics, Inc.
Contact East
Davicom Technologies Inc.
Delta Electronics Mfg. Corp.
Dielectric Communications
Dielectric Sciences, Inc.
Dyma Engineering
Dynawave, Inc.
E.I.S.
EZ Form Cable Corp.
Eagle
Electrical Insulation Suppliers, Inc.
Electro Com
Eminetics
First Source, Inc.
Flexco Microwave, Inc.
Florida RF Labs, Inc.
G&H Technology, Inc.
Gabriel Electronics Inc.

RF transmission components

General Services Engineering, Inc.
W.L. Gore & Associates, Inc.
HD Communications
HAMEG Instruments, Inc.
Henry Radio, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
ITT Cannon RF Products
E.F. Johnson Co.
Joseph Electronics, Inc.
Kaman Instrumentation Corp.
LEMO RF, Inc.
Loral Randtron Systems
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
Malco Microdot
Marshall Electronics, Inc.
Maury Microwave Corp.
Mercury Wire Products, Inc.
Meritec
Methode Electronics, Inc.
Microwave Distributors Co.
MIDISCO
Midwest Microwave
NT-T Inc./HH Smith
National Communications Electronics, Inc.
Nemal Electronics, Inc.
PIC Wire & Cable, div. of the Angelus Corp.
PMI Technologies
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
The Phoenix Co. of Chicago, Inc.
Precision Tube Co. - Inc., Coaxitube Div.
QMI
R.F. Industries
Richardson Electronics, Ltd.
SRC Cables, Inc.
SSI Cable Corporation
Semflex, Inc.
Senah
Signal Switch Co.
Solitron/Vector Microwave Products, Inc.
Specialty Connector Co., Inc.
Spectrum Elektrotechnik GmbH
Stetco, Inc.
Storm Products, Advanced Technology Group
Surplus Sales of Nebraska
Synergetix
Talley Communications Corp.
Tauber-Dreyer Corp.
Techdyne, Inc.
Teleplex, Inc. (Alford Div.)
Trompeter Electronics
Tru-Connector Corp.
Unadilla Antenna Manufacturing Co.
United Microwave Products, Inc.
Wacom Products, Inc.

COAXIAL CABLE

AMP
ATCI
Allen Telecom Group, Inc.
Alpha Products, Inc.
Alpha Wire Corp.
Andrew Corp.
Anritsu Wiltron
Antennaco, Inc.
Applied Specialties, Inc.
Astrolab, Inc.
Atlantic Microwave Ltd.
Belden Wire & Cable Co.
Berkeley Varitronics Systems, Inc.
Bi-Tronics, Inc.
Bicc Brand Rex Co.
Brennan Associates
Brim Electronics, Inc.
C.E. Precision Assemblies, Inc.
C&M Corp.

Calmont Engineering and Electronics Corp.
Capcon, Inc.
Ceramaseal
Childs Antennas
Coaxial Components Corp. (FL)
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Comark Communications, Inc.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Connecting Devices, Inc.
Contact East
Cushcraft/Signals
Davicom Technologies Inc.
Decibel Products
Dielectric Communications
Dielectric Sciences, Inc.
Digi-Key Corp.
Dorado International Corp.
Dyma Engineering
E.I.S.
EZ Form Cable Corp.
Electro Com
First Source, Inc.
Flexco Microwave, Inc.
G.C. Electronics Co.
Gabriel Electronics Inc.
W.L. Gore & Associates, Inc.
HD Communications
Harbour Industries, Inc.
Haverhill Cable & Mfg. Corp.
Helix/Hitemp Cables, Inc.
Henry Radio, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
ITT Pomona Electronics
Inmac
Insulated Wire, Inc.
Joseph Electronics, Inc.
Kaman Instrumentation Corp.
Kilo Tec
Lelectronic Research Labs
M/A-Com, Inc., Antenna and Cable Div.
Madison Cable Corp.
Malco Microdot
Manhattan Electric Cable Corp.
Marshall Electronics, Inc.
Maury Microwave Corp.
Mercury Wire Products, Inc.
Micro Coax Components, Inc.
Micro Communications, Inc.
Microtech, Inc.
MIDISCO
Mouser Electronics
Nemal Electronics, Inc.
PIC Wire & Cable, div. of the Angelus Corp.
Pascall Microwave Ltd.
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Precision Tube Co., Inc.
Precision Tube Co. - Inc., Coaxitube Div.
RF Connectors
R.F. Industries
Radiation Systems, Inc., Mark Antennas Div.
SRC Cables, Inc.
Semflex, Inc.
Senah
Shokai Far East Ltd.
Sinclair Technologies, Inc.
Spectrum Elektrotechnik GmbH
Storm Products, Advanced Technology Group
Surplus Sales of Nebraska
Talley Communications Corp.
Times Microwave Systems, Inc.

Trompeter Electronics
United Microwave Products, Inc.
Wacom Products, Inc.
Wallingford Wire & Cable (Advanced Cable Technology, dba)
Whittaker Electronic Systems

DELAY LINES

Allen Avionics, Inc.
Astrolab, Inc.
Automatic Coil/Raven Ind.
Barth Electronics, Inc.
Bishop Instruments
C.E. Precision Assemblies, Inc.
Colby Instruments, Inc.
Daden Associates, Inc.
Daico Industries
Dielectric Communications
Digi-Key Corp.
Dyma Engineering
Dynawave, Inc.
Dynerics, Inc.
EZ Form Cable Corp.
Electro Com
Faraday Technology, Ltd.
First Source, Inc.
Flexco Microwave, Inc.
Florida RF Labs, Inc.
W.L. Gore & Associates, Inc.
Hazeltine Corp.
Huber + Suhner AG
Huber + Suhner, Inc.
Hybrid-Tek, Inc.
Hytek Microsystems, Inc.
Kaman Instrumentation Corp.
Labtech Ltd.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
Midwest Microwave
Pasternack Enterprises
Penny Technologies, Inc.
Penstock, Inc., An Avnet Co.
Philips Components
The Phoenix Co. of Chicago, Inc.
Phonon Corp.
Picosecond Pulse Labs, Inc.
Precision Tube Co. - Inc., Coaxitube Div.
Radio Research Instrument Co., Inc.
SRC Cables, Inc.
SSI Cable Corporation
Semflex, Inc.
Senah
Solitron/Vector Microwave Products, Inc.
Spectrum Elektrotechnik GmbH
Stetco, Inc.
Storm Products, Advanced Technology Group
Superconductor Technologies Inc.
Synetcom Digital, Inc.
Tauber-Dreyer Corp.
Tele-Tech Corp.
Thin Film Technology

DIRECTIONAL COUPLERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Alpha Industries, Inc.
American Microwave Corp.
Amplifier Research
Anaren Microwave, Inc.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Atlantic Microwave Ltd.

BOLDFACE INDICATES ADVERTISER

RF transmission components

DIRECTIONAL COUPLERS (Cont'd)

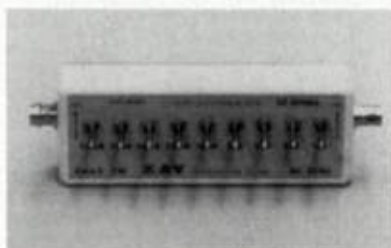
Barth Electronics, Inc.
Brennan Associates
Tony Chapman Electronics, Ltd.
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Comark Communications, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Continental Microwave and Tool Co. Inc.
Dajem Technology Co.
Davicom Technologies Inc.
Decibel Products
Dielectric Communications
Dorado International Corp.
Dressler HF Technik GMBH
Dura Electronic Sales
Dyma Engineering
EZ Form Cable Corp.
Eagle
Eastern Microwave Corp.
Elcom Systems, Inc.
Electro Rent Corp.
Elisra Electronic Systems, Ltd.
Ferrite Components, Inc.
First Source, Inc.
Flann Microwave Instruments, Ltd.
Flexco Microwave, Inc.
General Services Engineering, Inc.
HD Communications

Howell Laboratories, Inc.
Huber + Suhner, Inc.
Instruments For Industry, Inc.
JHP Industrial Co., Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
Kaptron, Inc.
Krytar, Inc.
Leotronic Research Labs
Loral Microwave - Narda
Lorch Microwave
Lucas Epsco, Inc.
Lucas Weinschel (see Weinschel)
M/A COM
M/A-Com, Inc., Microelectronics Div.
MCH Associates
MECA Electronics, Inc.
Mac Technologies
Marlow Electronics Ltd.
Marquis Microwave Products
Maury Microwave Corp.
Meca Electronics, Inc.
Merrimac Industries, Inc.
Micro Communications, Inc.
Microlab/FXR
Microsignals, Inc.
Microwave Device Technology Corp.
Microwave Devices, Inc.
Microwave Distributors Co.
Microwave Resources, Inc.
MIDISCO
Midwest Microwave
Millitech Corp.

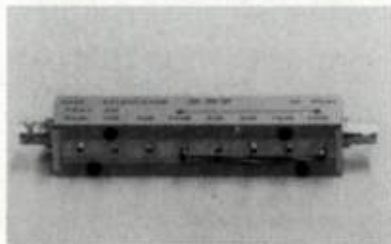
Mini-Circuits
Mitec Electronics, Ltd.
Naptech
National Communications Electronics, Inc.
Oakbury Components, Ltd.
Pascall Electronics, Ltd.
Passive Power Products
Pasternack Enterprises
Penny Technologies, Inc.
Penstock, Inc., An Avnet Co.
Premier Microwave Corp.
Pulsar Microwave Corp.
Quintech Electronics & Communications Inc. (QEC)
RF Power Components, Inc.
R.F. Technologies Corp.
RLC Electronics, Inc.
Radio Research Instrument Co., Inc.
REMEC
Richardson Electronics, Ltd.
Rohde and Schwarz GMBH Co.
ST Olektron Corp.
Sage Laboratories, Inc.
Sci Tran Products
Shokai Far East Ltd.
Signalcrafters, Inc.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
TEW North America
Talley Communications Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.

High Quality ATTENUATORS

ACCURACY, PERFORMANCE, LOW COST, DELIVERY...



839 Manual Step Attenuator



4550 Programmable Attenuator

Manual Step Attenuators

837	50Ω	DC-1500MHz	0-102.5dB	.5dB Steps
839	50Ω	DC-2000MHz	0-101dB	1dB Steps
1/839	50Ω	DC-1000MHz	0-22.1dB	.1dB Steps
847	75Ω	DC-1000MHz	0-102.5dB	.5dB Steps
849	75Ω	DC-1500MHz	0-101dB	1dB Steps
1/849	75Ω	DC-500MHz	0-22.1dB	.1dB Steps
860	50Ω	DC-1500MHz	0-132dB	1dB Steps
865	600Ω	DC-1MHz	0-132dB	1dB Steps

Programmable Attenuators

4540	50Ω	DC-500MHz	0-130dB	10dB Steps
4550	50Ω	DC-500MHz	0-127dB	1dB Steps
1/4550	50Ω	DC-500MHz	0-16.5dB	.1dB Steps
4560	50Ω	DC-500MHz	0-31dB	1dB Steps
4580	50Ω	DC-500MHz	0-63dB	1dB Steps

For price list and FREE catalog, contact:

KAY

Kay Elemetrics Corp.
2 Bridgewater Lane, Lincoln Park, NJ 07035-1488 USA
TEL: (201) 628-6200 • FAX: (201) 628-6363

RF transmission components

Teleplex, Inc. (Alford Div.)
 Test Equipment Corp.
 Tucker Electronics
 Vari-L Company, Inc.
 Vectronics Microwave Corp.
 Vortex Microwave Corp.
 Waveline, Inc.
Weinschel, a div. of Sierra Networks Inc.

WERLATONE
 DECADES AHEAD

Werlatone, Inc.
 Wide Band Engineering Co., Inc.

EQUALIZERS

AKON, Inc.
 Alpha Components, Inc.
 Atlantic Microwave Ltd.
 Barth Electronics, Inc.
 C.E. Precision Assemblies, Inc.
 Tony Chapman Electronics, Ltd.
 Coaxial Dynamics, Inc.
 Comstron, Div. of Aeroflex Laboratories, Inc.
 Custom Microwave Components
 Daden Associates, Inc.
 Dajem Technology Co.
 Dyma Engineering
Elisra c/o Exlimin Telecom
Elisra Electronic Systems, Ltd.
 First Source, Inc.
 Inmet Corp.
 KR Electronics
 Lectronic Research Labs
 Linearizer Technology, Inc.
 Loral Microwave - Narda West
 M/A-Com, Inc., Microelectronics Div.
 MCC Norsal
 MCH Associates
 Marlow Electronics Ltd.
 Matrix Systems Corp.
 Microwave Communications Labs
 Midwest Microwave
 Mini-Circuits
 Opamp Labs, Inc.
Penstock, Inc., An Avnet Co.
 R.F. Technologies Corp.
 RS Microwave Co.
 REMEC
 Rockwell International
 ST Microwave Corp. California Operations
 Shokai Far East Ltd.
 Sierra Microwave Technology
 Sigtek, Inc.
 Spectrum Elektrotechnik GmbH
 Syntecom Digital, Inc.
 Talbot Technology Corp. (T-Tech)
 Technical Research and Mfg., Inc. (TRM, Inc.)
 Teleplex, Inc. (Alford Div.)
 Viewsonics, Inc.
 Vortex Microwave Corp.

FILTER ASSEMBLIES

BANDPASS

AIL Systems Inc.
 A.P.I. Testing Equipment
 ATCI
 Accutest Instruments Inc.
 Airtron Corp.
 AKON, Inc.
 Allen Avionics, Inc.

Allen Telecom Group, Inc.
 Alpha Components, Inc.
 Anatech Electronics
 Andersen Laboratories
 Antenna Design & Manufacturing Corp.
 Antenna Engineering Ltd.
 Anthony RF Track Microwave
 Arco Electronics
 Atlantic Microwave Ltd.
 Bellsonics, Inc.
 Bird Electronic Corp.
 Brennan Associates
 Cambio International
 Captor Corp.
 Tony Chapman Electronics, Ltd.
 Coaxial Dynamics, Inc.
Coilcraft
 Com Dev
 Comark Communications, Inc.
 Communications & Energy Corp.
 Component Distributors, Inc. (FL)
 Component Distributors, Inc. (TX)
 Comstron, Div. of Aeroflex Laboratories, Inc.
 Consumer Microcircuits, Ltd.
 Control Devices, Inc.
 Daden Associates, Inc.
 Dajem Technology Co.
 Datel, Inc.
 Datron/Transco, Inc.
 Davicom Technologies Inc.
 Decibel Products
 Delta Microwave, Inc.
 Dielectric Communications
 Dorado International Corp.
 Dorne & Margolin, Inc.
 Dura Electronic Sales
 Dyma Engineering
 ESC Electronics Corp.
 Eastern Microwave Corp.
 Eastern Multiplexers, Inc.
Elisra c/o Exlimin Telecom
Elisra Electronic Systems, Ltd.
 FDK America, Inc.
 FSY Microwave, Inc.
 Faraday Technology, Ltd.
 Ferretec Products/Litton Solid State
 Filtronetics, Inc.
 First Source, Inc.
 Gamma-F Corp.
 HD Communications
 Huber + Suhner AG
 Huber + Suhner, Inc.
 Hyperception, Inc.
 Illinois Superconductor Corp.
 Integrated Microwave Corp.
 JPS Communications, Inc.
 K&L Microwave, Inc.
 KR Electronics
KVG North America, Inc.
 KW Microwave Corp.
 Lark Engineering
 Lectronic Research Labs
 Litton-Airtron Div.
 Loral Microwave - Narda West
 Lorch Microwave
 Lucas Epsco, Inc.
 M/A COM
 M/A-Com, Inc., Antenna and Cable Div.
 MCH Associates
 Marlow Electronics Ltd.
 Marquis Microwave Products
 Micro Coax Components, Inc.
 Micro Communications, Inc.
 Micro Hybrids, Inc.
 Microlab/FXR
 Microsignals, Inc.
 Microsource, Inc.
 Microwave Circuits, Inc.
 Microwave Communications Labs
 Microwave Filter Co., Inc.

WERLATONE
 DECADES AHEAD

HIGH POWER DUAL DIRECTIONAL COUPLERS



MULTI-OCTAVE BANDWIDTH

TYPICAL SPECIFICATIONS

FREQ. RANGE 80-1000 MHz
 INS. LOSS 0.1 db
 FLATNESS +/-0.5db
 DIRECTIVITY 20 db min.
 VSWR ML 1.2:1max.

MODEL C3240

COUPLING 40db nom.
 POWER CW 200 watts

MODEL C3271

COUPLING 50 db nom.
 POWER CW 1500 watts

BROADBAND HIGH POWER

- DIRECTIONAL COUPLERS
- POWER COMBINERS
- HYBRID JUNCTIONS

P.O. BOX 47 • ROUTE 22 • BREWSTER, N.Y. 10509
 914-279-6187 • FAX 914-279-7404

RF transmission components

FILTER ASSEMBLIES

(Cont'd)

BANDPASS (Cont'd)

Microwave Resources, Inc.
Millitech Corp.
Mini-Circuits
Mitec Electronics, Ltd.
Motorola Ceramic Products
Netcom, Inc.
Networks International Corp.
Norcomm Corp.
North Hills Electronics, Inc.
OPT Industries
Oakbury Components, Ltd.
Optical Coating Laboratory, Inc.
Oriol Instruments
Oxley, Inc.
P&H Laboratories
Pascall Microwave Ltd.
Passive Power Products
Penny Technologies, Inc.
Penstock, Inc., An Avnet Co.
Pesa-Micro Communications, Inc.
Piezo Technology, Inc.
Poly-Circuits, Inc. - an M-WAVE Co.
Polyflon Co.
Potter Production Corp.
Precision Filters, Inc.
Premier Microwave Corp.
Quartztek, Inc.
RDL, Inc.
RF Monolithics, Inc. (RFM)
R.F. Technologies Corp.
RF Technology, Inc.
RLC Electronics, Inc.
RS Microwave Co.
Ralttron Electronics Corp.
Reactel, Inc.
Reeves-Hoffman
REMEC
Richardson Electronics, Ltd.
Rockwell International
ST Microsonics
Sage Laboratories, Inc.
Salisbury Engineering, Inc.
Sawtek, Inc.
Scala Electronic Corp.
Shokai Far East Ltd.
Sierra Microwave Technology
Silver Cloud Manufacturing Co.
Sinclair Technologies, Inc.
Sokol Crystal Products, Inc.
South American Development Corp.
Spectrum Elektrotechnik GmbH
Sterling Technology, Inc.
Superconductor Technologies Inc.
Synergy Microwave Corp.
Synetcom Digital, Inc.
TDK Corp. of America
TTE, Inc.
Talbot Technology Corp. (T-Tech)
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telonic Berkeley, Inc.
Temex Electronics, Inc.
Thomson Components and Tubes Corp.
Toko America, Inc.
Trans-Tech, Inc., a subsidiary of Alpha Industries, Inc.
Trilithic Inc.
Tucker Electronics
Ultracast, Inc.
Viewsonics, Inc.
Vortex Microwave Corp.
Wacom Products, Inc.

Watkins-Johnson Co.
Wavetek Corp. (IN)
Western Microwave, Inc.

CAVITY

AIL Systems Inc.
A.P.I. Testing Equipment
Allen Telecom Group, Inc.
Anatech Electronics
Antenna Engineering Ltd.
Anthony RF Track Microwave
Atlantic Microwave Ltd.
Bellsonics, Inc.
Brennan Associates
Com Dev
Communications & Energy Corp.
Daden Associates, Inc.
Dajem Technology Co.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dura Electronic Sales
Dyma Engineering
Eastern Microwave Corp.
Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
FSY Microwave, Inc.
First Source, Inc.
Gamma-F Corp.
HD Communications
Howell Laboratories, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
Illinois Superconductor Corp.
Integrated Microwave Corp.
K&L Microwave, Inc.
KW Microwave Corp.
Lark Engineering
Lectronic Research Labs
Litton-Airtron Div.
Loral Microwave - Narda West
Lorch Microwave
Lucas Epsco, Inc.
M/A-Com, Inc., Antenna and Cable Div.
MCH Associates
Marlow Electronics Ltd.
Marquis Microwave Products
Micro Communications, Inc.
Microlab/FXR
Microwave Circuits, Inc.
Microwave Communications Labs
Microwave Filter Co., Inc.
Mitec Electronics, Ltd.
Motorola Ceramic Products
Oakbury Components, Ltd.
Passive Power Products
Pesa-Micro Communications, Inc.
Polyflon Co.
Potter Production Corp.
Premier Microwave Corp.
RDL, Inc.
RLC Electronics, Inc.
RS Microwave Co.
Reactel, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microsonics
Salisbury Engineering, Inc.
Scala Electronic Corp.
Shokai Far East Ltd.
Sinclair Technologies, Inc.
Spectrum Elektrotechnik GmbH
TTE, Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teleplex, Inc. (Alford Div.)
Telonic Berkeley, Inc.
Trilithic Inc.

Ultracast, Inc.
Wacom Products, Inc.
Western Microwave, Inc.

COAXIAL

AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Airtron Corp.
Allen Telecom Group, Inc.
Anatech Electronics
Antenna Engineering Ltd.
Anthony RF Track Microwave
Atlantic Microwave Ltd.
Ava Electronics Corp.
Bellsonics, Inc.
Bird Electronic Corp.
Brennan Associates
C.E. Precision Assemblies, Inc.
Ceramic Devices, Inc.
Tony Chapman Electronics, Ltd.
Com Dev
Comark Communications, Inc.
Communications & Energy Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Control Devices, Inc.
Daden Associates, Inc.
Dajem Technology Co.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dorne & Margolin, Inc.
Dura Electronic Sales
Dyma Engineering
Elisra Electronic Systems, Ltd.
FSY Microwave, Inc.
First Source, Inc.
HD Communications
Howell Laboratories, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
Inmet Corp.
Jay-El, DMT, Ducommun Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
K&L Microwave, Inc.
KW Microwave Corp.
Kings Electronics Co., Inc.
L.E.A. Dynatech, Inc.
Lark Engineering
Lectronic Research Labs
Loral Microwave - Narda West
Lorch Microwave
Lucas Epsco, Inc.
M/A-Com, Inc., Antenna and Cable Div.
MCH Associates
Marlow Electronics Ltd.
Meritec
Micro Communications, Inc.
Microlab/FXR
Microwave Circuits, Inc.
Microwave Filter Co., Inc.
Mini-Circuits
NT-T Inc./HH Smith
Oakbury Components, Ltd.
Oxley, Inc.
PMI Technologies
Pascall Microwave Ltd.
Passive Power Products
Penstock, Inc., An Avnet Co.
Potter Production Corp.
Premier Microwave Corp.
RDL, Inc.
RLC Electronics, Inc.
RS Microwave Co.
Reactel, Inc.

RF transmission components

REMEC

Richardson Electronics, Ltd.
Sage Laboratories, Inc.
Salisbury Engineering, Inc.
Shokai Far East Ltd.
Spectrum Control, Inc.
Spectrum Elektrotechnik GmbH
TTE, Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telonic Berkeley, Inc.
Trilithic Inc.
Tucker Electronics
Ultracast, Inc.
Viewsonics, Inc.
Wacom Products, Inc.
Wavetek Corp. (IN)
Western Microwave, Inc.
Whittaker Electronic Systems

HELICAL

AIL Systems Inc.
A.P.I. Testing Equipment
Allen Telecom Group, Inc.
Anatech Electronics
Antenna Engineering Ltd.
Anthony RF Track Microwave
Atlantic Microwave Ltd.
Bellsonics, Inc.
Brennan Associates
Coilcraft
Communications & Energy Corp.
Daden Associates, Inc.
Dajem Technology Co.
Decibel Products
Digi-Key Corp.
Dura Electronic Sales
Dyma Engineering
Eastern Multiplexers, Inc.
FSY Microwave, Inc.
KW Microwave Corp.
Lark Engineering
Electronic Research Labs
Lorch Microwave
Lucas Epsco, Inc.
MCH Associates
Microwave Circuits, Inc.
Microwave Communications Labs
Microwave Filter Co., Inc.
Networks International Corp.
Pascall Microwave Ltd.
Passive Power Products
Piezo Technology, Inc.
RDL, Inc.
RLC Electronics, Inc.
RS Microwave Co.
Reactel, Inc.
REMEC
Richardson Electronics, Ltd.
Salisbury Engineering, Inc.
Scala Electronic Corp.
Shokai Far East Ltd.
TTE, Inc.
Tauber-Dreyer Corp.
Tele Quartz USA Inc.
Teledyne Electronic Technologies (Mountain View)
Telewave, Inc.
Telonic Berkeley, Inc.
Toko America, Inc.
Trilithic Inc.

HIGHPASS

AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.

Airtron Corp.
AKON, Inc.
Allen Avionics, Inc.
Allen Telecom Group, Inc.
Alpha Components, Inc.
Anatech Electronics
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Anthony RF Track Microwave
Arco Electronics
Atlantic Microwave Ltd.
Bellsonics, Inc.
Bird Electronic Corp.
Brennan Associates
Cambio International
Captor Corp.
Tony Chapman Electronics, Ltd.
Coaxial Dynamics, Inc.
Coilcraft
Com Dev
Comark Communications, Inc.
Communications & Energy Corp.
Component Distributors, Inc. (FL)
Component Distributors, Inc. (TX)
Comsat RSI Mark Antennas
Consumer Microcircuits, Ltd.
Daden Associates, Inc.
Dajem Technology Co.
Datel, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dorne & Margolin, Inc.
Dura Electronic Sales
Dyma Engineering
ESC Electronics Corp.
Eastern Microwave Corp.
Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
FSY Microwave, Inc.
Faraday Technology, Ltd.
Filtronetics, Inc.
First Source, Inc.
Gamma-F Corp.
HD Communications
Howell Laboratories, Inc.
Hyperception, Inc.
Illinois Superconductor Corp.
Integrated Microwave Corp.
JMK, Inc.
JPS Communications, Inc.
Joseph Electronics, Inc.
K&L Microwave, Inc.
KR Electronics
KW Microwave Corp.
Lark Engineering
Electronic Research Labs
Litton-Airtron Div.
Loral Microwave - Narda West
Lorch Microwave
Lucas Epsco, Inc.
M/A-Com, Inc., Antenna and Cable Div.
MCH Associates
Marlow Electronics Ltd.
Micro Coax Components, Inc.
Micro Communications, Inc.
Micro Hybrids, Inc.
Microsignals, Inc.
Microwave Circuits, Inc.
Microwave Communications Labs
Microwave Filter Co., Inc.
Millitech Corp.
Mini-Circuits
Mitec Electronics, Ltd.
Netcom, Inc.
Networks International Corp.
North Hills Electronics, Inc.
OPT Industries

Oriel Instruments
P&H Laboratories
Pascall Microwave Ltd.
Passive Power Products
Penstock, Inc., An Avnet Co.
Piezo Technology, Inc.
Poly-Circuits, Inc. - an M-WAVE Co.
Potter Production Corp.
Precision Filters, Inc.
Premier Microwave Corp.
Quartztek, Inc.
RDL, Inc.
R.F. Technologies Corp.
RF Technology, Inc.
RLC Electronics, Inc.
RS Microwave Co.
Reactel, Inc.
Reeves-Hoffman
REMEC
Richardson Electronics, Ltd.
ST Microsonics
Sage Laboratories, Inc.
Salisbury Engineering, Inc.
Scala Electronic Corp.
Shokai Far East Ltd.
Sierra Microwave Technology
Sokol Crystal Products, Inc.
Spectrum Elektrotechnik GmbH
Sterling Technology, Inc.
Superconductor Technologies Inc.
Synergy Microwave Corp.
Synetcom Digital, Inc.
TDK Corp. of America
TTE, Inc.
Talbot Technology Corp. (T-Tech)
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telonic Berkeley, Inc.
Temex Electronics, Inc.
Toko America, Inc.
Trilithic Inc.
Tucker Electronics
Ultracast, Inc.
Viewsonics, Inc.
Vortex Microwave Corp.
Wavetek Corp. (IN)
Western Microwave, Inc.

LOWPASS

AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Aerovox Group
Airtron Corp.
AKON, Inc.
Allen Avionics, Inc.
Allen Telecom Group, Inc.
Alpha Components, Inc.
Anatech Electronics
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Anthony RF Track Microwave
Arco Electronics
Atlantic Microwave Ltd.
Barker & Williamson
Bellsonics, Inc.
Bird Electronic Corp.
Brennan Associates
Cambio International
Captor Corp.
Ceramic Devices, Inc.
Tony Chapman Electronics, Ltd.
Coaxial Dynamics, Inc.
Coil Specialty Co.
Coilcraft
Com Dev

RF transmission components

FILTER ASSEMBLIES

(Cont'd)

LOWPASS (Cont'd)

Comark Communications, Inc.
Communication Concepts, Inc.
 Communications & Energy Corp.
 Component Distributors, Inc. (FL)
 Component Distributors, Inc. (TX)
 Comstron, Div. of Aeroflex Laboratories, Inc.
 Consumer Microcircuits, Ltd.
 Daden Associates, Inc.
 Dajem Technology Co.
 Datel, Inc.
 Davicom Technologies Inc.
 Decibel Products
 Delta Microwave, Inc.
 Dielectric Communications
 Dorne & Margolin, Inc.
 Dura Electronic Sales
 Dyma Engineering
 EMI Filter Co.
 ESC Electronics Corp.
 Eastern Microwave Corp.
 Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
 Emission Control Ltd.
 FSY Microwave, Inc.
 Faraday Technology, Ltd.
 Fil-Coil Corp.
 Filtronics, Inc.
 First Source, Inc.
 Gamma-F Corp.
 HD Communications
 Howell Laboratories, Inc.
 Huber + Suhner AG
 Hyperception, Inc.
 Illinois Superconductor Corp.
 Integrated Microwave Corp.
 JMK, Inc.
 JPS Communications, Inc.
 Joseph Electronics, Inc.
 KDI/Triangle Electronics, Inc.
 K&L Microwave, Inc.
 KR Electronics
KVG North America, Inc.
 KW Microwave Corp.
 L.C.R. Electronics, Inc.
 L.E.A. Dynatech, Inc.
 Lark Engineering
 Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
 Lectronic Research Labs
 Litton-Airtron Div.
 Loral Microwave - Narda West
 Lorch Microwave
 Lucas Epsco, Inc.
 M/A-Com, Inc., Antenna and Cable Div.
 MCH Associates
 MMC Electronics America Inc.
 Marlow Electronics Ltd.
 Maxwell Laboratories, Inc. - Sierra Div.
 Micro Coax Components, Inc.
 Micro Communications, Inc.
 Micro Hybrids, Inc.
 Microlab/FXR
 Microsignals, Inc.
 Microwave Circuits, Inc.
 Microwave Communications Labs
 Microwave Filter Co., Inc.
 Microwave Resources, Inc.
 Millitech Corp.
 Mini-Circuits
 Mitec Electronics, Ltd.
 Murata Electronics North America
 Netcom, Inc.
 Networks International Corp.
 North Hills Electronics, Inc.
 OPT Industries
 Optical Coating Laboratory, Inc.
 Oriel Instruments
 Oxley, Inc.
 P&H Laboratories
 Pascall Microwave Ltd.
 Passive Power Products
Penstock, Inc., An Avnet Co.
 Picosecond Pulse Labs, Inc.
 Piezo Technology, Inc.
 Poly-Circuits, Inc. - an M-WAVE Co.
 Polyflon Co.
 Potter Production Corp.
 Precision Filters, Inc.
 Premier Microwave Corp.
 Quartztek, Inc.
 RDL, Inc.
 RFI Corp.
 R.F. Technologies Corp.
 RF Technology, Inc.
 RLC Electronics, Inc.
 RS Microwave Co.
 RTG, Inc.
 RTRON Corp.
 Reactel, Inc.
Reeves-Hoffman
 REMEC
 Richardson Electronics, Ltd.
 ST Microsonics
 Sage Laboratories, Inc.
 Salisbury Engineering, Inc.
 Scala Electronic Corp.
 Shokai Far East Ltd.
 Sierra Microwave Technology
 Sokol Crystal Products, Inc.
 Spectrum Control, Inc.
 Spectrum Elektrotechnik GmbH
 Sterling Technology, Inc.
 Stetco, Inc.
 Superconductor Technologies Inc.
 Synergy Microwave Corp.
 Synetcom Digital, Inc.
 TDK Corp. of America
 TTE, Inc.
 Talbot Technology Corp. (T-Tech)
 Tauber-Dreyer Corp.
 Teledyne Electronic Technologies (Mountain View)
 Teleplex, Inc. (Alford Div.)
 Telewave, Inc.
 Telonic Berkeley, Inc.
 Temex Electronics, Inc.
 Texas Spectrum Electronics, Inc.
Toko America, Inc.
 Tri-Mag, Inc.
 Trilithic Inc.
 Tucker Electronics
 Tusonix Inc.
 Ultracast, Inc.
 Viewsonics, Inc.
 Vortex Microwave Corp.
 Wavetek Corp. (IN)
 Western Microwave, Inc.

NOTCH

AIL Systems Inc.
 A.P.I. Testing Equipment
 ATCI
 Allen Avionics, Inc.
 Allen Telecom Group, Inc.
 Alpha Components, Inc.
 Anatech Electronics
 Andersen Laboratories
 Antenna Engineering Ltd.
 Anthony RF Track Microwave
 Arco Electronics
 Atlantic Microwave Ltd.
 Brennan Associates
Coilcraft
 Com Dev
 Comark Communications, Inc.
 Communications & Energy Corp.
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Comstron, Div. of Aeroflex Laboratories, Inc.
 Consumer Microcircuits, Ltd.
 Control Devices, Inc.
 Daden Associates, Inc.
 Dajem Technology Co.
 Davicom Technologies Inc.
 Decibel Products
 Delta Microwave, Inc.
 Dielectric Communications
 Dorne & Margolin, Inc.
 Dura Electronic Sales
 Dyma Engineering
 ESC Electronics Corp.
 Eastern Multiplexers, Inc.
Elisra Electronic Systems, Ltd.
 FSY Microwave, Inc.
 Faraday Technology, Ltd.
 Ferretec Products/Litton Solid State
 Filtronics, Inc.
 Gamma-F Corp.
 HD Communications
 Huber + Suhner AG
 Illinois Superconductor Corp.
 Integrated Microwave Corp.
 JPS Communications, Inc.
 K&L Microwave, Inc.
 KW Microwave Corp.
 Lark Engineering
 Lectronic Research Labs
 Loral Microwave - Narda West
 Lorch Microwave
 Lucas Epsco, Inc.
 M/A-Com, Inc., Antenna and Cable Div.
 MCH Associates
 Marlow Electronics Ltd.
 Marquis Microwave Products
 Micro Communications, Inc.
 Micro Hybrids, Inc.
 Microsource, Inc.
 Microwave Circuits, Inc.
 Microwave Communications Labs
 Microwave Filter Co., Inc.
 Netcom, Inc.
 Networks International Corp.
 Norcomm Corp.
 North Hills Electronics, Inc.
 OPT Industries
 Oriel Instruments
 P&H Laboratories
 Passive Power Products
 Penny Technologies, Inc.
 Pesa-Micro Communications, Inc.
 Piezo Technology, Inc.
 Precision Filters, Inc.
 Premier Microwave Corp.
 Quartztek, Inc.
RF Monolithics, Inc. (RFM)
 RS Microwave Co.
 Reactel, Inc.
Reeves-Hoffman
 REMEC
 Richardson Electronics, Ltd.
 ST Microsonics
 Salisbury Engineering, Inc.
 Sawtek, Inc.
 Scala Electronic Corp.
 Shokai Far East Ltd.
 Sinclair Technologies, Inc.
 Sokol Crystal Products, Inc.
 Spectrum Elektrotechnik GmbH
 Sterling Technology, Inc.
 Superconductor Technologies Inc.
 Synetcom Digital, Inc.
 TTE, Inc.
 Talbot Technology Corp. (T-Tech)
 Tauber-Dreyer Corp.
 Teledyne Electronic Technologies (Mountain View)

RF transmission components

Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Telonic Berkeley, Inc.
Temex Electronics, Inc.
Toko America, Inc.
Trilithic Inc.
Viewsonics, Inc.
Vortex Microwave Corp.
Wacom Products, Inc.

TUNABLE

AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Accutest Instruments Inc.
Allen Telecom Group, Inc.
Antenna Engineering Ltd.
Anthony RF Track Microwave
Atlantic Microwave Ltd.
Bellsonics, Inc.
Brennan Associates
Comark Communications, Inc.
Communications & Energy Corp.
Compass Communications, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Daden Associates, Inc.
Dajem Technology Co.
Datel, Inc.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dorado International Corp.
Dura Electronic Sales
Eastern Multiplexers, Inc.
Elsira c/o Eximin Telecom
FSY Microwave, Inc.
Feretec Products/Litton Solid State
HD Communications
Immet Corp.
Integrated Microwave Corp.
JPS Communications, Inc.
Joseph Electronics, Inc.
K&L Microwave, Inc.
Lectronic Research Labs
Litton Solid State Div.
Lorch Microwave
Lucas Epsco, Inc.
M/A-Com, Inc., Antenna and Cable Div.
MCH Associates
Marlow Electronics Ltd.
Marquis Microwave Products
Microlab/FXR
Microsource, Inc.
Microwave Circuits, Inc. (Ceramic)
Microwave Filter Co., Inc.
Netcom, Inc.
Oriol Instruments
Oxley, Inc.
Passive Power Products
Piezo Technology, Inc.
Pole/Zero Corp.
Polytron Co.
Premier Microwave Corp.
RS Microwave Co.
Reactel, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microsonics
Salisbury Engineering, Inc.
Scala Electronic Corp.
Shokai Far East Ltd.
Spectrum Elektrotechnik GmbH
Synetcom Digital, Inc.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Telewave, Inc.

Telonic Berkeley, Inc.
Toko America, Inc.
Trilithic Inc.
Ultracast, Inc.
Watkins-Johnson Co.
Wavetek Corp. (IN)
Wavetek Corp. (CA)

OTHER

Alpha Components, Inc. (Computer Switchable)
Anatech Electronics (Combine)
Brimrose Corp. of America (Acousto-optic tunable filter)
Coil Specialty Co. (EMI/RFI Filter)
Control Devices, Inc. (Diplexers)
Daden Associates, Inc. (ISO Filters)
Dielectric Communications
Enon Microwave Inc. (High power switch/filter)
Fil-Coil Corp. (RF Interference)
W.L. Gore & Associates, Inc. (Low noise coax)
Integrated Microwave Corp. (Ceramic)
JPS Communications, Inc. (Spectral subtractor adaptive peaker)
KR Electronics (Video)
Lark Engineering (Ceramic)
Lectro Magnetics Div., Lindgren RF Enclosures, Inc. (EMI/RFI)
Link Plus Corp. (Lincompex CCIR 455-1)
Litton Solid State Div. (YIG)
Loral Randtron Systems (Rotary Couplers)
Lorch Microwave (Ceramic)
Passive Power Products (Waveguide)
Penny Technologies, Inc. (Diplexers, PCS & Cellular)
Premier Microwave Corp. (Harmonic)
RTRON Corp. (RFI-Power line)
Rockwell International (Mechanical)
SAE Power, Inc. (EMI/RFI Power)
Sterling Technology, Inc. (Satellite)
Synetcom Digital, Inc. (Programmable digital)
Telonic Berkeley, Inc. (Computer prog.)
Texas Spectrum Electronics, Inc. (EMI/RFI)
Thin Film Technology (Tapped delay line)
A.J. Tuck Co. (Custom Electroformed)
Watkins-Johnson Co. (YIG)

FIBER OPTIC COMPONENTS

CONNECTORS

Micracor

DETECTORS

Micracor

LASERS

Micracor

OPTICAL CABLE

Micracor

ISOLATORS/CIRCULATORS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Advanced Ferrite Technology, Inc.
Aerotek Co. Ltd.
Aerowave Inc.
Airtron Corp.
AKON, Inc.
Allen Telecom Group, Inc.
Alpha Industries, Inc.
Antenna Engineering Ltd.
Applied Specialties, Inc.

Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Avcom of Virginia
Brennan Associates
Ceramaseal
Tony Chapman Electronics, Ltd.
Com Dev
Davicom Technologies Inc.
Decibel Products
Densitron Microwave Ltd.
Ditom Microwave, Inc.
Dorado International Corp.
Dyma Engineering
Eastern Microwave Corp.
Elsira c/o Eximin Telecom
Elsira Electronic Systems, Ltd.
Epsilon Lambda Electronics Corp.
FDK America, Inc.
Ferrite Components, Inc.
First Source, Inc.
HD Communications
Harris Farinon Components
Herotek, Inc.
KW Microwave Corp.
Lectronic Research Labs
Litton-Airtron Div.
Loral Microwave - Narda
Loral Microwave - Narda West
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Microelectronics Div.
Marlow Electronics Ltd.
Maury Microwave Corp.
Mica Microwave Corp.
Micro-Now Instrument Co. Inc.
Microwave Device Technology Corp.
Microwave Devices, Inc.
Microwave Distributors Co.
Microwave Resources, Inc.
MIDISCO
Millitech Corp.
Mitec Electronics, Ltd.
Murata Electronics North America
Naptech
P&H Laboratories
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Philips Semiconductors - Discrete Semiconductors
Premier Microwave Corp.
Quartzite Processing, Inc.
Rache Corp.
Radio Research Instrument Co., Inc.
Renaissance Electronics Corp.
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
Scala Electronic Corp.
Sci Tran Products
Shokai Far East Ltd.
Sierra Microwave Technology
Sinclair Technologies, Inc.
Sonoma Scientific, Inc.
Spectrum Elektrotechnik GmbH
TDK Corp. of America
Talley Communications Corp.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Telewave, Inc.
Test Equipment Corp.
Thomson Components and Tubes Corp.
TRAK Microwave Corp.
UTE Microwave, Inc.
Ultracast, Inc.
Wacom Products, Inc.
Waveline, Inc.
Western Microwave, Inc.

RF transmission components

LOADS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Allen Telecom Group, Inc.
Amplifier Research
Antenna Engineering Ltd.
Applied Engineering Products
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Barry Industries Inc.
Bird Electronic Corp.
Brennan Associates
Tony Chapman Electronics, Ltd.
Coaxial Components Corp. (NY)
Coaxial Dynamics, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Component General, Inc.
Continental Microwave and Tool Co. Inc.
Cuming Corp.
Davicom Technologies Inc.
Decibel Products
Densitron Microwave Ltd.
Dielectric Communications
Dyma Engineering
EMC Technology, Inc.
Eagle
Eastern Microwave Corp.
Ferrite Components, Inc.
First Source, Inc.
Flann Microwave Instruments, Ltd.
Florida RF Labs, Inc.
Gabriel Electronics Inc.
Gamma-F Corp.
Gilbert Engineering Co., Inc.
HD Communications
Huber + Suhner AG
Huber + Suhner, Inc.
Inmet Corp.
JFW Industries, Inc.
KDI/Triangle Electronics, Inc.
Kintronic Laboratories, Inc.
Lectronic Research Labs
Litton-Airtron Div.
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Microelectronics Div.
MCH Associates
MECA Electronics, Inc.
Marlow Electronics Ltd.
Maury Microwave Corp.
Meca Electronics, Inc.
Merrimac Industries, Inc.
Micro Communications, Inc.
Microlab/FXR
Microwave Communications Labs
Microwave Devices, Inc.
Microwave Distributors Co.
Microwave Resources, Inc.
MIDISCO
Midwest Microwave
Millitech Corp.
Mini-Circuits
Mitec Electronics, Ltd.
National Magnetics Group, Inc.
North Hills Electronics, Inc.
P&H Laboratories
Pascall Microwave Ltd.
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Premier Microwave Corp.
Quartzite Processing, Inc.
RF Power Components, Inc.
Renaissance Electronics Corp.
Resin Systems Corp.
Richardson Electronics, Ltd.

Rohde and Schwarz GMBH Co.
Sage Laboratories, Inc.
Scala Electronic Corp.
Senah
Sierra Microwave Technology
Sinclair Technologies, Inc.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Talley Communications Corp.
Tauber-Dreyer Corp.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Test Equipment Corp.
TRAK Microwave Corp.
Trilithic Inc.
Ultracast, Inc.
Wacom Products, Inc.
Waveline, Inc.
Wilton Co.

Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Scala Electronic Corp.
Sci Tran Products
Shokai Far East Ltd.
Signal Management, Ltd.
Sinclair Technologies, Inc.
Superconductor Technologies Inc.
Talley Communications Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Trontech, Inc.
Vortex Microwave Corp.
Wacom Products, Inc.
Werlatone, Inc.

MULTICOUPLERS

AIL Systems Inc.
AML Communications
AACOM Systems
Advanced Control Components, Inc.
Airtron Corp.
Allen Telecom Group, Inc.
American Microwave Corp.
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Apcom, Inc.
Applied Specialties, Inc.
Brennan Associates
Com Dev
Command Sciences Locus
Communication Solutions, Inc.
Davicom Technologies Inc.
Decibel Products
Dyma Engineering
Eastern Microwave Corp.
Elcom Systems, Inc.
Ellsra c/o Eximin Telecom
Ellsra Electronic Systems, Ltd.
Emhiser Research Inc.
FSY Microwave, Inc.
Gamma-F Corp.
HD Communications
Interad, Ltd.
JHP Industrial Co., Inc.
KDI/Triangle Electronics, Inc.
K&L Microwave, Inc.
Lectronic Research Labs
Lorch Microwave
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Government Products Operation
M/A-Com, Inc., Microelectronics Div.
MCH Associates
Marlow Electronics Ltd.
Marquis Microwave Products
Matrix Systems Corp.
Merrimac Industries, Inc.
Micro Communications, Inc.
Microwave Communications Labs
Microwave Resources, Inc.
Midwest Microwave
Mini-Circuits
Mitec Electronics, Ltd.
Novacom
Oakbury Components, Ltd.
P.G. Electronics, Ltd.
Passive Power Products
Penstock, Inc., An Avnet Co.
Premier Microwave Corp.
Quintech Electronics & Communications Inc. (QEC)
RS Microwave Co.
REMEC

MULTIPLEXERS/ DIPLEXERS

AIL Systems Inc.
ATCI
AACOM Systems
Airtron Corp.
Allen Telecom Group, Inc.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Anthony RF Track Microwave
Apcom, Inc.
Atlantic Microwave Ltd.
Brennan Associates
Broadband Communications Products, Inc.
Catel Telecommunications
Com Dev
Communication Solutions, Inc.
Comsat RSI - Anghel Laboratories
Daden Associates, Inc.
Dajem Technology Co.
Datel, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dura Electronic Sales
Dyma Engineering
Eastern Multiplexers, Inc.
Ellsra c/o Eximin Telecom
Ellsra Electronic Systems, Ltd.
Eon Instrumentation, Inc.
FSY Microwave, Inc.
First Source, Inc.
Gamma-F Corp.
HD Communications
Howell Laboratories, Inc.
Huber + Suhner AG
Inmac
JHP Industrial Co., Inc.
K&L Microwave, Inc.
KW Microwave Corp.
Kaptron, Inc.
Kintronic Laboratories, Inc.
Lectronic Research Labs
Litton-Airtron Div.
Loral Microwave - Narda West
Lorch Microwave
Lucas Epsco, Inc.
M/A-Com, Inc., Antenna and Cable Div.
MCH Associates
Marlow Electronics Ltd.
Matrix Systems Corp.
Merrimac Industries, Inc.
Micro Communications, Inc.
Microlab/FXR
Microwave Circuits, Inc.
Microwave Communications Labs
Millitech Corp.
Mitec Electronics, Ltd.
Murata Electronics North America
North Hills Electronics, Inc.
Oakbury Components, Ltd.

RF transmission components

P&H Laboratories
Passive Power Products
Penstock, Inc., An Avnet Co.
Pesa-Micro Communications, Inc.
Premier Microwave Corp.
RLC Electronics, Inc.
RS Microwave Co.
Radian Technology, Inc.
REMEC
Richardson Electronics, Ltd.
ST Microwave Corp. California Operations
S.T. Research Corp.
Salisbury Engineering, Inc.
Sci Tran Products
Siliconix, Inc.
Superconductor Technologies Inc.
TTE, Inc.
Talley Communications Corp.
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Vortex Microwave Corp.
Wacom Products, Inc.
Waveline, Inc.
Western Microwave, Inc.
Wide Band Engineering Co., Inc.

PHASE SHIFTERS

AML Communications
Accutest Instruments Inc.
Advanced Ferrite Technology, Inc.
Aerowave Inc.
Airtron Corp.
Alpha Industries, Inc.
Astrolab, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Bishop Instruments
Brennan Associates
Coaxial Components Corp. (NY)
Com Dev
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI - Anghel Laboratories
Connecting Devices, Inc.
Continental Microwave Technology Inc.
Custom Microwave Components
Daico Industries
Dajem Technology Co.
Davicom Technologies Inc.
Delta Microwave, Inc.
Dielectric Communications
Dyma Engineering
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
Flann Microwave Instruments, Ltd.
Flexco Microwave, Inc.
General Microwave Corp.
HD Communications
Howell Laboratories, Inc.
Hybrid-Tek, Inc.
KDI/Triangle Electronics, Inc.
Kintronic Laboratories, Inc.
Lectronic Research Labs
LEMO RF, Inc.
Litton-Airtron Div.
Loral Microwave - Narda
Lorch Microwave
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
MCH Associates
Marlow Electronics Ltd.
Merrimac Industries, Inc.
Micro Communications, Inc.

Micronetics, Inc.
Microwave Communications Labs
Microwave Distributors Co.
Microwave Resources, Inc.
MIDISCO
Midwest Microwave
Millitech Corp.
Mini-Circuits
Mitec Electronics, Ltd.
Miteq, Inc.
Naptech
P&H Laboratories
Pascall Microwave Ltd.
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Pesa-Micro Communications, Inc.
Premier Microwave Corp.
Pulsar Microwave Corp.
R.F. Technologies Corp.
Raytheon Electronics, Advanced Device Cen.
REMEC
Richardson Electronics, Ltd.
Robinson Laboratories
ST Olektron Corp.
Sage Laboratories, Inc.
Sci Tran Products
Spectrum Elektrotechnik GmbH
Synergy Microwave Corp.
Synetcom Digital, Inc.
Talley Communications Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Texas Instruments Inc., Microwave Military Components
Toko America, Inc.
TRAK Microwave Corp.
Ultracast, Inc.
Vectronics Microwave Corp.
Vortex Microwave Corp.
Waveline, Inc.
Werlatone, Inc.

POWER DIVIDERS/COMBINERS

AIL Systems Inc.
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
AKON, Inc.
Alan Industries, Inc.
Allen Telecom Group, Inc.
Alpha Industries, Inc.
American Microwave Corp.
Amplifier Research
Anaren Microwave, Inc.
Andrew Corp.
Antenna Design & Manufacturing Corp.
Antenna Engineering Ltd.
Antennaco, Inc.
Applied Specialties, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Avcom of Virginia
Avianka, Inc.
Barth Electronics, Inc.
Bishop Instruments
Brennan Associates
Catel Telecommunications
Tony Chapman Electronics, Ltd.
Coaxial Connectors, Inc.
Com Dev
Communications & Energy Corp.
Component Distributors, Inc. (FL)
Component Distributors, Inc. (TX)
Comsat RSI - Anghel Laboratories
Continental Microwave and Tool Co. Inc.
Continental Microwave Technology Inc.
Daico Industries
Dajem Technology Co.
Datron/Transco, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Microwave, Inc.
Dielectric Communications
Dura Electronic Sales
Dyma Engineering
EM Research Engineering, Inc.
EMC Technology, Inc.
ENI - a div. of Astec America, Inc.
Eagle
Eastern Microwave Corp.
Elcom Systems, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
First Source, Inc.
Flam & Russell, Inc.
Flann Microwave Instruments, Ltd.
Flexco Microwave, Inc.
Gamma-F Corp.
HD Communications
Hewlett-Packard Co. Components Group
Howell Laboratories, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
Hybrid-Tek, Inc.
ILC Data Device Corp.
Inmet Corp.
JHP Industrial Co., Inc.
KDI/Triangle Electronics, Inc.
Kintronic Laboratories, Inc.
Krytar, Inc.
Lectronic Research Labs
Litton-Airtron Div.
Loral Microwave - Narda
Lorch Microwave
Lucas Epsco, Inc.
Lucas Weinschel (see Weinschel)
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
MCH Associates
MECA Electronics, Inc.
Mac Technologies
Marlow Electronics Ltd.
Marquis Microwave Products
Matrix Systems Corp.
Merrimac Industries, Inc.
Micro Communications, Inc.
Microlab/FXR
Microwave Communications Labs
Microwave Distributors Co.
MIDISCO
Midwest Microwave
Millitech Corp.
Mini-Circuits
Mitec Electronics, Ltd.
Miteq, Inc.
Naptech
National Communications Electronics, Inc.
North Hills Electronics, Inc.
Novacom
Pascall Electronics, Ltd.
Pascall Microwave Ltd.
Passive Power Products
Pasternack Enterprises
Penny Technologies, Inc.
Penstock, Inc., An Avnet Co.
Pesa-Micro Communications, Inc.
Picosecond Pulse Labs, Inc.
Poly-Circuits, Inc. - an M-WAVE Co.
Polyflon Co.
Premier Microwave Corp.

RF transmission components

POWER DIVIDERS/ COMBINERS (Cont'd)

Quintech Electronics & Communications Inc. (QEC)
RDL, Inc.
RF Power Components, Inc.
RF Power Systems
RF Prime, Inc.
R.F. Technologies Corp.
RLC Electronics, Inc.
Reactel, Inc.
REMEC
Renaissance Electronics Corp.
Richardson Electronics, Ltd.
Rohde and Schwarz GMBH Co.
Ross Engineering Corp.
ST Olektron Corp.
Sage Laboratories, Inc.
Scala Electronic Corp.
Sci Tran Products
Shason Microwave Corp.
Sierra Microwave Technology
Signal Management, Ltd.
Sinclair Technologies, Inc.
Spectrum Elektrotechnik GmbH
Synergy Microwave Corp.
Talley Communications Corp.
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Test Equipment Corp.
Toko America, Inc.
TRAK Microwave Corp.
Vectronics Microwave Corp.
Vortex Microwave Corp.
Wacom Products, Inc.
Waveline, Inc.
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates

Kilovac Corp.
Kolinker Industrial Equip., Ltd.
Loral Microwave - Narda
MBF Microwave, Inc.
Magnecraft Electric Co. / Struthers-Dunn Inc.
Matrix Systems Corp.
Micronetics, Inc.
Mouser Electronics
NEC Electronics, Inc.
Ohmite Mfg. Co., Inc.
Omron Electronics, Inc.
Ross Engineering Corp.
Sage Laboratories, Inc.
Shokai Far East Ltd.
Signal Management, Ltd.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Teledyne Electronic Technologies (Mountain View)
Teledyne Relays
Teleplex, Inc. (Alford Div.)

Mouser Electronics
NEC Electronics, Inc.
Omron Electronics, Inc.
REL Labs, Inc.
Richardson Electronics, Ltd.
Sci Tran Products
Shokai Far East Ltd.
Signal Management, Ltd.
Siliconix, Inc.
Surplus Sales of Nebraska
Teledyne Electronic Technologies (Los Angeles)

VACUUM

Joslyn Jennings Corp.
Kilovac Corp.
R.F. Technologies Corp.
Richardson Electronics, Ltd.
Ross Engineering Corp.
Shokai Far East Ltd.
Surcom Associates, Inc.
Surplus Sales of Nebraska

OTHER

Alaun Engineering
Hamlin, Inc. (Reed relays)
Reeves-Hoffman
Teleplex, Inc. (Alford Div.) (High power)

RF CONNECTORS

AMP
Allen Telecom Group, Inc.
Alpha Products, Inc.
Alpha Wire Corp.
Amphenol RF/Microwave Operations
Andrew Corp.
Anritsu Wiltron
Antennaco, Inc.
Applied Engineering Products
Applied Specialties, Inc.
Atlantic Microwave Ltd.
Ava Electronics Corp.
Aviel Electronics
Berkeley Varitronics Systems, Inc.
Bi-Tronics, Inc.
C.E. Precision Assemblies, Inc.
CTS Corp.
Ceramaseal
Tony Chapman Electronics, Ltd.
Childs Antennas
Coaxial Components Corp. (FL)
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Colby Instruments, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Concord Electronics Corp.
Connecting Devices, Inc.
Connector Gage Co.
Connectronics, Inc.
Corcom, Inc.
Davicom Technologies Inc.
Decibel Products
Delta Electronics Mfg. Corp.
Detorronics Corp.
Dyma Engineering
Dynawave, Inc.
EMC Technology, Inc.
Elastomeric Technologies, Inc.
Electro Com
First Source, Inc.
G&H Technology, Inc.
Gilbert Engineering Co., Inc.
Giltron, Inc.
Glasseal Products, Inc.
HD Communications
Howell Laboratories, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.

MULTIPOLE

Applied Specialties, Inc.
Aromat Corp.
Cardinal Control Co., Inc.
Communications Instruments, Inc. (CII)
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cornell Dubilier
Coto Wabash
Datron/Transco, Inc.
Digi-Key Corp.
DowKey Microwave Corp.
Farnell Relay Products
HD Communications
Hamlin, Inc.
Inmark Corp.
Iskra, Inc.
Joseph Electronics, Inc.
Joslyn Jennings Corp.
Kilovac Corp.
Loral Microwave - Narda
MBF Microwave, Inc.
Magnecraft Electric Co. / Struthers-Dunn Inc.
NEC Electronics, Inc.
Omron Electronics, Inc.
Ross Engineering Corp.
Sage Laboratories, Inc.
Shokai Far East Ltd.
Signal Management, Ltd.
Teledyne Relays

SOLID STATE

Aromat Corp.
Atlantic Coast Instruments Inc.
Cardinal Control Co., Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Coto Wabash
Daico Industries
Digi-Key Corp.
Farnell Relay Products
Grayhill, Inc.
HD Communications
ILC Data Device Corp.
Inmark Corp.
Iskra, Inc.
Joseph Electronics, Inc.
Loral Microwave FSI Semiconductor Div.
MBF Microwave, Inc.
Magnecraft Electric Co. / Struthers-Dunn Inc.
Matrix Systems Corp.
Micronetics, Inc.
Microwave Communications Labs

RELAYS MECHANICAL

Applied Specialties, Inc.
Aromat Corp.
Atlantic Coast Instruments Inc.
Cardinal Control Co., Inc.
Communications Instruments, Inc. (CII)
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cornell Dubilier
Coto Wabash
Daico Industries
Datron/Transco, Inc.
Digi-Key Corp.
DowKey Microwave Corp.
Electroswitch Corp.
Farnell Relay Products
HD Communications
Iskra, Inc.
Joseph Electronics, Inc.

WERLATONE
DECADES AHEAD

Werlatone, Inc.
Wide Band Engineering Co., Inc.

RF transmission components

ITT Cannon RF Products
ITT Pomona Electronics
JFW Industries, Inc.
E.F. Johnson Co.
Joseph Electronics, Inc.
Joslyn Sunbank Corp.
Kaman Instrumentation Corp.
Kings Electronics Co., Inc.
Lectronic Research Labs
LEMO RF, Inc.
M/A COM
M/A-Com, Inc., Antenna and Cable Div.
M/A-Com, Inc., Interconnect Div.
Malco Microdot
Manhattan Electric Cable Corp.
Marshall Electronics, Inc.
Maury Microwave Corp.
Metelics Corp.
Micro Communications, Inc.
Microtech, Inc.
Microwave Communications Labs
Microwave Distributors Co.
MIDISCO
Midwest Microwave
Molex, Inc.
Murata Electronics North America
NT-T Inc./HH Smith
Nemal Electronics, Inc.
Oakbury Components, Ltd.
PIC Wire & Cable, div. of the Angelus Corp.
Palco Connector, Inc.
Pascall Microwave Ltd.
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
The Phoenix Co. of Chicago, Inc.
Power Dynamics, Inc.
Precision Tube Co. - Inc., Coaxtube Div.
RF Connectors
R.F. Industries
Radiall, Inc.
Reliance Comm/Tec
Retconn
Richardson Electronics, Ltd.
SMI (NY)
Semflex, Inc.
Senah
Solitron/Vector Microwave Products, Inc.
Southwest Microwave, Inc.
Specialty Connector Co., Inc.
Spectrum Control, Inc.
Spectrum Elektrotechnik GmbH
Stetco, Inc.
Surplus Sales of Nebraska
Synergetix
Talley Communications Corp.
Tauber-Dreyer Corp.
Teleplex, Inc. (Alford Div.)
Telewave, Inc.
Test Equipment Corp.
Trompeter Electronics
Tru-Connector Corp.
United Microwave Products, Inc.
Whittaker Electronic Systems
Wiltron Co. •

Cherry Electrical Products
Colby Instruments, Inc.
Com Dev
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
DB Products, Inc.
Daico Industries
Dielectric Communications
DowKey Microwave Corp.
Dura Electronic Sales
Electro-Mech Components, Inc.
Electroswitch Corp.
Flann Microwave Instruments, Ltd.
Fotofabrication Corp.
Grayhill, Inc.
HD Communications
Henry Radio, Inc.
Hokuriku USA, Ltd.
ITW Switches
JFW Industries, Inc.
Jay-El, DMT, Ducommun Inc.
Joseph Electronics, Inc.
K&L Microwave, Inc.
KW Microwave Corp.
Kilovac Corp.
Lectronic Research Labs
Loral Microwave - Narda
Lucas Automation & Control System Products
Lucas Epsco, Inc.
M/A COM
M/A-Com, Inc., Microelectronics Div.
MBF Microwave, Inc.

Magnecraft Electric Co. / Struthers-Dunn Inc.
Matrix Systems Corp.
Microlab/FXR
Micronetics, Inc.
Microwave Communications Labs
Millitech Corp.
Mouser Electronics
NEC Electronics, Inc.
Omron Electronics, Inc.
P.G. Electronics, Ltd.
Panasonic Industrial Co./Matsushita Electric
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Pesa-Micro Communications, Inc.
Power Dynamics, Inc.
Quintech Electronics & Communications Inc. (QEC)
R.F. Technologies Corp.
RLC Electronics, Inc.
Sage Laboratories, Inc.
Seacor, Inc.
Sector Microwave Ind., Inc.
Shokai Far East Ltd.
Signal Management, Ltd.
Signal Switch Co.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Tauber-Dreyer Corp.
Teledyne Electronic Technologies (Mountain View)
Teleplex, Inc. (Alford Div.)

IT PAYS TO BE WELL CONNECTED™



MADE IN THE
USA
SINCE 1951

- 1,000's of standard and custom designs
- Hard to find models
- Large inventory of parts
- High voltage capabilities
- Small quantities accepted
- 44 years of experience

Available Series

LC LT 7/16 EIA QDL QL SQ
C SC N HN QDS TWINAX
BNC TNC QDM SMA SMD
BSM TSM MB TRIAX

1-800-COAX-TRU

The number to call when you're making RF Connections.



TRU-CONNECTOR CORPORATION

245 Lynnfield Street, Peabody, MA 01960 1-800-262-9878

SWITCHES ELECTROMECHANICAL

Aerowave Inc.
Airtron Corp.
Alpha Products, Inc.
Applied Specialties, Inc.
Arcoelectric Corp.
Aromat Corp.
Atlantic Microwave Ltd.
Barker & Williamson
Brennan Associates
CTS Corp.
Tony Chapman Electronics, Ltd.

RF transmission components

SWITCHES (Cont'd)

ELECTROMECHANICAL (Cont'd)

Trilithic Inc.
Unadilla Antenna Manufacturing Co.
Vortex Microwave Corp.
Waveline, Inc.
Wilbrecht Electronics, Inc.

SOLID STATE

AEL Defense Corp.
Alpha Industries, Inc.
American Microwave Corp.
Amplifonix, Inc.
Aromat Corp.
Atlantic Microwave Ltd.
Brennan Associates
Castle Microwave
Tony Chapman Electronics, Ltd.
Cherry Electrical Products
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Comsat RSI - Anghel Laboratories
Custom Microwave Components
Daden Associates, Inc.
Daico Industries
Eastern Multiplexers, Inc.
Elisra c/o Eximin Telecom
Elisra Electronic Systems, Ltd.
Enon Microwave Inc.
First Source, Inc.
Flexco Microwave, Inc.
Frequency Electronics, Inc.
GEC-Marconi Materials Technology, Ltd.
General Services Engineering, Inc.
HD Communications
Herrotek, Inc.
Hexwave, Inc.
Hittite Microwave Corp.
ITW Switches
JFW Industries, Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
K&L Microwave, Inc.
KW Microwave Corp.
Lectronic Research Labs
Loral Microwave FSI Semiconductor Div.
Lorch Microwave
M/A COM
M/A-Com, Inc., Microelectronics Div.
MBF Microwave, Inc.
Magnum Microwave Corp.
Marlow Electronics Ltd.
Matrix Systems Corp.
Metelics Corp.
Micronetics, Inc.
Microwave Communications Labs
Microwave Device Technology Corp.
Mid-Atlantic RF Systems, Inc.
Mini-Circuits
Oakbury Components, Ltd.
P&H Laboratories
Pacific Monolithics
Penstock, Inc., An Avnet Co.
Premier Microwave Corp.
Pulsar Microwave Corp.
Quality Semiconductor
Quintech Electronics & Communications Inc. (QEC)
REL Labs, Inc.
RLC Electronics, Inc.
Reactel, Inc.

REMEC
Richardson Electronics, Ltd.
Robinson Laboratories
ST Microwave Corp. California Operations
ST Olektron Corp.
Shokai Far East Ltd.
Sierra Microwave Technology
Signal Management, Ltd.
Signal Switch Co.
Siliconix, Inc.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Tauber-Dreyer Corp.
Technical Research and Mfg., Inc. (TRM, Inc.)
Tele-Tech Corp.
Teledyne Electronic Technologies (Los Angeles)
Texas Instruments Inc., Microwave Military Components
Trilithic Inc.
Vari-L Company, Inc.
Vectronics Microwave Corp.
Vortex Microwave Corp.
Watkins-Johnson Co.
Waveline, Inc.
Wide Band Engineering Co., Inc.

OTHER

Advanced Ferrite Technology, Inc. (Ferrite switch)
Anatech Electronics (Pin diode)
C.E. Precision Assemblies, Inc. (Custom designed RF connectors)
Coaxial Dynamics, Inc. (Pin Diode)
Daico Industries (GAAS)
Dielectric Communications
Enon Microwave Inc. (High power)
Giltron, Inc. (Pneumatic)
Impellimax (Switch drivers)
Joseph Electronics, Inc.
M/A COM (GaAs MMIC)
Power Dynamics, Inc. (Filtered D-sub Connectors)
Quintech Electronics & Communications Inc. (QEC) (GaAs)
Rache Corp. (Thin material reeds)
Radio Research Instrument Co., Inc. (Waveguide)
Raytheon Electronics, Advanced Device Cen. (MMIC)
Signal Switch Co. (Coax-Twmax-Triax-Data)

TERMINATIONS

AMP
A.P.I. Testing Equipment
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Amplifier Research
Anritsu Wiltron
Applied Specialties, Inc.
Astrolab, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Ava Electronics Corp.
Aviel Electronics
Barry Industries Inc.
Barth Electronics, Inc.
Bi-Tronics, Inc.
Bird Electronic Corp.
Brennan Associates
Tony Chapman Electronics, Ltd.
Coaxial Components Corp. (FL)
Coaxial Components Corp. (NY)
Coaxial Connectors, Inc.
Coaxial Dynamics, Inc.
Com Dev
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Concord Electronics Corp.
Continental Microwave and Tool Co. Inc.
Dajem Technology Co.

Davicom Technologies Inc.
Decibel Products
Dielectric Sciences, Inc.
Dura Electronic Sales
Dyma Engineering
Eagle
Elcom Systems, Inc.
Electro Com
Elisra Electronic Systems, Ltd.
Ferrite Components, Inc.
First Source, Inc.
Flann Microwave Instruments, Ltd.
Florida RF Labs, Inc.
Gabriel Electronics Inc.
Gamma-F Corp.
Gilbert Engineering Co., Inc.
HD Communications
Huber + Suhner AG
ITT Pomona Electronics
Inmet Corp.
Isolation Products
JFW Industries, Inc.
E.F. Johnson Co.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
Krytar, Inc.
Lectronic Research Labs
LEMO RF, Inc.
Loral Microwave - Narda
Lucas Weinschel (see Weinschel)
M/A COM
M/A-Com, Inc., Microelectronics Div.
MCC Norsal
MECA Electronics, Inc.
Marlow Electronics Ltd.
Maury Microwave Corp.
Meca Electronics, Inc.
Microlab/FXR
Microwave Communications Labs
Microwave Devices, Inc.
Microwave Distributors Co.
Microwave Resources, Inc.
MIDISCO
Midwest Microwave
Millitech Corp.
Mini-Circuits
Mini-Systems, Inc.
National Magnetics Group, Inc.
Nemal Electronics, Inc.
P&H Laboratories
Pascall Microwave Ltd.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
The Phoenix Co. of Chicago, Inc.
Premier Microwave Corp.
Probe Master
Quality Semiconductor
Quartzite Processing, Inc.
RF Power Components, Inc.
R.F. Technologies Corp.
RLC Electronics, Inc.
Renaissance Electronics Corp.
Resin Systems Corp.
Richardson Electronics, Ltd.
Rohde and Schwarz GMBH Co.
Sage Laboratories, Inc.
Senah
Signal Management, Ltd.
Solitron/Vector Microwave Products, Inc.
Specialty Connector Co., Inc.
Spectrum Elektrotechnik GmbH
Surplus Sales of Nebraska
Talley Communications Corp.
Tauber-Dreyer Corp.
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Test Probes, Inc.
Trilithic Inc.
Trompeter Electronics
UTE Microwave, Inc.

Boldface Indicates Advertiser.

RF transmission components

Ultracast, Inc.
 United Microwave Products, Inc.
 Viewsonics, Inc.
 Wago Corp.
 Waveline, Inc.
Weinschel, a div. of Sierra Networks Inc.
 Weinschel Associates
 Wide Band Engineering Co., Inc.
 Wiltron Co.

TUNERS

AEL Defense Corp.
 AIL Systems Inc.
 Aerowave Inc.

Atlantic Coast Instruments Inc.
 Brennan Associates
 Tony Chapman Electronics, Ltd.
 Communication Solutions, Inc.
 Dielectric Communications
 Dyma Engineering
 Gilbert Engineering Co., Inc.
 Howell Laboratories, Inc.
 Joseph Electronics, Inc.
 KDI/Triangle Electronics, Inc.
 Kilo Tec
 Electronic Research Labs
 M/A COM
 M/A-Com, Inc., Microelectronics Div.
 Maury Microwave Corp.

Microelectronics
 Microlab/FXR
 Millitech Corp.
 Oakbury Components, Ltd.
 R.F. Technologies Corp.
 Salisbury Engineering, Inc.
 Spectrum Elektrotechnik GmbH
 Steinbrecher Corp.
 Teleplex, Inc. (Alford Div.)
 Test Equipment Corp.
 Voltronics
 Watkins-Johnson Co.
 Waveline, Inc.

RF CAD/CAE software and systems

SOFTWARE

CIRCUIT ANALYSIS/ DESIGN

ALK Engineering
 Actuality Corp.
The American Radio Relay League, Inc.
 Analog & RF Models
 Ansoft Corp.
 Avista Design Systems
 Bay Technology
 Besser Associates
 Brennan Associates
 Cadshare Resources, Inc.
 California Scientific Software
 Cedars Software
 Compact Software, Inc.
 Comtran Integrated Software, Div. of Jensen
 Transformers, Inc.
 DGS Associates
 Dajem Technology Co.
 Design Automation, Inc.
 E.E. Public Domain Library
 Eagleware Corp.
 Engineering Solutions
 The Engineers' Club
 Focus Microwaves Inc.
Geesaman Software, Inc.
 Global Specialties
 Goldman Research
 Hewlett-Packard (HP-EESOF)
 IKOS Systems, Inc.
 Ingsoft, Ltd.
 Innovation First
 Innovative Technology
 International Microcircuits, Inc. (IMI)
 Intusoft
 Kepro Circuit Systems, Inc.
 LPKF CAD/CAM Sys., Inc.
 MCH Associates
 MacNeal-Schwendler Corp.
 Made-It Associates, Inc.
 Medina Software, Inc.
 Meta-Software
 Micromath Scientific Software
 MicroSim Corp.
 Mini-Circuits
 NW Silicon Specialists, Inc.
 Nedrud Data Systems
 Phase Three Logic, Inc.
 Signature Designs
 Silvaco International
 Somersoft
 Sonnet Software, Inc.
 Spefco Software
 Thomas H. Stanford Engineering
 Tatum Labs, Inc.
 Viewlogic Systems, Inc.
 Zeland Software, Inc.

CIRCUIT OPTIMIZATION

AET Associates
 Analog & RF Models
 Avista Design Systems
 Bay Technology
 Brennan Associates
 Compact Software, Inc.
 DGS Associates
 Dajem Technology Co.
 Design Automation, Inc.
 E.E. Public Domain Library
 Eagleware Corp.
 The Engineers' Club
 Goldman Research
 Hewlett-Packard (HP-EESOF)
 Ingsoft, Ltd.
 Innovation First
 Intusoft
 MCH Associates
 MMIC Cad, Inc.
 Maury Microwave Corp.
 MicroSim Corp.
 Nedrud Data Systems
 Silvaco International
 Spefco Software
 Tatum Labs, Inc.
 Viewlogic Systems, Inc.
 Zeland Software, Inc.

EMC/TEMPEST

AEL Defense Corp.
 AET Associates
 Ansoft Corp.
 Atkinson Engineering
 CKC Laboratories, Inc. (Brea)
 CKC Laboratories, Inc. (Fremont)
 CKC Laboratories, Inc. (Hillsboro)
 CKC Laboratories, Inc. (Hollister)
 CKC Laboratories, Inc. (Mariposa)
 CKC Laboratories, Inc. (Tillamook)
 Cadshare Resources, Inc.
 Capcon, Inc.
 Dajem Technology Co.
 Douglas Integrated Software
 EMC Consulting
 EMCC Dr. Rasek
 EMF-EMI Control
 The Engineers' Club
 Hewlett-Packard (HP-EESOF)
 IBEX Group, Inc.
 Instruments For Industry, Inc.
 MacNeal-Schwendler Corp.
 Optical Coating Laboratory, Inc.
 Underwriters Laboratories, Inc.
 Wayne Kerr, Inc./Farnell
 Zeland Software, Inc.

ELECTROMAGNETIC ANALYSIS

Ansoft Corp.
 Compact Software, Inc.
 MacNeal-Schwendler Corp.
Paragon Technology, Inc.
 Zeland Software, Inc.

PC BOARD DESIGN

Amplifier Research
 Ansoft Corp.
 Bay Technology
 Berkeley Varitronics Systems, Inc.
 Dajem Technology Co.
 EMF-EMI Control
 Eagleware Corp.
 The Engineers' Club
 Hewlett-Packard (HP-EESOF)
 Ingsoft, Ltd.
 Intusoft
 Kepro Circuit Systems, Inc.
 LPKF CAD/CAM Sys., Inc.
 MicroSim Corp.
 Passive Power Products
 S.T. Research Corp.
 Southwest Circuits
 Viewlogic Systems, Inc.
 Wintek Corp.
 Zeland Software, Inc.

SYSTEM ANALYSIS/ DESIGN

Actuality Corp.
 Adaptive Technology, Inc.
 Ansoft Corp.
 Avista Design Systems
 Brian Beezley
 Cadshare Resources, Inc.
 California Scientific Software
 Compact Software, Inc.
 Dajem Technology Co.
 Davicom Technologies Inc.
 Douglas Integrated Software
 E.E. Public Domain Library
 EMF-EMI Control
 Elanix Inc.
 Engineering Solutions
 The Engineers' Club
 Exemplar
 Goldman Research
 Hewlett-Packard (HP-EESOF)
 Hyperception, Inc.
 ILC Data Device Corp.
 Ingsoft, Ltd.
 Innovation First
 Intusoft
 MacNeal-Schwendler Corp.
 Made-It Associates, Inc.
 Micromath Scientific Software

RF CAD/CAE software and systems

SOFTWARE (Cont'd)

SYSTEM ANALYSIS/ DESIGN (Cont'd)

NW Silicon Specialists, Inc.
RF Consultants, Inc.
RHS Hamtec, Ltd.
Signature Designs
Softwright
Tatum Labs, Inc.
Tesoft, Inc.
Viewlogic Systems, Inc.
Webb Laboratories

TIME DOMAIN ANALYSIS

AET Associates
Actuality Corp.
Analog & RF Models
Anritsu Wiltron
Avista Design Systems
Bay Technology
CM Technologies
California Scientific Software
Compact Software, Inc.
Dajem Technology Co.
Design Automation, Inc.
E.E. Public Domain Library
EMF-EMI Control
Elanix Inc.
Engineering Solutions
Flam & Russell, Inc.
Goldman Research
Hewlett-Packard (HP-EESOF)
Hyperception, Inc.
Ingsoft, Ltd.
Intusoft
MacNeal-Schwendler Corp.
Made-It Associates, Inc.
Micromath Scientific Software
MicroSim Corp.

NW Silicon Specialists, Inc.
Tatum Labs, Inc.
Tesoft, Inc.
Viewlogic Systems, Inc.

TRANSMISSION LINE

AET Associates
The American Radio Relay League, Inc.
Ansoft Corp.
Bay Technology
Besser Associates
Brennan Associates
Cadshare Resources, Inc.
Compact Software, Inc.
Dajem Technology Co.
Dielectric Laboratories, Inc.
E.E. Public Domain Library
Eagleware Corp.
The Engineers' Club
Geesaman Software, Inc.
Goldman Research
Hewlett-Packard (HP-EESOF)
Hyperception, Inc.
Ingsoft, Ltd.
Intusoft
MCH Associates
Made-It Associates, Inc.
MicroSim Corp.
NW Silicon Specialists, Inc.
Nedrud Data Systems
Passive Power Products
SMT Plus, Inc.
Softwright
Sonnet Software, Inc.
Viewlogic Systems, Inc.
Webb Laboratories
Zeland Software, Inc.

OTHER

Advanced Machining Techniques, Inc.
(Chassis/enclosure design)
Analog & RF Models (Spice models)

Brian Beezley (Antenna Analysis & Optimization Software)
Berson & Associates (CD ROM)
Besser Associates (Smith chart)
Crystal Oscillator Design Consultant (Crystal Osc. D&A)
Eagleware Corp. (Synthesis)
Elanix Inc. (Mixed Mode DSP Systems)
Geesaman Software, Inc. (Power/Multiplexer)
Hamilton Technical Services (Frequency stability)
Hewlett-Packard (HP-EESOF) (Electromagnetic simulation)
Hyperception, Inc. (DSP)
Lehman Chambers (Chamber model)
Linearizer Technology, Inc. (IMD analysis)
MCH Associates (Filters, couplers, passive components)
MicroSim Corp. (Signal Integrity Analysis; Analog & Digital Simulation; Programmable Logic Synthesis; Filter Synthesis)
NEOS Technologies, Inc. (File conversion & auto test)
Paragon Technology, Inc. (Antenna Design & Analysis Software)
Pike & Fischer, Inc. (FCC Rules On Disk)
Quintech Electronics & Communications Inc. (QEC) (Control)
RTG, Inc. (Cadence Mixed Signal)
Silvaco International (Semiconductor simulation & device characterization)
Softwright (RF propagation modeling software)
Sonnet Software, Inc. (Electromagnetic Analysis)
T-Tech, Inc. (Prototyping)

HARDWARE

AP Microwave
Aimsco Inc.
Power Dynamics, Inc.
Signature Designs
T-Tech, Inc.

RF materials & hardware

BATTERIES

Gould Electronics Inc. - EPS

CABINETS AND ENCLOSURES

ARS Electronics
AAVID Thermal Technology
Advanced Machining Techniques, Inc.
Aimsco Inc.
AMCO Engineering Co.
Ameritron
Brennan Associates
Bud Industries
C & K Engineering, Inc.
Cambio International
Candes Systems, Inc.
Catel Telecommunications
Compac Development Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dyma Engineering
Equipto Electronics Corp.
Fil-Coil Corp.
Global Kitting
H&H Technologies, Inc.
Joaquin Mfg. Corp.
Joseph Electronics, Inc.
Keystone Metal Products, Inc.
Kintronic Laboratories, Inc.
LMB/Heeger, Inc.

Lindgren RF Enclosures, Inc.
Magnetic Radiation Laboratories, Inc.
Malco Microdot
Microelectronics
Microelectronics, U.S.A.
Microtool, Inc.
Morrow Tech Industries, Inc.
Mouser Electronics
Optima Electronic Packaging Systems
PRA, Inc.
Pacific West Enterprises, Inc.
Parsons Mfg.
Plastic Plate, Inc.
Pneumafil Corp.
Premier Metal Products Co.
RF Prototype Systems
Reliance Comm/Tec
Rittal Corp.
SMI (NY)
Silver Cloud Manufacturing Co.
STRONGBOX
Surplus Sales of Nebraska
Swift Textile Metalizing Corp.
Talley Communications Corp.
Ultracast, Inc.
Vantage Associates, Inc.
Vector Electronic Co.
Wacom Products, Inc.
Zero Enclosures

CERAMICS

Accumet Engineering Corp.
Accurate Screw Machine Co., Inc.
Aremco Products, Inc.
Atlantic Microwave Ltd.
Brennan Associates
Brim Electronics, Inc.
The Carborundum Co.
The Carborundum Co. - Boron Nitride Div.
Centre Capacitor
Ceramic Devices, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Coors Ceramics Co.
FDK America, Inc.
Ferro ECA Electronics Co.
High Voltage Components, Inc.
JDV Products Inc.
Kyocera America, Inc.
Microelectronics
Microelectronics, U.S.A.
James Millen Electronic Mfg.
Morgan Matroc - Electro Ceramics Div.
Motorola Ceramic Products
NTK Technical Ceramics
National Magnetics Group, Inc.
Oakbury Components, Ltd.
Ohmite Mfg. Co., Inc.
Oxley, Inc.
Quartzite Processing, Inc.
Radio Materials Corp.
Remtec, Inc.

Boldface Indicates Advertiser

RF materials & hardware

Sherritt Inc.
Superconductive Components, Inc.
TDK Corp. of America
Tech-Ceram Corp.
Tokin America, Inc.
Trans-Tech, Inc., a subsidiary of Alpha Industries, Inc.

COATINGS - ENVIRONMENTAL

Ablestik Laboratories
Aremco Products, Inc.
Carroll Coatings Co., Inc.
E.I.S.
E/M Corp.
Engelhard Corp.
Enthone-OMI Inc.
Epoxy Technology Inc.
Ferro Corp.
GE Company, GE Silicones
INTA
Injectorall Electronics
Joseph Electronics, Inc.
Lusol Products
Morton International Automotive & Industrials
Finishes

COMPONENT/ HYBRID PACKAGES

AMP
American Technical Ceramics Corp.
Balo Precision Parts
Brennan Associates
Brim Electronics, Inc.
CTS Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Dawn Electronics, Inc.
Dyko Precision, Inc.
Dyma Engineering
Glasseal Products, Inc.
Grayhill, Inc.
Hybrids International, Ltd.
ILC Data Device Corp.
INTA
Iskra, Inc.
Joseph Electronics, Inc.
Kyocera America, Inc.
Lanxide Electronic Components
MTI
Micro Hybrids, Inc.
MIDISCO
Mini-Systems, Inc.
NTK Technical Ceramics
Oxley, Inc.
Platronics Seals
Power Dynamics, Inc.
Remtec, Inc.
Samsung Microwave Semiconductor
Special Hermetic Products, Inc.
United Glass to Metal Sealing Inc.

CRYSTAL BLANKS

Anderson Electronics, Inc.
Cambio International
Crystal Technology Inc.
Deltronic Crystal Industries, Inc.
P.R. Hoffman Materials Processing
International Crystal Mfg. Co., Inc. (ICM)
KVG North America, Inc.
Oak Frequency Control Group
Reeves-Hoffman
TEW North America
Valpey-Fisher Corp./Carlisle

ELECTRONIC HARDWARE

AMP
Accurate Screw Machine Co., Inc.
Aerowave Inc.
Aimsco Inc.
Bead Industries
Bi-Tronics, Inc.
Brennan Associates
Brim Electronics, Inc.
Bud Industries
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Concord Electronics Corp.
Detronics Corp.
Dyma Engineering
Environmental Technology, Inc.
Fluke Corp.
G.C. Electronics Co.
ILC Data Device Corp.
Instrument Specialties Co., Inc.
E.F. Johnson Co.
Joseph Electronics, Inc.
Kern Engr. & Mfg. Co.
Krohn-Hite Corp.
Lanxide Electronic Components
Locus, Inc.
Microtool, Inc.
MIDISCO
James Millen Electronic Mfg.
Mouser Electronics
NT-T Inc./HH Smith
Naptech
Oneida Electronic Mfg. Co., Inc.
Optima Electronic Packaging Systems
Oxley, Inc.
PRA, Inc.
Power Dynamics, Inc.
Reliance Comm/Tec
Rittal Corp.
SMI (NY)
Special Hermetic Products, Inc.
STRONGBOX
Synergetix
Tricor Flight Systems Inc. - Electronic Systems Div.
Vector Electronic Co.
Wago Corp.

EQUIPMENT RACKS

A.P.I. Testing Equipment
ARS Electronics
Accutest Instruments Inc.
Aimsco Inc.
AMCO Engineering Co.
Brennan Associates
Bud Industries
C & K Engineering, Inc.
Catel Telecommunications
Contact East
Decibel Products
Dyma Engineering
Equipto Electronics Corp.
Inmac
JDV Products Inc.
Joaquin Mfg. Corp.
Joseph Electronics, Inc.
Kintronic Laboratories, Inc.
Lanxide Electronic Components
Microelectronics
Optima Electronic Packaging Systems
Pneumafil Corp.
Premier Metal Products Co.
Reliance Comm/Tec
Rittal Corp.
SMI (NY)
Sinclair Technologies, Inc.

Surplus Sales of Nebraska
Talley Communications Corp.
Ultracast, Inc.
Vantage Associates, Inc.
Wacom Products, Inc.

FERRITES AND IRON POWDERS

Advanced Ferrite Technology, Inc.
Brennan Associates
Ceramic Magnetics, Inc.
Chomerics, a div. of Parker Hannifin Corp.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Cortec, Inc.
Cuming Corp.
Deltronic Crystal Industries, Inc.
E.I.S.
Electrical Insulation Suppliers, Inc.
Eminetics
Epson America Inc., Component Sales
FDK America, Inc.
Fair-Rite Products Corp.
Ferrishield, Inc.
Ferronics, Inc.
Intermark (USA) Inc.
Kilo Tec
Lodestone Pacific
MMG North America
Magnetics Division of Spang & Co.
Murata Electronics North America
National Magnetics Group, Inc.
Neosid (Canada) Ltd.
Novamet Specialty Products Corp.
Pacific West Enterprises, Inc.
Philips Components
Polymer Corp.
Quartzite Processing, Inc.
RF Power Systems
Resin Systems Corp.
SRC Cables, Inc.
D.M. Steward Inc.
Superconductive Components, Inc.
TDK Corp. of America
Thomson Components and Tubes Corp.
Tokin America, Inc.
Trans-Tech, Inc., a subsidiary of Alpha Industries, Inc.

HEAT SINKS

AAVID Thermal Technology
Aimsco Inc.
Brennan Associates
The Carborundum Co.
The Carborundum Co. - Boron Nitride Div.
The Carborundum Co. - Microelectronics Div.
Communication Concepts, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Coors Ceramics Co.
Digi-Key Corp.
Dyko Precision, Inc.
Electrical Insulation Suppliers, Inc.
Environmental Stress Systems, Inc.
Ferro ECA Electronics Co.
H&H Technologies, Inc.
Harris Diamond Corp. (formerly, Dubbeldee Harris Diamond)
Hexacon Electric Co.
Instrument Specialties Co., Inc.
Lanxide Electronic Components
Microtool, Inc.
Mouser Electronics
Omron Electronics, Inc.
PRA, Inc.

Accessories for rf testing

Ultra-broadband E and H field monitor • Four-channel capability. Five E-field probes available. Two standard isotropic probes cover 10 kHz to 1000 MHz or 80 MHz to 40 GHz, 1-300 V/m. Special-application probes have sensitivity down to 0.15 V/m or up to 3000 V/m. Two H-field probes provide sensitivity down to 15 mA/m from 5 to 300 MHz and down to 0.15 A/m from 300 kHz to 30 MHz respectively.

PCB emissions scanner • Identifies frequency and location of emissions (10 MHz to 1.5 GHz) on powered-up and active printed circuit boards. Expedites correction of high-emission problems using before/after comparisons. Excellent precompliance test device for computers, wireless devices, and other products whose success depends on rapid product-to-market cycles. Helps establish minimum solutions to achieve compliance, reducing product price.

Antennas • 10 kHz to 18 GHz of coverage, includes high-gain horns, log-periodic, cavity exciting, E-field generators, and broadband transmission line.

Dual directional couplers • 13 models up to 15 kW CW, 10 kHz to 18 GHz, matched to Amplifier Research amplifiers and antennas for measuring forward and reflected power.

Broadband fiberoptic data links • Modular plug-in analog systems for acquiring and measuring interference data, simulating EUT, and displaying results. dc to 1 GHz. Used extensively in automotive susceptibility testing.

Fiberoptic CCTV systems • Watch performance of EUT under hostile EMI and/or EMP shielded-room conditions. Interference-free viewing, dc to 40 GHz, up to 200 V/m. Remote-control shielded camera. Color or b&w.

TEM cells • Half again the bandwidth of comparable-size chambers: to 750 MHz for 15-cm EUT, to 375 MHz for 30-cm EUT.

Broadband low-noise preamplifier • Increases the dynamic range and sensitivity of systems with high noise figures. 10 kHz to 1 GHz, 30 dB gain (minimum), noise figure of 3.5 dB typical.

Broadband leveling and control preamplifier • For constant-field rf susceptibility testing requiring automatic power-output control; for NMR spectroscopy requiring pulsing, blanking, rf delay and pedestal output; and for other complex rf testing applications. Provides 40 db of automatic gain control from 10 kHz to 1 GHz. Accepts monitor input voltage of any polarity (positive, negative, differential).

1-800-933-8181

Call toll-free and one of our applications engineers will answer the phone.



**AMPLIFIER
RESEARCH**

160 School House Road
Souderton, PA 18964-9990 USA
TEL 215-723-8181 • FAX 215-723-5688

For engineering assistance, sales, and service throughout Europe, call
EMV: Munich, 89-612-8054; London, 01908-566556; Paris 1-64-61-63-29

RF materials & hardware

HEAT SINKS (Cont'd)

Pneumafil Corp.
Poly-Circuits, Inc. - an M-WAVE Co.
Polymer Corp.
Richardson Electronics, Ltd.
SMI (NY)
Sumitomo Electric USA
Surplus Sales of Nebraska
Tran-Tec Corp.
Ultracast, Inc.

INSULATING MATERIALS

AAVID Thermal Technology
Ablestik Laboratories
Aremco Products, Inc.
Arlon Materials for Electronics, SRS
Brim Electronics, Inc.
The Carborundum Co.
The Carborundum Co. - Boron Nitride Div.
Chomerics, a div. of Parker Hannifin Corp.
Conap, Inc.
Coors Ceramics Co.
Dynaloy, Inc.
E.I.S.
Electrical Insulation Suppliers, Inc.
Epoxy Technology Inc.
Ferro Corp.
Grace Specialty Polymers
Injectoral Electronics
Joseph Electronics, Inc.
Lusol Products
James Millen Electronic Mfg.
Mouser Electronics
M.M. Newman Corp.
Oxley, Inc.
Polymer Corp.
Quartzite Processing, Inc.
Superconductive Components, Inc.
Taconic Plastics, Ltd.
3M Electrical Specialties Div.
Vantage Associates, Inc.
The Zippertubing Co.

MANUFACTURING EQUIPMENT

Aremco Products, Inc.
Contact East
FDK America, Inc.
Hexacon Electric Co.
Joseph Electronics, Inc.
LPKF CAD/CAM Sys., Inc.
MTI
Morrow Tech Industries, Inc.
O.K. Industries, Inc.
Polaris Electronics Corp.
SMI (NY)
West Bond, Inc.

PC BOARDS

Amitron, Inc.
Atlantic Microwave Ltd.
Barry Industries Inc.
Buckbee - Mears
Bud Industries
Cerprobe Corp.
Communication Concepts, Inc.
Digi-Key Corp.
E.I.S.
Electro Com
G.C. Electronics Co.
General Services Engineering, Inc.
Goguen Industries, Inc.
Harmon Electronics, Inc.
Hokuriku USA, Ltd.
ILC Data Device Corp.
Infotag Systems Inc.

RF materials & hardware

Injectorall Electronics
Innovative Technology
Joseph Electronics, Inc.
Keithley Data Acquisition Div.
Kepro Circuit Systems, Inc.
LPKF CAD/CAM Sys., Inc.
Labtech Ltd.
Methode Electronics, Inc.
Microwave Printed Circuitry
Modular Components National, Inc. (MCN)
Mouser Electronics
PC Dynamics - an M-WAVE Co.
PRA, Inc.
Poly-Circuits, Inc. - an M-WAVE Co.
REL Labs, Inc.
RF Prototype Systems
Remtec, Inc.
Rogers Corp. (CT)
Rogers Corp. Soladyne Div.
Soladyne Div. of Rogers Corp.
Southwest Circuits
Zycon Corporation - Buried Capacitance™

SOCKETS

AMP
ARS Electronics
Arco Electronics
Bead Industries
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Concord Electronics Corp.
Digi-Key Corp.
Elastomeric Technologies, Inc.
Electro Com
G.C. Electronics Co.
Injectorall Electronics
Interconnect Devices, Inc.
Joseph Electronics, Inc.
KVG North America, Inc.
Liberty Research
Meritec
Methode Electronics, Inc.
Microtech, Inc.
MIDISCO
James Millen Electronic Mfg.
Mouser Electronics
Omron Electronics, Inc.
Oneida Electronic Mfg. Co., Inc.
Oxley, Inc.
PRA, Inc.

Penta Laboratories, Inc.
Power Dynamics, Inc.
Richardson Electronics, Ltd.
Surplus Sales of Nebraska
Svetlana Electron Devices

SUBSTRATES

Accumet Engineering Corp.
Allied Signal
AlliedSignal-Microwave Circuit Materials
American Technical Ceramics Corp.
Amitron, Inc.
Aremco Products, Inc.
Arlon
Arlon Adhesives
Atlantic Microwave Ltd.
Barry Industries Inc.
Brennan Associates
CTS Corp.
The Carborundum Co.
The Carborundum Co. - Boron Nitride Div.
The Carborundum Co. - Microelectronics Div.
Compex Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Compositech, Ltd.
Coors Ceramics Co.
Crystal Technology Inc.
Deltronic Crystal Industries, Inc.
Dielectric Laboratories, Inc.
Ferro ECA Electronics Co.
Glasteel Industrial Laminates
HD Communications
Harris Diamond Corp. (formerly, Dubbeldee Harris Diamond)
P.R. Hoffman Materials Processing
Hybrids International, Ltd.
Injectorall Electronics
International Sensor Sys., Inc.
Ion Beam Milling, Inc.
Kyocera America, Inc.
MIC Technology Corp.
Micro Hybrids, Inc.
Micro-Precision Technologies, Inc.
Microelectronics, U.S.A.
Mini-Systems, Inc.
Motorola Ceramic Products
Mouser Electronics
NTK Technical Ceramics
Norton Diamond Film

Oakbury Components, Ltd.
Ohmite Mfg. Co., Inc.
Photo Transfer Industries (PTI)
Piconics, Inc.
Plastic Plate, Inc.
Polyflon Co.
Quartzite Processing, Inc.
REL Labs, Inc.
Remtec, Inc.
Rogers Corp. (CT)
Rogers Corp. (AZ)
Sherritt Inc.
Sumitomo Electric USA
Superconductive Components, Inc.
TDK Corp. of America
Taconic Plastics, Ltd.
Tech-Ceram Corp.
Thin Film Technology
Trans-Tech, Inc., a subsidiary of Alpha Industries, Inc.

TOOLS

AMP
Atlantic Microwave Ltd.
Band-It-Idex Inc.
Bi-Tronics, Inc.
Contact East
Electrical Insulation Suppliers, Inc.
G.C. Electronics Co.
Hexacon Electric Co.
Huber + Suhner, Inc.
Inmac
JDV Products Inc.
Joseph Electronics, Inc.
LPKF CAD/CAM Sys., Inc.
M/A-Com, Inc., Interconnect Div.
Manhattan Electric Cable Corp.
Manix Mfg., Inc.
Methode Electronics, Inc.
Midwest Microwave
Mouser Electronics
M.M. Newman Corp.
O.K. Industries, Inc.
Oxley, Inc.
Penstock, Inc., An Avnet Co.
R.F. Industries
Spectrum Elektrotechnik GmbH
Trompeter Electronics
Wago Corp.

RF test equipment

AMPLIFIERS (LAB)

AIL Systems Inc.
A.P.I. Testing Equipment
Accutest Instruments Inc.
Advanced Control Components, Inc.
American Microwave Technology
Amplifier Research
Applied Systems Engineering, Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Avtech Electrosystems, Ltd.
Ballantine Laboratories, Inc.
Behlman Electronics, Inc., a subsidiary of Astrosystems
Briel & Kjaer, div. of Spectris Technologies Inc.
Carston Electronics
Tony Chapman Electronics, Ltd.
Continental Resources, Inc.
Cougar Components
Densitron Microwave Ltd.
Digimax Instruments Corp.
EM Research Engineering, Inc.
ENI - a div. of Astec America, Inc.

Electro-Metrics, Inc.
Electro Rent
Electro Rent Corp.
Elisra Electronic Systems, Ltd.
GE Capital Test Equipment Mgmt. Svcs.
HD Communications
Henry Radio, Inc.
Hewlett Packard Co. Direct Mktg. Organization
Instruments For Industry, Inc.
JCA Technology, Inc.
Kalmus Engineering, Inc.
Krohn-Hite Corp.
LCF Enterprises
Lelectronic Research Labs
Lucas Zeta
MDF Products, Inc.
Marlow Electronics Ltd.
McDonald Associates
Microwave Communications Labs
Microwave Power, Inc.
Microwave Solutions, Inc.
Mid-Atlantic RF Systems, Inc.
Millitech Corp.

Millivac Instruments, Inc.
Mini-Circuits
Naptech
National Instruments Corp.
PTEK
Pace Transducer Co., Div. of C.J. Instruments, Inc.
Pacific Amplifier Corp.
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Picosecond Pulse Labs, Inc.
Power Systems Technology
Q-Bit Corp.
RF Power Labs, Inc.
Ramsey Electronics, Inc.
Richardson Electronics, Ltd.
ST Keltec Corp.
Sci Tran Products
Silicon Valley Power Amplifiers
Soltec Corp.
Sonoma Instrument
Stanford Research Systems
Surplus Sales of Nebraska
TE Systems

RF test equipment

AMPLIFIERS (LAB) (Cont'd)

Telogy
Test Equipment Corp.
Tucker Electronics
Ultra Lasertech, Inc.
VoCom Products Co., L.L.C.
Wide Band Engineering Co., Inc.

ANTENNA MEASUREMENT SYSTEMS

A.P.I. Testing Equipment
Adaptive Technology, Inc.
Anritsu Wiltron
Antenna Research Associates, Inc.
Berkeley Varitronics Systems, Inc.
Bird Electronic Corp.
Carston Electronics
Dyma Engineering
Eagle
Electro-Metrics, Inc.
Flam & Russell, Inc.
GE Capital Test Equipment Mgmt. Svcs.
HAMEG Instruments, Inc.
Hewlett Packard Co. Direct Mktg. Organization
Instruments For Industry, Inc.
JEF Consultant, Inc.
Joseph Electronics, Inc.
Leader Instruments Corp.
Lectronic Research Labs
McDonald Associates
Millitech Corp.
Rohde and Schwarz GMBH Co.
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Tucker Electronics
Wiltron Co.

CALIBRATORS/ STANDARDS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Analogic Corp.
Atlantic Coast Instruments Inc.
Ballantine Laboratories, Inc.
A. R. Blanck
Boonton Electronics Corp.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
Calibron Instruments
Carnel Labs
Carston Electronics
Tony Chapman Electronics, Ltd.
Continental Microwave and Tool Co. Inc.
Datum/Austron
Efratom
Electro Rent
Electro Rent Corp.
Finnigan/Tremetrics, Inc.
Flann Microwave Instruments, Ltd.
Fluke Corp.
GE Capital Test Equipment Mgmt. Svcs.
Global Specialties
HAMEG Instruments, Inc.
Howell Laboratories, Inc.
Inter-Continental Microwave
J micro Technology
Joseph Electronics, Inc.
Keithley Instruments, Inc.
Lectronic Research Labs
Lucas Weinschel (see Weinschel)

Maury Microwave Corp.
Naptech
Noise Com, Inc.
Novatech Instruments
Picosecond Pulse Labs, Inc.
Racal Instruments, Inc.
Rohde and Schwarz GMBH Co.
Ross Engineering Corp.
Soltec Corp.
Spectracom Corp.
Stanford Research Systems
Sun Electronic Systems, Inc.
Tegam, Inc.
Teleplex, Inc. (Alford Div.)
Telogy
Test Equipment Corp.
Tucker Electronics
Walker Scientific
Wandel & Goltermann Inc.
Wavetek Corp. (CA)
Wavetek Ltd., Datron Div.
Weinschel, a div. of Sierra Networks Inc.
Weinschel Associates
Wenzel Associates, Inc.
XL Microwave

DUMMY LOADS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Aerowave Inc.
Airtron Corp.
Alan Industries, Inc.
Amplifier Research
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Bellsonics, Inc.
Bird Electronic Corp.
Coaxial Dynamics, Inc.
Continental Microwave and Tool Co. Inc.
Davicom Technologies Inc.
Dielectric Communications
Dyma Engineering
Eagle
Electro Impulse Laboratory, Inc.
GE Capital Test Equipment Mgmt. Svcs.
HD Communications
Henry Radio, Inc.
Huber + Suhner AG
JFW Industries, Inc.
Joseph Electronics, Inc.
KDI/Triangle Electronics, Inc.
Kintronic Laboratories, Inc.
Lectronic Research Labs
M/A-Com, Inc., Antenna and Cable Div.
Microlab/FXR
Microwave Communications Labs
Microwave Devices, Inc.
Microwave Distributors Co.
Microwave Resources, Inc.
James Millen Electronic Mfg.
Naptech
The Ohmwave Co., Inc.
Passive Power Products
Pasternack Enterprises
Penstock, Inc., An Avnet Co.
Quartzite Processing, Inc.
RE America, Inc.
RF Power Components, Inc.
R.F. Technologies Corp.
Raytheon Co., MPD
Rohde and Schwarz GMBH Co.
SMI (NY)
Sci Tran Products
Surplus Sales of Nebraska
Teleplex, Inc. (Alford Div.)
Telogy
Test Equipment Corp.
Tucker Electronics
Waveline, Inc.
Weinschel Associates
Wiltron Co.

FIELD INTENSITY METERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Amplifier Research
Atlantic Coast Instruments Inc.
Carnel Labs
Carston Electronics
Contact East
Continental Resources, Inc.
Dragnet Technologies, Inc.
Dyma Engineering
Electro-Metrics, Inc.
GE Capital Test Equipment Mgmt. Svcs.
General Microwave Corp.
Instruments For Industry, Inc.
Lectronic Research Labs
Loral Microwave - Narda
McDonald Associates
Millimeter Wave Technology
Naptech
Rohde and Schwarz GMBH Co.
Rohde & Schwarz, Inc.
Sencore, Inc.
Survey Technologies, Inc.
Telogy
Test Equipment Corp.
Tucker Electronics
Walker Scientific

FREQUENCY COUNTERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Advantest America, Inc.
Angus Electronics Co.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
B&K Precision
Calibron Instruments
Carston Electronics
Contact East
Continental Resources, Inc.
Digimax Instruments Corp.
EIP Microwave, Inc.
Electro Rent
Electro Rent Corp.
Fluke Corp.
GE Capital Test Equipment Mgmt. Svcs.
Global Specialties
Guide Technology, Inc.
HAMEG Instruments, Inc.
Helper Instruments Co.
Joseph Electronics, Inc.
Kolinker Industrial Equip., Ltd.
Leader Instruments Corp.
Lectronic Research Labs
Marconi Instruments Inc.
Mouser Electronics
Naptech
Optoelectronics, Inc.
Protek
RAG Electronics, Inc.
Racal Instruments, Inc.
Ramsey Electronics, Inc.
Rapid Systems
Rentelco Corp.
Rubytron Instruments
Sencore, Inc.
Simpson Electric Co.
Soltec Corp.
Stanford Research Systems
Surplus Sales of Nebraska
Tektronix, Inc.
Telogy
Test Equipment Corp.
Triplett Corp.
Tucker Electronics
Wayne Kerr, Inc./Farnell
XL Microwave

RF test equipment

MODULATION ANALYZERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Analogic Corp.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Boonton Electronics Corp.
Carston Electronics
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
Guide Technology, Inc.
Joseph Electronics, Inc.
Lectronic Research Labs
Marconi Instruments Inc.
Naptech
RAG Electronics, Inc.
Rohde and Schwarz GMBH Co.
Softwave
Wayne Kerr, Inc./Farnell

MODULATION METERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Boonton Electronics Corp.
Calibron Instruments
Carston Electronics
Continental Resources, Inc.
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
Helper Instruments Co.
Joseph Electronics, Inc.
Lectronic Research Labs
Marconi Instruments Inc.
Naptech
Rohde and Schwarz GMBH Co.
Telogy
Test Equipment Corp.
Tucker Electronics

NETWORK ANALYZERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Avcom of Virginia
Carston Electronics
Contact East
Continental Resources, Inc.
DC to Light
Dragnet Technologies, Inc.
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
Giga-Tronics, Power Measurements Div.
Hewlett Packard Co. Direct Mktg. Organization
Joseph Electronics, Inc.
Lectronic Research Labs
Naptech
RAG Electronics, Inc.
Rentelco Corp.
Rohde and Schwarz GMBH Co.
Scientific Atlanta
Soltec Corp.
Stanford Research Systems
Tektronix, Inc.
Teleplex, Inc. (Alford Div.)
Telogy
Test Equipment Corp.
Tucker Electronics
Wandel & Goltermann Inc.
Wiltron Co.

NOISE FIGURE METERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Brüel & Kjær, div. of Spectris Technologies Inc.
Calibron Instruments
Carston Electronics
Continental Resources, Inc.
Dura Electronic Sales
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
Hewlett Packard Co. Direct Mktg. Organization
Leader Instruments Corp.
Lectronic Research Labs
Maury Microwave Corp.
Micronetics, Inc.
Naptech
Noise Com, Inc.
RAG Electronics, Inc.
RDL, Inc.
Rentelco Corp.
S.T. Research Corp.
Telogy
Test Equipment Corp.
Tucker Electronics
Wandel & Goltermann Inc.
Wiltron Co.

NOISE GENERATORS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Atlantic Coast Instruments Inc.
Atlantic Microwave Ltd.
Avcom of Virginia
Brüel & Kjær, div. of Spectris Technologies Inc.
Calibron Instruments
Carston Electronics
Continental Resources, Inc.
Densitron Microwave Ltd.
Dura Electronic Sales
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
HAMEG Instruments, Inc.
Hyperception, Inc.
Keytek
Lectronic Research Labs
MDF Products, Inc.
Marconi Instruments Inc.
Maury Microwave Corp.
Micronetics, Inc.
Millitech Corp.
Naptech
New Wave Instruments
Noise Com, Inc.
Rentelco Corp.
Rohde and Schwarz GMBH Co.
Schaffner EMC, Inc.
Stanford Research Systems
Telogy
Test Equipment Corp.
Tucker Electronics
Wandel & Goltermann Inc.
Waveline, Inc.

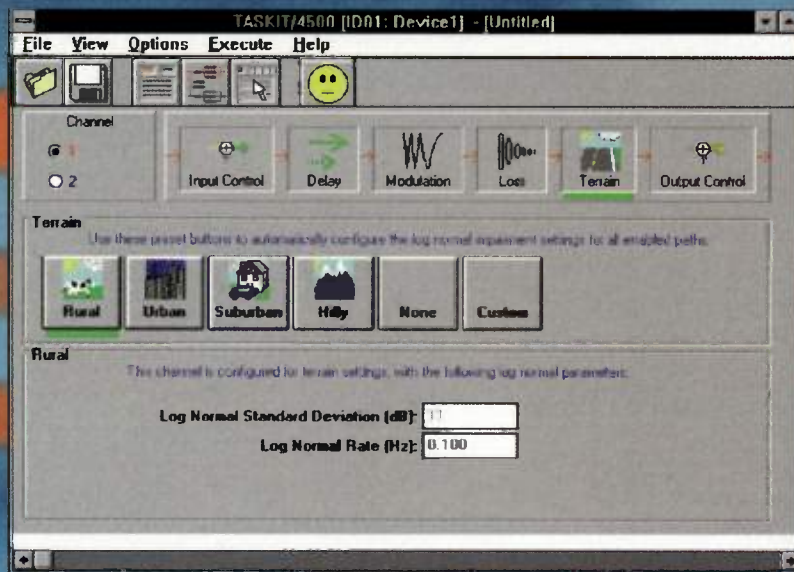
OSCILLOSCOPES

A.P.I. Testing Equipment
Accutest Instruments Inc.
Analogic Corp.
Atlantic Coast Instruments Inc.

B&K Precision
Calibron Instruments
Carston Electronics
Contact East
Continental Resources, Inc.
Electro Rent
Electro Rent Corp.
Fluke Corp.
GE Capital Test Equipment Mgmt. Svcs.
Global Specialties
Guide Technology, Inc.
HAMEG Instruments, Inc.
Hyperception, Inc.
Iwatsu America, Inc.
Joseph Electronics, Inc.
Leader Instruments Corp.
LeCroy Corp.
Lectronic Research Labs
Marconi Instruments Inc.
James Millen Electronic Mfg.
Motorola (AZ)
Mouser Electronics
Naptech
PC Instruments Inc.
Protek
RAG Electronics, Inc.
Rapid Systems
Rentelco Corp.
Rubytron Instruments
Sencore, Inc.
Soltec Corp.
Surplus Sales of Nebraska
Tektronix, Inc.
Telogy
Test Equipment Corp.
Tucker Electronics

POWER METERS

AIL Systems Inc.
A.P.I. Testing Equipment
Accutest Instruments Inc.
Angus Electronics Co.
Anritsu Wiltron
Antenna Research Associates, Inc.
Atlantic Coast Instruments Inc.
Berkeley Varitronics Systems, Inc.
Bird Electronic Corp.
Boonton Electronics Corp.
Calibron Instruments
Carston Electronics
Tony Chapman Electronics, Ltd.
Coaxial Dynamics, Inc.
Contact East
Continental Resources, Inc.
Dragnet Technologies, Inc.
Electro Rent
Electro Rent Corp.
Fluke Corp.
Fotec, Inc.
GE Capital Test Equipment Mgmt. Svcs.
General Microwave Corp.
Giga-Tronics, Inc.
Giga-Tronics, Power Measurements Div.
Helper Instruments Co.
Henry Radio, Inc.
ITM Systems, Inc.
IBEX Group, Inc.
Joseph Electronics, Inc.
Leader Instruments Corp.
Lectronic Research Labs
Loral Microwave - Narda
Lucas Weinschel (see Weinschel)
Marconi Instruments Inc.
McDonald Associates
Microwave Devices, Inc.
Mid-Atlantic RF Systems, Inc.
Millitech Corp.
Millivac Instruments, Inc.



TASKIT® 4500 FOR WINDOWS



RF FADING MADE EASY



TAS 4500 FLEX™ is the powerful, modular solution for testing wireless communications equipment.

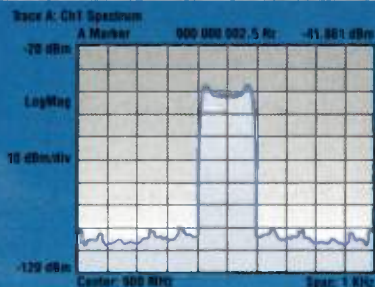
TAS 4500 FLEX provides controllable, repeatable, and accurate emulation of RF multipath effects, so you can examine wireless product performance under realistic propagation conditions. TAS 4500 FLEX gives you the power to:

- ☐ Thoroughly test wireless equipment
- ☐ Comply with industry standards and requirements
- ☐ Reduce time-to-market
- ☐ Improve product quality
- ☐ Avoid costly design flaws

TAS 4500 FLEX is the most flexible, most modular RF channel emulator you can buy, yet its features are contained in one compact, integrated unit. 4500 FLEX gives you the critical mix of features required to ensure success in your wireless testing application, including:

- ☐ **Active Terrain Emulation™** — automatically models the propagation effects of virtually any terrain, including urban, suburban, and rural.

- ☐ **Widest Dynamic Range** — provides the best signal processing performance, even at the lowest signal levels.
- ☐ **True Modular Architecture** — ensures cost-effective testing for years to come.
- ☐ **Fully Automatic DCE Testing** — TAS 4500 FLEX works with other TAS instruments and software to provide the first integrated, automatic solution for testing wireless data communications equipment.



WIDE DYNAMIC RANGE

If you need to test cellular/PCS phones, wireless modems, base station radios, wireless LANs, pagers, or other wireless communications equipment, get the solution that gives you a powerful testing advantage — get TAS 4500 FLEX.



Telecom Analysis Systems, Inc.

34 Industrial Way East
Eatontown, NJ 07724-3319
Phone: (908) 544-8700
FAX: (908) 544-8347

Australia 61-3-419-9999
Canada 905-890-2010
Denmark 4575-643366
Finland 358-0-7557711
France 33-1-395-68131
Germany 49-89-6122912
Hong Kong 852-27640079
Israel 972-3-6450745
Japan 81-3-5688-6800
Korea 82-2-654-6221
New Zealand 64-9-3092464
Singapore 65-7433318
Spain 34-1-383-9017
Switzerland 41-1-810-3022
Taiwan 886-2-917-6476
United Kingdom 441-296-397711

INFO/CARD 27

RF test equipment

POWER METERS (Cont'd)

Motorola (AZ)
 Naptech
 PC Instruments Inc.
 RAG Electronics, Inc.
 Racal Instruments, Inc.
 Raytheon Co., MPTD
 Rentelco Corp.
 Rohde and Schwarz GMBH Co.
 Rubytron Instruments
 Scientific Atlanta
 Signalcrafters, Inc.
 Soltec Corp.
 A.W. Sperry Instruments, Inc.
 Surplus Sales of Nebraska
 Tegam, Inc.
 Tektronix, Inc.
 Telogy
 Test Equipment Corp.
 Tucker Electronics
 Ultra Lasertech, Inc.
 Wandel & Goltermann Inc.
Weinschel, a div. of Sierra Networks Inc.

PROBES

A.P.I. Testing Equipment
 Accutest Instruments Inc.
Amplifier Research
 Avtech Electrosystems, Ltd.
 B&K Precision
 Ballantine Laboratories, Inc.
 Berkeley Varitronics Systems, Inc.
 Calibron Instruments
 Cambridge AccuSense, Inc.
 Cascade Microtech, Inc.
 Cerprobe Corp.
 Contact East
 Continental Resources, Inc.
 Dranetz Technologies, Inc.
 EMCO
 Electro-Metrics, Inc.
 Electro Rent
 Electro Rent Corp.
 Fischer Custom Communications, Inc.
 Fluke Corp.
 GE Capital Test Equipment Mgmt. Svcs.
 Global Specialties
 HAMEG Instruments, Inc.
 ITT Pomona Electronics
 Instruments For Industry, Inc.
 Inter-Continental Microwave
 Inter-Logic Systems Co., Inc.
 Interconnect Devices, Inc.
 J micro Technology
 Joseph Electronics, Inc.
 Joslyn Jennings Corp.
 Keytek
 Leader Instruments Corp.
 Lectronic Research Labs
 Luxtron
 McDonald Associates
 Motorola (AZ)
 Mouser Electronics
 Naptech
 Passive Power Products
 Photo Transfer Industries (PTI)
 Protek
 Ramsey Electronics, Inc.
 Rohde and Schwarz GMBH Co.
 Ross Engineering Corp.
 Rubytron Instruments
 Simpson Electric Co.
 A.W. Sperry Instruments, Inc.
 Surplus Sales of Nebraska
 T&M Research Products, Inc.
 Tegam, Inc.
 Tektronix, Inc.

Teleplex, Inc. (Alford Div.)
 Telogy
 Test Equipment Corp.
 Test Probes, Inc.
 Triplett Corp.
 Tucker Electronics
 Walker Scientific
 Wentworth Laboratories, Inc.

PROPAGATION/PATH SIMULATORS

GE Capital Test Equipment Mgmt. Svcs.
 Noise Com, Inc.
 Signatron Technology Corp.
 Sofimation c/o AxTrade Inc.
 Survey Technologies, Inc.
Telecom Analysis Systems, Inc.

PULSE GENERATORS

A.P.I. Testing Equipment
 Accutest Instruments Inc.
 Analogic Corp.
 Atlantic Coast Instruments Inc.
 Avtech Electrosystems, Ltd.
 B&K Precision
 Barth Electronics, Inc.
 Berkeley Nucleonics Corp.
 Bruel & Kjaer, div. of Spectris Technologies Inc.
 Carston Electronics
 Contact East
 Continental Resources, Inc.
 Directed Energy, Inc. (DEI)
 EIP Microwave, Inc.
 Electro Rent
 Electro Rent Corp.
 Fischer Custom Communications, Inc.
 Fluke Corp.
 GE Capital Test Equipment Mgmt. Svcs.
 Global Specialties
 HAMEG Instruments, Inc.
 Hyperception, Inc.
 Instrument Research Co.
 Joseph Electronics, Inc.
 Keytek
 Krohn-Hite Corp.
 Leader Instruments Corp.
 LeCroy Corp.
 Lectronic Research Labs
 Lucas Epsco, Inc.
 Marconi Instruments Inc.
 Marlow Electronics Ltd.
 McDonald Associates
 Millitech Corp.
 Naptech
 PC Instruments Inc.
 Picosecond Pulse Labs, Inc.
 Protek
 RAG Electronics, Inc.
 Rapid Systems
 Rentelco Corp.
 S.T. Research Corp.
 Schaffner EMC, Inc.
 Sci Tran Products
 Scientific Atlanta
 Soltec Corp.
 Stanford Research Systems
 Tektronix, Inc.
 Telogy
 Test Equipment Corp.
 Tucker Electronics
 Wavetek Corp. (CA)

RLC/IMPEDANCE BRIDGES

A.P.I. Testing Equipment
 Accutest Instruments Inc.
 Anritsu Wiltron
 Atlantic Coast Instruments Inc.
 Boonton Electronics Corp.
 Carston Electronics
 Continental Resources, Inc.
 DC to Light
 Eagle
 Electro Rent
 Electro Rent Corp.
 GE Capital Test Equipment Mgmt. Svcs.
 HAMEG Instruments, Inc.
 Joseph Electronics, Inc.
 Keithley Instruments, Inc.
 Leader Instruments Corp.
 Lectronic Research Labs
 Naptech
 Palomar Engineers
 RAG Electronics, Inc.
 Rentelco Corp.
 Rohde and Schwarz GMBH Co.
 Sencore, Inc.
 Stanford Research Systems
 TBE Electronics
 Telogy
 Test Equipment Corp.
 Tucker Electronics
 Wandel & Goltermann Inc.
 Wayne Kerr, Inc./Farnell
 Wide Band Engineering Co., Inc.
 Wiltron Co.

SIGNAL LEVEL METERS

A.P.I. Testing Equipment
 Accutest Instruments Inc.
Amplifier Research
 Anritsu Wiltron
 Atlantic Coast Instruments Inc.
 Ballantine Laboratories, Inc.
 Bruel & Kjaer, div. of Spectris Technologies Inc.
 Camel Labs
 Carston Electronics
 Continental Resources, Inc.
 Electro Rent
 Electro Rent Corp.
 GE Capital Test Equipment Mgmt. Svcs.
 Hewlett Packard Co. Direct Mktg. Organization
 Joseph Electronics, Inc.
 Keithley Instruments, Inc.
 Leader Instruments Corp.
 Lectronic Research Labs
 Naptech
 Racal Instruments, Inc.
 Rentelco Corp.
 Rohde and Schwarz GMBH Co.
 Rohde & Schwarz, Inc.
 Sencore, Inc.
 Simpson Electric Co.
 Soltec Corp.
 Tektronix, Inc.
 Telogy
 Test Equipment Corp.
 Tucker Electronics
 Wandel & Goltermann Inc.
 Wavetek Corp. (IN)
 Wavetek Corp. (CA)

Boldface Indicates Advertiser.

ALL THE TEST & MEASUREMENT SOLUTIONS YOU'LL EVER NEED.

**DC-18 GHz Extremely Durable
Test Cables With Field
Replaceable Interfaces**



**Low insertion loss. (2 each TNC,
SMA, N Plugs & 7mm)**

Part Number	Description	Cable Size	Qty. 1-4
1999-0024	Inc. kit #9613-0001	24"	\$1,106.00
1999-0036	Inc. kit #9613-0001	36"	\$1,119.00
1999-0048	Inc. kit #9613-0001	48"	\$1,232.00



**Type N Fixed
Coaxial
Attenuators**

For The Test Bench Plug-To-Jack

Part Number	Attenuation	Frequency	ANY dB
3082-6191-03	3dB	DC-18 GHz	VALUE
3082-6192-06	6dB	DC-18 GHz	\$75.00
3082-6193-10	10dB	DC-18 GHz	(QTY. 1-4)
3082-6194-20	20dB	DC-18 GHz	



**New Low Cost
Fixed Coaxial
Attenuators
SMA Plug-To-Jack**

Part Number	Attenuation	Frequency	ANY dB
2082-6343-03	3dB	DC-4 GHz	VALUE
2082-6343-06	6dB	DC-4 GHz	\$20.10
2082-6343-10	10dB	DC-4 GHz	(QTY. 25-49)
2082-6343-20	20dB	DC-4 GHz	



Terminations For Test Bench/Lab

Part Number	Description	Power	Qty. 1-4
2001-6113-00	SMA Plug	0.5 watt	\$18.10
2002-6113-00	SMA Jack	0.5 watt	\$19.00
7000-6100-00	7mm	2.0 watt	\$98.00
3001-6113-00	N Plug	2.0 watt	\$47.90
3002-6113-00	N Jack	2.0 watt	\$54.10



**SMA Fixed
Coaxial
Attenuators
For The Lab
Plug-To-Jack**

Part Number	Attenuation	Frequency	ANY dB
2082-6191-03	3dB	DC-18 GHz	VALUE
2082-6192-06	6dB	DC-18 GHz	\$47.47
2082-6193-10	10dB	DC-18 GHz	(QTY. 10-24)
2082-6194-20	20dB	DC-18 GHz	

Precision Adapters For The Lab. Excellent Stainless Steel Quality



Description	Part Number	Frequency	Qty. 1-9
7mm to SMA Jack	2082-2700-00	DC-18 GHz	\$81.08
7mm to SMA Plug	2081-2700-00	DC-18 GHz	\$81.08
7mm to Type N Jack	7082-2300-00	DC-18 GHz	\$95.10
7mm to Type N Plug	7081-2301-00	DC-18 GHz	\$94.21

Between Series Adapters For The Lab

**In Series
Adapters For
Production/
Bench/Lab.
Highest Quality
Stainless Steel**



Description	Part Number	Frequency	Qty. 1-9	Qty. 10-24
Type N Plug to SMA Jack	3082-2240-00	DC-18 GHz	\$46.80	\$41.18
Type N Jack to SMA Plug	3082-2241-00	DC-18 GHz	\$46.87	\$41.24
SMA Jack to OSP Plug	4582-2240-02	DC-18 GHz	\$24.80	\$21.82
BNC Jack to SMA Jack	3280-2240-00	DC-4 GHz	\$24.25	\$21.34
BNC Jack to SMA Plug	3282-2241-00	DC-4 GHz	\$25.97	\$22.85
Type N Plug to SMA Plug	3081-2241-00	DC-18 GHz	\$46.85	\$41.22



Description	Part Number	Frequency	Qty. 1-9	Qty. 10-24
SMA Jack to Jack	2080-5055-02	DC-18 GHz	\$16.98	\$15.45
SMA Plug to Plug	2081-0000-02	DC-18 GHz	\$15.44	\$14.05
SMA Plug to Jack	2082-5133-02	DC-18 GHz	\$17.98	\$16.36
SMA Quick Release/Test	2082-2249-02	DC-18 GHz	\$84.66	\$77.04

In Series Adapters For Production/Bench/Lab

Description	Part Number	Frequency	Qty. 1-9	Qty. 10-24
BNC Jack to Jack	B35P34J999X99	DC-4 GHz	\$4.60	\$3.97
Type N Jack to Jack	N15P12H999X99	DC-4 GHz	\$5.50	\$5.00

**THESE M/A-COM
PRODUCTS AND 10,000
OTHERS IN STOCK AND
READY FOR
IMMEDIATE
DELIVERY.**



PENSTOCK

Penstock is an Avnet Company

CALL 1-800-PENSTOCK

(1-800-736-7862)

In northern California, contact us at 1-408-730-0300.
And in Canada, call 1-613-592-6088.

**CALL NOW FOR
MORE TEST &
MEASUREMENT
INFORMATION**

RF test equipment

SIGNAL/ SWEEP GENERATORS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Advanced Communications Systems, Inc.
Advantest America, Inc.
Analogic Corp.
Anritsu Wiltron
April Instrument
Atlantic Coast Instruments Inc.
Avcom of Virginia
B&K Precision
Bellsonics, Inc.
Boonton Electronics Corp.
Bruehl & Kjaer, div. of Spectris Technologies Inc.
Calibron Instruments
Camel Labs
Carston Electronics
Tony Chapman Electronics, Ltd.
Comsat RSI - Anghel Laboratories
Contact East
Continental Resources, Inc.
DKD Instruments
Dorado International Corp.
Dynamic Sciences, Inc.
EIP Microwave, Inc.
Electro Rent
Electro Rent Corp.
Fluke Corp.
GE Capital Test Equipment Mgmt. Svcs.
Giga-Tronics, Inc.
Giga-Tronics, Power Measurements Div.
Global Specialties
HAMEG Instruments, Inc.
Hewlett Packard Co. Direct Mktg. Organization
Hyperception, Inc.
IFR Systems, Inc.
Joseph Electronics, Inc.
Keithley Instruments, Inc.
Krohn-Hite Corp.
Leader Instruments Corp.
LeCroy Corp.
Lectronic Research Labs
Marconi Instruments Inc.
Micro-Now Instrument Co. Inc.
Microdyne Corp.
Millitech Corp.
Motorola (AZ)
Mouser Electronics
Naptech
Novatech Instruments
PC Instruments Inc.
Programmed Test Sources, Inc.
Protek
RAG Electronics, Inc.
RE America, Inc.
Ramsey Electronics, Inc.
Rapid Systems
Rentelco Corp.
Rohde and Schwarz GMBH Co.
Rohde & Schwarz, Inc.
Schaffner EMC, Inc.
Scientific Atlanta
Signalcrafters, Inc.
Soltec Corp.
Stanford Research Systems
Tektronix, Inc.
Telogy
Testatronics, Inc.
Test Equipment Corp.
Tucker Electronics
Walker Scientific
Wandel & Goltermann Inc.
Wavetek Corp. (IN)
Wavetek Corp. (CA)
Wayne Kerr, Inc./Farnell
Wiltron Co.

SPECTRUM ANALYZERS

A&A Engineering
A.P.I. Testing Equipment
Accutest Instruments Inc.
Advantage Instruments Corp.
Advantest America, Inc.
Analogic Corp.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Avcom of Virginia
B&K Precision
Ballantine Laboratories, Inc.
Bellsonics, Inc.
Bruehl & Kjaer, div. of Spectris Technologies Inc.
Carston Electronics
Contact East
Continental Resources, Inc.
DC to Light
DKD Instruments
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
HAMEG Instruments, Inc.
Hewlett Packard Co. Direct Mktg. Organization
Hyperception, Inc.
IFR Systems, Inc.
Joseph Electronics, Inc.
Key Elemetrics Corp.
LNR Communications, Inc.
Lectronic Research Labs
Marconi Instruments Inc.
McDonald Associates
Morrow Technologies Corp.
Motorola (AZ)
Naptech
National Instruments Corp.
Protek
RAG Electronics, Inc.
RDL, Inc.
Rapid Systems
Rentelco Corp.
Rohde and Schwarz GMBH Co.
Rohde & Schwarz, Inc.
Scientific Atlanta
Soltec Corp.
Stanford Research Systems
Tektronix, Inc.
Telogy
Test Equipment Corp.
Tucker Electronics
Wandel & Goltermann Inc.
Wavetek Corp. (IN)
Wayne Kerr, Inc./Farnell
Zonic A&D Co.

SWR ANALYZERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Anritsu Wiltron
Atlantic Coast Instruments Inc.
Bird Electronic Corp.
Carston Electronics
Continental Resources, Inc.
Decibel Products
Eagle
Electro Rent
GE Capital Test Equipment Mgmt. Svcs.
Giga-Tronics, Inc.
Helper Instruments Co.
Henry Radio, Inc.
Joseph Electronics, Inc.
Lectronic Research Labs
Naptech
Palomar Engineers
Rentelco Corp.
Rohde and Schwarz GMBH Co.
Signalcrafters, Inc.

Teleplex, Inc. (Alford Div.)
Telogy
Test Equipment Corp.
Tucker Electronics
Wiltron Co.

TEST FIXTURES

A.P.I. Testing Equipment
Anritsu Wiltron
Carston Electronics
Cascade Microtech, Inc.
Cerprobe Corp.
Coilcraft
Design Technique International
Elastomeric Technologies, Inc.
GE Capital Test Equipment Mgmt. Svcs.
Howell Laboratories, Inc.
Inter-Continental Microwave
Inter-Logic Systems Co., Inc.
J micro Technology
Keithley Instruments, Inc.
Lectronic Research Labs
Liberty Research
Maury Microwave Corp.
Motorola (AZ)
PRA, Inc.
Penstock, Inc., An Avnet Co.
Photo Transfer Industries (PTI)
Rohde and Schwarz GMBH Co.
Scientific Atlanta
Sun Electronic Systems, Inc.
T/MAC, Inc.
Teleplex, Inc. (Alford Div.)
Test Equipment Corp.
Tucker Electronics
Wentworth Laboratories, Inc.
Wiltron Co.

WAVE / DISTORTION ANALYZERS

A.P.I. Testing Equipment
Accutest Instruments Inc.
Analogic Corp.
Atlantic Coast Instruments Inc.
Boonton Electronics Corp.
Carston Electronics
Continental Resources, Inc.
Dranetz Technologies, Inc.
Electro Rent
Electro Rent Corp.
GE Capital Test Equipment Mgmt. Svcs.
Global Specialties
HAMEG Instruments, Inc.
Hyperception, Inc.
Joseph Electronics, Inc.
Krohn-Hite Corp.
Lectronic Research Labs
Motorola (AZ)
Naptech
RAG Electronics, Inc.
RE America, Inc.
Rapid Systems
Rentelco Corp.
TBE Electronics
Telogy
Test Equipment Corp.
Tucker Electronics

Boldface Indicates Advertiser.

ANTENNA MEASUREMENT

AEL Defense Corp.
A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Adaptive Technology, Inc.
Airtron Corp.
Andrew Corp.
Antenna Design Specialists
Antenna Research Associates, Inc.
Astron Corp.
CKC Laboratories, Inc. (Mariposa)
Condor Systems
Cubic Defense, Inc.
Decibel Products
Deskin Research Group, Inc.
Dielectric Communications
Dyma Engineering
Dynetics, Inc.
EMC Consulting
EMCC Dr. Rasek
Eagle
Electro-Metrics, Inc.
Flam & Russell, Inc.
Flann Microwave Instruments, Ltd.
Gabriel Electronics Inc.
Global Certification Labs
HRB Systems
Hazeltime Corp.
Huber + Suhner AG
Inchcape Testing Svcs./Dash, Straus & Goodhue
JEF Consultant, Inc.
Lucas Epsco, Inc.
Micro Communications, Inc.
Millitech Corp.
Radiometrics Midwest Corp.
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Scientific Atlanta
Syndetix, Inc.
Technical Systems Associates, Inc.
Telemetry Technologies, Inc.
Teleplex, Inc. (Alford Div.)
Vantage Associates, Inc.
Wave Technology

CIRCUIT ASSEMBLY

AEL Defense Corp.
Alden Scientific Corp.
Alpha Industries, Inc.
CTS Corp. - Frequency Controls Div.
Cardinal Control Co., Inc.
Corry Micronics, Inc.
Dynetics, Inc.
Elgin Electronics
Eminetics
Frequency Products, Inc.
Fujitsu Microelectronics, Semiconductor Div.
General Services Engineering, Inc.
Goguen Industries, Inc.
Group J Inc.
HRB Systems
Hybrid-Tek, Inc.
Hybrids International, Ltd.
HYTEK Microsystems, Inc.
Injectorall Electronics
International Sensor Sys., Inc.
JPS Communications, Inc.
Kolinker Industrial Equip., Ltd.
Matrix Corp.
Micro Hybrids, Inc.
Micro-Precision Technologies, Inc.
Microwave Devices, Inc.
Midland Technologies
Millitech Corp.
Modular Components National, Inc. (MCN)
National Communications Electronics, Inc.

Nolan Laboratories Inc.
Norcomm Corp.
PMI Technologies
PRA, Inc.
Pan Datacomm, Inc.
Poly-Circuits, Inc. - an M-WAVE Co.
Polyflon Co.
RCD Components, Inc.
REL Labs, Inc.
RF Power Systems
Richardson Electronics, Ltd.
Rubytron Instruments
Shason Microwave Corp.
Signal Switch Co.
Spectrum Control, Inc.
T/MAC, Inc.
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)
Vantage Associates, Inc.
Wave Technology

CONSULTANTS

AET Associates
ALK Engineering
ATCI
Adaptive Technology, Inc.
Advanced Electromagnetics, Inc.
Advanced Microsolutions
Aerospace Consulting
Analog & RF Models
Analog Solutions
Antenna Design Specialists
Apex Systems, Inc.
Applied Spectrum Research
Aptron Laboratories, Inc.
Atkinson Engineering
Berson & Associates
Besser Associates
A. R. Blanck
The Boxleitner Group
BREI & Associates, Inc. (Engineer Recruitment)
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
Carnel Labs
Com Dev
Communication Certification Laboratory
Compass Communications, Inc.
Control Concepts Corp.
Crystal Oscillator Design Consultant
DKD Instruments
D.L.S. Electronic Systems, Inc.
Dajem Technology Co.
Davicom Technologies Inc.
Dawn Electronics, Inc.
Design Automation, Inc.
Design & Evaluation, Inc.
Deskin Research Group, Inc.
Detroit Testing Laboratory, Inc.
Dyma Engineering
E.I.S.
EMC Consulting
EMC Services Inc.
EMCC Dr. Rasek
EMCI
EMF-EMI Control
ERA Technology Ltd.
Eagle Magnetic Co., Inc.
Flam & Russell, Inc.
Fox Electronics
Peter Froehlich & Co. (Executive Search)
Frost & Sullivan
GE Capital Test Equipment Mgmt. Svcs.
Gallagher & Associates (Engineer Recruitment)

Geesaman Software, Inc.
General Services Engineering, Inc.
Giltron, Inc.
Global Certification Labs
Goldman Research
Green Mountain Radio Research Co.
Group J Inc.
HRB Systems
A. J. Hoehn/ETA Engineers
INTA
Inchcape Testing Services
Ingsoft, Ltd.
Innovation First
Instrument Specialties Co., Inc.
Integrated Component Systems, Inc.
International Compliance Corp. (Argyle)
International Compliance Corp. (Austin)
JPS Communications, Inc.
Kajfetz Consulting
Kolinker Industrial Equip., Ltd.
L.C.R. Electronics, Inc.
Lehman Chambers
Liberty Research
Linearizer Technology, Inc.
Locus, Inc.
Lunar Industries, Inc.
MCH Associates
Management Recruiters of Boulder, Inc.
Maxwell Laboratories, Inc.
Medina Software, Inc.
Micro Communications, Inc.
Micron Communications, Inc.
Millimeter Wave Technology
NW Silicon Specialists, Inc.
Nolan Laboratories Inc.
Norcomm Corp.
Nova Engineering, Inc.
Nova RF Systems, Inc.
Omnipoint Corp.
Orion Alpha Corp.
PRA, Inc.
Pan Datacomm, Inc.
Passive Power Products
Pesa-Micro Communications, Inc.
Photo Transfer Industries (PTI)
PolyPhaser Corp.
Presco, Inc.
R&B Enterprises
RF Consultants, Inc.
RFI Corp.
RF Power Systems
RTG, Inc.
Radiation Sciences, Inc.
Radiometrics Midwest Corp.
Reliance Comm/Tec
Research Assoc. of Syracuse
Richardson Electronics, Ltd.
Rock Hill Interference Lab
Rubytron Instruments
SMT Plus, Inc.
Sanders Co., a Co. of Lockheed Martin
Sci Tran Products
Science & Engineering Consultants, Inc.
Scientific Hardware Systems
The Shedd Group
Signatron Technology Corp.
Signature Designs
Somersoft
Spectrum Control, Inc.
Thomas H. Stanford Engineering
Synetcom Digital, Inc.
TRL Technologies
TUV Product Service (CA)
TUV Product Service (MN)
TUV Product Service (MA)
TUV Product Service (CO)
TUV Rheinland of North America, Inc.
Tactical Electronics Corp.
Talbot Technology Corp. (T-Tech)

RF services

CONSULTANTS (Cont'd)

Technology Futures, Inc.
Telemetry Technologies, Inc.
Teleplex, Inc. (Alford Div.)
Timco Engineering, Inc.
Underwriters Laboratories, Inc.
Viewlogic Systems, Inc.
Wave Technology

CUSTOM HYBRIDS

Alden Scientific Corp.
BI Technologies Corp.
C&S Hybrid, Inc.
CTS Corp.
CTS Corp. - Frequency Controls Div.
Calnet Electronics, Inc.
Dawn Electronics, Inc.
Dielectric Communications
Dyko Precision, Inc.
Engelhard Corp.
Ferro ECA Electronics Co.
Flexco Microwave, Inc.
Fox Electronics
Fujitsu Microelectronics, Semiconductor Div.
GEC-Marconi Materials Technology, Ltd.
Hybrid-Tek, Inc.
Hybrids International, Ltd.
Hytek Microsystems, Inc.
ILC Data Device Corp.
International Sensor Sys., Inc.
Ion Beam Milling, Inc.
Iskra, Inc.
M.S. Kennedy Corp.
MIC Technology Corp.
MIC Technology Corp. Microwave Circuit Div.
M-Tron Industries, Inc.
Methode Electronics, Inc.
Micro Hybrids, Inc.
Micro Networks Co.
Micro-Precision Technologies, Inc.
Micron Communications, Inc.
Millitech Corp.
Mini-Circuits
NW Silicon Specialists, Inc.
Natel Engineering Co., Inc.
Oakbury Components, Ltd.
Orion Alpha Corp.
Pacific Monolithics
Passive Power Products
Penstock, Inc., An Avnet Co.
Photo Transfer Industries (PTI)
Poly-Circuits, Inc. - an M-WAVE Co.
Q-Bit Corp.
RCD Components, Inc.
REL Labs, Inc.
RF Monolithics, Inc. (RFM)
R.F. Technologies Corp.
RTG, Inc.
Raytheon Electronics, Advanced Device Cen.
Remtec, Inc.
Richardson Electronics, Ltd.
Sage Laboratories, Inc.
Sheritt Inc.
Sipex
Spectrum Control, Inc.
Statek Corp.
Talbot Technology Corp. (T-Tech)
Teledyne Electronic Technologies (Mountain View)
Teledyne Electronic Technologies (Los Angeles)

EMC TESTING

AEL Defense Corp.
AIL Systems Inc.
Advanced Electromagnetics, Inc.
Antenna Research Associates, Inc.
Berkeley Varitronics Systems, Inc.
A. R. Blanck

Burle Industries, Inc. - Tube Products Div.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
Camel Labs
Chomerics, a div. of Parker Hannifin Corp.
Communication Certification Laboratory
D.L.S. Electronic Systems, Inc.
Detroit Testing Laboratory, Inc.
E.I.S.
E/M Corp.
EMC Consulting
EMC Services Inc.
EMCC Dr. Rasek
EMCI
EMF-EMI Control
ERA Technology Ltd.
Eagle Magnetic Co., Inc.
Fischer Custom Communications, Inc.
Global Certification Labs
HRB Systems
Inchcape Testing Services
Inchcape Testing Svcs./Dash, Straus & Goodhue
Instrument Specialties Co., Inc.
International Compliance Corp. (Austin)
International Compliance Corp. (Argyle)
JMK, Inc.
L.C.R. Electronics, Inc.
Lehman Chambers
Lindgren RF Enclosures, Inc.
McDonald Associates
Nolan Laboratories Inc.
Norand Corp. EMC Test Lab
R&B Enterprises
RF Consultants, Inc.
RFI Corp.
Radiation Sciences, Inc.
Radiometrics Midwest Corp.
Rock Hill Interference Lab
Sanders Co., a Co. of Lockheed Martin
Schaffner EMC, Inc.
Scientific Hardware Systems
Smith Electronics, Inc.
Spectrum Control, Inc.
Syndetix, Inc.
TDK Corp. of America
TUV Product Service (CO)
TUV Product Service (MA)
TUV Product Service (MN)
TUV Product Service (CA)
TUV Rheinland of North America, Inc.
Tektronix, Inc.
Timco Engineering, Inc.
Token America, Inc.
Underwriters Laboratories, Inc.

EQUIPMENT CALIBRATION

AEL Defense Corp.
A.P.I. Testing Equipment
Accutest Instruments Inc.
Anritsu Wiltron
Ballantine Laboratories, Inc.
C.J. Enterprises
CKC Laboratories, Inc. (Mariposa)
Camel Labs
Continental Resources, Inc.
EIP Microwave, Inc.
EMCC Dr. Rasek
EMCO
Finnigan/Tremetrics, Inc.
GE Capital Test Equipment Mgmt. Svcs.
Global Certification Labs
Global Specialties
HRB Systems
HAMEG Instruments, Inc.

Inchcape Testing Svcs./Dash, Straus & Goodhue
Keithley Instruments, Inc.
Lectronic Research Labs
Loral Microwave - Narda
Noise Com, Inc.
PRA, Inc.
Pace Transducer Co., Div. of C.J. Instruments, Inc.
Radiometrics Midwest Corp.
Rohde and Schwarz GMBH Co.
Rubytron Instruments
Schaffner EMC, Inc.
Scientific Atlanta
Telemetry Technologies, Inc.
Teleplex, Inc. (Alford Div.)
3M Electrical Specialties Div.
Tucker Electronics
Walker Scientific
Wandel & Goltermann Inc.

INSTRUMENT RENTAL/ LEASING

A.H. Systems, Inc.
A.P.I. Testing Equipment
Accutest Instruments Inc.
Atlantic Coast Instruments Inc.
Ballantine Laboratories, Inc.
C.J. Enterprises
Continental Resources, Inc.
EDO Corp/Barnes Engineering Div.
EMCC Dr. Rasek
Electro Rent
GE Capital Test Equipment Mgmt. Svcs.
IFR Systems, Inc.
Instruments For Industry, Inc.
Krohn-Hite Corp.
Lectronic Research Labs
Noise Com, Inc.
Pace Transducer Co., Div. of C.J. Instruments, Inc.
Rubytron Instruments
Schaffner EMC, Inc.
Sun Electronic Systems, Inc.
Telemetry Technologies, Inc.
Telogy
Test Equipment Corp.
Tucker Electronics
Wandel & Goltermann Inc.

PC LAYOUT/ FABRICATION

AMP
Aerospace Consulting
Bary Industries Inc.
Buckbee - Mears
Cerprobe Corp.
Comsat RSI - Anghel Laboratories
Dymetics, Inc.
Electro Com
Fujitsu Microelectronics, Semiconductor Div.
GE Capital Test Equipment Mgmt. Svcs.
Group J Inc.
HRB Systems
ILC Data Device Corp.
Injectorall Electronics
JPS Communications, Inc.
LPKF CAD/CAM Sys., Inc.
Labtech Ltd.
Microwave Printed Circuitry
Midland Technologies
Modular Components National, Inc. (MCN)
Nolan Laboratories Inc.
PRA, Inc.
Photo Transfer Industries (PTI)
Poly-Circuits, Inc. - an M-WAVE Co.
REL Labs, Inc.
Richardson Electronics, Ltd.
Rogers Corp. Soladyne Div.

RF services

S.T. Research Corp.
Signal Management, Ltd.
Signature Designs
Soladyne Div. of Rogers Corp.
Somersoft
Talbot Technology Corp. (T-Tech)

PLATING/ COATING

Airtron Corp.
Deltronic Crystal Industries, Inc.
E.I.S.
E/M Corp.
Enthone-OMI Inc.
Epner Technology Inc.
Hexacon Electric Co.
INTA
Injectorall Electronics
Labtech Ltd.
MIC Technology Corp.
Microwave Printed Circuitry
Photo Transfer Industries (PTI)
Piconics, Inc.
Plastic Plate, Inc.
Polyflon Co.
Remtec, Inc.
Richardson Electronics, Ltd.
SMI (NY)
Trans-Tech, Inc., a subsidiary of Alpha Industries, Inc.

SOFTWARE DEVELOPMENT

AET Associates
ALK Engineering
Advanced Microsolutions
Aerospace Consulting
Applied Spectrum Research
Atkinson Engineering
Ballantine Laboratories, Inc.
Besser Associates
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Tillamook)
Cadshare Resources, Inc.
Compass Communications, Inc.
DKD Instruments
Dajem Technology Co.
D.A.T.A.
Deskin Research Group, Inc.
Douglas Integrated Software
Dynerics, Inc.
EMC Consulting
EMF-EMI Control
ERA Technology Ltd.
Engineering Solutions
The Engineers' Club
Flam & Russell, Inc.
Geesaman Software, Inc.
Global Specialties

Goldman Research
HRB Systems
Hyperception, Inc.
ILC Data Device Corp.
Ingsoft, Ltd.
Innovation First
Intusoft
JPS Communications, Inc.
Kajfez Consulting
Locus, Inc.
MCH Associates
MSI Electronics, Inc.
Medina Software, Inc.
Nolan Laboratories Inc.
PRA, Inc.
Passive Power Products
Presco, Inc.
RHS Hamtec, Ltd.
RTG, Inc.
Research Assoc. of Syracuse
Rohde and Schwarz GMBH Co.
S.T. Research Corp.
Signature Designs
Softwave
Softwright
Somersoft
Syndetix, Inc.
Tatum Labs, Inc.
Telemetry Technologies, Inc.
Underwriters Laboratories, Inc.
Viewlogic Systems, Inc.

TEXTBOOKS/ HANDBOOKS

The American Radio Relay League, Inc.

Besser Associates
CKC Laboratories, Inc. (Mariposa)
Communications & Energy Corp.
Dajem Technology Co.
D.A.T.A.
EMC Services Inc.
EMF-EMI Control
Fotec, Inc.
Goldman Research
Intusoft
Kajfez Consulting
Noble Publishing
Pike & Fischer, Inc.
PolyPhaser Corp.
R&B Enterprises
Rich's Business Directories, Inc.
SMT Plus, Inc.
Signature Designs
Syndetix, Inc.
Vector Fields

TRAINING/EDUCATION

A.P.I. Testing Equipment
Aerospace Consulting
AIM USA

The American Radio Relay League, Inc.

Antenna Design Specialists
Atkinson Engineering
Besser Associates
A. R. Blanck
CKC Laboratories, Inc. (Mariposa)
Cadshare Resources, Inc.
Communication Certification Laboratory
D.L.S. Electronic Systems, Inc.
Dajem Technology Co.
Davicom Technologies Inc.
Design Automation, Inc.
Design & Evaluation, Inc.
Detroit Testing Laboratory, Inc.
Dragnet Technologies, Inc.
EMC Consulting
EMC Services Inc.
EMCC Dr. Rasek
EMF-EMI Control
Electromagnetic Energy Assoc.
The Engineers' Club
Fuke Corp.
Fotec, Inc.
Green Mountain Radio Research Co.
HRB Systems
Harris Rf Communications
Huber + Suhner, Inc.
Instrument Specialties Co., Inc.
International Compliance Corp. (Austin)
International Compliance Corp. (Argyle)
Intusoft
Loral Microwave - Narda
Medina Software, Inc.
NW Silicon Specialists, Inc.
National Instruments Corp.
Noble Publishing
PRA, Inc.
PolyPhaser Corp.
R&B Enterprises
RF Consultants, Inc.
Radiation Sciences, Inc.
Reliance Comm/Tec
Research Assoc. of Syracuse
Rohde and Schwarz GMBH Co.
SMT Plus, Inc.
Signature Designs
Softwright
Somersoft
TUV Rheinland of North America, Inc.
Talbot Technology Corp. (T-Tech)
Technology Futures, Inc.
Tektronix, Inc.
Telecommunications Industry Assoc.
Test Equipment Corp.
Underwriters Laboratories, Inc.
Wave Technology
Whittaker Electronic Systems
Z Domain Technologies, Inc.

RF EMC products

ABSORBERS

Advanced Electromagnetics, Inc.
Capcon, Inc.
Chomerics, a div. of Parker Hannifin Corp.
Cuming Corp.
E.I.S.
EMCI
Electrical Insulation Suppliers, Inc.
FDK America, Inc.
IBEX Group, Inc.
Lehman Chambers

McDonald Associates
Microwave Filter Co., Inc.
Millimeter Wave Technology
Murata Electronics North America
National Magnetics Group, Inc.
Okaya Electric America, Inc.
Pacific West Enterprises, Inc.
Quartzite Processing, Inc.
Rantec
Ray Proof
Resin Systems Corp.
SRC Cables, Inc.

Specialty Pro-Serv, Inc.
D.M. Steward Inc.
TDK Corp. of America
Tokin America, Inc.

AC LINE FILTERS

A.P.I. Testing Equipment
AVX Filters Corp.
AVX Ltd.
Aerovox Group
Bellsonics, Inc.
C & K Engineering, Inc.

RF EMC products

AC LINE FILTERS (Cont'd)

Capcon, Inc.
Captor Corp.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Control Concepts Corp.
Corcom, Inc.
Dyma Engineering
Emission Control Ltd.
Filter Concepts, Inc.
Genisco Electronics/Potter Production Corp.
HD Communications
JMK, Inc.
Joseph Electronics, Inc.
L.C.R. Electronics, Inc.
L.E.A. Dynatech, Inc.
Lambda Electronics Inc.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Lindgren RF Enclosures, Inc.
McDonald Associates
Mouser Electronics
Murata Electronics North America
Okaya Electric America, Inc.
PMI Technologies
Pacific West Enterprises, Inc.
Potter Production Corp.
Power Dynamics, Inc.
RTRON Corp.
Radiation Sciences, Inc.
Rock Hill Interference Lab
Schaffner EMC, Inc.
Scientific Hardware Systems
Spectrum Control, Inc.
Test Equipment Corp.
Texas Spectrum Electronics, Inc.
Token America, Inc.
Tri-Mag, Inc.

ANECHOIC CHAMBERS

A.P.I. Testing Equipment
Advanced Electromagnetics, Inc.
C & K Engineering, Inc.
Cumming Corp.
EMCC Dr. Rasek
EMCI
ETL Test Labs
IBEX Group, Inc.
Instruments For Industry, Inc.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Lehman Chambers
Lindgren RF Enclosures, Inc.
McDonald Associates
Pacific West Enterprises, Inc.
Rantec
Ray Proof
Scientific Hardware Systems
Specialty Pro-Serv, Inc.
TDK Corp. of America
Zymet, Inc.

CONDUCTIVE ADHESIVES

Ablestik Laboratories
Aremco Products, Inc.
Arlon Materials for Electronics, SRS
Capcon, Inc.
Carroll Coatings Co., Inc.
Chomerics, a div. of Parker Hannifin Corp.
Contact East
Cumming Corp.
Dynaloy, Inc.
E.I.S.
E/M Corp.

Effective Shielding Co., Inc.
Electrical Insulation Suppliers, Inc.
Epoxy Technology Inc.
Ferro Corp.
Grace Specialty Polymers
Instrument Specialties Co., Inc.
Joseph Electronics, Inc.
Lodestone Pacific
Lusol Products
Merix Chemical Co.
Mouser Electronics
Poly-Circuits, Inc. - an M-WAVE Co.
Richardson Electronics, Ltd.
Silver Cloud Manufacturing Co.
Technit
Zymet, Inc.

CONDUCTIVE COATINGS

Aremco Products, Inc.
C & K Engineering, Inc.
Capcon, Inc.
Carroll Coatings Co., Inc.
Chomerics, a div. of Parker Hannifin Corp.
Contact East
Cumming Corp.
Dynaloy, Inc.
E.I.S.
E/M Corp.
Electrical Insulation Suppliers, Inc.
Enthone-OMI Inc.
Evaporated Coatings, Inc.
Ferro Corp.
Grace Specialty Polymers
Joseph Electronics, Inc.
L.C.R. Electronics, Inc.
Lebow Co.
Merix Chemical Co.
Morton International Automotive & Industrial Finishes
Optical Coating Laboratory, Inc.
Plastic Plate, Inc.
Scientific Atlanta
Silver Cloud Manufacturing Co.
Spraylat Corp.
Superconductive Components, Inc.
Swift Textile Metalizing Corp.
Tafa Inc.
Technit
3M Electrical Specialties Div.
Zymet, Inc.

CONDUCTIVE PLASTICS

Arlon Materials for Electronics, SRS
Capcon, Inc.
DSM Engineering Plastics
Dynaloy, Inc.
E.I.S.
HD Communications
Merix Chemical Co.
Silver Cloud Manufacturing Co.
The Zippertubing Co.

EMI FILTER COMPONENTS

AMP
C & K Engineering, Inc.
Captor Corp.
Coil Specialty Co.
Coilcraft
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Corry Micronics, Inc.
EMI Filter Co.
Eagle
FDK America, Inc.

Ferronics, Inc.
Genisco Electronics/Potter Production Corp.
Goguen Industries, Inc.
W.L. Gore & Associates, Inc.
HD Communications
Huber + Suhner, Inc.
Iskra, Inc.
JMK, Inc.
Joseph Electronics, Inc.
L.C.R. Electronics, Inc.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
MMC Electronics America Inc.
MMG North America
Metatech Corp.
J.W. Miller Div. - Bell Industries, Inc.
Murata Electronics North America
National Communications Electronics, Inc.
National Magnetics Group, Inc.
Neosid (Canada) Ltd.
North Hills Electronics, Inc.
Okaya Electric America, Inc.
Oxley, Inc.
Penstock, Inc., An Avnet Co.
Potter Production Corp.
Power Dynamics, Inc.
RFI Corp.
RTRON Corp.
Radiation Sciences, Inc.
Schaffner EMC, Inc.
Silver Cloud Manufacturing Co.
Special Hermetic Products, Inc.
Spectrum Control, Inc.
Stetco, Inc.
Surplus Sales of Nebraska
TDK Corp. of America
Texas Spectrum Electronics, Inc.
Tusonix Inc.

ESD CONTROL DEVICES

Bishop Instruments
Capcon, Inc.
Component Distributors, Inc. (TX)
Component Distributors, Inc. (FL)
Contact East
E.I.S.
Electrical Insulation Suppliers, Inc.
G&H Technology, Inc.
W.L. Gore & Associates, Inc.
Joseph Electronics, Inc.
Keytek
MMC Electronics America Inc.
Metatech Corp.
Mouser Electronics
Murata Electronics North America
Richardson Electronics, Ltd.
Schlegel Corp.
The Simco Co., Inc.
3M Electrical Specialties Div.

**Subscribe to
RF DESIGN
MAGAZINE**

RF EMC products

GASKETS/ FINGER STOCK

Arlon Materials for Electronics, SRS
Bal-Seal Engineering Co., Inc.
C & K Engineering, Inc.
Capcon, Inc.
Chomerics, a div. of Parker Hannifin Corp.
E.I.S.
Effective Shielding Co., Inc.
Electrical Insulation Suppliers, Inc.
Howell Laboratories, Inc.
Instrument Specialties Co., Inc.
Kirkhill Rubber Co.
Moxness Products, Inc.
Pawling Corp. - EMI Shielding Products Div.
Rantec
Ray Proof
Richardson Electronics, Ltd.
Schlegel Corp.
Scientific Hardware Systems
Specialty Pro-Serv, Inc.
Spira Mfg. Corp.
Surplus Sales of Nebraska
Tech Etch, Inc.
Tecknit

HUM STOP FILTERS

Capcon, Inc.
Control Concepts Corp.
Dyma Engineering
JMK, Inc.
North Hills Electronics, Inc.
Opamp Labs, Inc.
PMI Technologies
Potter Production Corp.
UHF Associates

SHIELDED ENCLOSURES

Ad-Vance Magnetics, Inc.
Advanced Electromagnetics, Inc.
Advanced Machining Techniques, Inc.
AMCO Engineering Co.
Buckbee - Mears
Candes Systems, Inc.
Capcon, Inc.
Carroll Coatings Co., Inc.
Cumming Corp.
Dyma Engineering
EMCC Dr. Rasek
EMCI
Eagle Magnetic Co., Inc.
Electro Com
Equipto Electronics Corp.
Fotofabrication Corp.
Joaquin Mfg. Corp.
Joseph Electronics, Inc.
Kintronic Laboratories, Inc.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Lehman Chambers
Lindgren RF Enclosures, Inc.
Magnetic Radiation Laboratories, Inc.
Magnetic Shield Corp.
McDonald Associates
Microelectronics, U.S.A.
Mouser Electronics
Optima Electronic Packaging Systems
Pacific West Enterprises, Inc.
Plastic Plate, Inc.
Pneumafil Corp.
Premier Metal Products Co.
RF Prototype Systems
Rache Corp.

Rantec
Ray Proof
Rittal Corp.
SMI (NY)
Scientific Hardware Systems
Silver Cloud Manufacturing Co.
Spang Specialty Metals
Specialty Pro-Serv, Inc.
STRONGBOX
Swift Textile Metalizing Corp.
Tecknit
3M Electrical Specialties Div.
Vantage Associates, Inc.
Vector Electronic Co.
The Zippertubing Co.

SHIELDING COATINGS

Aremco Products, Inc.
Capcon, Inc.
Carroll Coatings Co., Inc.
Chomerics, a div. of Parker Hannifin Corp.
Dynaloy, Inc.
E.I.S.
E/M Corp.
Electrical Insulation Suppliers, Inc.
Enthone-OMI Inc.
Evaporated Coatings, Inc.
Ferro Corp.
G.C. Electronics Co.
W.L. Gore & Associates, Inc.
Joseph Electronics, Inc.
Merix Chemical Co.
Morton International Automotive & Industrials
Finishes
Optical Coating Laboratory, Inc.
Plastic Plate, Inc.
Spraylat Corp.
Superconductive Components, Inc.
Swift Textile Metalizing Corp.
Tafa Inc.
The Zippertubing Co.

FOIL

Ad-Vance Magnetics, Inc.
C.J. Enterprises
Chomerics, a div. of Parker Hannifin Corp.
E.I.S.
Eagle Magnetic Co., Inc.
Electrical Insulation Suppliers, Inc.
Fotofabrication Corp.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Magnetic Radiation Laboratories, Inc.
Magnetic Shield Corp.
Magnetics Division of Spang & Co.
Novamet Specialty Products Corp.
Rache Corp.
Spang Specialty Metals
Tecknit
The Zippertubing Co.

FORMED METAL

C & K Engineering, Inc.
E.I.S.
Eagle Magnetic Co., Inc.
Fotofabrication Corp.
Instrument Specialties Co., Inc.
Magnetic Radiation Laboratories, Inc.
Magnetic Shield Corp.
Rache Corp.
Tech Etch, Inc.
Tecknit
Whittaker Electronic Systems

LAMINATE

C & K Engineering, Inc.
Chomerics, a div. of Parker Hannifin Corp.
E.I.S.
Eagle Magnetic Co., Inc.
Electrical Insulation Suppliers, Inc.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Moxness Products, Inc.
Optical Coating Laboratory, Inc.
Schlegel Corp.
Scientific Hardware Systems
Silver Cloud Manufacturing Co.
Swift Textile Metalizing Corp.
Tecknit
3M Electrical Specialties Div.
Vantage Associates, Inc.
The Zippertubing Co.

MAGNETIC

Ad-Vance Magnetics, Inc.
Arlon Materials for Electronics, SRS
C & K Engineering, Inc.
Capcon, Inc.
E.I.S.
Eagle Magnetic Co., Inc.
Electrical Insulation Suppliers, Inc.
Ferrishield, Inc.
Fotofabrication Corp.
Lectro Magnetics Div., Lindgren RF Enclosures, Inc.
Lehman Chambers
Lindgren RF Enclosures, Inc.
MMG North America
Magnetic Radiation Laboratories, Inc.
Magnetic Shield Corp.
Magnetics Division of Spang & Co.
National Magnetics Group, Inc.
Novamet Specialty Products Corp.
Optical Coating Laboratory, Inc.
Pawling Corp. - EMI Shielding Products Div.
Potter Production Corp.
Spang Specialty Metals
Tecknit
The Zippertubing Co.

OTHER

Advanced Machining Techniques, Inc. (Solid aluminum chassis)
Band-It-Idex Inc. (Tie-Dex Clamps)
Brim Electronics, Inc. (Shielded braiding)
Calmont Engineering and Electronics Corp. (EMI, RFI, tempest shielding)
Conductive Systems, Inc. (EMI Shielding Components, EMI Shielded Gaskets)
Eagle Magnetic Co., Inc. (Sheet stock)
Intermark (USA) Inc. (EMI Shielding Cable Grounding Parts)
Johnson Matthey (Magnetic Susceptibility Balances)
Methode Electronics, Inc. (Heat Conductive Shrink Tubing)
Rache Corp. (Laser cut shield material)
Radiation Sciences, Inc. (Design)
Spang Specialty Metals (Mumetal)
Swift Textile Metalizing Corp. (Fabric)
Tech Etch, Inc. (Board level)
Tecknit (X-ray)
3M Electrical Specialties Div. (Thermoformable shielding material)

Boldface Indicates Advertiser.

RF EMC products

SURGE AND TRANSIENT PROTECTORS

A.P.I. Testing Equipment
AVX Ltd.
Antenna Engineering Ltd.
WR Block & Associates, Inc.
CTS Corp.
Capcon, Inc.
Contact East
Control Concepts Corp.
Dyma Engineering
Electrical Insulation Suppliers, Inc.
Filter Concepts, Inc.
Fischer Custom Communications, Inc.
Huber + Suhner AG
Huber + Suhner, Inc.
Inmac
Iskra, Inc.
JMK, Inc.
Joseph Electronics, Inc.
L.E.A. Dynatech, Inc.
MMC Electronics America Inc.
McDonald Associates
Metatech Corp.
Mouser Electronics
Okaya Electric America, Inc.
Oneida Electronic Mfg. Co., Inc.
PMI Technologies
PolyPhaser Corp.
Potter Production Corp.
RFI Corp.
RTRON Corp.
Richardson Electronics, Ltd.
Test Equipment Corp.
Texas Spectrum Electronics, Inc.
Thermodisc, Inc., Midwest Components Group
Tri-Mag, Inc.

TEST CELLS

Amplifier Research

Bird Electronic Corp.
A. R. Blanck
CM Technologies
EMCO
Instruments For Industry, Inc.
McDonald Associates
Rohde and Schwarz GMBH Co.

TEST EQUIPMENT & SYSTEMS

ANTENNAS

A.H. Systems, Inc.
AIL Systems Inc.
A.P.I. Testing Equipment
ATCI
Adaptive Technology, Inc.
Amplifier Research
Antenna Research Associates, Inc.
Berkeley Varitronics Systems, Inc.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Tillamook)
Carnel Labs
Carston Electronics
Tony Chapman Electronics, Ltd.
Dajem Technology Co.
Deskin Research Group, Inc.
EMC Consulting
EMCO

Electro-Metrics, Inc.
Flam & Russell, Inc.
Flann Microwave Instruments, Ltd.
Hewlett Packard Co. Direct Mktg. Organization
IBEX Group, Inc.
International Compliance Corp. (Argyle)
Kilo Tec
Lectronic Research Labs
McDonald Associates
NSI
Rohde and Schwarz GMBH Co.
Syndetix, Inc.
Technical Systems Associates, Inc.
Tektronix, Inc.
Telogy
Vantage Associates, Inc.

EMV/EMC RECEIVERS

AEL Defense Corp.
A.P.I. Testing Equipment
Antenna Research Associates, Inc.
Carnel Labs
Carston Electronics
DC to Light
Dynamic Sciences, Inc.
Electro-Metrics, Inc.
Hewlett Packard Co. Direct Mktg. Organization
IBEX Group, Inc.
McDonald Associates
Naptech
Rohde and Schwarz GMBH Co.
Schaffner EMC, Inc.
Tektronix, Inc.
Telogy

EMI GENERATORS

A.P.I. Testing Equipment
ASM Products, Inc.
Carston Electronics
EMCC Dr. Rasek
Joseph Electronics, Inc.
Keytek
Lectronic Research Labs
McDonald Associates
Micro-Now Instrument Co. Inc.
Naptech
Noise Com, Inc.
Schaffner EMC, Inc.

EMI PROBES

A.H. Systems, Inc.
A.P.I. Testing Equipment
Antenna Research Associates, Inc.
Carston Electronics
Dragnet Technologies, Inc.
EMCO
Electro-Metrics, Inc.
Fischer Custom Communications, Inc.
Hewlett Packard Co. Direct Mktg. Organization
IBEX Group, Inc.
Instruments For Industry, Inc.
Joseph Electronics, Inc.
Lectronic Research Labs
McDonald Associates
Millimeter Wave Technology
Rohde and Schwarz GMBH Co.
Schaffner EMC, Inc.
Tegam, Inc.
Tektronix, Inc.

FIELD STRENGTH METERS

A.P.I. Testing Equipment
ASM Products, Inc.
Amplifier Research
Antenna Research Associates, Inc.
Carnel Labs
Carston Electronics
EMCO
Eagle Magnetic Co., Inc.
Electro-Metrics, Inc.

Holaday Industries, Inc.
Joseph Electronics, Inc.
Lectronic Research Labs
Loral Microwave - Narda
McDonald Associates
Naptech
RHS Hamtec, Ltd.
Rohde and Schwarz GMBH Co.
Schaffner EMC, Inc.
Tektronix, Inc.
Telogy
Walker Scientific

HAZARD METERS

A.P.I. Testing Equipment
ATCI
Antenna Research Associates, Inc.
Holaday Industries, Inc.
Instruments For Industry, Inc.
Lectronic Research Labs
Loral Microwave - Narda
Radiation Sciences, Inc.

INTERFERENCE LOCATORS

A.P.I. Testing Equipment

TEST SOFTWARE

A.P.I. Testing Equipment
Advanced Microsolutions
Advantest America, Inc.
CKC Laboratories, Inc. (Brea)
CKC Laboratories, Inc. (Fremont)
CKC Laboratories, Inc. (Hillsboro)
CKC Laboratories, Inc. (Hollister)
CKC Laboratories, Inc. (Mariposa)
CKC Laboratories, Inc. (Tillamook)
CM Technologies
Deskin Research Group, Inc.
Dragnet Technologies, Inc.
Dynamic Sciences, Inc.
EMC Consulting
Electro-Metrics, Inc.
Flam & Russell, Inc.
Fluke Corp.
Hewlett Packard Co. Direct Mktg. Organization
Hyperception, Inc.
ILC Data Device Corp.
IBEX Group, Inc.
Instruments For Industry, Inc.
Keithley Instruments, Inc.
Matanzas Engineering
National Instruments Corp.
PRA, Inc.
RHS Hamtec, Ltd.
Rohde and Schwarz GMBH Co.
Schaffner EMC, Inc.
Tektronix, Inc.
Wavetek Corp. (CA)
Wentworth Laboratories, Inc.

**Include your Logo
or Target Ad
in the
RF DESIGN DIRECTORY**

Contact Mimi Komesar

**1-800 433-4969
6151 Powers Ferry Rd.
Atlanta, GA 30339**

DISTRIBUTORS

ARS Electronics
 ASM Products, Inc.
 ATCI
Amplifier Research
 Atlantic Microwave Ltd.
 Cain Forlaw
 Calibron Instruments
 Chomerics, a div. of Parker Hannifin Corp.
 Coaxial Components Corp. (NY)
 Component Distributors, Inc. (TX)
 Component Distributors, Inc. (FL)
 Contact East
 Davicom Technologies Inc.
 Dyma Engineering
 E.I.S.
 Electro Com
 First Source, Inc.
 Fox Electronics
 G.C. Electronics Co.
 HD Communications
 Henry Radio, Inc.
 E.F. Johnson Co.
 Joseph Electronics, Inc.
 Joslyn Jennings Corp.
 Kings Electronics Co., Inc.
 L&M Engineering South
 Lixi, Inc.
 MF Electronics Corp.
 Mouser Electronics
 North American Capacitor Co.
 Ohmite Mfg. Co., Inc.
 Pascall Microwave Ltd.
 Passive Power Products
 Power Dynamics, Inc.
 RAG Electronics, Inc.
 Richardson Electronics, Ltd.
 Rittal Corp.
 SRC Cables, Inc.

Schaffner EMC, Inc.
 Spectrum Elektrotechnik GmbH
 A.W. Sperry Instruments, Inc.
 Tri-Mag, Inc.
 Vanguard Electronics
 Vector Electronic Co.
 Whittaker Electronic Systems

MANUFACTURERS' REPRESENTATIVES

AET Associates
 ATCI
 Anritsu Wiltron
 Atlantic Microwave Ltd.
 Ballantine Laboratories, Inc.
 C/G Associates, Inc.
 Cain Forlaw
 Cain-Forlaw Co., Inc.
 Chomerics, a div. of Parker Hannifin Corp.
 Coaxial Components Corp. (NY)
 Continental Microwave Technology Inc.
 Cumming Corp.
 Davicom Technologies Inc.
 Dyma Engineering
 Electro Com
 Electro-Metrics, Inc.
 ESCO Associates, Inc.
 First Source, Inc.
 Fox Electronics
 General Microwave Corp.
 Genisco Electronics/Potter Production Corp.
 Giltron, Inc.
 HD Communications
 JCA Technology, Inc.
 E.F. Johnson Co.
 Joslyn Jennings Corp.
 Knox Semiconductor, Inc.

L&M Engineering South
 Liberty Research
 Lindgren RF Enclosures, Inc.
 Loral Microwave FSI Semiconductor Div.
 Loral Microwave - Narda
 Loral Microwave - Narda West
 MF Electronics Corp.
 Marlow Electronics Ltd.
 McDonald Associates
 Meritec
 Metelics Corp.
 Microsignals, Inc.
 North American Capacitor Co.
 Novacom
 Ohmite Mfg. Co., Inc.
 PC Dynamics - an M-WAVE Co.
 Pascall Microwave Ltd.
 Passive Power Products
 Piconics, Inc.
 Potter Production Corp.
 Power Dynamics, Inc.
 Qualcomm, Inc. VLSI Products
 Rittal Corp.
 Schaffner EMC, Inc.
 Sci Tran Products
 Senah
 Spectrum Elektrotechnik GmbH
 Tri-Mag, Inc.
 Vanguard Electronics
 Vector Electronic Co.
 Veritech Microwave

Restrictions on Use

All information contained in this Directory is for the exclusive use of the purchaser only and is to be used solely by the purchaser. None of the information included in the Directory may be used to create, in whole or in part, any mailing list or other data compilation, in written or electronic form, that is to be sold or otherwise distributed to any third party. The purchaser may use the information in the Directory as a list solely for its own mailing or telemarketing purposes, but may not include Directory information as part of its own marketing materials. Failure to comply with these restrictions will constitute violations both of this agreement and the copyright laws of the United States. Purchase and use of this Directory constitute acceptance of the restrictions set forth herein.

Although Argus Integrated Media makes every reasonable effort to assure the accuracy of information contained in the Directory, it must rely on others over which it has no control for certain information. Purchaser acknowledges that Argus Integrated Media cannot and does not guarantee or warrant that the information in the Directory is complete, correct or current, and, except as specifically set forth herein, Argus Integrated Media disclaims all warranties, express or implied, relating to the information in any manner, including, without limitation, implied warranties of merchantability and fitness for a particular purpose.

Argus Integrated Media shall not be liable to the purchaser or any third party for any loss or injury allegedly caused, in whole or in part, by Argus Integrated Media and/or the Directory (or the information contained therein) or for consequential, exemplary, incidental or special damages, even if Argus Integrated Media is advised in advance of the possibility of any such damage. Furthermore, in any event, Argus Integrated Media's liability, if any, shall never exceed the amount paid by the original purchaser for the directory.

RF company index

A

A&A ENGINEERING

2521 W. LaPalma #K
Anaheim, CA 92801
714 952-2114
Stas J. Andrzejewski, Pres.

AEL DEFENSE CORP.

305 Richardson Rd.
Lansdale, PA 19446
215 822-2929; Fax: 215 822-9165
LeeAnn Augustine

AET ASSOCIATES

20370 Town Ctr. Ln., Ste. 260
Cupertino, CA 95014
408 996-1760; Fax: 408 996-1962
Elji Tanabe

A.H. SYSTEMS, INC.

9710 Cozycroft Ave.
Chatsworth, CA 91311
818 998-0223; Fax: 818 998-6892
Arthur Cohen, Pres.

AIL SYSTEMS INC.

Commack Rd.
Deer Park, NY 11729
516 595-3250; Fax: 516 595-4945
Jack B. Migliaccio

ALK ENGINEERING

1310 Emerson Ave.
Salsbury, MD 21801
410 546-5573; Fax: 410 860-9069
Al Klappenberger

AML COMMUNICATIONS

900-K Calle Plano
Camarillo, CA 93012
805 388-1345; Fax: 804 484-2191
Ed McAvoy, VP Mktg.

AMP

P.O. Box 3608
Harrisburg, PA 17105-3608
800 522-6752; Fax: 717 986-7575
Prod. Info. Ctr.

A.P.I. TESTING EQUIPMENT

P.O. Box 608
Mountain View, CA 94042-0608
800 531-1148; Fax: 800 531-1149
Jennifer Delpier, VP/Gen. Mgr.

AP MICROWAVE

14625 Bronson Ave.
San Jose, CA 95124-3556
408 377-0840; Fax: 408 377-2650
Rahat Khanna, Bus. Dev. Mgr.

ARS ELECTRONICS

7110 DeCelsi Pl.
P.O. Box 7323
Van Nuys, CA 91409
818 997-6200; Fax: 818 997-6158
Martin Sanett, Sales Mgr.

ASM PRODUCTS, INC.

795 Marconi Ave.
Ronkonkoma, NY 11767
516 737-1248; Fax: 516 737-1497
Marilyn Poggi, Pres.

ATCI

1128 E. Greenway
Mesa, AZ 85203
602 264-7275; Fax: 602 898-7667
Gary Hatch

AVX CORP. A KYOCERA GROUP CO.

P.O. Box 867
Myrtle Beach, SC 29577
803 448-9411; Fax: 803 448-7139
Jeff Bartlett

AVX FILTERS CORP.

11144 Penrose St.
Sun Valley, CA 91352
818 767-6770; Fax: 818 767-2832
Terry Cantine

AVX LTD.

Admiral House, Harlington Way
Fleet, Hants, GB, UK GU13 8BB
+44 1252 770000; Fax: +44 1252 770404
Scot Tripp, Mark Chapman

AVX TANTALUM CORP.

69 Landry St.
Biddetford, ME 04005
207 282-5111; Fax: 207 283-1941
Bill Viorow

AACOM SYSTEMS

2430 Stanwell Dr.
Concord, CA 94520-4811
510 827-4784; Fax: 510 827-0547
R.T. Jeans

AAVID THERMAL TECHNOLOGY

One Kool Path
P.O. Box 400
Laconia, NH 03247-0400
603 528-3400; Fax: 603 528-1478
Denise Sandberg

ABLESTIK LABORATORIES

20021 Susana Rd.
Rancho Dominguez, CA 90221
310 764-4600; Fax: 310 764-2545
Jilla Yovina

ACCSYS TECHNOLOGY, INC.

1177 Quarry Ln.
P.O. Box 5247
Pleasanton, CA 94566
510 462-6949; Fax: 510 462-6993
Robert Hamm, CEO/Pres.

ACCUMET ENGINEERING CORP.

518 Main St.
Hudson, MA 01749
508 568-8311; Fax: 508 562-4384
Hugh Muffoletto, Sales & Mktg. Mgr.

ACCURATE SCREW MACHINE CO., INC.

10 Audrey Place
Fairfield, NJ 07004
201 661-2600; Fax: 201 661-0038
H. Walsh

ACCUTEST INSTRUMENTS INC.

Rte. 526 Millstone Rd.
P.O. Box 130
Clarksburg, NJ 08510
800 524-0747; Fax: 609 259-0227
Jim Malizia, VP/GM

ACTUALITY CORP.

200 California Ave., Ste. 212
Palo Alto, CA 94306
415 325-4800; Fax: 415 325-4801
Vera Mottino, Dir. of Sls.

AD-VANCE MAGNETICS, INC.

625 Monroe St.
P.O. Box 69
Rochester, IN 46975
219 223-3158; Fax: 219 223-2524
Richard Vance, Pres.

ADAPTIVE TECHNOLOGY, INC.

309 Curtis St.
Syracuse, NY 13208
315 478-8223; Fax: 315 472-3279
Peter H. Stockmann, Ph.D., VP

ADVANCED COMMUNICATIONS SYSTEMS, INC.

7120 Columbia Gateway Dr.
Columbia, MD 21046
410 312-2540; Fax: 410 312-2545
Ms. Mike Kolbicka, Prog. Mgr.



P.O. Box 4928 • Clinton, NJ

- Amplifiers, RF
- Tunnel & Schottky Diode Detectors
- Limiter Detectors & Pad Detectors
- Limiters
- Threshold Detectors

ADVANCED CONTROL COMPONENTS, INC.

P.O. Box 4928
Clinton, NJ 08809
908 534-6155; Fax: 908 534-5625
Thomas Couse, Exec. VP

ADVANCED ELECTROMAGNETICS, INC.

9257 Mission Gorge Rd.
P.O. Box 711719
Santee, CA 92071
619 449-9492; Fax: 619 449-1553
Gerald Page, Mktg. Dir.

ADVANCED FERRITE TECHNOLOGY, INC.

15200 Shady Grove Rd.
Rockville, MD 20850
(301) 670-2833; Fax: (301) 670-2831
Bob Russel

ADVANCED MACHINING TECHNIQUES, INC.

28 Willowdale Ave.
Port Washington, NY 11050
516 883-4340; Fax: 516 883-8057
Ed Gruenwald, Pres.

ADVANCED MICROSOLUTIONS

P.O. Box 7623
Menlo Park, CA 94026
415 854-2936; Fax: 415 854-2936
Greg Lawson

ADVANCED POWER TECHNOLOGY INC.

405 SW Columbia St.
Bend, OR 97701
800 522-0809; Fax: 503 388-0364
Tom Loder, Worldwide Sls. Mgr.

ADVANCED SEMICONDUCTOR, INC.

7525 Ethel Ave.
N. Hollywood, CA 91605
800 423-2354; 818 982-1200; Fax: 818 765-3004
Allen Klein

Indicates Advertiser

RF company index

ADVANTAGE Instruments Corp. LOW COST HIGH PERFORMANCE

2 GHz SPECTRUM ANALYZER

1 MHZ-2 GHz MODEL SA1800D \$2395
1300 MHz SPECTRUM ANALYZER
MODEL SA1300C \$1995

80dB ON SCREEN, 100dBm SENSITIVITY, 300 & 10 KHZ RBW
50 MHz MARKER, 1-1300 MHz, 800-2000 MHz IN ONE SWEEP

CALL 800-566-1818 FOR CATALOG

ADVANTAGE INSTRUMENTS CORP.

3579 Hwy. 50 East
Carson City, NV 89701
702 885-0234; Fax: 702 885-7600
Forrest Black, Appl. Eng'n'r.

ADVANTEST AMERICA, INC.

1100 Busch Pkwy.
Buffalo Grove, IL 60089
800 441-0852; 708 634-2552; Fax: 708 634-2610
Atlee Jacobson

AEROCOMM

13228 W. 99th St.
Lenexa, KS 66215
913 492-2320; Fax: 913 492-1243
Dan Miller, Pres.

AEROSPACE CONSULTING

P.O. Box 536
Buckingham, PA 18912
215 345-7184; Fax: 215 345-1309
Ed Troy

AEROTEK CO. LTD.

1756 Sukhumvit 52, Bangkok
Prakanong, Bangkok, Thailand 10250
(662) 3114448, 3325035, 3116783-5; Fax: (662) 3325034
Wisut Jantarapootirart

AEROTRON-REPCO SALES, INC.

2400 Sand Lake Rd.
Orlando, FL 32809
407 856-1953; Fax: 407 856-1960
Steve Penick, Telemetry Sales Mgr.

AEROVOX GROUP

370 Faunce Corner Rd.
North Dartmouth, MA 02747
508 994-9661; Fax: 508 999-1000
Tom Lee, Mktg. Mgr.

AEROWAVE INC.

344 Salem St.
Medford, MA 02155
617 391-1555; Fax: 617 391-5338
T.L. Kozul, Pres.

AIM USA

634 Alpha Dr.
Pittsburgh, PA 15238-2802
412 963-8588; Fax: 412 963-8753

AIMSCO INC.

5707 Airport Way S.
P.O. Box 80304
Seattle, WA 98108-0304
206 762-8014; Fax: 206 762-8394
C. Ernst, Pres.

AIRTRON CORP.

200 E. Hanover Ave.
Morris Plains, NJ 07950
201 539-5500; Fax: 201 539-5548
Walt Dwyer, VP Mktg.

AKON, INC.

1914 Trade Zone Blvd.
San Jose, CA 95131
408 432-8039; Fax: 408 432-1089
Surya Sareen, Pres.

ALAN INDUSTRIES, INC.

745 Greenway Dr.
P.O. Box 1203
Columbus, IN 47201
812 372-8869; Fax: 812 372-5909
Blayde Kennedy, Sales Mgr.

ALAUN ENGINEERING

2305 Florencita Dr.
Montrose, CA 91020
800 775-0712 ext. 2657, 818 957-0618; Fax: 818 957-0618
Al Braun, Mgr.

ALDEN SCIENTIFIC CORP.

11133 Broadway
P.O. Box 267
Alden, NY 14004
716 681-3390; Fax: 716 681-1606
Robert L. Michals, Tech. Dir.

ROBERT G. ALLE CO., INC.

7267 Coldwater Canyon
N. Hollywood, CA 91605
818 765-8300; Fax: 818 765-2387
Brad Hammarquist, VP Sales

ALLEN AVIONICS, INC.

224 E. Second St.
Mineola, NY 11501
516 248-8080; Fax: 516 747-6724
Richard Mintz, VP/G.M.



ALLEN TELECOM GROUP, INC.

30500 Bruce Industrial Pkwy.
Solon, OH 44139
216 349-8400; Fax: 216 349-8404
Sales Dept.

ALLIED SIGNAL

230 N. Front St.
P.O. Box 1448
La Crosse, WI 54602-1448
608 784-6070; Fax: 608 784-7753
Kim Valiquette, Mgr., Mktg. Comm.

ALLIEDSIGNAL-MICROWAVE CIRCUIT MATERIALS

14 McCaffrey St.
P.O. Box 320
Hoosick Falls, NY 12090
518 686-7301; Fax: 518 686-4840
Berry Beumer, Prod. Mgr.

ALPHA COMPONENTS, INC.

1106 E. Simpson Rd.
Mechanicsburg, PA 17055
717 697-8595; Fax: 717 697-8608
Jerry Buckwalter, Pres.

ALPHA INDUSTRIES, INC.

20 Sylvan Rd.
Woburn, MA 01801
617 935-5150; Fax: 617 935-2359

ALPHA PRODUCTS, INC.

351 Irving Dr.
Oxnard, CA 93030
(805) 981-8666
Elaine Schaeffer

ALPHA WIRE CORP.

711 Lidoerwood Ave.
P.O. Box 711
Elizabeth, NJ 07207-0711
800 52-ALPHA; Fax: 908 925-7429
Sandi Jaouen

AMCO ENGINEERING CO.

3801 N. Rose St.
Schiller Park, IL 60176
708 671-6670; Fax: 708 671-9469
James Walenda, Mktg. Dir.

AMERICAN KSS, INC.

3295 Scott Blvd., Ste. 100
Santa Clara, CA 95054
408 986-9577; Fax: 408 986-1717
Keijiro Waki, Pres.

AMERICAN MICROSYSTEMS, INC.

2300 Buckskin Rd.
Pocatello, ID 83201
208 234-6890; Fax: 208 234-6795
Tamera Drake, Marcom Mgr.

AMERICAN MICROWAVE CORP.

7311-G. Grove Rd.
Frederick, MD 21701
301 662-4700; Fax: 301 662-4938
Ash Gorwara, Pres. & CEO

AMERICAN MICROWAVE TECHNOLOGY

3080 Enterprise St.
Brea, CA 92621
714 993-0802; Fax: 714 993-1619
Lowell Beezley

AMERICAN PRECISION INDUSTRIES

270 Quaker Rd.
E. Aurora, NY 14052
716 652-3600; Fax: 716 652-4814
Denis Kohlhausen

THE AMERICAN RADIO RELAY LEAGUE, INC.

225 Main St.
Newington, CT 06111-1494
203 666-1541; Fax: 203 665-7531
Joel Kleinman
See Our Ad On Cover 4



american technical ceramics corp.

one norden lane,
huntington station, n.y.
11746-2102 usa
telephone: (516) 547-5700
fax: (516) 547-5748

AMERICAN TECHNICAL CERAMICS CORP.

One Norden Ln.
Huntington Station, NY 11746
516 547-5700; Fax: 516 547-5748
Kate Levine, Adv. Mgr.
See Our Ad On Page 17

RF company index

AMERITRON

116 Willow Rd.
Starkville, MS 39759
601 323-8211; Fax: 601 323-6551
Steven Pan, VP

AMITRON, INC.

85 Flagship Dr.
N. Andover, MA 01845
508 686-1882; Fax: 508 686-0622
Ray Simione, Pres.

Amphenol® RF Coaxial Connectors

AMPHENOL RF/MICROWAVE OPERATIONS

One Kennedy Ave.
Danbury, CT 06810
800 627-7100, 203 743-9272; Fax: 203 796-2090
W.E. Harris, Mgr. Marcom

AMPLIDYNE INC.

Units 9 & 10, Bldg. 7, Ilene Ct.
Belle Meade, NJ 08502
908 359-6710; Fax: 908 359-3262
Tochi Bains, Mktg. Mgr.



- Broadband rf amplifiers and preamplifiers, 10 kHz to 1 GHz, 1 to 10,000 watts.
- Broadband antennas that match AR amplifiers in power handling and frequency.
- CCTV and telemetry systems for analog data.
- Test accessories for the rf lab.

AMPLIFIER RESEARCH

160 School House Rd.
Souderton, PA 18964-9990
215 723-8181; Fax: 215 723-5688
Mktg.
See Our Ad On Page 64



AMPLIFONIX, INC.

2707 Black Lake Pl.
Philadelphia, PA 19154
215 464-4000; Fax: 215 464-4001

ANADIGICS, INC.

35 Technology Dr.
Warren, NJ 07060
908 668-5000; Fax: 908 668-5068
Javed Patel

Indicates Advertiser

ANALOG DEVICES INC., COMPUTER LABS DIV.

7910 Triad Center Dr.
Greensboro, NC 27490
910 668-9511; Fax: 910 668-0101



ANALOG DEVICES (NORWOOD)

One Technology Way
P.O. Box 9106
Norwood, MA 02062
617 461-3557; Fax: 617 326-8703
R. Baines, Mktg. Exec.

ANALOG DEVICES (WILMINGTON)

181 Ballardvale St.
Wilmington, MA 01887
617 937-1428; Fax: 617 821-4273
R.J. Baines, Mktg. Mgr.

ANALOG & RF MODELS

6987 N. Oracle Rd.
Tucson, AZ 85704
520 575-5323
W.K. Sands



ANALOG SOLUTIONS

5484 White Pl.
Boulder, CO 80303
800 726-2564; 303 442-5083
John Gibilisco
See Our Ad On Page 21

ANALOGIC CORP.

8 Centennial Dr.
Peabody, MA 01960
508 977-3000; Fax: 508 977-6809
Rachel Combs, Media Relations

ANALOP ENGINEERING, INC.

1506-A. Dell Ave.
Campbell, CA 95008
408 379-7482; Fax: 408 379-7483
May Tom, Admin./Pur.

ANAREN MICROWAVE, INC.

6635 Kirkville Rd.
East Syracuse, NY 13057
315 432-8909; Fax: 315 432-9121
Larry Sala

ANATECH ELECTRONICS

94 Jewell St.
P.O. Box 617
Garfield, NJ 07026
201 772-4242; Fax: 201 772-4646
Sam Benzacar, Sls. Mgr.

ANDERSEN LABORATORIES

45 Old Iron Ore Rd.
Bloomfield, CT 06002
203 286-9090; Fax: 203 242-4472
Thomas Mihalek

ANDERSON ELECTRONICS, INC.

Scotch Valley Rd.
P.O. Box 89
Holidaysburg, PA 16648
814 695-4428; Fax: 814 696-0403
William Anderson

ANDREW CORP.

10500 W. 153rd St.
Orland Park, IL 60462
708 349-5950

ANDREW SCICOMM, INC.

2908 National Dr.
Garland, TX 75041
214 840-4900; Fax: 214 278-9379

ANGSTROM PRECISION, INC.

18400 Precision Pl.
P.O. Box 1827
Hagerstown, MD 21742
301 739-8722; Fax: 301 797-6852

ANGUS ELECTRONICS CO.

P.O. Box 24000
Indianapolis, IN 46224
317 244-7611; Fax: 317 247-4749

ANRITSU WILTRON

685 Jarvis Dr.
Morgan Hill, CA 95020
408 778-2000; Fax: 408 778-0239
John Hamilton, Marcom Mgr.



ANSOFT CORP.

4 Station Sq., Ste. 660
Pittsburgh, PA 15219-1119
412 261-3200; Fax: 412 471-9427
Joy Burd, Corp. Mktg. Mgr.

ANTENNA DESIGN & MANUFACTURING CORP.

10630-M Riggs Hill Rd.
Jessup, MD 20794-9410
301 498-1140; Fax: 301 604-6585
Vasu Balu, Sales Mgr.

ANTENNA DESIGN SPECIALISTS

1171 Melayn Dr.
Lebanon, OH 45036
513 932-3385; Fax: 513 932-6241
Anita Wissel, Sr. Officer

ANTENNA ENGINEERING LTD.

Nene Valley Bus. Park
Oundle, Peterborough, UK PE8 4HN
44 832 274404; Fax: 44 832 274405
Mktg. Mgr.

ANTENNA RESEARCH ASSOCIATES, INC.

11317 Frederick Ave.
Beltsville, MD 20705
301 937-8888; Fax: 301 937-2796
Christopher Ober, Tech. Sls. Mgr.

ANTENNACO, INC.

102 Armory Rd.
P.O. Box 218
Milford, NH 03055-0218
603 673-3153; Fax: 603 673-4347
Nate Edgecomb, Sls. Dir.

RF company index

ANTHONY RF TRACK MICROWAVE

908 E. Reynolds St.
Plant City, FL 33566
813 752-8455; Fax: 813 752-3808
William Anthony, Pres.

APCOM, INC.

8-4 Metropolitan Ct.
Gaithersburg, MD 20878
301 948-5900; Fax: 301 948-1631
Steven Neubauer, Sales Mgr.

APEX MICROTECHNOLOGY CORP.

5980 N. Shannon Rd.
Tucson, AZ 85741
520 690-8600; Fax: 520 888-3329
Marie Rivera, Mktg. Comm. Mgr.

APEX SYSTEMS, INC.

2400 Central Ave., Ste. A
Boulder, CO 80301
303 443-3393; Fax: 303 443-4974
Mark Matlin, VP Engrn.



APPLIED ENGINEERING PRODUCTS

104 John W. Murphy Dr.
P.O. Box 510
New Haven, CT 06513
203 776-2813; Fax: 203 776-8294
Robert M. Morgan, Dir. Mktg./Sls.

APPLIED SPECIALTIES, INC.

10101F Bacon Dr.
Beltsville, MD 20705
301 595-5395; Fax: 301 595-0050
Don DeJulis, Sales Mgr.

APPLIED SPECTRUM RESEARCH

2975 Valmont Rd. #100
Boulder, CO 80302
303 444-4871; Fax: 303 444-4872
Laura Laycock, Mktg. Mgr.

APPLIED SYSTEMS ENGINEERING, INC.

8623 Hwy. 377 S.
P.O. Box 122987
Fort Worth, TX 76121-2987
817 249-4180; Fax: 817 249-3413
Bud Jostrand, Dir. of Mktg.

APRIL INSTRUMENT

P.O. Box 62046
Sunnyvale, CA 94088-2046
415 964-8379; Fax: 415 965-3711
Bill Chan, Pres.

APTRON LABORATORIES, INC.

P.O. Box 323
Bloomington, IN 47402-0323
812 336-4775
B. Presti

ARCO ELECTRONICS

5310-J. Derry Ave.
Agoura Hills, CA 91301
800 441-2726; 818 707-6465; Fax: 818 707-6469
Jerry Aarons

ARCOLECTRIC CORP.

9001 Canoga Ave.
Canoga Park, CA 91304
818 700-1933; Fax: 818 700-9541
Carrie Donze

AREMCO PRODUCTS, INC.

23 Snowden Ave.
P.O. Box 429
Ossining, NY 10562
914 762-0685; Fax: 914 762-1663
Brenda Lyons, Mktg. Mgr.

ARLON

1100 Governor Lea Rd.
Bear, DE 19701
800 635-9333; 302 834-2100; Fax: 302 834-2574
Mark Carlson, Product Mgr.

ARLON ADHESIVES

199 Amaral St.
E. Providence, RI 02914
401 434-2340

ARLON MATERIALS FOR ELECTRONICS, SRS

15627 S. Broadway
Gardena, CA 90248
909 989-8777; Fax: 909 989-6714
Sales

ARNOLD ENGINEERING

300 North West St.
Marengo, IL 60152
815 568-2000; Fax: 815 568-2228
J. Schaefer

AROMAT CORP.

629 Central Ave.
New Providence, NJ 07974
908 464-3550; Fax: 908 771-5658
Doug Lionetti, Mktg. Mgr.

ARRA, INC.

15 Harold Ct.
Bayshore, NY 11706
516 231-8400; Fax: 516 234-1116

ARRAY MICROSYSTEMS, INC.

1420 Quail Lake Loop
Colorado Springs, CO 80906
719 540-7911; Fax: 719 540-7950

ASTROLAB, INC.

4 Powder Horn Dr.
Warren, NJ 07059
908 560-3800; Fax: 908 560-9570
Mary Ceres, Sales Mgr.

ASTRON CORP.

470 Spring Park Pl.
Herndon, VA 22070
703 471-0600; Fax: 703 471-4503
Joseph Jahoda, Pres.

ATKINSON ENGINEERING

489 Cedar Run Dr.
Warrenton, VA 22186
703 347-5716
Kenneth Atkinson, Pres.

ATLANTIC COAST INSTRUMENTS INC.

P.O. Box 1747
Wall, NJ 07719
800 251-0706; Fax: 908 681-9309
Harvey Mendelsohn, Pres.

ATLANTIC MAGNETICS, INC.

1480 SW 3rd St.
Pompano Beach, FL 33069
305 786-0199; Fax: 305 786-0566
Edward Cammarata, Pres.

ATLANTIC MICROWAVE LTD.

40A Springwood Dr.
Braintree, Essex, UK CM7 7YN
+44(0) 376 550220; Fax: +44(0) 376 552145
G. Burling, Dir.

AUTOMATIC COIL/RAVEN IND.

4715 NW 157 St. #101
Miami, FL 33014
305 623-0397; Fax: 305 623-0216
Manny Acosta, Cust. Svc.

AVA ELECTRONICS CORP.

4000 Bridge St.
Drexel Hill, PA 19026
610 284-2500; Fax: 610 259-8379

AVANTEK PRODUCTS

See Hewlett-Packard Company

AVCOM OF VIRGINIA

500 Southlake Blvd.
Richmond, VA 23236
804 794-2500; Fax: 804 794-8284
Charlie Odom, Sales & Mktg. Mgr.

AVIANKA, INC.

51 Sulphur Mtn. Rd.
Ventura, CA 93001
805 649-5783; Fax: 805 649-5728
Catherine Inbar, Pres.

CUSTOM COAXIAL CONNECTORS

Aviel Electronics manufactures coaxial connectors, in most series to solve specific design problems.

- Hermetic • Blindmate • Slip-on •
- Triaxial • Springloaded •
- Surface Mount • Cable Mount •

AVIEL ELECTRONICS

Tel: (702) 739-8155 • Fax: (702) 739-8161

AVIEL ELECTRONICS

5530 S. Valley View, #103
Las Vegas, NV 89118
702 739-8155; Fax: 702 739-8161
Jack Kaufman, Pres.

AVISTA DESIGN SYSTEMS

710 Figueroa St.
Folsom, CA 95630
916 985-6080; Fax: 916 985-6080
Graham Bell, Mgr. Dir.

AVTECH ELECTROSYSTEMS, LTD.

P.O. Box 5120, Stn. F
Ottawa, Ontario, Canada K2C 3H4
613 226-5772; Fax: 613 226-2802
W.J. Chudobiak, Pres.

AXONN CORP.

101 W. Robert E. Lee Blvd., Ste. 202
New Orleans, LA 70124
504 282-8119; Fax: 504 282-0999
Stephen Fant

AYDIN CORP. (WEST)

30 Great Oaks Blvd.
San Jose, CA 95119
408 629-0100; Fax: 408 224-5592
George Whitehill, HPA Sales Mgr.

AYDIN VECTOR DIV.

47 Friends Ln.
P.O. Box 328
Newtown, PA 18940-0328
215 968-4271; Fax: 215 968-3214
Timothy Cooney, Ad Mgr.

RF company index

B

BI TECHNOLOGIES CORP.

4200 Bonita Pl.
Fullerton, CA 92635
714 447-2345; Fax: 714 447-2500
Janet Vaniman, Adv. Coord.

B&K PRECISION

6470 W. Cortland
Chicago, IL 60635
312 889-1448; Fax: 312 794-9740
Gregg Elmore, Adv. Mgr.



BAL-SEAL ENGINEERING CO., INC.

620 W. Warner Ave.
Santa Ana, CA 92707
800 366-1006, 714 557-5192; Fax: 714 241-0185
Michael Anderson, Sls. Mgr.

BALLANTINE LABORATORIES, INC.

9 Saddle Rd.
Cedar Knolls, NJ 07927
201 984-1900; Fax: 201 984-1479
Marshall Fram, Sales Engr.

BALO PRECISION PARTS

45 Carey Ave.
Butler, NJ 07405
201 492-2256; Fax: 201 492-9354
Joan Pallotta, Admin. Asst.

BAND-IT-IDEX INC.

4799 Dahlia St.
P.O. Box 16307
Denver, CO 80216
303 320-4555; Fax: 303 333-6549
Linda Wilson, Sls. Svcs. Coord.

BARKER & WILLIAMSON

Canal St.
Bristol, PA 19007
215 788-5581; Fax: 215 788-9577
Lee S. Engel

High Power Terminations, Resistors and Attenuators

- 10 to 1,000 watts • All brazed construction
- Derating curve to 250°C • Matched CTE Materials
- Designed to exceed 10 million pulsed power cycles

BARRY

BARRY INDUSTRIES, INC.

67 Mechanic Street • Attleboro, MA 02703
Tel: 508-226-3350
Fax: 508-226-3317

BARRY INDUSTRIES INC.

67 Mechanic St.
Attleboro, MA 02703
508 226-3350; Fax: 508 226-3317
Dick Barry

BARTH ELECTRONICS, INC.

1300 Wyoming St.
Boulder City, NV 89005
702 293-1576; Fax: 702 293-7024
Sue Smith, Sls.

BAY TECHNOLOGY

1711 Trout Gulch Rd.
Aptos, CA 95003
408 688-8919; Fax: 408 688-6435
John Roth, Sales Mgr.

BEAD INDUSTRIES

110 Mountain Grove St.
Bridgeport, CT 06605
203 334-4124; Fax: 203 367-9957
Keith Lebo

BRIAN BEEZLEY

3532 Linda Vista Dr.
San Marcos, CA 92069
619 699-1962
Brian Beezley

BEHLMAN ELECTRONICS, INC., A SUBSIDIARY OF ASTROSYSTEMS

4532 Telephone Rd., Ste. 103
Ventura, CA 93003
805 642-0660; Fax: 805 642-0790
John White, Reg. Sls. Mgr.

BELDEN WIRE & CABLE CO.

P.O. Box 1980
Richmond, IN 47375
317 983-5200; Fax: 317 983-5294
John Hitch, Mktg. Comm. Mgr.

BELLSONICS, INC.

P.O. Box 1390
El Toro, CA 92630-1390
714 581-8101; Fax: 714 581-8112
Richard Bellis, Pres.

BERKELEY NUCLEONICS CORP.

3060 Kerner Blvd., Ste. 2
San Rafael, CA 94901
415 453-9955; Fax: 415 453-9956
John Yee, Sales Mgr.

BERKELEY VARITRONICS SYSTEMS, INC.

255 Liberty St.
Metuchen, NJ 08840
908 548-3737; Fax: 908 548-3404
Scott Schober, Ptnr.

BERSON & ASSOCIATES

564 Jackson Dr.
Palo Alto, CA 94303
415 328-1919; Fax: 415 328-1734
Bert Berson, Partner

Besser Associates

BESSER ASSOCIATES

4600 El Camino Real, #210
Los Altos, CA 94022
415 949-3300; Fax: 415 949-4400
Annie Wong, Mktg. Mgr.

BI-TRONICS, INC.

76 Main St.
P.O. Box 125
Tuckahoe, NY 10707
800 666-0996; Fax: 800 569-4244
G. Schwartz, Mktg. Mgr.

BICC BRAND REX CO.

1600 W. Main St.
Williamantic, CT 06226
203 456-8000; Fax: 203 450-7019
Karen Ouellette, Mktg. Mgr.

BIPOLARICS, INC.

108 Albright Way
Los Gatos, CA 95030
408 379-4543; Fax: 408 379-0918
Charles Leung, Pres.

BIRD ELECTRONIC CORP.

30303 Aurora Rd.
Solon, OH 44139-2794
216 248-1200; Fax: 216 248-5426
Greg Johns, Domestic Sales Mgr.

BISHOP INSTRUMENTS

125 Presumpscot St.
Portland, ME 04103
207 774-8311; Fax: 207 775-1369
William Smith, Mgr.

A. R. BLANCK

P.O. Drawer 249
Rutherford, NJ 07070
201 933-2091
A. R. Blanck, Pres./Tech. Dir.

BLILEY ELECTRIC CO.

2545 W. Grandview Blvd.
P.O. Box 3428
Erie, PA 16508
814 838-3571; Fax: 814 833-2712
D.M. Bliley, VP Mktg.

WR BLOCK & ASSOCIATES, INC.

327 Barbara Dr.
Clarksboro, NJ 08020-1510
800 421-7170, 609 423-2255; Fax: 609 423-0891
Ron Block, Pres.

With our Compliments...



BOMAR CRYSTAL CO.

201 Blackford Ave.
Middlesex, NJ 08846
908 356-7787; Fax: 908 356-7362
Mary Ellen Miller, OEM Sls.

BOONTON ELECTRONICS CORP.

25 Eastmans Rd.
P.O. Box 465
Parsippany, NJ 07054-0465
201 386-9696; Fax: 201 584-3037
Gurpreet Kohli, Sales Mgr.

THE BOXLEITNER GROUP

126A Pleasant Valley St.
Methuen, MA 01844
510 279-5698; Fax: 510 279-5698
Warren Boxleitner, Pres.

BRADFORD ELECTRONICS

550 High St.
Bradford, PA 16701
814 362-5600; Fax: 814 362-5635
Joyce Stauffer, Cust. Svc. Rep.

BREI & ASSOCIATES, INC.

2598 28th Ave.
Marion, IA 52302
319 377-9196; Fax: 319 377-9219
Randall D. Brei, Pres.
See Our Ad on Page 122

RF company index

BRENNAN ASSOCIATES

P.O. Box 5006
Clearwater, FL 34618
813 446-5006
M. Hardiman, Pres.

BRIM ELECTRONICS, INC.

P.O. Box 336
Fair Lawn, NJ 07410-0336
201 796-2886; Fax: 201 778-2792
B. Danziger, Pres.

BRIMROSE CORP. OF AMERICA

5020 Campbell Blvd.
Baltimore, MD 21236
410 931-7200; Fax: 410 931-7206
Jon Kasprzak, Mktg. Dir.

BROADBAND COMMUNICATIONS PRODUCTS, INC.

305 East Dr., Ste. A
Melbourne, FL 32904
407 984-3671; Fax: 407 728-0487
Whit Cotten

BROADCAST MICROWAVE SERVICES, INC.

5795 Kearny Villa Rd.
P.O. Box 84630 (92138-4630)
San Diego, CA 92123-1190
619 560-8601; Fax: 619 560-1637
Sheridan Kirk, Mktg. Mgr.

BROUNLEY ASSOCIATES

7381 114 Ave. N., Unit 410
Largo, FL 34643
813 546-9371; Fax: 813 545-2941
Richard Brounley, Pres.

BRUEL & KJAER, DIV. OF SPECTRIS TECHNOLOGIES INC.

2364 Park Central Blvd.
Decatur, GA 30035
770 981-9311; Fax: 770 987-8704
Bill Wirkus

BUCKBEE - MEARS

245 E. Sixth St.
St. Paul, MN 55101
612 228-6434; Fax: 612 228-6572
Fred Grimm, Dir., Sales/Mktg.

BUD INDUSTRIES

4605 E. 355th St.
Willoughby, OH 44094
216 946-3200; Fax: 216 951-4015
Blair Haas

BURLE INDUSTRIES, INC. - TUBE PRODUCTS DIV.

1000 New Holland Ave.
Lancaster, PA 17601-5688
800 366-2875; 717 295-6025; Fax: 717 295-6096
R. Rutherford, Mgr., Power Tube Prods.

BURR-BROWN CORP.

P.O. Box 11400, M/S 122
Tucson, AZ 85734-1400
602 746-1111; Fax: 602 746-7401
Larry Gaddy, Mktg.

Indicates Advertiser

C

C.E. PRECISION ASSEMBLIES, INC.

6501 W. Frye Rd.
Chandler, AZ 85226
602 940-0740; Fax: 602 961-4754
Henry Richards, VP Mktg., R&D

C/G ASSOCIATES, INC.

2140 Peralta Blvd., #202
P.O. Box 7324
Fremont, CA 94537-7324
510 790-1193; Fax: 510 790-1383
Charles Dickinson, Pres.

C.J. ENTERPRISES

P.O. Box 570430
Tarzana, CA 91357
818 996-4131; Fax: 818 700-8272
Marshall Cantor, Eng. Mgr.

CKC LABORATORIES, INC. (BREA)

110 Olinda Pl.
Brea, CA 92621
800 500-4EMC; Fax: 714 993-0171
Manny Barron, EMC Engrn./Reg. Mgr.

CKC LABORATORIES, INC. (FREMONT)

1100 Fulton Pl.
Fremont, CA 94539
800 500-4EMC; Fax: 510 226-8534
Christine Nicklas, EMC Engrn./Reg. Mgr.

CKC LABORATORIES, INC. (HILLSBORO)

5289 NE Elam Young Pkwy.
Hillsboro, OR 97124
800 500-4EMC; Fax: 503 693-4647
Clark Vitek, EMC Engrn./Reg. Mgr.

CKC LABORATORIES, INC. (HOLLISTER)

1653 Los Viboras Rd.
Hollister, CA 95023
800 500-4EMC; Fax: 408 637-2413
Mark Villegas, EMC Engrn.

CKC LABORATORIES, INC. (MARIPOSA)

5473A Clouds Rest
Mariposa, CA 95338
800 500-4EMC; Fax: 209 742-6133
Todd Robinson, Mktg. Mgr.

CKC LABORATORIES, INC. (TILLAMOOK)

22105 Wilson River Hwy.
Tillamook, OR 97141
800 500-4EMC; Fax: 503 842-5758
Sid Johnson, Lab Mgr./Cnslt.

C & K ENGINEERING, INC.

9A Acacia Ln.
Sterling, VA 20166
703 450-0900; Fax: 703 450-1890
Jim Crenca, Pres.

C&M CORP.

51 S. Walnut St.
P.O. Box 348
Wauregan, CT 06387
203 774-4812; Fax: 203 774-7330
Tom Hanna, Natl. Accts. Mgr.

CM TECHNOLOGIES

1026 Fourth Ave.
Coraopolis, PA 15108
412 262-0734; Fax: 412 262-2250
Julie A. Ransom, Mktg. Dir.



QUARTZ CRYSTALS

- SC Cuts up to 20 MHz
- Miniature Precision TCXO's less than $\pm .3$ ppm
- TCVCXO's at SONET frequencies up to 155.52 MHz
- VCXO's all SONET frequencies up to 311 MHz
- SAW Filters/VCO's up to 2.5 GHz
- DIL TCXO's up to 52 MHz

C-MAC QUARTZ CRYSTALS

4709 Creekstone Dr., Ste. 311, Riverbirch Bldg.
Morrisville, NC 27560
919 941-0430; Fax: 919 941-0530
Bob Pearson, Mgr., Sls./Mktg.

C-MAC QUARTZ CRYSTALS, LTD.

Edinburgh Way
Harlow, Essex, UK CM20 2DE
+44 (0)1279 626626; Fax: +44 (0)1279 454825
Paul Ekpenyong, Sales & Mktg. Mgr.

C&S HYBRID, INC.

2255 Martin Ave., Ste. D
Santa Clara, CA 95050
408 980-9194; Fax: 408 980-9225
Vincent Verrette, Cust. Svc.

CSI CAPACITORS

810 Rancheros Dr.
San Marcos, CA 92069
619-747-4000; Fax: 619 743-5094
Brian Armstrong, Pres.

CTS CORP.

905 West Blvd. N.
Elkhart, IN 46514
219 293-7511; Fax: 219 295-5718
Patrick McMahon, Dir. Mktg.

CTS CORP. - FREQUENCY CONTROLS DIV.

400 Reimann Ave.
Sandwich, IL 60548-0900
815 786-8411; Fax: 815 786-3600
Michael J. Murphy, Sls./Mktg. Dir.

CTT, INC.

3005 Democracy Way
Santa Clara, CA 95054
408 988-8521; Fax: 408 986-9097
Stan Mussynski, Sales Mgr.

CADDELL-BURNS MFG. CO., INC.

258 East 2nd St.
Mineola, NY 11501
516 746-2310; Fax: 516 742-2416
Vincent Burns, Pres.

CADDOCK ELECTRONICS

17271 N. Umpqua Hwy.
Roseburg, OR 97470
503 496-0700; Fax: 503 496-0408
Jim Skelton

CADDOCK ELECTRONICS, INC.

1717 Chicago Ave.
Riverside, CA 92507
909 788-1700; Fax: 909 369-1151
Fay Grimes, Adv. Coord.

RF company index

CADSHARE RESOURCES, INC.

9303-N. Monroe Rd.
P.O. Box 11859
Charlotte, NC 28220-1859
800 633-7644; Fax: 704 845-2654
Paul Pazzagli

CAIN FORLAW

7323 E. Main St.
Reynoldsburg, OH 43068
614 861-9500; Fax: 614 861-9510
Tom Nelms

CAIN-FORLAW CO., INC.

520 N. Hicks Rd., Ste. 130
Palatine, IL 60067
708 202-9898; Fax: 708 202-9896
Jeff Larkins, Pres.

CAL CRYSTAL LAB, INC. / COMCLOCK, INC.

1156 N. Gilbert St.
Anaheim, CA 92801
800 333-9825; Fax: 714 491-9825
Audrey Zarrow, Sales/Mktg. Mgr.

CALIBRON INSTRUMENTS

220 Grove St.
Waltham, MA 02154
617 894-6440; Fax: 617 893-8393
William Burton, Pres.

CALIFORNIA AMPLIFIER, INC.

460 Calle San Pablo
Camarillo, CA 93010
805 987-9000; Fax: 805 987-8359

RF & Microwave Semiconductors for your Wireless Designs:

SILICON MMICs:	DISCRETE DEVICES:
Amplifiers, Prescalers	Small Signal Bipolars
Frequency Converters	Power Bipolars
Application Specific ICs	Small Signal & Power FETs

GeAs ICs:
Amplifiers, Prescalers
Frequency Converters
Switches

NEC

CEL California Eastern Laboratories

CALIFORNIA EASTERN LABORATORIES

4590 Patrick Henry Dr.
Santa Clara, CA 95054-1817
408 988-3500; Fax: 408 988-0279
John Barry, Sls. Mgr.
See Our Ad On Page 3

CALIFORNIA MICRO DEVICES CORP.

215 Topaz St.
Milpitas, CA 95035-5430
408 263-3214; Fax: 408 263-7846
Gayle Diven, Marcom

CALIFORNIA SCIENTIFIC SOFTWARE

10024 Newtown Rd.
Nevada City, CA 95959-9794
916 478-9040; Fax: 916 478-9041
Mark Lawrence

CALMONT ENGINEERING AND ELECTRONICS CORP.

420 E. Alton Ave.
Santa Ana, CA 92707
714 549-0336; Fax: 714 549-4028
Don Dodge, Chief Engrn.

CALNET ELECTRONICS, INC.

100 Schneider Rd.
Kanata, Canada K2K 1Y2
613 592-1052; Fax: 613 592-9449
Jim Gardner, Gen. Mgr.

CALOGIC CORP.

237 Whitney Pl.
Fremont, CA 94539
510 656-2900; Fax: 510 651-1076
Brenda Hill, Dir., Prod. Mktg.

CAMBIO INTERNATIONAL

P.O. Box 1641
Laconia, NH 03247
603 524-3714; Fax: 603 524-6602
Thomas Garrity, Dir.

CAMBRIDGE ACCUSENSE, INC.

1000 Mt. Laurel Cir.
Shirley, MA 01464
508 425-2090; Fax: 508 425-4062
Seta Yessaillian, Mktg. Mgr.

CANDES SYSTEMS, INC.

3131 Detwiler Rd.
Harleysville, PA 19438-2933
215 256-4130; Fax: 215 256-0775
Henry Snyder

CAPAX TECHNOLOGIES, INC.

24842 Avenue Tibbitts
Valencia, CA 91355
805 257-7666; Fax: 805 257-4819
Jag Patel, VP

CAPCON, INC.

23 Nassau Ave.
Inwood, NY 11096
212 243-6275; Fax: 212 645-0185
Turab Syed

CAPTOR CORP.

5040 S. County Rd., 25A
Tipp City, OH 45371
513 667-8484; Fax: 513 667-5133
Omer Bruns, Gen. Mgr.

THE CARBORUNDUM CO.

1625 Buffalo Ave.
P.O. Box 337 (14302-0337)
Niagara Falls, NY 14303-1597
716 278-2798; Fax: 716 278-2088

THE CARBORUNDUM CO. - BORON NITRIDE DIV.

168 Creekside Dr
Amherst, NY 14228
716 691-2051; Fax: 716 691-5080
Don Beehler, Ad. Mgr.

THE CARBORUNDUM CO. - MICROELECTRONICS DIV.

10409 South 50th Pl.
Phoenix, AZ 85044
602 496-5000; Fax: 602 496-5080
Don Beehler, Ad. Mgr.

CARDINAL CONTROL CO., INC.

261 Kensington Rd.
Kensington, CT 06037
203 828-6379
Lillian Beatman

CARNEL LABS

21434 Osborne St.
Canoga Park, CA 91304
818 882-3977; Fax: 818 882-3981
Paul Bender

CARROLL COATINGS CO., INC.

217 Chapman St.
Providence, RI 02905
401 781-4942; Fax: 401 781-4941
John S. Rooks, Tech. Dir.

CARSTON ELECTRONICS

2-6 Queens Rd.
Teddington, Middlesex, UK TW11 0LR
+44 (0) 81 943 4477; Fax: +44 (0) 81 977 9232
Phil Tieman, Gen. Mgr.

CASCADE MICROTCH, INC.

14255 S.W. Brigadoon, Ct.
Beaverton, OR 97005
503 626-8245; Fax: 503 626-6023
Sid Blachford, Marcom Mgr.

CASTLE MICROWAVE

Willow Dr.
Twyford, Berkshire, UK RG10 9BB
01734 343838; Fax: 01734 342068
Mike Cunningham

CATEL TELECOMMUNICATIONS

4050 Technology Pl.
Fremont, CA 94537-5122
510 659-8988; Fax: 510 651-8437
Al Zopp, App. Engrn.

CEDARS SOFTWARE

11910 Whistler Ct.
Potomac, MD 20854
301 424-7068; Fax: 301 424-7068
Joseph Thornwall, Owner

CELERITEK

CELERITEK, INC.

3236 Scott Blvd.
Santa Clara, CA 95054
408 986-5060; Fax: 408 986-5095
Robert Jones, VP

CELWAVE RF

33890 Eastgate Cir.
Corvallis, OR 97333-2248
503 757-1134; Fax: 503 757-7415
Steve Blum, Sales Mgr.

CENTRAL SEMICONDUCTOR CORP.

145 Adams Ave.
Hauppauge, NY 11788
516 435-1110; Fax: 516 435-1824

CENTRE CAPACITOR

2820 E. College Ave.
State College, PA 16801
814 237-0321

CENTURION INTL, INC.

P.O. Box 82846
Lincoln, NE 68501
800 228-4563; Fax: 800 848-3825
Steven Bowles, Bowles

CERA-MITE CORP.

1327 6th Ave.
P.O. Box 166
Grafton, WI 53024
414 377-3500; Fax: 414 377-7309
Claude Marquardt

Indicates Advertiser

RF company index

CERAMASEAL

P.O. Box 260
New Lebanon, NY 12125
518 794-7800; Fax: 518 794-8080
Lenore Laier

CERAMIC DEVICES, INC.

8145 Ronson Rd.
San Diego, CA 92111
619 560-7575; Fax: 619 560-4906
Dick Guereña

CERAMIC MAGNETICS, INC.

16 Law Dr.
Fairfield, NJ 07004-3207
201 227-4222; Fax: 201 227-6735
George E. Schaller, Exec. VP

CERPROBE CORP.

600 S. Rockford Dr.
Tempe, AZ 85282
602 967-7885; Fax: 602 967-7758
Jacque Stewart, Mktg. Mgr.

CESIWI, INC.

3425 Hyde Park Blvd.
Niagara Falls, NY 14305
716 286-7600; Fax: 716 286-7601
Gary Innocenti, Mktg. Mgr.

CHAMPION TECHNOLOGIES, INC.

2553 N. Edgington St.
Franklin Park, IL 60131
708 451-1000; Fax: 708 451-7585
Dean Ransom, VP Sls./Mktg.

TONY CHAPMAN ELECTRONICS, LTD.

Electron House, Hemnall St.
Epping, Essex, UK CM16 4LS
0992-578231; Fax: 0992-576139
Peter Snelling

CHERRY ELECTRICAL PRODUCTS

3600 Sunset Ave.
Waukegan, IL 60087
708 662-9200; Fax: 708 360-3566
Keith Huebner

CHILDS ANTENNAS

247 Main St. E.
Waterville, MN 56096
800 533-0998; Fax: 507 362-4215
Bruce Childs, VP Sales

CHOMERICS, A DIV. OF PARKER HANNIFIN CORP.

77 Dragon Ct.
P.O. Box 4014
Woburn, MA 01888
617 935-4850; Fax: 617 933-4318
Norman Quesnel, MarCom Super.

CINOX CORP.

4914 Gray Rd.
Cincinnati, OH 45232
513 542-5555; Fax: 513 542-5146
Debby Hughes, Sales Mgr.

CIRCUIT COMPONENTS, INC.

2400 Roosevelt St.
Tempe, AZ 85282
602 967-0624; Fax: 602 967-9385

COAXIAL COMPONENTS CORP. (NY)

61 Mall Dr. #1
Commack, NY 11725
516 864-4747; Fax: 516 864-4753
Arleen Lauer, Sales

COAXIAL COMPONENTS CORP. (FL)

1501 Decker Ave., Bldg. 201
Stuart, FL 34994
407 223-0444; Fax: 407 223-0111
Ray Sulzeo, Sales Mgr.

COAXIAL CONNECTORS, INC.

1500 N.W. 62nd St., Ste. 501
Ft. Lauderdale, FL 33309
305 772-2664; Fax: 305 772-5640
Roger Ranta, Gen. Mgr.

COAXIAL DYNAMICS, INC.

15210 Industrial Park
Cleveland, OH 44135
216 267-2233; Fax: 216 267-3142
John Ittel, Sales Mgr.

COIL SPECIALTY CO.

2730 Carolean Industrial Dr.
Box 978
State College, PA 16801
814 234-7044; Fax: 814 237-6549
Bennett Hoffman, VP/Gen. Mgr.

Coilcraft

Surface mount inductors
Tuneable inductors
Fixed inductors
Wideband RF transformers
LC filter networks

COILCRAFT

1102 Silverlake Rd.
Cary, IL 60013
708 639-2361; Fax: 708 639-1469
Paul Liebman
See Our Ad On Page 2

COLBY INSTRUMENTS, INC.

1810 14th St.
Santa Monica, CA 90404
310 450-0261; Fax: 310 452-0027
Siegfried Knorr, Pres.

COLORADO CRYSTAL CORP.

2303 W. 8th St.
Loveland, CO 80537
970 667-9248; Fax: 970 667-3500
LeRoy N. Krings, Acting Sls. Mgr.

COM DEV

155 Sheldon Dr.
Cambridge, Ontario, Canada N1R 7H6
519 622-2300; Fax: 519 622-1691
Peter Mabson, VP Mktg.

COMARK COMMUNICATIONS, INC.

P.O. Box 229
Southwick, MA 01077
413 569-5939; Fax: 413 569-0679
Ken Barker

COMDEL, INC.

126 Sohler Rd.
Beverly, MA 01915
508 927-3144; Fax: 508 921-8205
Ted Johnson, Pres.

COMET NORTH AMERICA, INC.

11 Belden Ave.
Norwalk, CT 06850
203 852-1231; Fax: 203 838-3827
Lance A. Scott, Mgr., Ind. Prods.

COMLINEAR CORP.

4800 Wheaton Dr.
Fort Collins, CO 80525
303 226-0500; Fax: 303 226-0564
Art Ryder, VP, Sls.

COMMAND SCIENCES LOCUS

P.O. Box 740
State College, PA 16804
814 466-6275; Fax: 814 466-3341
Mike Wilson

COMMUNICATION CERTIFICATION LABORATORY

1940 W. Alexander St.
Salt Lake City, UT 84119-2039
801 972-6146; Fax: 801 972-8432
John Chase, Mktg. Rep.

HF Linear Amplifiers Per Motorola Bulletin

- Broadband Transformers
- Rf Transistors
- Power Splitter Combiners
- Semi Rigid Coax

CCI Communication Concepts Inc.

513-426-8600 • 513-429-3811

COMMUNICATION CONCEPTS, INC.

508 Millstone Dr.
Beavercreek, OH 45434
513 426-8600; Fax: 513 429-3811
Marlis Southworth, Sec'y./Treas.
See Our Ad On Page 24

COMMUNICATION SOLUTIONS, INC.

7034 Golden Ring Rd.
P.O. Box 9694
Baltimore, MD 21237
410 574-4557; Fax: 410 574-4559
Robert Biller, Pres.

COMMUNICATION TECHNIQUES, INC.

9 Whippary Rd.
Whippany, NJ 07981
201 884-2580; Fax: 201 887-6245
John Marino, Sales

COMMUNICATIONS & ENERGY CORP.

7395 Taft Park Dr.
E. Syracuse, NY 13057
315 452-0709; Fax: 315 452-0732
Emily Bostick, Pres.

COMMUNICATIONS INSTRUMENTS, INC. (CII)

Box 520
Fairview, NC 28730
704 628-1711; Fax: 704 628-1439
R. McClinton, VP Sales/Mktg.

COMMUNICATIONS SPECIALISTS, INC.

426 W. Taft Ave.
Orange, CA 92665-4296
800 854-0547; Fax: 714 974-3420
Robert Porter, Mktg. Dir.

RF company index

COMPAC DEVELOPMENT CORP.

1320-13 Lincoln Ave.
Holbrook, NY 11741
516 585-3400; Fax: 516 585-3534
C.F. Groves, VP

COMPACT SOFTWARE, INC.

201 McLean Blvd.
Paterson, NJ 07504
201 881-1200; Fax: 201 881-8361
Todd Westerhoff, VP Mktg.

COMPASS COMMUNICATIONS, INC.

435 E. Main St., Ste. K-1
Greenwood, IN 46143
317 889-8918; Fax: 317 889-8918
Noel Atkinson, Pres.

COMPENSATED DEVICES, INC.

166 Tremont St.
Melrose, MA 02176
617 665-1071; Fax: 617 665-7379
Thomas Briand, Natl. Sales Mgr.



48 HR Delivery

**SELECTED SINGLE-LAYER
VALUES & SIZES CAP**

SUBSTRATES ROW CAPS

(609)596-9388 • FAX (609)596-3482

COMPEX CORP.

238 Taunton Blvd.
Medford, NJ 08055
609 596-9388; Fax: 609 596-3482
Carole Ennis, Gen. Mgr.

COMPONENT DISTRIBUTORS, INC. (FL)

2380 S. River Rd.
Melbourne Beach, FL 32951
407 723-8874; Fax: 407 951-4017
John Williammee

COMPONENT DISTRIBUTORS, INC. (TX)

710 E. Park Blvd., Ste. 108
Plano, TX 75074
214 578-2644; Fax: 214 578-2208
Scott Montgomery, Ops. Mgr.

COMPONENT GENERAL, INC.

2445 Success Dr.
Odessa, FL 33556
813 376-6655; Fax: 813 372-9096
Thomas Floridio, Sls. Mgr.

COMPOSITECH, LTD.

120 Ricefield Ln.
Hauppauge, NY 11788-2008
516 436-5200; Fax: 516 436-5203
Fred Klimpl, Pres

COMSAT RSI - ANGHEL LABORATORIES

101 Roundhill Dr.
Rockaway, NJ 07866
201 627-5981; Fax: 201 627-2673
Steve Sharif, Sls. Dir.

COMSAT RSI MARK ANTENNAS

1757 S. Winthrop Dr.
Des Plaines, IL 60018
708 298-9420; Fax: 708 635-7946
Al Crego, VP Mktg.

COMSTRON, DIV. OF AEROFLEX LABORATORIES, INC.

35 South Service Rd.
Plainview, NY 11803
516 694-6700; Fax: 516 694-6771
William Meditz, Sales Mgr.

COMTRAN INTEGRATED SOFTWARE, DIV. OF JENSEN TRANSFORMERS, INC.

7135 Hayvenhurst Ave.
Van Nuys, CA 91406
213 876-0059; Fax: 818 763-4574
Dave Hill, VP Ops.

CONAP, INC.

1405 Buffalo St.
Olean, NY 14760
716 372-9650; Fax: 716 372-1594
John Brewer, Mktg. Svcs. Mgr.

CONCORD ELECTRONICS CORP.

30 Great Jones St.
New York, NY 10012
212 777-6571; Fax: 212 995-0161
Josie Wheaton, VP Sls.

CONDENSER PRODUCTS

2131 Broad St.
Brooksville, FL 34609
904 796-3561; Fax: 904 799-0221
W.I. Mason

CONDOR SYSTEMS

2133 Samaritan Dr.
San Jose, CA 95124
408 371-9580; Fax: 408 371-9589
Traci Telles, Mktg. Comm.

CONDUCTIVE SYSTEMS, INC.

R.D. #1, Rte. 5 South
Amsterdam, NY 12010
518 843-5740; Fax: 518 843-5829
Marc Paglialonga

CONNECTING DEVICES, INC.

P.O. Box 92619
Long Beach, CA 90809-2619
310 498-0901; Fax: 310 494-0955
W.E. Carpenter, Sls. Mgr.

CONNECTOR GAGE CO.

4270 Dow Rd., Unit 209
Melbourne, FL 32934
407 259-9688; Fax: 407 259-9681
Steve McGeary, Mktg. Dir.

CONNECTRONICS, INC.

908 S. Walnut St.
P.O. Box 246
Edinburgh, IN 46124
812 526-8801; Fax: 812 526-9333
Michael Brewer, Sales

CONNOR-WINFIELD CORP.

2111 Comprehensive Dr.
Aurora, IL 60505
708 851-4722; Fax: 708 851-5040
Barney III, Dir. Sls./Mktg.

CONSUMER MICROCIRCUITS, LTD.

1 Wheaton Rd.
Witham, Essex, UK CM8 3TD
+44 376-513833; Fax: +44 376 518247
Arun Talukdar, Publicity Officer

CONTACT EAST

335 Willow St. South
N. Andover, MA 01845
508 682-2000; Fax: 508 688-7829
Heather Parks, Media

CONTINENTAL MICROWAVE AND TOOL CO. INC.

10 Merrill Industrial Dr.
Hampton, NH 03842
603 926-3595; Fax: 603 926-9877
Joseph Ripel, Dir. Pgms./Eng'g.

CONTINENTAL MICROWAVE TECHNOLOGY INC.

7 Alexander Pl.
Glen Cove, NY 11542
516 759-5600; Fax: 516 759-5603
Sherry Farino, Office Mgr.

CONTINENTAL RESOURCES, INC.

175 Middlesex Turnpike
Bedford, MA 01730
800 937-4688; Fax: 617 275-2046
Ann Dempsey, Mktg. Mgr.

CONTROL CONCEPTS CORP.

328 Water St.
P.O. Box 1380
Binghamton, NY 13902
607 724-2484; Fax: 607 722-8713
Sarah Beadle, Mgr., Mktg. Svcs.

CONTROL DEVICES, INC.

228 Northeast Rd.
Standish, ME 04084
207 642-4535; Fax: 207 642-0198
Marty Geesaman, Sls. Engrn.
See Our Ad On Page 121

COORS CERAMICS CO.

600 Ninth St.
Golden, CO 80401
303 278-4000; Fax: 303 277-4901
Tom Glass

CORCOM, INC.

844 E. Rockland Rd.
Libertyville, IL 60048
708 680-7400; Fax: 708 680-8169
Donna Dremo

CORNELL DUBILIER

140 Technology Pl.
P.O. Box 128
Liberty, SC 29671
803 843-2277; Fax: 803 843-3800
Renee Halstead, Mktg. Comm.

CORRY MICRONICS, INC.

512 W. Main St.
P.O. Box 383
Corry, PA 16407
814 664-7728; Fax: 814 664-4582
Tim Abbott, Pres.

CORTEC, INC.

5100 E. La Palma, Ste. 116
Anaheim, CA 92807
714 779-0911

COTO WABASH

55 DuPont Dr.
Providence, RI 02907
401 943-2686; Fax: 401 942-0920
Kim Creta, Mktg. Spec.

RF company index



COUGAR COMPONENTS

384 Santa Trinita Ave.
Sunnyvale, CA 94086
408 522-3838; Fax: 408 522-3839
Christine Parra, Sls.

CROVEN CRYSTALS LTD.

500 Beech St.
P.O. Box 420
Whitby, Ontario, Canada L1N 5S5
905 668-3324; Fax: 905 668-5003
Robert McCormick, Mktg. Mgr.

CRYSTAL OSCILLATOR DESIGN CONSULTANT

420 Amaranth Rd.
Kiawah Island, SC 29455
803 768-7420; Fax: 803 768-7420
Albert Benjaminson, Elec. Consultant

CRYSTAL SEMICONDUCTOR CORP.

4210 S. Industrial Dr.
P.O. Box 17847
Austin, TX 78760
512 445-7222; Fax: 512 445-7581
Craig Ensley

CRYSTAL TECHNOLOGY INC.

1040 E. Meadow Cir.
Palo Alto, CA 94303
415 856-7911; Fax: 415 858-0944
John Fowler

CRYSTEK CRYSTAL CORP.

2351 Crystal Dr.
Fort Myers, FL 33807
813 936-2109; Fax: 813 939-4226
Lynn Thorsen

CUBIC COMMUNICATIONS, INC.

9233 Balboa Ave.
P.O. Box 85587
San Diego, CA 92123
619 277-6780; Fax: 619 277-9353
Dr. C. Winkler, Dir. Engrn.

CUBIC DEFENSE, INC.

P.O. Box 85587
San Diego, CA 92186-5587
619 277-6780; Fax: 619 277-8819
David Miller

CUMING CORP.

230 Bodwell St.
Avon, MA 02822
800 432-6464, 508 580-2660; Fax: 508 580-0760
David W. Turi, Sls. Mgr.

CURTIS INDUSTRIES

2400 S. 43rd St.
Milwaukee, WI 53219
414 649-4200; Fax: 414 649-4215
Alan M. Hungsberg, Natl. Sls. Mgr.

CUSHCRAFT/SIGNALS

48 Perimeter Rd.
P.O. Box 4680
Manchester, NH 03103
603 627-7877; Fax: 603 627-1764
Glen Whitehouse, Pres.

CUSTOM COMPONENTS, INC.

Rt. 22 E./Salem Ind. Park
P.O. Box 334
Lebanon, NJ 08833
908 534-6151; Fax: 908 534-5625
Charles Blaine, Pres.

CUSTOM MICROWAVE COMPONENTS

5640 Stewart Ave.
Fremont, CA 94538
510 651-3434; Fax: 510 651-1054
Gregory Mau, Pres.

CYNETICS CORP.

3824 Jet Dr.
Rapid City, SD 57709
605 394-6430; Fax: 605 394-6456
Dan Mulally, VP

CYTEC CORP.

2555 Baird Rd.
Penfield, NY 14526
716 381-4740; Fax: 716 381-0475
Harry Turner, Pres.

D

D.A.T.A.

15 Inverness Way E.
P.O. Box 6510
Englewood, CO 80155-6510
800 447-4666; 303 799-0381; Fax: 303 799-4082
Doug Hannah

DB CONTROL

1120 Auburn St.
Fremont, CA 94538
510 656-2325; Fax: 510 656-3214
Larry Newbold, Dir. Sls./Mktg.

DB PRODUCTS, INC.

253 N. Vinedo Ave.
Pasadena, CA 91107
818 449-3790; Fax: 818 449-7169
Bob Van, Sales Mgr.

DC TO LIGHT

234 E. Babcock
P.O. Box 7140
Bozeman, MT 59771
406 586-5399; Fax: 406 586-6556
Daniel Bartlett, Analog Engrn.

DGS ASSOCIATES

125 Willow Rd., Ste. 205
Menlo Park, CA 94025
415 325-4373; Fax: 415 325-7278
George Szentirmai, Pres.

DKD INSTRUMENTS

1406 Parkhurst St.
Simi Valley, CA 93065
805 581-5771; Fax: 805 583-8270
Dan Doberstein, Pres.

D.L.S. ELECTRONIC SYSTEMS, INC.

1250 Peterson Dr.
Wheeling, IL 60090
708 537-6400
Donald Sweeney, Pres.

DSM ENGINEERING PLASTICS

P.O. Box 3333
Evansville, IN 47732
812 424-3831
Steve Urdanoff

DADEN ASSOCIATES, INC.

1001 Calle Amanecer
San Clemente, CA 92673-6260
714 366-1522; Fax: 714 366-9600
Maureen Thomas, Sales Coord.



Daico Industries, Inc.

- Switches
- Attenuators
- Phase Shifters
- Integrated Circuits
- Modulators
- Amplifiers

2351 East Del Amo Boulevard
Rancho Dominguez, CA 90220
Tel 310-631-1143 • Fax 310-631-8078

DAICO INDUSTRIES

2453 E. Del Amo Blvd.
Rancho Dominguez, CA 90220
310 631-1143; Fax: 310 631-8078
Kevin Townsend, Dir., Sales & Mktg.

DAJEM TECHNOLOGY CO.

2 Pudding Ln.
Dix Hills, NY 11746-6118
516 491-1124
Irwin Share, Pres.

DALE ELECTRONICS, INC.

1122 - 23rd St.
P.O. Box 609
Columbus, NE 68601
402 564-3131; Fax: 402 563-6418
Margaret Nowicki, Ad. Mgr.

DATARADIO CORP.

6160 Peachtree Dunwoody Rd., Ste. 200
Atlanta, GA 30328
770 392-0002; Fax: 770 392-9199
Steve Beeferman, VP, Mktg./USA

DATEL, INC.

11 Cabot Blvd.
Mansfield, MA 02048
508 339-3000; Fax: 508 339-6356
Bob Leonard, Prod. Mgr.

DATRON/TRANSCO, INC.

200 W. Los Angeles Ave.
Simi Valley, CA 93065
805 584-1717; Fax: 805 584-1709
Debbie Francis, Mktg. Assoc.

DATRON WORLD COMMUNICATIONS, INC.

304 Enterprise St.
Escondido, CA 92025
619 747-1079; Fax: 619 741-1658
R. LaRose, VP, Comm. Prods.

DATUM/AUSTRON

P.O. Box 14766
Austin, TX 78761-4766
512 251-2341; Fax: 512 351-9685
Ron Chapin

DAVICOM TECHNOLOGIES INC.

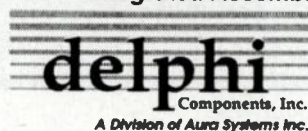
2765 De L'Industrie
Trois-Rivieres, Quebec, Canada G8Z 3X9
819 370-4343; Fax: 819 370-4353
Francois Robitaille, Dir. Eng./Mktg.

RF company index

DAWN ELECTRONICS, INC.
1004 Mallory Way
Carson City, NV 89701
702 882-7721; Fax: 702 882-7675
Lynn Palma

DECIBEL PRODUCTS
P.O. Box 569610
Dallas, TX 75356-9610
214 631-0310; Fax: 214 631-4706
Devra Fuller, Mktg. Admin.

- **Voltage Controlled Oscillators**
- **Phase Locked Oscillators**
- **Frequency Synthesizers**
- **Radar Receivers**
- **Subsystems**
- **Integrated Assemblies**



27721-A La Paz Road
Laguna Niguel CA 92677
Ph: 714-831-1771 Fax: 714-831-0862

DELPHI COMPONENTS, INC., A DIV. OF AURA SYSTEMS, INC.

27721-A, La Paz Rd.
Laguna Niguel, CA 92677
714 831-1771; Fax: 714 831-0862
Ron Earl, Sales Mgr.

DELTA ELECTRONICS MFG. CORP.
416 Cabot St.
P.O. Box 53
Beverly, MA 01915-0053
508 927-1060; Fax: 508 922-6430
Jim Gillen, Natl. Sales Mgr.

DELTA MICROWAVE, INC.
840 Via Alondra
Camarillo, CA 93012
805 987-6892; Fax: 805 987-7594
Chester Rowley, VP

DELTRONIC CRYSTAL INDUSTRIES, INC.
60 Harding Ave.
Dover, NJ 07801
201 361-2222; Fax: 201 361-0722
Joe Maida

DENSITRON MICROWAVE LTD.
4 Chandlers Way, Temple Farm Ind. Estate
Southend-On-Sea, Essex, UK SS2 5SE
44 1702 463440; Fax: 44 1702 463670
Jacqueline Caine, Sales Mgr./Mktg.

DESIGN AUTOMATION, INC.
4 Tyler Rd.
Lexington, MA 02173-2404
617 862-8998; Fax: 617 862-3769
Nathan Sokal, Pres.

DESIGN & EVALUATION, INC.
1451 B. Chews Landing Rd.
Laurel Springs, NJ 08021
609 228-3800; Fax: 609 228-9294
Walter Smith

DESIGN TECHNIQUE INTERNATIONAL
7513 Quakertown Ave.
P.O. Box 3605; 91396-3605
Winnetka, CA 91306-2925
818 701-1251; Fax: 818 701-6046
Judi Thompson, Mgr., Admin.

DESKIN RESEARCH GROUP, INC.
2270 Agnew Rd.
Santa Clara, CA 95054
800 245-1455, 408 562-9015; Fax: 408 496-5354
Rokki Leonard, Dir. of Mktg.

DETRONICS CORP.
10660 E. Rush
South El Monte, CA 91733
818 579-7130; Fax: 818 579-1936
Richard Baroda, Pres.

DETROIT TESTING LABORATORY, INC.
7111 E. Eleven Mile
P.O. Box 0869
Warren, MI 48090-0869
810 754-9000; Fax: 810 754-9045
Kelly Wyatt, Mktg.

DEYOUNG MFG., INC.
12920 NE 125th Way
Kirkland, WA 98034
206 823-4798; Fax: 206 821-8633
Ted Johnson, Sls. Mgr.

DIELECTRIC COMMUNICATIONS
Tower Hill Rd.
P.O. Box 949
Raymond, ME 04071
207 655-4555; Fax: 207 655-7120
Rolf Olsen, Dir. RF Sales

DIELECTRIC LABORATORIES, INC.
2777 Route 20 E.
Cazenovia, NY 13035
315 655-8710; Fax: 315 655-8179
G. Vorlop, Sales & Mktg. Mgr.

DIELECTRIC SCIENCES, INC.
88 Turnpike Rd.
Chelmsford, MA 01824
508 250-1507; Fax: 508 250-1699
David J. Leary, Sales Engin.

DIGI-KEY CORP.
701 Brooks Ave. S.
P.O. Box 677
Thief River Falls, MN 56701
218 681-6674; Fax: 218 681-3380
Stan Springsteen, VP

DIGIMAX INSTRUMENTS CORP.
7544 Trade St.
San Diego, CA 92121
619 578-7171; Fax: 619 578-4714
Dan Burton

DIGITAL WIRELESS CORP.
One Mega Way
Norcross, GA 30093
770 564-5540; Fax: 770 564-5541
Robert Gemmell, VP, Mktg. & Bus. Dev.

DIRAD DEFENSE SYSTEMS CORP.
601 S. Pacific Coast Hwy.
Redondo Beach, CA 90277
310 316-4114; Fax: 310 543-1256
Arvin L. Perry, Mgr. Prod. Dev.

DIRECTED ENERGY, INC. (DEI)
2301 Research Blvd., Ste. 105
Ft. Collins, CO 80526
970 493-1901; Fax: 970 493-1903
Ronald Sherwood, Pres.

DITOM MICROWAVE, INC.
1190 Coleman Ave., #103
San Jose, CA 95110
408 727-1201; Fax: 408 727-1204
Dick Hassett, Sls. Mgr.

DORADO INTERNATIONAL CORP.
270 S. Hanford St., M/S 204
Seattle, WA 98134
206 583-0000; Fax: 206 583-0345
Harry Rutstein, Pres.

DORNE & MARGOLIN, INC.
2950 Veterans Memorial Hwy.
Bohemia, NY 11716
516 585-4000; Fax: 516 585-4810
Steve Spaulding

DOUGLAS INTEGRATED SOFTWARE
1350-E4 Mahan Dr., Ste. 160
Tallahassee, FL 32308
904 656-8673; Fax: 904 942-7775
Douglas Perry, Pres.

DOWKEY MICROWAVE CORP.
1667 Walter St.
Ventura, CA 93003
805 650-0260; Fax: 805 650-1734
Cindy Nesheim, Cust. Svc. Mgr.

DRANETZ TECHNOLOGIES, INC.
1000 New Durham Rd.
Edison, NJ 08818
908 287-3680; Fax: 908 248-9240
Jim Toy, Mgr. Corp. Comm.

DRESSLER HF TECHNIK GMBH
Werther Str. 14-16
Stolberg, Germany D-52224
(49) 2402 71091; Fax: (49) 2402 71095
Ulrich Hansen, Pres.

DURA ELECTRONIC SALES
21710 Stevens Creek Blvd., Ste. 240
Cupertino, CA 95014
408 255-2084; Fax: 408 446-3217
Robin Williams, Ofc. Admin.

DYKO PRECISION, INC.
89G Washington Ave.
Natick, MA 01760
508 650-9701; Fax: 508 650-4912
A.R. Fiorentino, Pres.

DYMA ENGINEERING
367 Main St.
P.O. Box 1535
Los Lunas, NM 87031
505 865-6700; Fax: 505 865-6776
Darrel Clement, Sales Mgr.

DYNALLOY, INC.
7 Great Meadow Ln.
E. Hanover, NJ 07936-1709
201 887-9270; Fax: 201 887-3678
Sam Ringel, Pres.

DYNAMIC SCIENCES, INC.
6130 Variel Ave.
Woodland Hills, CA 91367
818 226-6262; Fax: 818 226-6247
J. O'Brien, Sales Mgr.

DYNATECH TACTICAL COMMUNICATIONS, INC.
77 Northeastern Blvd.
Nashua, NH 03062
603 880-4411; Fax: 603 880-6965
Spencer Webb, Ant. Engr.

DYNAWAVE, INC.
94 Searle St.
P.O. Box 210
Georgetown, MA 01833
508 352-7800; Fax: 508 352-7255
Christopher Lewis, Pres.

RF company index

DYNETIC SYSTEMS CO.

50 Cleveland Ave., S.W.
P.O. Box 120118
St. Paul, MN 55112
612 639-1178; Fax: 612 639-0841
Randy Cordes, Sls./Mktg. Mgr.

DYNETICS, INC.

1000 Explorer Blvd.
P.O. Drawer B
Huntsville, AL 35814-5050
205 922-9230; Fax: 205 922-9255
Michelle Reavis, Prod. Dev.

E

EDC FREQUENCY PRODUCTS

9075 Cody
Overland Park, KS 66214
913 888-1750; Fax: 913 888-1260
Janice Smeall, Sales Mgr.

EDO CORP/BARNES ENGINEERING DIV.

88 Long Hill Cross Roads
Shelton, CT 06484-0867
203 926-1777; Fax: 203 926-1030
Robert Stetson, Dir., Mktg./Sls.

E.E. PUBLIC DOMAIN LIBRARY

36 Irene Lane E.
Plainview, NY 11803
516 822-1697
Gerry Harrison

EEV, INC.

4 Westchester Plaza
Elmsford, NY 10523
914 592-6050; Fax: 914 682-8922
Ann Sayers, Pub. Mgr.

EF DATA CORP.

2105 W. 5th Pl.
Tempe, AZ 85282
602 968-0447; Fax: 602 921-9012
PR/Adv. Mgr.

EIP MICROWAVE, INC.

1589 Centre Pointe Dr
Milpitas, CA 95035
800 232-3471; 408 945-1477; Fax: 408 945-0977
Steve Ashby, App. Engin.

E.I.S.

300 N. Mannheim
Hillside, IL 60162
708 547-5400; Fax: 708 547-7538
Ed Partyka, Mktg. Mgr.

E/M CORP.

P.O. Box 2400
W. Lafayette, IN 47906
317 497-6346; Fax: 317 497-6348
L. Horwedel, Pres.

Indicates Advertiser



RESEARCH ENGINEERING, INC.

2705 HIGHWAY 40
SUITE 501
VERDI, NV 89439

P.O. BOX 1347
VERDI, NV 89439

TEL: (702) 345-2411
FAX: (702) 345-1030

RF/MICROWAVE PRODUCTS
10 MHz TO 14 GHz

PHASE LOCKED OSCILLATORS
SYNTHESIZERS
MULTIPLIERS
POWER AMPLIFIERS
BROADBAND AMPLIFIERS
MICROWAVE ASSEMBLIES

EM RESEARCH ENGINEERING, INC.

2705 Hwy. 40 #301
P.O. Box 1247
Verdi, NV 89439
702 345-2411; Fax: 702 345-1030
Matthew Eiting, VP

EMC CONSULTING

4024 Fray Dr.
Silver City, NM 88061
505 388-5512; Fax: 505 388-4277
Roger Southwick, Owner

EMC SERVICES INC.

P.O. Box 2504
Huntsville, AL 35804-2504
205 461-0241
Mark Nave

EMC TECHNOLOGY, INC.

1971 Old Cuthbert Rd.
Cherry Hill, NJ 08034
609 429-7800; Fax: 609 429-6814
Dave Markman, Dir., Sls./Mktg.

EMCC DR. RASEK

Moggast 72-74
D-91320 Ebermannstadt, Germany
(01149)-9194-9016; Fax: (01149)-9194-8125
Dr. Werner Rasek, Pres.

EMCI

6955 Camino Degrazia
San Diego, CA 92111
619 565-4833; Fax: 619 565-7102
Gerald C. Paige



EMCO

2205 Kramer Ln.
P.O. Box 1546 (78767)
Austin, TX 78758
800 253-3761; Fax: 512 835-4684
Don Fogle, Mktg. Coord.

EMCO HIGH VOLTAGE CO.

11126 Ridge Rd.
P.O. Box 1025
Sutter Creek, CA 95685
209 223-3626; Fax: 209 223-2779
Jennifer Jackson, Mktg. Mgr.

EMF-EMI CONTROL

6193 Finching Field Rd.
Gainesville, VA 22065
703 347-0030; Fax: 703 347-5813
Peggy Settle

EMF SYSTEMS

121 Science Park
State College, PA 16803
814 237-5738; Fax: 814 237-7876
Joan Chernega, Owner

EMI FILTER CO.

9075 A 130th Ave. N.
Largo, FL 34643
800 323-7990; 813 585-7990; Fax: 813 586-5138
Larry Nordquist, Prod. Mgr.



ENI - A DIV. OF ASTEC AMERICA, INC.

100 Highpower Rd.
Rochester, NY 14623
716 292-7440; Fax: 716 427-7839
Ed Maier, Senior VP
See Our Ad On Page 5

ERA TECHNOLOGY LTD.

Cleeve Rd.
Leatherhead, Surrey, England KT22 7SA
+44 1372 367000; Fax: +44 1372 367000
D. Baynes, Info. Svcs. Mgr.

ESC ELECTRONICS CORP.

534 Bergen Blvd.
Palisades Park, NJ 07650
201 947-0400; Fax: 201 947-0406
Richard Peressini, Chf. Engrn.

ETL TEST LABS

4317-A Park Dr. N.W.
Norcross, GA 30093
770 425-2444
Louis A. Feudi, Sls. Mgr.

EZ FORM CABLE CORP.

315 Peck St. #24
New Haven, CT 06513
203 785-8215; Fax: 203 785-0466
Frank Volpe

EAGLE

2035 Contractor's Rd. #8
P.O. Box 4010
Sedona, AZ 86340
520-204-2597; Fax: 520-204-2568
James S. Beck, Owner

EAGLE MAGNETIC CO., INC.

P.O. Box 24283
Indianapolis, IN 46224
317 297-1030; Fax: 317 299-1323
Gary Noble, Sales

EAGLEWARE CORP.

1750 Mountain Glen
Stone Mtn., GA 30087
770 939-0156; Fax: 770 939-0157
Randall Rhea, Pres.

EASTERN MICROWAVE CORP.

10 Lowell Ave.
Winchester, MA 01890
617 721-9800; Fax: 617 721-1661
Steven C. Lowe, VP

RF company index

EASTERN MULTIPLEXERS, INC.
7836-E Airport Rd.
Gaithersburg, MD 20879
301 990-8336; Fax: 301 990-8336
Sargon Assurian, Pres.

ECLIPTEK CORP.
3545 Cadillac Ave.
Costa Mesa, CA 92626
714 433-1200; Fax: 714 433-1234
Robert Zarrow, Mktg. Mgr.
See Our Ad On Page 9

ECONCO
1318 Commerce Ave.
Woodland, CA 95776
800 532-6626; Fax: 916 666-7760
Debbie Baker, Sales

EDCOR MAGNETICS
7130 National Parks Hwy.
Carlsbad, NM 88220
505 887-6790; Fax: 505 887-6880
Larry Weston

EFFECTIVE SHIELDING CO., INC.
450 W. Gay St.
West Chester, PA 19380
610 429-9449; Fax: 610 429-9445
Mark Brozyno, Sales Mgr.

EFRATOM
3 Parker
Irvine, CA 92718-1605
714 770-5000; Fax: 714 770-2463
Caroline Moyer, Bus. Rel. Asst.

EFRATOM TIME & FREQUENCY PRODUCTS INC.
3 Parker
Irvine, CA 92718-1696
714 770-5000; Fax: 714 770-2463
Caroline Moyer, Bus. Rel.

EHRHORN TECHNOLOGICAL OPERATIONS, INC.
4975 N. 30th St.
Colorado Springs, CO 80919
719 260-1191; Fax: 719 260-0395
Don Fowler, VP Engin.

ELANIX INC.
5655 Lindero Canyon Rd., Ste. 304
Westlake Village, CA 91362
818 597-1414; Fax: 818 597-1427
Patrick J. Ready, Pres.

ELANTEC
1996 Tarob Ct.
Milpitas, CA 95035
408 945-1323; Fax: 408 945-9305
Pat Mayer, Marcom Mgr.

ELASTOMERIC TECHNOLOGIES, INC.
2940 Turnpike Dr.
Hatboro, PA 19040
215 672-0787
John Seibert

ELCOM SYSTEMS, INC.
932 Clint Moore Rd.
Boca Raton, FL 33487-2895
407 994-1774; Fax: 407 994-1770
Leonard Pollachek, Pres.

ELECTRICAL INSULATION SUPPLIERS, INC.
300 N. Mannheim Rd.
Hillside, IL 60162
708 547-5400; Fax: 708 544-7297
Ed Partyka, Mktg. Mgr.

ELECTRO-ASSEMBLIES
425 Huehl, Bldg. 17
Northbrook, IL 60062
708 498-6520; Fax: 708 272-2915
Tony Ha

ELECTRO COM
5325 Cargas Dr.
Agoura, CA 91301
818 991-1940; Fax: 818 991-1949
Bob Borden

ELECTRO DYNAMICS CRYSTAL CORP.
9075 Cody
Overland Park, KS 66214
913 888-1750; Fax: 913 888-1260
Janice Smeall, Sls. Mgr.
See Our Ad On Page 33

ELECTRO IMPULSE LABORATORY, INC.
1805 Corlies Ave.
P.O. Box 278
Neptune, NJ 07754-0278
908 776-5800; Fax: 908 776-6793
Mark Rubin, Pres.

ELECTRO-MECH COMPONENTS, INC.
1826 Floradale Ave.
South El Monte, CA 91733
818 442-7180; Fax: 818 350-8070
Terry Trumbull, VP

ELECTRO-METRICS, INC.
100 Church St.
Amsterdam, NY 12010-4299
518 843-2600; Fax: 518 843-2812
Valerie Zabo, Mktg. Svcs. Coord.

ELECTRO RENT
1865 Corporate Dr., Ste. 220
Norcross, GA 30093
770 925-9199
Mktg.

ELECTRO RENT CORP.
6060 Sepulveda Blvd.
Van Nuys, CA 91411
800 688-1111; Fax: 818 786-3830
Gary Phillips, Sr. VP

ELECTROMAGNETIC ENERGY ASSOC.
1255 23rd St. NW, Ste. 850
Washington, DC 20037-1174
202 452-1070; Fax: 202 833-3636
Dinah McElfresh, Exec. Dir.

ELECTRONIC CONCEPTS, INC.
526 Industrial Way W.
P.O. Box 1278
Eatontown, NJ 07724
908 542-7880; Fax: 908 542-0524
Robert Landis, Adv. Mgr.

ELECTRONIC RESEARCH CO.
7618 Wedd St.
Overland Park, KS 66204
913 631-6700; Fax: 913 631-7849
Charles Ditzler

ELECTRONIC SURVEILLANCE COMPONENTS, INC.
33328 Howe Ln.
Creswell, OR 97426
510 790-0537; Fax: 510 790-1889
Joe Balaty, Pres.

ELECTROSWITCH CORP.
180 King Ave.
Weymouth, MA 02188
617 335-5200
W. Mello

ELGIN ELECTRONICS
5533 New Perry Hwy.
Erie, PA 16509
814 864-4921; Fax: 814 864-1260
Connie Wilshire

ELISRA C/O EXIMIN TELECOM
350 Fifth Ave., S-1925
New York, NY 10118
212 572-8391; Fax: 212 572-8392
Herz Hirschberg, Pres.
See Our Ad On Page 10

ELISRA ELECTRONIC SYSTEMS, LTD.
48 Mitza Kadesh St.
Bene Beraq, Israel 51203
972 3 7545655; Fax: 972 3 7545299
Dror Shlomo
See Our Ad On Page 10

EMHISER MICRO-TECH
1777 Saratoga Ave. #205
San Jose, CA 95129
408 446-3582; Fax: 408 446-3584
Debra Wagner, Engrn.

EMHISER RESEARCH INC.
2705 Old Hwy. 40 West
P.O. Box 189
Verdi, NV 89439
702 345-2705; Fax: 702 345-2484
Lloyd Lautzenhiser

EMINETICS
1590 Continental St., V201
San Diego, CA 92173
619 575-1500; Fax: 619 575-2512
Fred Nagel, Pres.

EMISSION CONTROL LTD.
12704 W. Arden Pl.
Butler, WI 53007
414 790-0092; Fax: 414 790-0095
Mary Schuman, VP

ENGELHARD CORP.
101 Wood Ave. South, CN-770
Iselin, NJ 08830
908 208-5000
Product Info.

ENGINEERING SOLUTIONS
P.O. Box 570159
Tarzana, CA 91357
818 772-7231
Bruce Acker, Mktg. VP

THE ENGINEERS' CLUB
1737 Silverwood Dr.
San Jose, CA 95124-3835
408 445-2902; Fax: 408 265-2410
Robert Griffith, Owner

ENON MICROWAVE INC.
422 A Boston St.
Topsfield, MA 01983
508 887-2234; Fax: 508 887-2341
J.A. Ward, VP

ENTHONE-OMI INC.
P.O. Box 1900
New Haven, CT 06508
203 934-8611; Fax: 203 799-1513
Stanley Zabrocky, Mgr. of Mktg. Svcs.

ENVIRONMENTAL STRESS SYSTEMS, INC.
16310 N. Morris Rd.
Sonoma, CA 95370
209 928-4900; Fax: 209 928-1117
Alan Dibartolomeo, Mktg. Oper.

RF company index

ENVIRONMENTAL TECHNOLOGY, INC.

1302 High St.
South Bend, IN 46601
800 234-4239; 219 233-1202; Fax: 219 233-2152
Steve Leykauf, Mktg. Mgr.

EON INSTRUMENTATION, INC.

15531 Cabrito Rd.
Van Nuys, CA 91406
818 781-2185; Fax: 818 781-3116
Richard Jones, Pres.

EPITRONICS CORP.

21002 N. 19th Ave., Ste. 5
Phoenix, AZ 85027
602 581-3663; Fax: 602 581-3415
Rebecca J. Mills/Kathy von Burg

EPNER TECHNOLOGY INC.

25 Division Pl.
Brooklyn, NY 11222
718 782-5948; Fax: 718 963-2930
David Epner, Pres.

EPOXY TECHNOLOGY INC.

14 Fortune Dr.
Billerica, MA 01821
508 667-3805; Fax: 508 663-9782
Ann Delmarsh, VP Mktg./Sales

EPSILON LAMBDA ELECTRONICS CORP.

427 Stevens St.
Geneva, IL 60134
708 232-9611; Fax: 708 232-9613
Cheryl Hagerty, Sales/Mktg. Coord.

EPSON AMERICA INC., COMPONENT SALES

20770 Madrona Ave.
Torrance, CA 90503
310 782-0770; Fax: 310 782-5320
Bob Poroshani

EQUIPTO ELECTRONICS CORP.

351 Woodlawn Ave.
Aurora, IL 60506-9988
708 897-4691; Fax: 708 897-5314
Robert Golz, Pres.

EXAR CORP.

2222 Qume Dr.
San Jose, CA 95131
408 434-6400; Fax: 408 943-8245

EXEMPLAR

1184 Fairford Way
San Jose, CA 95129
408 253-4309
Jim Fuchs, Pres.

F

FDK AMERICA, INC.

2270 N. First St.
San Jose, CA 95131
408 432-8331; Fax: 408 435-7478
Cynthia Marcus, Asst. Sales Mgr.

FG ENGINEERING CO.

Box 476
Fredonia, AZ 86022
602 643-7375
Fred Griswold

FSY MICROWAVE Inc.

**High Performance RF
& Microwave Filters
and Multiplexers,
DC to 40 GHz
(410) 381-5700
Fax: (410) 381-0140**

FSY MICROWAVE, INC.

7125 Riverwood Dr.
Columbia, MD 21046
410 381-5700; Fax: 410 381-0140
Bill Forrestel, Pres.

FAIR-RITE PRODUCTS CORP.

1 Commercial Row
P.O. Box J
Walkkill Row, NY 12589
914 895-2055; Fax: 914 895-2629
Mktg. Mgr.

FARADAY TECHNOLOGY, LTD.

Croft Rd. Industrial Estate
Newcastle, Staffordshire, England ST5 0QZ
441 782 661501; Fax: 441 782 630101
C.T. Craig, VP Sls./Mktg.

FARNELL RELAY PRODUCTS

18 Technology Dr.
Irvine, CA 92718
714 727-3001; Fax: 714 727-2109
James Harrison, Mktg. Mgr.

FERRITEC PRODUCTS/LITTON SOLID STATE

3251 Olcott St.
Santa Clara, CA 95054-3095
408 988-1845; Fax: 408 970-9950
Dean Merkley, VP Mktg./Sls.

FERRISHIELD, INC.

350 Fifth Ave., Ste. 7505
New York, NY 10118-7591
212 268-4020; Fax: 212 268-4023
Jeri Olsen, Exec. VP

FERRITE COMPONENTS, INC.

24 Flagstone Dr.
Hudson, NH 03051-4904
603 881-5234; Fax: 603 881-5406
Aldo Elicone, VP Mktg.

FERRO CORP.

1621 S. Rancho Santa Fe Rd.
San Marcos, CA 92069-5118
619 591-3190; Fax: 619 591-0684
Vern Steiger, Prod. Mgr.

FERRO ECA ELECTRONICS CO.

8135 Nathan Cir.
Erie, PA 16509
814 838-2520; Fax: 814 866-1831
William Laneve, Mgr. Sales/Mktg.

FERRONICS, INC.

45 O'Connor Rd.
Fairport, NY 14450
716 388-1020; Fax: 716 388-0036
Sam Reeder, Chairman

FIL-COIL CORP.

409 Railroad Ave.
Westbury, NY 11590-4398
516 333-8444; Fax: 516 333-8485
Henry Sternberg, Sales Rep.

FILTER CONCEPTS, INC.

2624 S. Rousselle St.
Santa Ana, CA 92707
714 545-7003; Fax: 714 545-4607
Les Edelberg

FILTRONETICS, INC.

6010 Parretta Dr.
Kansas City, MO 64120
816 231-7375; Fax: 816 241-0368
Danny Kelly, Mktg. Mgr.

FINNIGAN/TREMETRICS, INC.

2215 Grand Avenue Pkwy.
Austin, TX 78728
512 251-1400; Fax: 512 251-1596
Elaine Moody

FIRST SOURCE, INC.

3190 S. Bascom Ave. #155
San Jose, CA 95124
408 371-1470; Fax: 408 371-6554
Kimberly Johnson, Pres.



FISCHER CUSTOM COMMUNICATIONS, INC.

- Lightning Suppressors
Coaxial-Powerline-Digital
D.C. - 2.4 GHz
- Transient Generators
- R.F. Current Probes

FISCHER CUSTOM COMMUNICATIONS, INC.

2905 W. Lomita Blvd.
Torrance, CA 90505
310 891-0635; Fax: 310 891-0644
Virginia Fischer, Pres.

FLAM & RUSSELL, INC.

P.O. Box 999
Horsham, PA 19044
215 674-5100; Fax: 215 674-5108
Jack Berlekamp, Mktg. Mgr.

ERBTEC ENGINEERING

**RF Amplifiers and Generators
for Medicine and Industry**

- 5MHz to 225MHz
- One to 100KW
- Embedded Controllers

**20 Years of Custom Design
and Manufacturing for
OEM Customers**

ERBTEC ENGINEERING INC.

2760 29th St.
Boulder, CO 80301
303 447-8750; Fax: 303 442-7960
Bruce Murray, Exec. VP

ESCO ASSOCIATES, INC.

524 E. Weddell Dr. #2
Sunnyvale, CA 94089
408 745-1410; Fax: 408 745-0533
Ed Sox, Owner

EVAPORATED COATINGS, INC

2365 Maryland Rd.
Willow Grove, PA 19090
215 659-3080; Fax: 215 659-1275
Stephen Schaffer, VP Mktg.

RF company index

FLANN MICROWAVE INSTRUMENTS, LTD.

Dunmere Rd.
Bodmin, Cornwall, UK PL31 2QL
01208 77777; Fax: 01208 76426
Ian Crane, Engin. Dir.

FLEXCO MICROWAVE, INC.

Karrville Rd.
P.O. Box 174
Port Murray, NJ 07865
908 689-3020; Fax: 908 689-6851
Bill Pote

FLORIDA RF LABS, INC.

P.O. Box 2207
Palm City, FL 34990
800 544-5594; 407 286-9300; Fax: 407 283-5286
Gary Moore, Sls. Mgr.

FLUKE CORP.

P.O. Box 9090, M/S 250E
Everett, WA 98206-9090
800 44-FLUKE (800 443-5853); Fax: 206 356-5116
Sales

FOCUS MICROWAVES INC.

277 Lakeshore Rd.
Pointe-Claire, Quebec, Canada H9S 4L2
514 630-6067; Fax: 514 630-7466
I. Fichtner, Admin. Asst.

FOTEC, INC.

529 Main St.
P.O. Box 246
Boston, MA 02129
800 537-8254; 617 241-7810; Fax: 617 241-8616
Bill Pierce, Sales Rep.

FOTOFABRICATION CORP.

3758 Belmont
Chicago, IL 60618
312 463-6211; Fax: 312 463-3387
Barry Siegel



New Surface Mount

- Crystals
- Oscillators
- TCXO's

Higher Frequencies!
Smaller Packages!

- New Programmable

FOX ELECTRONICS

5570 Enterprise Pkwy.
Fort Myers, FL 33905
813 693-0099; Fax: 813 693-1554
Jerry Hogan, Natl. Sls. Mgr.

FOXCOM

P.O. Box 35746
Los Angeles, CA 90035
310 275-8420; Fax: 310 285-0797
Elliot Michael, Sales Mgr.

FREQUENCY DEVICES INC.

25 Locust St.
Haverhill, MA 01830
800 252-7074, 508 374-0761; Fax: 508 521-1839
Gregory T. Anderson, Pres.

FREQUENCY ELECTRONICS, INC.

55 Charles Lindburg Blvd.
Mitchel Field, NY 11553-3601
516 794-4500; Fax: 516 794-4340
Gene Kushner, Dir. of Mktg.

FREQUENCY MANAGEMENT

15302 Bolsa Chica St.
Huntington Beach, CA 92649
800 477-8852; 305 755-8852; Fax: 305 755-8891
June Harris, East Coast Sales Mgr.

FREQUENCY PRODUCTS, INC.

3475 M. Edison Way
Menlo Park, CA 94025-1813
415 364-0600; Fax: 415 364-2053
John Stover, Sales Mgr.

FREQUENCY SOURCES, INC.

16 Maple Rd.
Chelmsford, MA 01824
508 256-4113; Fax: 508 256-8920
Walter Soble, Sales Mgr.

FREQUENCY AND TIME SYSTEMS, INC.

34 Tozer Rd.
Beverly, MA 01915
508 927-8220; Fax: 508 927-4099
Paul E. Baia, Gen. Mgr.

PETER FROELICH & CO.

3113 Inspiration
P.O. Box 339
Weatherford, TX 76086
800 742-4947; Fax: 817 594-1337
Peter Froehlich, C.E.O.
See Our Ad On Page 122

FROST & SULLIVAN

2525 Charleston Rd.
Mountain View, CA 94043
415 961-9000; Fax: 415 961-5042
Jason Pitkin, Sales Mgr.

FUJITSU COMPOUND SEMICONDUCTOR, INC.

2355 Zanker Rd.
San Jose, CA 95131
408 232-9500; Fax: 408 428-9111
Neil Corpron

FUJITSU MICROELECTRONICS, SEMICONDUCTOR DIV.

3545 N. First St.
San Jose, CA 95134-9030
800 642-7616; Fax: 408 432-9044
Prod. Info.

G

G.C. ELECTRONICS CO.

1801 Morgan St.
Rockford, IL 61102
815 968-9661; Fax: 815 968-9731
Steve Tinkler

GE CAPITAL TEST EQUIPMENT MGMT. SVCS.

6875 Jimmy Carter Blvd. #3500
Norcross, GA 30071
770 246-6200; Fax: 770 246-6460
Doug McClellan, Marcom Mgr.

GE COMPANY, GE SILICONES

260 Hudson River Dr.
Waterford, NY 12188
800 255-8886

GEC-MARCONI MATERIALS TECHNOLOGY, LTD.

9630 Ridgehaven Ct.
San Diego, CA 92123
619 571-7715; Fax: 619 278-0905
Brad Coleman

GEC PLESSEY SEMICONDUCTORS, INC.

1500 Green Hills Rd.
P.O. Box 660017
Scotts Valley, CA 95067-0017
408 439-6047; Fax: 408 438-5576
Andy Davies, Prod. Mktg. Mgr.

G&H TECHNOLOGY, INC.

750 W. Ventura Blvd.
Camarillo, CA 93010
805 484-0543; Fax: 805 987-5062
Tom Moran, Proposal Spec.

GHZ TECHNOLOGY

3000 Oakmead Village Dr.
Santa Clara, CA 95051-0808
408 986-8031; Fax: 408 986-8120
Carl F. Martens, Sales Mgr.

GRE AMERICA, INC.

425 Harbor Blvd.
Belmont, CA 94002
800 233-5973, 415 591-1400; Fax: 415 591-2001
John T. Mayeda, Mktg./Sls. Coord.

GTC

RF Products

GTC

216 W. Florence Ave.
Inglewood, CA 90301-1213
310 673-8422; Fax: 310 672-2905
Al Barrios, VP

GABRIEL ELECTRONICS INC.

P.O. Box 70
Scarborough, ME 04070
207 883-5161; Fax: 207 883-4469
Susan Williams, NA Sls. Mgr.

GALLAGHER & ASSOCIATES

1145 Linn Ridge Rd.
Mount Vernon, IA 52314
319 895-8042; Fax: 319 895-6455
Donald C. Gallagher, Pres.
See Our Ad On Page 122

GAMMA-F CORP.

3111 Fujita
Torrance, CA 90505
310 539-6704; Fax: 310 539-7463
Gary Peale, Sls. Mgr.

GARMIN INTERNATIONAL

9875 Widmer Rd.
Lenexa, KS 66215-1239
913 599-5465
Jon Cassat

GEESAMAN SOFTWARE, INC.

RR2 Box 9480
Seabago Lake, ME 04075
207 642-2728; Fax: 207 642-2728
Martin Geesaman, Owner
See Our Ad On Page 121

RF company index

GEMTRONIC ENGINEERING, LTD.

210-39 Robertson Rd.
Nepean, Ontario, Canada K2H 8R2
613 342-2938
Hedley Dykes, Pres.

GENERAL MICROCIRCUITS CORP.

780 Boston Rd.
Billerica, MA 01821
508 663-9101; Fax: 508 663-9101
Michael Lioz, Pres.

GENERAL MICROWAVE CORP.

5500 New Horizons Blvd.
Amityville, NY 11701
516 226-8900; Fax: 516 226-8966
Art Caggiano, Prod. Mgr.

GENERAL SERVICES ENGINEERING, INC.

9729 Philadelphia Rd.
Baltimore, MD 21237
410 574-5525; Fax: 410 574-5907
Gary Hoffman, Pres.

GENISCO ELECTRONICS/POTTER PRODUCTION CORP.

22048 Sherman Way, Ste. 316
Canoga Park, CA 91303
800 655-7889, 818 347-9650; Fax: 818 347-9604
Tom Hudson, Prod. Mgr.

GENNUM CORP.

970 Fraser Dr.
P.O. Box 489, Stn. A
Burlington, Ontario, Canada L7R 3Y3
905 632-2999; Fax: 905 632-2055
Ken Smith, Sales Mgr.

GETTYSBURG TRANSFORMER CORP.

1380 Old Harrisburg Rd.
P.O. Box 4356
Gettysburg, PA 17325
717 334-2191; Fax: 717 334-4961
Charles Ritter

GIGA-TRONICS, INC.

4650 Norris Canyon Rd.
San Ramon, CA 94583
510 328-4650; Fax: 510 328-4700
Scott Zimmerman

GIGA-TRONICS, POWER MEASUREMENTS DIV.

488 Tasman Dr.
Sunnyvale, CA 94089
408 734-5780; Fax: 408 747-1265

GILBERT ENGINEERING CO., INC.

5310 W. Camelback Rd.
Glendale, AZ 85301
602 245-1050; Fax: 602 934-5160
Richard F. Dentremon, Prod. Mgr.

GILTRON, INC.

104 Adams St.
P.O. Box 187
Medfield, MA 02052
508 359-4310; Fax: 508 359-4317
Fred Pittman, V.P.

GLASSEAL PRODUCTS, INC.

485 Oberlin Ave.
Lakewood, NJ 08701
908 370-9100; Fax: 908 370-7107
Rick Ferraid

GLASTEEL INDUSTRIAL LAMINATES

175 Commerce Rd.
P.O. Box 910
Collierville, TN 38027
901 853-5070; Fax: 901 853-8664
Curtis Zimmerman, Bus. Mgr.

GLOBAL CERTIFICATION LABS

#4 Matthews Dr.
E. Haddam, CT 06423
203 873-1451
Liz Rogers, Mktg./Sales

GLOBAL KITTING

P.O. Box 1757
Roseburg, OR 97470
503 672-5332; Fax: 503 672-8737
U. Wettstein, Owner

GLOBAL SPECIALTIES

70 Fulton Ter.
P.O. Box 1942
New Haven, CT 06512
203 466-6103; Fax: 203 468-0060
Jeff Tomei, Distrib. Sales Assoc.

GOGUEN INDUSTRIES, INC.

7856 Goguen Dr.
Liverpool, NY 13090
315 652-5689; Fax: 315 622-1040
Bob Darrow, Sales/Mktg. Mgr.

GOLDMAN RESEARCH

12705 Montfort
Dallas, TX 75230
214 788-1122
Stan Goldman, Sr. Engin.

W.L. GORE & ASSOCIATES, INC.

555 Papermill Rd.
P.O. Box 9329
Newark, DE 19714-9329
302 738-4880; Fax: 302 738-7710
Grant Walter, Prod. Mgr.



POWERDEX®
Lithium batteries

- Standard: A,B,C sizes
- Ultrathin: less than 1 mm
- Customized: capacity and/or size
- Rechargeable: call for information

1-800-722-7890 (U.S. & Canada) Phone: (216) 953-5059
FAX: (216) 953-5152

GOULD ELECTRONICS INC. - EPS

35129 Curtis Blvd.
Eastlake, OH 44095-4001
216 953-5084; Fax: 216 953-5152
Anthony Wong, VP Mktg./Sales
See Our Ad On Page 121

GRACE SPECIALTY POLYMERS

77 Dragon Ct.
Woburn, MA 01888
617 938-8630; Fax: 617 935-0125
J. O'Brien

GRAYCHIP

2314 Ramona St.
Palo Alto, CA 94301
415 323-2955; Fax: 415 323-0206
Joe Gray

GRAYHILL, INC.

561 Hillgrove Ave.
P.O. Box 10373
LaGrange, IL 60525
708 354-1040; Fax: 708 354-2820
Tom Menzenberger, Mktg. Svc. Mgr.

GREEN MOUNTAIN RADIO RESEARCH CO.

50 Vermont Ave., Ft. Ethan Allen
Colchester, VT 05446
802 655-9670; Fax: 802 655-9670
Frederick Raab, Chief Engin.

GREENRAY INDUSTRIES

840 W. Church Rd.
Mechanicsburg, PA 17055
717 766-0223; Fax: 717 790-9509
Phil Myers, Sales Mgr.

GROUP J INC.

19730 Ventura Blvd., Ste. 25
Woodland Hills, CA 91364
818 347-5505; Fax: 818 347-6286
Dick Jaffe, Pres.

GUIDE TECHNOLOGY, INC.

920 Saratoga Ave., 215
San Jose, CA 95129
408 246-9905; Fax: 408 246-0924
Shalom Kattan, Pres.

H

HD COMMUNICATIONS

1 Comac Loop
Ron Kon Koma, NY 11779
516 588-3877; Fax: 516 588-3879
Donald Davis, GM

HDS, INC.

12310 Pinecrest Rd.
Reston, VA 22091
703 620-6200; Fax: 703 620-3169
Thomas Christ, Chairman

H&H TECHNOLOGIES, INC.

281 Knickerbocker Ave.
Bohemia, NY 11716
516 567-3528; Fax: 516 567-3541
John Popescu

HRB SYSTEMS

300 Science Park Rd.
State College, PA 16803
814 238-4311; Fax: 814 234-7721
Michael Chmela, Indus. Engrn.

HAMEG INSTRUMENTS, INC.

266 E. Meadow Ave.
East Meadow, NY 11554-2437
516 794-4080; Fax: 516 794-1855
Fred Katz, Sls.

HAMILTON TECHNICAL SERVICES

195 Woodbury St.
S. Hamilton, MA 01982
508 468-3703
William Riley, Proprietor

HAMLIN, INC.

612 E. Lake St.
Lake Mills, WI 53551
414 648-3000; Fax: 414 648-3001
Stuart Wilson, Dir. Sls./Mktg.

HARBOUR INDUSTRIES, INC.

P.O. Box 188, Rte. 7
Shelburne, VT 05482
802 985-3311; Fax: 802 985-9534
John Palasciano, VP of Sales & Mktg.

HARMON ELECTRONICS, INC.

601 N. Main St.
Warrensburg, MO 64093
816 747-2236; Fax: 816 747-2238
Serena Pollack, Sls./Svc. Mgr.

RF company index

HARRIS DIAMOND CORP. (FORMERLY, DUBBELDEE HARRIS DIAMOND)

100 Stierli Court Ste. 106
Mt. Arlington, NJ 07856
201 770-1420; Fax: 201 770-1549
Mark Fraser, Sales

HARRIS FARINON COMPONENTS

1691 Bayport Ave.
San Carlos, CA 94070
415 594-3600; Fax: 415 594-3120
Chuck Salsberry, Sales Mgr.

HARRIS RF COMMUNICATIONS

1680 University Ave.
Rochester, NY 14610-9983
716 244-5830; Fax: 716 244-2917
John Cicotta

HARRIS SEMICONDUCTOR

P.O. Box 883
Melbourne, FL 32902
407 724-7000
Mktg.

HAVERHILL CABLE & MFG. CORP.

P.O. Box 8222
Haverhill, MA 01835
508 372-6386; Fax: 508 373-8024
Thomas Kneeland

HAZELTINE CORP.

450 E. Pulaski Rd.
Greenlawn, NY 11740
516 261-7000; Fax: 516 262-8002
Joan Miller, Contract Mgr.

HELIX/HITEMP CABLES, INC.

20 Forge Park
Franklin, MA 02038
508 541-7100
Steve Adams

HELPER INSTRUMENTS CO.

131 Tomahawk Dr.
Indian Harbour Beach, FL 32937
800 327-9308; 407 777-1440; Fax: 407 777-1447
William M. Stuart, Oper. Mgr.

HENRY RADIO, INC.

2050 S. Bundy Dr.
P.O. Box 250013
Los Angeles, CA 90025
310 820-1234; Fax: 310 826-7790
Ted Henry, VP

HEROTEK, INC.

222 N. Wolfe Rd.
Sunnyvale, CA 94086
408 730-1702; Fax: 408 730-4015
John Tatum, Sales/Mktg. Mgr.

HEWLETT-PACKARD (HP-EESOF)

5601 Linderocyn Rd.
Westlake Village, CA 91362
818 879-6440; Fax: 818 879-6223
Elisabeth Kannow, Comm. Aide

HEWLETT-PACKARD CO. COMPONENTS GROUP

370 W. Trimble Rd.
San Jose, CA 95131-1008
800 537-7715 x 2000, (408) 435-7400; Fax: 408 435-5865
Sales



HEWLETT PACKARD CO. DIRECT MKTG. ORGANIZATION

P.O. Box 58199, M/S 51 LSJ
Santa Clara, CA 95052-9952
800 452-4844
Inquiry Mgr.

HEXACON ELECTRIC CO.

161 W. Clay Ave.
Roselle Park, NJ 07204
908 245-6200; Fax: 908 245-6176
Sue Hughes, Oper. Dir.

HEXWAVE, INC.

2 Prosperity Rd. II, First Fl.
Hsinchu Science-Based Ind. Park, Taiwan 300
886-35-785100; Fax: 886-35-770512
Kenneth Hsu, VP, Mktg.

HIGH ENERGY CORP.

Lower Valley Rd.
P.O. Box 308
Parkesburg, PA 19365
800 732-5405; 610 593-2800; Fax: 610 593-2985
Hank Fulmer

HIGH VOLTAGE COMPONENTS, INC.

7137 Sycamore Dr.
P.O. Box 223
Cedarburg, WI 53012
414 375-0172; Fax: 414 375-0173
Ron Nielsen, Dir., Capacitor Tech.

RICHARD HIRSCHMANN OF AMERICA, INC.

Industrial Row
P.O. Box 227
Riverdale, NJ 07457
201 835-5002; Fax: 201 835-8354
Harry J. Ekelund, Nat'l Sls. Mgr.

HITTITE MICROWAVE CORP.

21 Cabot Rd.
Woburn, MA 01801
617 933-7267; Fax: 617 932-8903
Norman Hildreth, Sr. Engin.

A. J. HOEHN/ETA ENGINEERS

3325 N. Forgeus Ave.
Tucson, AZ 85716-1165
520 326-7327
A. J. Hoehn, Owner

P.R. HOFFMAN MATERIALS PROCESSING

321 Cherry St.
P.O. Box 726
Carlisle, PA 17013-0726
717 243-2011; Fax: 717 243-1672
Galen Martin, Sales Mgr.

HOKURIKU USA, LTD.

117 Jetplex Cir., Ste. C-1
Madison, AL 35758
205 772-9620; Fax: 205 772-3475
Scott Wilhelm

HOLADAY INDUSTRIES, INC.

14825 Martin Dr.
Eden Prairie, MN 55344
612 934-4920; Fax: 612 934-3604
Michael Leighton, Cust. Svc.

HOWELL LABORATORIES, INC.

108 Harrison Rd.
Bridgton, ME 04009
207 647-3327; Fax: 207 647-8273
Steve Collins, VP Eng'n.

HUBER + SUHNER AG

CH-9100 Degersheimerstrasse
Switzerland Herisau
(71) 534111; Fax: (71) 534449
Mktg. Dir.

HUBER + SUHNER, INC.

One Allen Martin Dr.
P.O. Box 400
Essex, VT 05451
802 878-0555; Fax: 802 878-9880
Mktg.

HY-Q INTERNATIONAL (USA) INC.

1438 Cox Ave.
Erlanger, KY 41018
606 283-5000; Fax: 606 283-0883
Pam Deshler, VP Sls.

HYBRID-TEK, INC.

1 Hytek Corp. Ctr., Rte. 526
Clarksburg, NJ 08510
609 259-3355; Fax: 609 259-3539
Ruth Tilghman, Sales Supv.

HYBRIDS INTERNATIONAL, LTD.

707 N. Lindenwood Dr.
Olathe, KS 66062
913 764-6400; Fax: 913 764-6409
Deborah Ator, Sales Exec.

HYPERCEPTION, INC.

9550 Skillman
P.O. Box LB 125
Dallas, TX 75243
214 343-8525; Fax: 214 343-2457
Suzanne Kocurek, Mktg. Coord.

HYPRES, INC.

175 Clearbrook Rd.
Elmsford, NY 10523
914 592-1190; Fax: 914 347-2239

HYTEK MICROSYSTEMS, INC.

400 Hot Springs Rd.
Carson City, NV 89706
702 883-0820; Fax: 702 883-0827
Gary Handelin, Sales Mgr.

IFR SYSTEMS, INC.

10200 W. York St.
Wichita, KS 67215
316 522-4981; Fax: 316 522-1360
Tom Dideum

ILC DATA DEVICE CORP.

105 Wilbur Pl.
Bohemia, NY 11716
516 567-5600; Fax: 516 567-7358
Dave Pinkowitz, Dir. of Mktg.

INTA

2281 Calle de Luna
Santa Clara, CA 95054-1023
408 748-9955; Fax: 408 727-3027
Kim DeSimone, Sales Mgr.

IPT CORPORATION

1076 E. Meadow Cir.
Palo Alto, CA 94303
415 494-7500; Fax: 415 494-2758
C. Stephen Carr, Pres.

RF company index

IRC INC.

P.O. Box 1860
Boone, NC 28607
704 264-8861; Fax: 704 264-8865
Lowell Cooke, Shelton Wilson

ITM SYSTEMS, INC.

2901 Murphy Creek Rd.
Grants Pass, OR 97527
503 862-2622
Walter Berg

ITS ELECTRONICS, INC.

200 Edgeley Blvd., Unit 24
Concord, Ontario, Canada L4K 3Y8
905 660-0405; Fax: 905 660-0406
Uri Benarin, Chief Engin.
See Our Ad On Page 27

ITT CANNON RF PRODUCTS

585 E. Main St.
New Britain, CT 06051
203 223-2700; Fax: 203 225-2781
Karen Youngstrom, Mktg. Asst.

ITT GTC

7670 Enon Dr.
Roanoke, VA 24019
703 563-3949; Fax: 703 563-3935
John Salvay, Mktg. Mgr.

ITT POMONA ELECTRONICS

1500 E. Ninth St.
Pomona, CA 91766
909 469-2900; Fax: 909 629-3317
Thomas Barber

ITW SWITCHES

6615 W. Irving Park Rd.
Chicago, IL 60634
312 282-4040; Fax: 312 545-4450

IBEX GROUP, INC.

23 Markham Dr.
Long Valley, NJ 07853
908 876-4008; Fax: 908 876-5074
David Seabury, Pres.

IKOS SYSTEMS, INC.

19050 Pruneridge Ave.
Cupertino, CA 95014
408 255-4567; Fax: 408 366-8699
Larry Melling, VP Mktg.

ILLINOIS CAPACITOR, INC.

3757 W. Touhy
Lincolnwood, IL 60645
708 675-1760; Fax: 708 673-2850
Al Cooper, Ad Mgr.

ILLINOIS SUPERCONDUCTOR CORP.

451 Kingston Ct.
Mt. Prospect, IL 60056
708 391-9400; Fax: 708 299-9609
Marc Rolles, Dir., Sls./Mktg.

IMPELLIMAX

375 W. Hollis St.
Nashua, NH 03060
603 886-9569; Fax: 603 886-4901
Phil Cassista, Pres.

INCHCAPE TESTING SERVICES

2 Davis Dr.
Belmont, CA 94002
415 592-5111; Fax: 415 592-6052
Sls./Mktg. Mgr.

INCHCAPE TESTING SVCS./DASH, STRAUS & GOODHUE

593 Mass. Ave.
Boxborough, MA 01719
508 263-2662; Fax: 508 263-7086
William O'Brien, Sales Mgr.

INFOTAG SYSTEMS INC.

1661 Duranleau St., 2/F
Vancouver, BC V6H 3S3
604 689-2773; Fax: 604 689-2733
James Fierro, Pres.

INGSOFT, LTD.

213 Dunview Ave.
Willowdale, Ontario, Canada M2N 4H9
416 730-9611; Fax: 416 733-3884
Zelko Jagaric

INJECTORALL ELECTRONICS

110 Keyland Ct.
Bohemia, NY 11716-2620
516 563-3388; Fax: 516 563-3389
Milton Friedman, Pres.

INMAC

2465 Augustine Dr.
Santa Clara, CA 95052
408 727-1970; Fax: 408 727-4131

INMARK CORP.

4 Byington Pl.
Norwalk, CT 06850
203 866-8474; Fax: 203 866-0918
Jacquelyn Nette, VP Mktg.



INMET CORP.

300 Dino Dr.
Ann Arbor, MI 48103
313 426-5553; Fax: 313 426-5557
Tim Solomon, COO

INNOVATION FIRST

115 S. East St.
Mason, OH 45040
513 459-7070; Fax: 513 459-7070
Dale Teets

INNOVATIVE FREQUENCY CONTROL PRODUCTS, INC.

P.O. Box 300
Plainfield, PA 17081
717 258-5425; Fax: 717 258-5840
John Kent

INNOVATIVE TECHNOLOGY

5118 Premiere Ave.
Lakewood, CA 90712
310 925-0326; Fax: 310 925-0326
Vicky Sinclair, Off. Mgr.

INSTRUMENT RESEARCH CO.

6420 Dobbin Rd., Unit A
P.O. Box 2729
Columbia, MD 21045
410 740-3411; Fax: 410 740-2928
Richard E. Walters, Pres.

INSTRUMENT SPECIALTIES CO., INC.

Shielding Way
P.O. Box A
Delaware Water Gap, PA 18327
717 424-8510; Fax: 717 424-6213
Stephanie Arnold, Adv. Mgr.

INSTRUMENTS FOR INDUSTRY, INC.

731 Union Pkwy.
Ronkonkoma, NY 11779
516 467-8400; Fax: 516 467-8558
Richard Janiec, Sales Mgr.

INSULATED WIRE, INC.

2065 Smithtown Ave.
Ronkonkoma, NY 11779
516 981-7424; Fax: 516 981-7990
Arthur Nixon

INTEGRATED CIRCUIT SYSTEMS (ICS)

1271 Parkmoor Ave.
San Jose, CA 95126
408 297-1201; Fax: 408 925-9460

INTEGRATED COMPONENT SYSTEMS, INC.

5440 N.W. 55th Blvd., Ste. 11-105
Coconut Creek, FL 33073
800 396-5185; Fax: 305 480-6950
Arnie Zilbau, VP Mktg.

INTEGRATED MICROWAVE CORP.

11353 Sorrento Valley Rd.
San Diego, CA 92121
619 259-2600; Fax: 619 755-8679
Connie Weeks, Sales Mgr.

INTELLON CORP.

5100 W. Silver Springs Blvd.
Ocala, FL 34482
904 237-7416; Fax: 904 237-7616
Eric Buffkin, VP Mktg.

INTER-CONTINENTAL MICROWAVE

1515 Wyatt Dr.
Santa Clara, CA 95054
408 727-1596; Fax: 408 727-0105
Leslie Kunzler

INTER-LOGIC SYSTEMS CO., INC.

12708 Hoover St.
Garden Grove, CA 92641
714 891-4456; Fax: 714 894-6668
John Logan, Pres.

INTERAD, LTD.

7808 Cessna Ave.
Gaithersburg, MD 20879
301 948-1626; Fax: 301 977-7559
Mary Johnson, Mktg. Admin.

INTERCONNECT DEVICES, INC.

5101 Richland Ave.
Kansas City, KS 66106
913 342-5544; Fax: 913 342-7043
Karen Bock, Mktg. Mgr.

INTERMARK (USA) INC.

One Penn Plaza, Ste. 4526
New York, NY 10119-0001
212 629-3620; Fax: 212 967-3948
Chessie Suna, VP

INTERNATIONAL COMPLIANCE CORP. (ARGYLE)

1911 E. Jeter Rd.
Argyle, TX 76226-9401
817 491-3696; Fax: 817 491-3699
Pat Wellborn, Admin. Mgr.

Indicates Advertiser

Include your logo next year.
Call 1-800 443-4969

RF company index

INTERNATIONAL COMPLIANCE CORP.
(AUSTIN)
2540 Brockton Dr. #110
Austin, TX 78758-4420
512 719-3555; Fax: 512 719-4211
Pat Wellborn, Admin. Mgr.

Crystals • Oscillators
TCXO • VCXO



**INTERNATIONAL CRYSTAL
MANUFACTURING CO., INC**

INTERNATIONAL CRYSTAL MFG. CO., INC.
(ICM)
10 N. Lee
P.O. Box 26330
Oklahoma City, OK 73126
405 236-3741; Fax: 405 235-1904
Beth Meoli, VP
See Our Ad On Page 28

CHIP RESISTORS
30 Sizes




Wraparound Flip chip

Smallest 0.030" x 0.020"
All bonding methods
0.050Ω to 2 x 10¹²Ω
Engineering Kits
Next Day Shipment



Tel: (401) 683-9700
FAX: (401) 683-5571

International Manufacturing Services, Inc.

INTERNATIONAL MFG. SVCS., INC. (IMS)
50 Schoolhouse Ln.
Portsmouth, RI 02871
401 683-9700; Fax: 401 683-5571

INTERNATIONAL MICROCIRCUITS, INC. (IMI)
525 Los Coches St.
Milpitas, CA 95035
408 263-6300; Fax: 408 263-6571
Bob Goedjen, MariLyn McWilliams, Bus. Dev.

INTERNATIONAL SENSOR SYS., INC.
103 Grant St.
P.O. Box 345
Aurora, NE 68818
402 694-6111; Fax: 402 694-6180
Wayne Roblee, Mktg. Mgr.

INTUSOFT
222 W. 6th St., Ste. 1070
P.O. Box 0710
San Pedro, CA 90731
310 833-0710; Fax: 310 833-9658
Charles Hymowitz, VP Prod. Dev.

ION BEAM MILLING, INC.
1000 E. Industrial Park Dr.
Manchester, NH 03103
603 644-2326; Fax: 603 647-6889
Robert Quagan

IPITEK
2330 Faraday Ave.
Carlsbad, CA 92008
619 438-8362; Fax: 619 438-2412
Kristy Kelly

ISKRA, INC.
47 Mall Dr.
Commack, NY 11725
516 543-7500; Fax: 516 543-1400
Deborah Gremio, Sales Mgr.

ISOLATION PRODUCTS
157 San Lazaro Ave.
Sunnyvale, CA 94086
408 730-4672; Fax: 408 730-4674
Ernie Bianco

ISOTEMP RESEARCH, INC.
1750 Broadway St
P.O. Box 3389
Charlottesville, VA 22903
804 295-3101; Fax: 804 977-1849
Andrew Bell, VP Sls./Mktg.

IWATSU AMERICA, INC.
430 Commerce Blvd.
Carlstadt, NJ 07072
201 935-8580; Fax: 201 935-5220; 201 935-2075
Scott Rathjen

J

JCA TECHNOLOGY, INC.
1090 Avenida Acaso
Camarillo, CA 93012
805 445-9888; Fax: 805 987-6990
Fred Brown, VP Mktg./Sls.

JDV PRODUCTS INC.
2-05 Banta Pl.
Fair Lawn, NJ 07410
201 796-1720; Fax: 201 796-9399
Eva Dvorak, VP

JEF CONSULTANT, INC.
8501 Beck Rd., Bldg. 2227
Belleville, MI 48111-1254
313 482-5505; Fax: 313 482-0155
Alan Miller, Microwave Lab Mgr.

JFW INDUSTRIES, INC.
5134 Commerce
Indianapolis, IN 46237
317 887-1340; Fax: 317 881-6790
Mark Burton, Sales Mgr.

JHP INDUSTRIAL CO., INC.
405 W. Taylor St.
Syracuse, NY 13202
315 422-0050; Fax: 315 422-3331
Emanuel Henderson, Jr., Pres.

JMK, INC.
15 Caldwell Dr.
Amherst, NH 03031
603 886-4100; Fax: 603 886-4115
Donna Dickenson, Sales Rep.

Include your logo next year.
Call 1-800 443-4969.



**ProbePoint Microprobing
Test Accessories**

- Standard and Custom Products
- Co-planar to Microstrip Adapter Substrates
- Calibration Standards Substrates
- Microprobing Test Cables
- Microprobing Test Fixtures
- Test Strategy Consultation

(503) 614-9509

J MICRO TECHNOLOGY
3744 NW Bluegrass Pl.
Portland, OR 97229-7068
503 614-9509; Fax: 503 531-9325
Jerry Schappacher, Proprietor

JPS COMMUNICATIONS, INC.
5720M Capital Blvd.
P.O. Box 97757
Raleigh, NC 27604
919 790-1011; Fax: 919 790-1456
Donald Scott, VP, Mktg.

JAN CRYSTALS
P.O. Box 60017
Fort Myers, FL 33906
941 936-2397; Fax: 941 936-3750
Kim Whan, Pres.

JAY-EL, DMT, DUCOMMUN INC.
23301 S. Wilmington Ave.
Carson, CA 90745
818 880-6100
Don Colletta, VP Mktg. & Sales

JOAQUIN MFG. CORP.
6900 Elm Dr.
Commerce City, CO 80022
303 286-7060; Fax: 303 286-7067
Dan Bargas, CEO

JOHANSON MFG. CORP.
Rockaway Valley Rd.
Boonton, NJ 07005
201 334-2676
Pete Erins, Sls. Dir.

JOHANSON TECHNOLOGY INC.
931 Via Alondra
Camarillo, CA 93012
805 389-1166; Fax: 805 389-1821
John Petrinc, Pres.



E.F. JOHNSON CO.
299 Johnson Ave.
P.O. Box 1249
Waseca, MN 56093-0514
800 247-8256; Fax: 800 247-8256, x. 6287
Jim Sybilrud, Sls./Mktg. Spec.

RF company index

JOHNSON MATTHEY
460 E. Swedesford Rd.
Wayne, PA 19087-1880
610 971-3100; Fax: 610 293-1284
Kathryn Heskett, Mktg. Coord.

JOSEPH ELECTRONICS, INC.
8830 N. Milwaukee Ave.
Niles, IL 60714-1794
708 297-4200; Fax: 708 297-6923
Chuck Annella, Exec. VP

JOSLYN JENNINGS CORP.
970 McLaughlin Ave.
San Jose, CA 95122
408 292-4025; Fax: 408 286-1789
Dwane Gisi, Dir. Mktg.

JOSLYN SUNBANK CORP.
1740 Commerce Way
Paso Robles, CA 93446
805 238-2840; Fax: 805 238-0241
Patrick Banakis

K

KDI/triangle ELECTRONICS, INC.

Resistors, Attenuators,
Terminations, Dividers,
Couplers, Switches, Phase
Shifters, Microstrip &
Thick Film Sub Assemblers

60 South Jefferson Road • Whippany, NJ 07981
Fax (201) 884-0445
Tel. (201) 887-8100

KDI/TRIANGLE ELECTRONICS, INC.
60 S. Jefferson Rd.
Whippany, NJ 07981
201 887-8100; Fax: 201 884-0445
Carl Schraufnagl, VP Sls./Mktg.

KDS AMERICA
10901 Granada Ln.
Overland Park, KS 66211
913 491-6825; Fax: 913 491-6812
Thomas Lawrence, Sales Mgr.

K&L MICROWAVE, INC.
408 Coles Cir.
Salisbury, MD 21801
410 749-2424; Fax: 410 749-5725
Peggy Morey, Adv. Dir.

KR ELECTRONICS
91 Avenel St.
Avenel, NJ 07001
908 636-1900; Fax: 908 636-1982
Charles Kiall, Pres.

Indicates Advertiser



- STD.5 AND 10 MHZ OCXO
- TCXO • VCXO • TC-VCXO
- VCO's • CLOCK OSCILLATORS
- CUSTOMIZED CRYSTAL FILTERS
- STD.10.7 MHZ, 21.4 MHZ and 45 MHZ
- L/C FILTERS

— Call or Fax requirements:
16406 N. Cave Creek Rd. #5
Phoenix, AZ 85032-2919
Phone & Fax (602) 971-3301

KS ELECTRONICS
16406 N. Cavecreek Rd. #5
Phoenix, AZ 85032
602 971-3301; Fax: 602 971-3301
Kirti Shah, Pres.



North America Inc.

2240 Woolbright Rd., Suite 320-A
Boynton Beach, FL 33426-6325
Phone (407) 734-9007
Fax (407) 734-9008

KVG NORTH AMERICA, INC.
2240 Woolbright Rd., Ste. 320-A
Boynton Beach, FL 33426-6325
407 734-9007; Fax: 407 734-9008
Werner Mueller, VP
See Our Ad On Page 18

K-W MANUFACTURING CO., INC.
919 Eighth St.
Box 508
Prague, OK 74864
405 567-2284; Fax: 405 567-4153
David Randall, Pres.

KW MICROWAVE CORP.
1985 Palomar Oaks Way
Carlsbad, CA 92009
619 929-9800; Fax: 619 929-9899
Olivia Rodriguez, Sls. Coord.

KAJFEZ CONSULTING
P.O. Box 757
University, MS 38677
601 234-4287
Dr. Darko Kajfez, Consultant

KALMUS ENGINEERING, INC.
21820 87th Ave. S.E.
Woodinville, WA 98072
206 485-9000; Fax: 206 486-9657
Jeannie Olson, Sales/Cust. Svc.
See Our Ad On Page 35

KAMAN INSTRUMENTATION CORP.
1500 Garden of the Gods Rd.
P.O. Box 7463
Colorado Springs, CO 80907
719 599-1779; Fax: 719 599-1823
Terry Dillahunty, Mktg. Mgr.

KAMAN SCIENCES CORP. - LOCUS
1012 E. Boal Ave.
P.O. Box 740, State College, PA 16804
Boalsburg, PA 16804-0740
814 466-6275; Fax: 814 466-3341
Barbara Harry, Sales Admin.

KAPTRON, INC.
2525 Bayshore Rd.
Palo Alto, CA 94303
415 493-8008; Fax: 415 493-8324
Kareem Javily

KAY

KAY ELEMETRICS CORP.
2 Bridgewater Ln.
Lincoln Park, NJ 07035-1488
201 628-6200; Fax: 201 628-6363
Stephen Crump; Robert McClurkin, Mktg. Mgr.
See Our Ad On Page 50

KEITHLEY DATA ACQUISITION DIV.
440 Myles Standish Blvd.
Tannont, MA 02780
508 880-3000; Fax: 508 880-0179
Kevin Sullivan

KEITHLEY INSTRUMENTS, INC.
28775 Aurora Rd.
Cleveland, OH 44139
216 248-0400; Fax: 216 248-6168
Ellen Modock, Mgr., Mktg. Prog.

M.S. KENNEDY CORP.
8170 Thompson Rd.
Clay, NY 13041
315 699-9201
Greg Overend

KEPRO CIRCUIT SYSTEMS, INC.
630 Axminister Dr.
Fenton, MO 63026-2992
800 325-3878; Fax: 314 343-0668
Christopher Williams, Sales

KERN ENGR. & MFG. CO.
1146 E. Ash Ave.
Fullerton, CA 92631
714 992-9630; Fax: 714 447-4242
Carol Sue Kirkland, Sales Mgr.

KEYSTONE METAL PRODUCTS, INC.
2711 N. California St.
Burbank, CA 91504
818 846-9210; Fax: 818 567-0283
R. Baroda

KEYTEK
260 Fordham Rd.
Wilmington, MA 01887
508 658-0880; Fax: 508 657-4803
Michael Hopkins

KILO TEC
P.O. Box 10
Oak View, CA 93022-1001
805 646-9645; Fax: 805 646-9645
Sales

KILOVAC CORP.
P.O. Box 4422
Santa Barbara, CA 93140-4422
800 253-4560; 805 684-4560; Fax: 805 684-9679
Jackie Chunka

RF company index

KINGS ELECTRONICS CO., INC.
40 Marbledale Rd.
Tuckahoe, NY 10707
914 793-5000; Fax: 914 793-5092
Ed Lagarto, Sales Mgr., Western Region



KINTRONIC LABORATORIES, INC.
144 Pleasant Grove Rd.
P.O. Box 845
Bluff City, TN 37618
615 878-3141; Fax: 615 878-4224
Tom King, Pres.

KIRKILL RUBBER CO.
300 E. Cypress
Brea, CA 92621
714 529-4901; Fax: 714 990-5355
Chris Andrews

KNOX SEMICONDUCTOR, INC.
13-1/2 Quarry Rd.
P.O. Box 609
Rockport, ME 04856-0609
207 236-6076; Fax: 207 236-9558
W.E. Gilbert, Dir. Mktg. & Sales

KOLINKER INDUSTRIAL EQUIP., LTD.
Unit 1105, 11-F Golden Ind. Bldg., 16-26 Kwai
Kwai Chung NT, Hong Kong
852-4287183; Fax: 852-4891137
Arthur Lee

KROHN-HITE CORP.
255 Bodwell St.
Avon, MA 02322-1161
508 580-1660; Fax: 508 583-8989
Joe Inglis, Inside Sales Mgr.

KRYTAR, INC.
1292 Anvillwood Ct.
Sunnyvale, CA 94089
408 734-5999; Fax: 408 734-3747
Corrine Williford, Mktg. Mgr.

KYOCERA AMERICA, INC.
8611 Balboa Ave.
San Diego, CA 92123
619 576-2600; Fax: 619 569-9412

L

LCF ENTERPRISES
651 Via Alondra, #712
Camarillo, CA 93012
805 388-8454; Fax: 805 389-5393
Lorna C. Finman, PhD., Pres.
See Our Ad On Page 121

L.C.R. ELECTRONICS, INC.
9 South Forest Ave.
Norristown, PA 19401
610 278-0840; Fax: 610 278-0935
Manka Feldcamp, Inside Sales

L.E.A. DYNATECH, INC.
6520 Harney Rd.
Tampa, FL 33610
813 621-1324; Fax: 813 621-8980
Ed Bellamy, Dir. Sls.

LMB/HEEGER, INC.
6400 Fleet St.
Commerce, CA 90040
213 728-5108; Fax: 213 728-4740
Robert Heeger, Sec'y

L&M ENGINEERING SOUTH
8939 S. Sepulveda Blvd., Ste. 104
Los Angeles, CA 90045
310 417-3044; Fax: 310 417-3470
Bill Heeter

LNR COMMUNICATIONS, INC.
180 Marcus Blvd.
Hauppauge, NY 11788-3795
516 273-7111; Fax: 516 273-7119
Karen Robinson, Adv. Mgr.

LPKF CAD/CAM SYS., INC.
6840 SW Canyon Dr.
Portland, OR 97225
503 297-2720; Fax: 503 297-2820
Garth Rimers, VP Mktg./Sls.

LABTECH LTD.
Broadaxe Business Park, Presteigne
Powys, UK LD8 2UF
00441544260093; Fax: 00441544260310
D. Latham, Managing Dir.

LAMBDA ELECTRONICS INC.
515 Broad Hollow Rd.
Melville, NY 11747
516 694-4200; Fax: 516 293-0519
Lisa Waterman, Dir. of Adv.

LAMBDA RF SYSTEMS
2270 Martin Ave.
Santa Clara, CA 95050
408 727-0500; Fax: 408 998-2702
Jack R. Taylor, VP Sls.

LANXIDE ELECTRONIC COMPONENTS
1300 Marrows Rd.
P.O. Box 6077
Newark, DE 19714-6077
302 456-6200; 302 456-6300; Fax: 302 456-6223
Dan White

LAP-TECH, INC.
230 Simpson Ave. S.
Bowmanville, Ontario, Canada L1C 2J3
905 623-4101; Fax: 905 623-3886
Bob Parkins, Sales Mgr.



Lark Engineering Company

LARK ENGINEERING
27282 Calle Arroyo
San Juan Capistrano, CA 92675
714 240-1233; Fax: 714 240-7910
Linda Parrish, Mktg.

LARSEN ELECTRONICS, INC.
P.O. Box 1799
Vancouver, WA 98668
800 426-1056; 206 944-7551; Fax: 800 525-6749

LASER DIODE, INC.
1130 Somerset St.
New Brunswick, NJ 08901
908 549-9001; Fax: 908 249-9165
Chris Gladding, Karen Kinsman

LEADER INSTRUMENTS CORP.
380 Oser Ave.
Hauppauge, NY 11788
800 645-5104; Fax: 516 231-5295
Joe Fisher, Prod. Mktg. Mgr.

LEBOW CO.
5960 Mandarin Ave.
Goleta, CA 93117
805 964-7117; Fax: 805 964-7117
Sharon Roessler, Off. Mgr.

LECROY CORP.
700 Chestnut Ridge
Chestnut Ridge, NY 10977
914 578-6020; Fax: 914 578-5985
Mike Lauterbach, Dir. Prod. Mgt.

LECTRO MAGNETICS DIV., LINDGREN RF ENCLOSURES, INC.
3138 W. El Segundo Blvd.
Hawthorne, CA 90250
310 973-8757; Fax: 310 973-1451
Janet O'Neil, Filter Div. Sales Mgr.

ELECTRONIC RESEARCH LABS
1423 Ferry Ave.
Camden, NJ 08104
800 358-8378; 609 541-4200; Fax: 609 541-7852
Ken Reid

LEHMAN CHAMBERS
5800 Cumberland Hwy.
Chambersburg, PA 17201
717 264-2265; Fax: 717 264-9178
Kevin Shannon, Mktg. Mgr.

LEMO RF, INC.
345 Tesconi Cir.
P.O. Box 11006
Santa Rosa, CA 95401
800 444-5366; Fax: 707 578-0869
Karen Dias, Adv. Super.

LIBERTY RESEARCH
19925 Stevens Creek Blvd.
Cupertino, CA 95014
408 253-1811; Fax: 408 253-9463
Nick Langston, Sls. Mgr.

LINDGREN RF ENCLOSURES, INC.
400 High Grove Blvd.
Glendale Heights, IL 60139
708 307-7200; Fax: 708 307-7571
Bill Curran, Jr., Natl. Sales Mgr.

LINEAR TECHNOLOGY CORP.
1630 McCarthy Blvd.
Milpitas, CA 95035
408 432-1900; Fax: 408 434-0507
Bob Scott, Dir., Prod. Mktg.

LINEARIZER TECHNOLOGY, INC.
1621 Old Trenton Rd.
Robbinsville, NJ 08691
609 443-3184; Fax: 609 443-1713
Victor Belanger, VP

LINK PLUS CORP.
9052 Old Annapolis Rd.
Columbia, MD 21045
410 995-1919; Fax: 410 997-3485
Robert L. Jones, COB/CEO

RF company index

LITTON-AIRTRON DIV.

200 E. Hanover Ave.
Morris Plains, NJ 07950
201 539-5500; Fax: 201 539-5548
Joe Michalski, Natl. Sales Mgr.

LITTON ELECTRON DEVICES

960 Industrial
San Carlos, CA 94070
415 591-8411; Fax: 415 591-5623
Christine Murphy, Adv. Mgr.

Litton

Solid State

FETS, Diodes, MMIC, Amps, OSC,
Subsystem, GaAs, InP, YIG OSC
FIL, Transceivers.

LITTON SOLID STATE DIV.

3251 Olcott St.
Santa Clara, CA 95054-3095
408 988-1331, 408 988-1845; Fax: 408 970-9950
Dean Merkley, VP Mktg./Sls.

LITTON SYSTEMS ELECTRON DEVICES DIV.

1035 Westminster Dr.
Williamsport, PA 17701
717 326-3561; Fax: 717 326-2903
Jack Feeney, Dir. Sls./Mktg.

LIXI, INC.

1438 Brook Dr.
Downers Grove, IL 60515
708 620-4646; Fax: 708 620-7776
Joe Plevak, Sales Mgr.

LOCUS, INC.

1842 Hoffman St.
Madison, WI 53704
608 244-0500; Fax: 608 244-0528
G. Linn Roth, Pres.

LODESTONE PACIFIC

4769 Wesley Dr.
Anaheim, CA 92807
714 970-0900; Fax: 714 970-0800
Richard Barden, Pres.

LOG TECH, INC.

3529 Old Conejo Rd. #123
Newbury Park, CA 91320-2155
805 499-6462; Fax: 805 499-6462
Calvin Henry, Pres.

LOGIMETRICS, INC.

121-03 Dupont St.
Plainview, NY 11803
516 349-1700; Fax: 516 349-8552
Mike Yantz, Sales Admin.

Indicates Advertiser

LORAL

Microwave - FSI

SEMICONDUCTOR DIVISION

LORAL MICROWAVE FSI SEMICONDUCTOR DIV.

75 Technology Dr.
Lowell, MA 01851
508 256-4113 x3311; Fax: 508 937-3748
John F. Tierney, Natl. Sls. Mgr.

LORAL MICROWAVE - NARDA

435 Moreland Rd.
Hauppauge, NY 11788
516 231-1700; Fax: 516 231-1711
Vinod Chitkara, VP Sales

LORAL MICROWAVE - NARDA WEST

11040 White Rock Rd. #200
Rancho Cordova, CA 95670
916 638-5500; Fax: 916 638-8682
Leon Becker, VP Mktg./Sales

LORAL RANDTRON SYSTEMS

130 Constitution Dr.
Menlo Park, CA 94025
415 326-9500; Fax: 415 326-1033
Jim Scherer, Sr. VP Tech.

LORCH

MICROWAVE

A DIVISION OF BAI AEROSYSTEMS, INC.

LORCH MICROWAVE

P.O. Box 2828
Salisbury, MD 21802
410 860-5100; Fax: 410 860-1949
Michael Ferrand, Sales Mgr.

LUCAS AUTOMATION & CONTROL SYSTEM PRODUCTS

801 Scholz Dr.
P.O. Box 427
Vandalia, OH 45377-0427
513 898-3621; Fax: 513 898-8624
Sharon Tecklenburg

LUCAS EPSCO, INC.

99 South St.
Hopkinton, MA 01748
508 435-2400; Fax: 508 435-2022
Angela Breau

LUCAS WEINSCHTEL (See WEINSCHTEL) See Our Ad On Page 47

LUCAS ZETA

2811 Orchard Pkwy.
San Jose, CA 95134
408 434-3600; Fax: 408 433-0205
Barbara Dominguez, Mktg. Comm. Mgr.

LUFF RESEARCH

22 N. Tyson Ave.
Floral Park, NY 11001
516 358-2880; Fax: 516 358-2757
Richard Scheer

LUNAR INDUSTRIES, INC.

7966 Arjons Dr., #102
San Diego, CA 92126
800 20 Lunar, 800 205-8627; Fax: 619 549-2346
Alistair MacCabe, Pres./CEO

LUSOL PRODUCTS

2446 Lee Ave.
South El Monte, CA 91733
818 443-7983; Fax: 818 443-2677
David MacDonald

LUXTRON

2775 Northwestern Pkwy.
Santa Clara, CA 95051-0903
408 727-1600; Fax: 408 727-1677
William Kolbeck

M

M/A COM

For more information,
Contact us at

TEL: 1-800-366-2266

FAX: 1-800-618-8883

M/A COM

100 Chelmsford St.
Lowell, MA 01851
800 366-2266, 508 656-2732
Cheryl Ducharme, Mktg.

M/A-COM, INC., ANTENNA AND CABLE DIV.

110 Haverhill Rd.
Amesbury, MA 01913
508 388-5210; Fax: 508 388-9758

M/A-COM, INC., GOVERNMENT PRODUCTS OPERATION

10713 Gilroy Rd.
P.O. Box 868
Hunt Valley, MD 21030
410 771-0077; Fax: 410 771-6025

M/A-COM, INC., INTERCONNECT DIV.

140 Fourth Ave.
Waltham, MA 02254-9101
617 672-1000; Fax: 617 890-2381

M/A-COM, INC., MICROELECTRONICS DIV.

1011 Pawtucket Blvd.
Lowell, MA 01853-3925
508 442-5000; Fax: 508 442-4800

M/A-COM, INC., SEMICONDUCTOR DIV.

43 South Ave.
Burlington, MA 01803
617 564-3000; Fax: 617 564-3050

M/A-COM, INC., POWER HYBRID OPERATION

1742 Crenshaw Blvd.
Torrance, CA 90501
310 320-6160; Fax: 310 618-9191

RF company index

MBF MICROWAVE, INC.

Rt. 2, Box 252A
Hardy, AR 72542-9531
501 856-2685; Fax: 501 856-2685
Stephen Banel, Pres.

MCC NORSAL

27 Brookfield Dr., RD1
Lafayette, NJ 07848
201 383-5888; Fax: 201 383-2922
Bernard Hurley, Pres.

MCH ASSOCIATES

1466 Oberlin Ave.
Thousand Oaks, CA 91360
805 495-7005; Fax: 805 495-7005
M.C. Horton, Microwave Consultant

MCL, INC.

501 S. Woodcreek Rd.
Bolingbrook, IL 60440-4999
708 759-9500; Fax: 708 759-5018
Ronald Adamson, Exec. Dir., Sales & Mktg.

MDF PRODUCTS, INC.

7 Johnson Dr.
Danbury, CT 06811-2927
203 743-3579; Fax: 203 744-2704
M. Defazio, Sr., Sales Mgr.

MECA ELECTRONICS, INC.

459 E. Main St.
Denville, NJ 07834
201 625-0661; Fax: 201 625-1258
William C. Davo, Sales Mgr.

MF ELECTRONICS CORP.

10 Commerce Dr.
New Rochelle, NY 10801
914 576-6570; Fax: 914 576-6204
Marty Finkelstein

MIC TECHNOLOGY CORP.

797 Turnpike St.
N. Andover, MA 01845
508 687-9625; Fax: 508 687-9721
Brian Mitchell, Sr. VP/COO

MIC TECHNOLOGY CORP. MICROWAVE CIRCUIT DIV.

1910 N. Firman Dr.
Richardson, TX 75081
214 680-9810; Fax: 214 437-5135
Dir., Sales & Mktg.

MMC ELECTRONICS AMERICA INC.

4080 Winnetka Ave.
Rolling Meadows, IL 60008
708 577-0200; Fax: 708 577-0201
Ernest Niemisto, Chief Engin.

MMG NORTH AMERICA

126 Pennsylvania Ave.
Paterson, NJ 07503-2512
201 345-8900; Fax: 201 345-1172
Mark McArthur, Sales

MMIC CAD, INC.

P.O. Box 1568
Beaverton, OR 97075-1568
503 626-7386
Warren Wylie

M-PULSE MICROWAVE

576 Charcot Ave.
San Jose, CA 95131
408 432-1480; Fax: 408 432-3440
Gary Coonce, Sales Mgr.

MSI ELECTRONICS, INC.

31-00 47th Ave.
Long Island City, NY 11101
718 937-3330; Fax: 718 937-3499
Rosalie Gosnay, Office Admin.

MTI

10651-B. Irma Dr.
Denver, CO 80233
303 280-0100; Fax: 303 280-0069
Bill Brennan

MTI-MILLIREN TECHNOLOGIES, INC.

2 New Pasture Rd.
Newburyport, MA 01950
508 465-6064; Fax: 508 465-6637
Thomas Haley, Sales Mgr.

M-TRON INDUSTRIES, INC.

100 Douglas Ave.
P.O. Box 630
Yankton, SD 57078
605 665-9321; Fax: 605 665-1709
Ron Isherwood, Dir. Sls./Mktg.

MWS WIRE INDUSTRIES

31200 Cedar Valley Dr.
Westlake Village, CA 91362
818 991-8553; Fax: 818 706-0911
Mike McClure

MX-COM, INC.

4800 Bethania Station Rd.
Winston-Salem, NC 27105
910 744-5050; Fax: 910 744-5054

MAC TECHNOLOGIES

3104 Southside Bypass
Klamath Falls, OR 97603
503 883-3352; Fax: 503 884-2752
Maria Egbert

MACNEAL-SCHWENDLER CORP.

815 Colorado Blvd.
Los Angeles, CA 90041
800 336-4858; 213 258-9111; Fax: 213 259-3838
Kenn Morris, Mktg. Comm. Mgr.

MADE-IT ASSOCIATES, INC.

40 West St.
Lunenburg, MA 01462
508 582-9920; Fax: 508 582-6775
C. Arnold, Mktg. Spec.

MADISON CABLE CORP.

125 Goddard Memorial Dr.
P.O. Box 3000
Worcester, MA 01603
508 752-7320; Fax: 508 752-4230
Susan Dress

MAGNECRAFT ELECTRIC CO./STRUTHERS-DUNN INC.

211 Waukegan Rd., Ste. 210
Northfield, IL 60093
708 441-2527; Fax: 708 441-2520
Terry Harvey, Sls. Mgr.

MAGNETIC RADIATION LABORATORIES, INC.

690 Hilltop Dr.
Itasca, IL 60143
708 285-0800; Fax: 708 285-0807
Rob Trovillion, Sls. Mgr.

MAGNETIC SHIELD CORP.

740 N. Thomas Dr.
Bensenville, IL 60106
708 766-7800; Fax: 708 766-2813
Brad Friestedt, Sales Mgr.

MAGNETICS DIVISION OF SPANG & CO.

P.O. Box 391
Butler, PA 16003
412 282-8282; Fax: 412 282-6955

MAGNUM MICROWAVE CORP.

4575 Cushing Pkwy.
Fremont, CA 94538
510 657-9898; Fax: 510 490-3351
Allen E. Rosenzweig, VP, Sales

MAIDA DEVELOPMENT CO.

20 Libbey St.
P.O. Box 3529
Hampton, VA 23663
804 723-0785; Fax: 804 722-1194
D. Merritt, Sls. Mgr.

MAJR PRODUCTS

600 Erie St
P.O. Box 699
Saegertown, PA 16433
814 763-3211; Fax: 814 763-2952
Don Hester, Sls. Mgr.

MALCO MICRODOT

201 Progress Dr.
Montgomeryville, PA 18936
215 699-5373; Fax: 215 699-5536
Carolyn McCarney

MANAGEMENT RECRUITERS OF BOULDER, INC.

1401 Walnut St. Ste. 301
Boulder, CO 80302
303 447-9900; Fax: 303 447-9536
Windy Bradford

MANHATTAN ELECTRIC CABLE CORP.

Station Plaza
Rye, NY 10580
914 967-8000; Fax: 914 967-1616
Laura Bucci, Sls./Mktg.

MANIX MFG., INC.

50 Ash Cir.
Warminster, PA 18974
215 957-6565; Fax: 215 957-6599
Daniel D. Martin

MARCONI INSTRUMENTS INC.

3 Pearl Ct.
Allendale, NJ 07401
201 934-9050; Fax: 201 934-9229
Joan King, Mktg. Coord.

MARLOW ELECTRONICS LTD.

The Stables, Potts Place, West St.
Marlow, Bucks, UK SL7 2LY
(1628) 890552; Fax: (1628) 890619
Brian Donnelly

MARQUIS MICROWAVE PRODUCTS

2155 Stonington Ave., Ste. 216
Hoffman Estates, IL 60195
708 519-2177; Fax: 708 519-2175

MARSHALL ELECTRONICS, INC.

5649 Mesmer Ave.
P.O. Box 2027
Culver City, CA 90230
310 390-6608; Fax: 310 391-8926
Kenneth Joyce, Mktg. Comm. Mgr.

MATANZAS ENGINEERING

2227 Creekside Rd.
Santa Rosa, CA 95405
707 525-8263; Fax: 707 525-8263
James P. Newman, Pres.

RF company index

MATRIX CORP.

3350 Scott Blvd. #49
Santa Clara, CA 95054
408 496-4760; Fax: 408 496-4761
Bev Quinby, Sls. Engr.

MATRIX SYSTEMS CORP.

5177 N. Douglas Fir Rd.
Calabasas, CA 91302
818 222-2301; Fax: 818 222-2304
R.S. Rabideau, Sls. Mgr.

MAURY MICROWAVE CORP.

2900 Inland Empire Blvd.
Ontario, CA 91764
909 987-4715; Fax: 909 987-1112
Jim Adamson, Gen. Sls. Mgr.

MAXIM INTEGRATED PRODUCTS

120 San Gabriel Dr.
Sunnyvale, CA 94086
408 737-7600; Fax: 408 737-7194
Dave DeJear, PR

MAXTECH, INC.

2120 Old Gatesburg Rd.
State College, PA 16803-2200
814 238-2700; Fax: 814 238-6589
James P. Dixon, VP

MAXWELL LABORATORIES, INC.

8888 Balboa Ave.
San Diego, CA 92123-1506
619 576-7545; Fax: 619 576-7672
Sales Dept.

MAXWELL LABORATORIES, INC. - SIERRA DIV.

5200 Sigstrom Dr.
Carson City, NV 89706
702 887-5700; Fax: 702 887-5757

MCDONALD ASSOCIATES

3502 - 208th Pl., NE
Redmond, WA 98053
206 868-9649; Fax: 206 868-9659
John McDonald

MECA ELECTRONICS, INC.

459 E. Main St.
Denville, NJ 07834
201 625-0661; Fax: 201 625-1258
William C. Davo, Sls. Mgr.

MEDINA SOFTWARE, INC.

385 Commerce Way, Ste. 101
P.O. Box 521917
Longwood, FL 32750
407 260-1676; Fax: 407 260-1636
Carmen A. Medina, Pres.

MEGADYNE CORP.

1860-A. Michael Faraday Dr.
Reston, VA 22090
703 280-5232; Fax: 703 406-4235
Karen Kastner

MENLO INDUSTRIES

44060 Old Warm Springs Blvd.
Fremont, CA 94538
510 770-2350; Fax: 510 659-9692
Dennis Tuccori, Sales Mgr.

MERCURY WIRE PRODUCTS, INC.

Mercury Dr.
Spencer, MA 01562
508 885-6363; Fax: 508 885-5824
Lori Hansen, Sls. Admin.

MERITEC

1359 W. Jackson St.
P.O. Box 8003
Painesville, OH 44077
800 860-9014, 216 354-3148; Fax: 216 354-0509
Kathleen A. Marshall, Sls./Mktg. Coord.

MERIX CHEMICAL CO.

2234 E. 75th St.
Chicago, IL 60649
312 221-8242; Fax: 312 221-3047
Eric Sonneman



MERRIMAC INDUSTRIES, INC.

41 Fairfield Pl.
W. Caldwell, NJ 07006
201 575-1300; Fax: 201 575-0531
Anthony Ramsden, VP, Sls./Mktg.

META-SOFTWARE

1300 White Oaks Rd.
Campbell, CA 95008
800 346-5953; 408 369-5400; Fax: 408 371-5638
Mktg.

METATECH CORP.

2309 Renard Pl. SE #401
Albuquerque, NM 87106
505 243-1423; Fax: 505 243-9772
Kevin Foreman, Mktg./Sls.

METELICS CORP.

975 Stewart Ave.
Sunnyvale, CA 94086
408 737-8181; Fax: 408 733-7645
Jim Godbout, VP Opers.

METHODE ELECTRONICS, INC.

7444 W. Wilson Ave.
Chicago, IL 60656
708 867-9600; Fax: 708 867-9130
Nick Pinto, Mktg. Admin. Mgr.

MICA MICROWAVE CORP.

7017 Realm Dr.
San Jose, CA 95119
408 363-9200; Fax: 408 363-9220
Richard Wood, Mgr., Sales & Mktg.

MICRACOR

43 Nagog Park
Acton, MA 01720
508 263-1080; Fax: 508 263-1448
Jeff Purchon, Dir. Sls./Mktg.

MICRO COAX COMPONENTS, INC.

P.O. Box 993
Collegeville, PA 19426-0993
215 489-3700; Fax: 215 489-1103
Bruce Ash, Sls./Mktg. Mgr.

MICRO COMMUNICATIONS, INC.

433 Kelly Ave. Grenier Fld.
P.O. Box 4365
Manchester, NH 03108-4365
603 624-4351; Fax: 603 624-4822
Dennis Heymans, Sls./Mktg. Mgr.

MICRO CRYSTAL DIV.

702 W. Algonquin Rd.
Arlington Hts., IL 60005
708 806-1485
Bill Kaczmarek

MICRO HYBRIDS, INC.

2864 Route 112
Medford, NY 11763
516 732-3448; Fax: 516 732-3393
Bruce Richardson, Gen. Mgr.

MICRO INTERNATIONAL, INC.

28 White Bridge Rd., Ste. 316
P.O. Box 218018
Nashville, TN 37205
615 352-0700; Fax: 615 352-0780
Todd Elkins, Admin. Mgr.

MICRO NETWORKS CO.

324 Clark St.
Worcester, MA 01606-1293
508 852-5400; Fax: 508 852-8456
Tony DiRenzo, Dir. Sls./Mktg.

MICRO-NOW INSTRUMENT CO. INC.

8260 Elmwood St.
Skokie, IL 60076
708 677-4700; Fax: 708 677-0394
Clarence Amow, Pres.

MICRO-PRECISION TECHNOLOGIES, INC.

12-B Manor Pkwy.
Salem, NH 03079
603 893-7600; Fax: 603 893-9110
John Clark, Nat'l Sls. Mgr.

MICRODYNE CORP.

491 Oak Rd.
P.O. Box 7213
Ocala, FL 34472
904 687-4633; Fax: 904 687-3392
Kenneth Baxter, Sales Coord.

MICROELECTRONICS

1 Sharet Str.
P.O. Box 4425
Rishon Le Zion, 75704 Israel
972 3 961 2323; Fax: 972 3 961 2307
Jacob Golany, Gen. Mgr.

MICROELECTRONICS, U.S.A.

2750 N. 29th Ave., #316
Hollywood, FL 33020
305 925-2688; Fax: 305 925-2889
Philip Busch, VP, Mktg.

MICROFLECT CO., INC.

3575 25th St. SE
P.O. Box 12985
Salem, OR 97309-0985
503 363-9267; Fax: 503 363-4613
Ron Beyer, Sls. Mgr.

MICROLAB/FXR

10 Microlab Rd.
Livingston, NJ 07039
201 992-7700; Fax: 201 992-0513
Brian Rowe, Sales Mgr.

MICROMATH SCIENTIFIC SOFTWARE

2469 E. Fort Union Blvd., #200
P.O. Box 71550
Salt Lake City, UT 84171-0550
800 942-6284; 801 943-0290; Fax: 801 943-0299

MICROMETALS, INC.

1190 N. Hawk Cir.
Anaheim, CA 90807
714 630-7420; Fax: 714 630-4562
Joseph Barbeito, Sales

MICRON COMMUNICATIONS, INC.

8000 S. Federal Way
Boise, ID 83707-9698
208 368-4239; Fax: 208 368-4286

RF company index

MICRONETICS, INC.

26 Hampshire Dr.
Hudson, NH 03051
603 883-2900; Fax: 603 882-8987
David Robbins, VP

MICRO SIGNALS, INC.

38-42 9th St.
Long Island City, NY 11101
718 937-7955; Fax: 718 729-9140
Kevin Kidd, Proj. Mgr.

MICROSIM CORP.

20 Fairbanks
Irvine, CA 92718
800 245-3022; 714 770-3022; Fax: 714 455-0554
Nancy McHugh, Sr. Tech. Writer

MICROSOURCE, INC.

1269 Corporate Center Pkwy.
Santa Rosa, CA 95407
707 527-7010; Fax: 707 527-7176

MICROTECH, INC.

1420 Conchester Hwy.
Boothwyn, PA 19061
610 459-3566; Fax: 610 358-4827
Howard Peterson

MICROTOOL, INC.

14430 W. 100th St.
Lenexa, KS 66215
913 492-1588; Fax: 913 492-1591
Paul Rink

MICROWAVE CIRCUITS, INC.

6856 Eastern Ave. NW
Washington, DC 20012
202 829-3030; Fax: 202 829-2639
Jim D'Ostilio, Pres.

MICROWAVE COMMUNICATIONS LABS

84 N. Sussex St.
Dover, NJ 07801
201 361-4700; Fax: 201 361-3102
Thien Nguyen, Dir. of Engin.

MICROWAVE COMPONENTS, INC. (MCI)

P.O. Box 4132
S. Chelmsford, MA 01824
508 256-8251; Fax: 508 256-9953
David C. McCarthy, Mktg. Mgr.

MICROWAVE DESIGN & MFG. (MDM)

9601 Irondale Ave.
Chatsworth, CA 91311
818 700-8400; Fax: 818 700-1938
Dan Esau

MICROWAVE DEVICE TECHNOLOGY CORP.

4 Lyberty Way
Westford, MA 01886
508 692-7800; Fax: 508 692-9400
Murthy Ayyagari, Sales & Mktg.

MICROWAVE DEVICES, INC.

399 State St.
P.O. Box 552
Franklin, IN 46131
317 736-8833; Fax: 317 736-8833
Ed Hudock, Gen. Mgr.

MICROWAVE DISTRIBUTORS CO.

61 Mall Dr.
Commack, NY 11725-5745
516 543-4771; Fax: 516 543-4129
David Leiman, Pres.

MICROWAVE FILTER CO., INC.

6743 Kinne St.
E. Syracuse, NY 13057
800 448-1666; Fax: 315 463-1467
Terry Owens, Sls. Mgr.

MICROWAVE LOGIC, INC.

285 Mill Rd.
Chelmsford, MA 01824
508 256-6800; Fax: 508 256-2038
Lisa Doerr, Mktg. Comm.

MICROWAVE POWER DEVICES, INC.

49 Wireless Blvd.
Hauppauge, NY 11788
516 231-1400; Fax: 516 231-8081
Timothy Ursprung, Mktg./Sls. Dir.



M I C R O W A V E P O W E R

MICROWAVE POWER, INC.

3350 Scott Blvd., Bldg. 25
Santa Clara, CA 95054
408 727-6666; Fax: 408 727-2246
Franco Sechi, Pres.

MICROWAVE PRINTED CIRCUITRY

81 Old Ferry Rd.
Lowell, MA 01854
508 452-9061; Fax: 508 441-0004
Bob Deitz

MICROWAVE RESOURCES, INC.

P.O. Box 1109
Norcross, GA 30091
770 441-9193; Fax: 770 449-8236
Robert Garvey

MICROWAVE SOLUTIONS, INC.

3200 Highland Ave., Ste. 3A
National City, CA 91950
800 9MSI-AMP; Fax: 619 474-7003
Judith Z. Garza, Mktg. Comm. Mgr.

MICROWAVE TECHNOLOGY

4268 Solar Way
Fremont, CA 94538
510 651-6700; Fax: 510 651-2208

MID-ATLANTIC RF SYSTEMS, INC.

2310 Industry Ct.
P.O. Box 745
Forest Hill, MD 21050
410 893-2430; Fax: 410 838-7629
Bob Snyder, VP

MIDIAN ELECTRONICS

2302 E. 22nd St.
Tucson, AZ 85713
520 884-7981; Fax: 520 884-0422
Bob Serensa, VP Mktg. & Sales

MIDISCO

61 Mall Dr.
Commack, NY 11725-5745
516 543-4774; Fax: 516 543-4129
David Leiman, Pres.

MIDLAND TECHNOLOGIES

34374 E. Frontage Rd.
Bozeman, MT 59715
406 586-1190; Fax: 406 586-0300
Lee Lester, Owner

MIDWEST MICROWAVE

6564 S. State Rd.
Saline, MI 48176
313 429-4773; Fax: 313 429-1415
William Lavery, Dir. of Sales

MILCOM INTL.

17500 Gillette Ave.
Irvine, CA 92714-5610
714 757-0530; Fax: 714 757-0941
Bob Hunter, VP Sls.

JAMES MILLEN ELECTRONIC MFG.

87 Belmont St.
North Andover, MA 01845
508 975-2711; Fax: 508 474-8949
Ralph Jannini

J.W. MILLER DIV. - BELL INDUSTRIES, INC.

306 E. Alondra Blvd.
Gardena, CA 90248
310 515-1720; Fax: 310 515-1962
Joe Johnson, Gen. Mgr.

MILLIMETER WAVE TECHNOLOGY

1395 Manetta Pkwy., Bldg. 800
Marietta, GA 30067
770 425-9382; Fax: 770 425-9844
Paul Butler, Exec. VP

MILLITECH CORP.

S. Deerfield Research Park
P.O. Box 109
S. Deerfield, MA 01373
413 665-8551; Fax: 413 665-2536
Naresh Deo, VP & GM

MILLIVAC INSTRUMENTS, INC.

2818 Curry Rd.
P.O. Box 997
Schenectady, NY 12301
518 355-8300; Fax: 518 356-5161
Imek Metzger, Pres.

MILLI WAVE

6425-C Capital Ave.
Diamond Springs, CA 95619
916 642-5400; Fax: 916 642-8002
Jim Young

MINARET RADIO

2023 Gates
Redondo Beach, CA 90278-1904
310 318-3156
John Horvath, Pres.

Mini-Circuits

MINI-CIRCUITS

P.O. Box 350166
Brooklyn, NY 11235-0003
718 934-4500; Fax: 718 332-4661
Bruce Marks

MINI-SYSTEMS, INC.

20 David Rd.
P.O. Box 69
N. Attleboro, MA 02461-0069
508 695-0203; Fax: 508 695-6076
Elaine M. Panos, Exec. Sec'y

MIRAGE SYSTEMS

232 Java Dr.
Sunnyvale, CA 94089-1318
408 752-1600; Fax: 408 734-8845
Roger Druhan

RF company index

MITEC ELECTRONICS, LTD.

104 Gun Ave.
Pte. Claire, Quebec, Canada H9R 3X3
514 694-6666; Fax: 514 694-3814
J. Gravelle, Admin. Asst.

MITEK CO.

P.O. Box 175
Lexington, MA 02173
617 862-9114
John Jenkinson, Pres.



MITEQ, INC.

100 Davids Dr.
Hauppauge, NY 11788
516 436-7400; Fax: 516 436-7430
Helle M. Kiess, Dir. Corp. Comm.

MITSUBISHI ELECTRONICS AMERICA

1050 E. Arques Ave.
Sunnyvale, CA 94086
408 730-5900; Fax: 408 733-1033
Mktg.

MODULAR COMPONENTS NATIONAL, INC. (MCN)

2302 Industry Ct.
P.O. Box 453
Forest Hill, MD 21050
410 879-6553; Fax: 410 838-7629
Bob Snyder, VP of Engineering

MOLEX, INC.

2222 Wellington Ct.
Lisle, IL 60532
708 969-4747
Rick Wolff

MONICOR ELECTRONIC CORP.

2964 NW 60th St.
Ft. Lauderdale, FL 33309
305 979-1907; Fax: 305 979-2611
Monroe Miller, Pres.

MORGAN MATROC - ELECTRO CERAMICS DIV.

232 Forbes Rd.
Bedford, OH 44146
216 232-8600; Fax: 216 232-8731
Joe Garbo, Sales

MORGAN MATROC - UNILATOR DIV.

Vauxhall Industrial Estate
Ruabon, NR Wrexham, Clwyd, UK LL14 6HY
44 1978 810456; Fax: 44 1978 824303
G. Oweh, Prod. Sls. Mgr.

MORROW TECH INDUSTRIES, INC.

10651-B. Irma Dr.
Northglenn, CO 80233
303 280-0100; Fax: 303 280-0069
Bill Brennan, VP

MORROW TECHNOLOGIES CORP.

2210 Tall Pines Dr.
Largo, FL 34641
813 531-4000; Fax: 813 531-4026
Sales Dept.

MORTON INTERNATIONAL AUTOMOTIVE & INDUSTRIALS FINISHES

2700 E. 170th St.
Lansing, IL 60438
708 474-7000; Fax: 708 868-7487
Andy Cooper

MOTOROLA (AL)

5000 Bradford Dr.
Huntsville, AL 35805-1993
205 430-8000
Kathy Morelock

MOTOROLA (AZ)

8201 E. McDowell Rd., W/D H-1192
Scottsdale, AZ 85252
800 505-8378; Fax: 602 441-7138
Mktg.

MOTOROLA CERAMIC PRODUCTS

4800 Alameda Blvd. NE
Albuquerque, NM 87113
505 822-8801; Fax: 505 822-8812
Harold Jackson

MOTOROLA SEMICONDUCTOR PRODUCTS SECTOR (TEMPE)

2100 E. Elliot Rd.
Tempe, AZ 85284
602 413-4100
Mktg. Dir.

MOTOROLA SEMICONDUCTOR PRODUCTS SECTOR (PHOENIX)

5005 E. McDowell Rd.
Phoenix, AZ 85008
602 244-6108; Fax: 602 244-5898
Don Sundby, Mkt. Comm. Mgr.

MOTOROLA WIRELESS DATA GROUP

1301 E. Algonquin Rd.
Schaumburg, IL 60196
708 576-7207; Fax: 708 538-2753
Bill Huhn

MOUSER ELECTRONICS

2401 Hwy. 287 N.
Mansfield, TX 76063
800 346-6873; Fax: 817 483-0931
Don Miller, Sales

MOXNESS PRODUCTS, INC.

1914 Indiana St.
Racine, WI 53405
414 554-5050; Fax: 414 554-2321
Dave DeSutter, VP/Sales & Mktg.

MURATA ELECTRONICS NORTH AMERICA

2200 Lake Park Dr.
Smyrna, GA 30080
770 436-1300; Fax: 770 436-3030
Chris Dunlap, Mgr., Mktg. Comm.

N

NEC ELECTRONICS, INC.

475 Ellis St.
P.O. Box 7241
Mountain View, CA 94039
415 965-6495; Fax: 800 729-9288
Joany Winkler

NEL FREQUENCY CONTROLS, INC.

357 Beloit St.
P.O. Box 457
Burlington, WI 53105-0457
414 763-3591; Fax: 414 763-2881
Lyann Jung, Sls./Mktg. Admin.

NEOS TECHNOLOGIES, INC.

4300C Fortune Pl.
Melbourne, FL 32904
407 676-9020; Fax: 407 722-4499
Robert Belfatto, VP

NSI

9050 Red Branch Rd.
Columbia, MD 21045
410 964-8400; Fax: 410 964-9661
J. Stephen Neuberth, Pres.

NTK TECHNICAL CERAMICS

11858 Bernardo Plaza Ct., #240C
San Diego, CA 92128-2411
619 487-9310; Fax: 619 485-9598
Kay Yamasaki

NT-T INC./HH SMITH

632 Arch St.
P.O. Box 677
Meadville, PA 16335
814 724-6440; Fax: 814 333-1912
Michael Kloecker, Sales Mgr.

NW SILICON SPECIALISTS, INC.

15455 NW Greenbrier Pkwy., Ste. 210
Beaverton, OR 97006-5700
503 645-8297; Fax: 503 690-9396
Paul Wohlfarth

NANO PULSE INDUSTRIES

P.O. Box 9398
Brea, CA 92622
800 529-0010; Fax: 714 671-7919
Sheila Harmon

NAPTECH

12312 Hwy. 175
P.O. Box 30
Cobb, CA 95426
707 928-1961; Fax: 707 928-1963
Roger Briggs, Pres.

NATEL ENGINEERING CO., INC.

4550 Runway St.
Simi Valley, CA 93063
805 581-3950; Fax: 805 584-4357
Shree Ramadas, Dir. Mktg./Sls.

NATIONAL COMMUNICATIONS ELECTRONICS, INC.

10751 - 75th St. N.
P.O. Box 41735, St. Petersburg, 33743
Largo, FL 34647
813 545-3867; Fax: 813 545-3860
Leven H. Goree, Pres.

NATIONAL ELECTRONICS

11731 Markon Dr.
Garden Grove, CA 92641
714 892-7749; Fax: 714 898-6769
Canda Carr

NATIONAL INSTRUMENTS CORP.

6504 Bridge Point Pkwy.
Austin, TX 78730-5039
512 794-0100; Fax: 512 794-8411
Erin Nelson, Publicity Asst.

NATIONAL MAGNETICS GROUP, INC.

1210 Win Dr.
Bethlehem, PA 18017
610 867-7600; Fax: 610 867-0200
Paul Oberbeck, Pres.

NATIONAL SEMICONDUCTOR

2900 Semiconductor Dr.
P.O. Box 58090
Santa Clara, CA 95052-8090
800 272-9959; Fax: 817 468-6938
See Our Ad On Cover 3

RF company index

NEDRUD DATA SYSTEMS

220 Versailles Dr.
Melbourne Beach, FL 32951-3434
407 984-1405; Fax: 407 984-1405
Bradley Nedrud, Prin. Engr.

NEMAL ELECTRONICS, INC.

12240 NE 14 Ave.
N. Miami, FL 33161
305 899-0900; Fax: 305 895-8178
Hilda Manten, Sales Admin.

NEOSID (CANADA) LTD.

10 Vansco Rd.
Toronto, Ontario, Canada M8Z 5J4
416 251-2831; Fax: 416 251-6790
Alan Lloyd, Pres.

NETCOM, INC.

3000 Commercial Ave.
Northbrook, IL 60062
708 564-5100; Fax: 708 564-2279
Wayne Roeder

NETWORKS INTERNATIONAL CORP.

13924 W. 108th St.
Lenexa, KS 66215
913 469-6494; Fax: 913 469-6495
Abhay Bisarya, Pres.

NEW WAVE INSTRUMENTS

1174 N. 1015 W.
Orem, UT 84057
801 373-4909
Sandy Larsen, VP Mktg.

M.M. NEWMAN CORP.

P.O. Box 615
Marblehead, MA 01945
617 631-7100; Fax: 617 631-8887
Charles Loutrel

NOBLE PUBLISHING

2245 Dillard St.
Tucker, GA 30084
770 908-2320; Fax: 770 939-0157
Crawford Patterson, Editor

NOISE COM, INC.

East 49 Midland Ave.
Paramus, NJ 07652
201 261-8797; Fax: 201 261-8339
Gary Simonyan

NOLAN LABORATORIES INC.

P.O. Box 567
Conifer, CO 80433
303 838-0057; Fax: 303 838-0057
James A. Nolan, Pres.

See Our Ad On Page 122

NORAND CORP. EMC TEST LAB

550 2nd St. SE
Cedar Rapids, IA 52401
319 846-2415; Fax: 319 846-2475
Cedric Brownfield, EMC Specialist

NORCOMM CORP.

12438 Loma Rica Dr. "A"
Grass Valley, CA 95945
800 874-8663; 916 477-8400; Fax: 916 477-8403
Gail Clinton

NORTH AMERICAN CAPACITOR CO.

7545 Rockville Rd.
Indianapolis, IN 46214
317 273-0090; Fax: 317 273-2400
Terri Johnston, Exec. Asst.

NORTH HILLS ELECTRONICS, INC.

575 Underhill Blvd.
Syosset, NY 11791
516 682-7740; Fax: 516 682-7704
Mktg.

NORTON DIAMOND FILM

Goddard Rd.
Northboro, MA 01532
508 351-7600; Fax: 508 393-8670
Fred Borchelt, Prod. Mgr.

NOVA ENGINEERING, INC.

5 Circle Freeway Dr.
Cincinnati, OH 45246
513 860-3456; Fax: 513 860-3535
Bob Mallow, Operations Mgr.

NOVA RF SYSTEMS, INC.

1740 Pine Valley Dr.
Vienna, VA 22182
703 255-2353
Gary Mitchell

NOVACOM

28 High St.
Nettleham, Lincoln, UK LN2 2P9
+44 1522 751136
John Evans, Proprietor

NOVAMET SPECIALTY PRODUCTS CORP.

681 Lawlins Rd.
Wyckoff, NJ 07481
201 891-7976; Fax: 201 891-9467
Lew Koehler

NOVATECH INSTRUMENTS

1530 Eastlake Ave. E., Ste. 303
Seattle, WA 98102
206 322-1562; Fax: 206 328-6904
Mktg.

O

O.K. INDUSTRIES, INC.

4 Executive Plaza
Yonkers, NY 10701
914 969-6800; Fax: 914 969-6650
Ingrid Castillo

OKI SEMICONDUCTOR

785 N. Mary Ave.
Sunnyvale, CA 94086-2909
408 720-1900; Fax: 408 720-1918
Lori Higa, PR/Mktg. Prog. Mgr.

OPT INDUSTRIES

300 Red School Ln.
Phillipsburg, NJ 08865
908 454-2600; Fax: 908 454-3742
Frank McMahon, Sls. Mgr.



OAK Frequency Control Group®

McCoy • Ovenaie • Spectrum • Croven
An Oak Industries Group of Companies

Setting the Standard

Quartz Crystals • Crystal Oscillators
Crystal Filters • Component Ovens

McCoy/Ovenaie/Spectrum: (717) 486-3411
Croven: (905) 668-3324

OAK FREQUENCY CONTROL GROUP

100 Watts St.
Mt. Holly Springs, PA 17065
717 486-3411; Fax: 717 486-5920
Mark Laser, Sls. Mgr.

OAKBURY COMPONENTS, LTD.

Oakbury House, Mildenhall Ct., 11 Oxford St.
Lambourn, Berkshire, UK RG16 7XS
(0488) 71458; Fax: (0488) 73172
Jeremy Lutterloch

ODETICS

1585 S. Manchester Ave.
Anaheim, CA 92802
714 758-0400; Fax: 714 758-TIME
Mitchell Stone, Dir. W. Sales

OHMITE MFG. CO., INC.

3601 W. Howard St.
Skokie, IL 60076
Fax: 708 675-2600; Telex: 708 675-1505
Kirk Schwiebert, OEM Sls. Mgr.

THE OHMWAVE CO., INC.

26 Industrial Park Rd.
Niantic, CT 06357
203 739-5477; Fax: 203 739-7667
Bertil Olsson, Pres.

OKAYA ELECTRIC AMERICA, INC.

503 Wall St.
Valparaiso, IN 46383
219 477-4488; Fax: 219 477-4856
Dave Rickards

OMNIPOINT CORP.

7150 Campus Dr., #155
Colorado Springs, CO 80920
719 548-1200; Fax: 719 548-1393
David Dixon

OMRON ELECTRONICS, INC.

One East Commerce Dr.
Schaumburg, IL 60173
708 843-7900; Fax: 708 843-7787
Mark Traxler, Mktg. Svcs. Specialist

ONEIDA ELECTRONIC MFG. CO., INC.

503 Randolph St.
P.O. Box 678
Meadville, PA 16335
814 336-2125; Fax: 814 336-2126
Kathleen Smith, VP

OPAMP LABS, INC.

1033 N. Sycamore Ave.
Los Angeles, CA 90038
213 934-3566; Fax: 213 462-6490
B.J. Losmandy, Mgr.

Indicates Advertiser

Include your logo next year.
Call 1-800 443-4969.

RF company index

OPTICAL COATING LABORATORY, INC.

2789 Northpoint Pkwy.
Santa Rosa, CA 95407-7397
707 525-7415; Fax: 707 525-7841
Christine Barry, Adv. Admin.

OPTICAL ELECTRONICS, INC.

P.O. Box 11140
Tucson, AZ 85734
602 889-8811; Fax: 602 889-8575
Suzanne Gerdes

OPTIMA ELECTRONIC PACKAGING SYSTEMS

2166 Mtn. Industrial Blvd.
Tucker, GA 30084-5088
770 496-4000; Fax: 770 496-4041
Tom Kennedy, Sales Mgr.

OPTOELECTRONICS, INC.

5821 NE 14th Ave.
Ft. Lauderdale, FL 33334
305 771-2050; Fax: 305 771-2052
Cynthia Hufft, Sales Mgr.

ORIEL INSTRUMENTS

250 Long Beach Blvd.
Stratford, CT 06497-0872
203 377-8282; Fax: 203 378-2457
Nancy Fernandes, Promo. Mgr.

ORION ALPHA CORP.

2993 Copper Rd.
Santa Clara, CA 95051
408 737-0581; Fax: 408 737-0592
Rod Contreras, Oper. Mgr.

ORTEL

2015 W. Chestnut St.
Alhambra, CA 91803
818 281-3636; Fax: 818 281-8231
D. Julin, Sls. Mgr.

OSCILLATEK

620 N. Lindenwood Dr.
Olathe, KS 66062
913 829-1777; Fax: 913 829-3505
Bill Beck, Mktg. Mgr.

OXLEY, INC.

P.O. Box 814
Branford, CT 06405
203 488-1033; Fax: 203 481-6971
Audra Kurelaitis, Sls. Mgr.

P

PC DYNAMICS - AN M-WAVE CO.

2906 Hwy. 720 East
P.O. Box 277
Frisco, TX 75034
214 335-9841; Fax: 214 335-2841

PC INSTRUMENTS INC.

9261 Ravenna Rd., Bldg. B11
Twinsburg, OH 44087
216 963-0800; Fax: 216 425-1590
Stuart Streiff, Prod. Dvl. Mgr.

P.G. ELECTRONICS, LTD.

800 Arrow Rd., #8
Weston, Ontario, Canada M9M 2Z8
416 741-7682; Fax: 416 741-9927
Gerry Graham

P&H LABORATORIES

4496 Runway St.
Simi Valley, CA 93063
805 584-1800; Fax: 805 584-6253
Harold Saltzman, Pres.

PIC WIRE & CABLE, DIV. OF THE ANGELUS CORP.

N63 W22619 Main St.
Sussex, WI 53089
800 742-3191; Fax: 414 246-0450
James P. Griffin, Sls. Engr.

PMI TECHNOLOGIES

815 Middle Ground Blvd.
Newport News, VA 23606
804 873-3832; Fax: 804 873-3875
Mktg. Dir.

PRA, INC.

8320 E. Gelding Dr. #103
Scottsdale, AZ 85260
602 991-4180; Fax: 602 991-4362
Corky Osborne, Director

PTEK

1814 Schooldale Dr.
San Jose, CA 95128
408 448-3342
Peter Forth, Owner

PACCOM

3928 148th Ave., NE
Redmond, WA 98052
206 883-9200; Fax: 206 881-6959
Daniel Sears, Dir. Mktg.

PACE TRANSDUCER CO., DIV. OF C.J. INSTRUMENTS, INC.

P.O. Box 570430
Tarzana, CA 91357-0430
818 996-4131; Fax: 818 700-8272
Marshall Cantor, Eng. Mgr.

PACIFIC AMPLIFIER CORP.

914 Tourmaline Dr.
Newbury Park, CA 91320
805 375-5773; Fax: 805 375-8204
Fred McAdara, VP Sales/Mktg.

PACIFIC MONOLITHICS

245 Santa Ana St.
Sunnyvale, CA 94086
408 732-8000; Fax: 408 732-3413
Jack DiBartolo, Dir. Sls.

PACIFIC WEST ENTERPRISES, INC.

1370 Logan Ave., Unit A
Costa Mesa, CA 92626
714 957-3158; Fax: 714 662-5948
Tom Fischer, Pres.

PALCO CONNECTOR, INC.

22 Great Hill Rd.
Naugatuck, CT 06770
203 729-9090; Fax: 203 723-1794
Nicholas Augelli

PALOMAR ENGINEERS

1924-F W. Mission Rd.
Escondido, CA 92029
619 747-3343; Fax: 619 747-3346
Jack Althouse

PAN DATACOMM, INC.

1570 Brookhollow Dr., Ste. 211
Santa Ana, CA 92705
714 751-6743; Fax: 714 751-6831
Luis Mendoza

PANASONIC INDUSTRIAL CO./MATSUSHITA ELECTRIC

One Panasonic Way
Secaucus, NJ 07094
201 348-7000
RF Mktg./Development

PARAGON TECHNOLOGY, INC.

3006 Research Dr.
State College, PA 16801
814 234-3335; Fax: 814 234-0228
Todd Erdley, VP
See Our Ad On Page 121

PARSONS MFG.

1055 O'Brien Dr.
Menlo Park, CA 94025
415 324-4726; Fax: 415 324-3051
Steve Wurzer

PASCALL ELECTRONICS, LTD.

Park Rd.
Ryde, IOW, UK PO33 2BE
C.M. Fretter, Prod. Mgr.

PASCALL MICROWAVE LTD.

Saxon House, Downside
Sunbury-on-Thames, Middlesex, UK TW16 6RY
+44 (0) 81-979 0123; Fax: +44 (0) 932 782 402
R.A.H. Burman, Mng. Dir.

PASSIVE POWER PRODUCTS

97 Shaker Rd.
Gray, ME 04039
207 657-2600; Fax: 207 657-2632
Larry Boone, Sls./Mktg. Dir.

PASTERNAK ENTERPRISES

P.O. Box 16759
Irvine, CA 92713
714 261-1920; Fax: 714 261-7451
David Jacobs, Ge. Mgr.

PAWLING CORP. - EMI SHIELDING PRODUCTS DIV.

157 Charles Colman Blvd.
Pawling, NY 12564-1188
914 855-1000; Fax: 914 855-1937
Jeff Davis, Natl. Sales Mgr.

PEGASUS DATA SYSTEMS

562 Lincoln Blvd.
Middlesex, NJ 08846
908 356-9200; Fax: 908 356-9243
H.R. Walker, CEO

**Include your logo
or Target Ad
in the next
RF DESIGN PRODUCT
DIRECTORY**

**Contact Mimi Komesar
6151 Power Ferry Rd NW
Atlanta, GA 30339-2941**

**1-800 443-4969
Fax: 770 618-0476.**

RF company index



Penny
Technologies Inc.

- Feed forward delay modules
- Delay Lines
- Cellular - PCS - PCN Filters
- Microwave Filters

PENNY TECHNOLOGIES, INC.
78 Kingsland Ave.
Brooklyn, NY 11222
718 782-4149; Fax: 718 782-1001
John R. Ferrugio, Engr. Mgr.

PENSTOCK[®]
An Avnet Company

520 Mercury Drive, Sunnyvale, CA 94086-4018
Phone (408) 730-0300 FAX (408) 730-4782

Call 1-800-PENSTOCK
WORLD'S LARGEST
RF/MICROWAVE DISTRIBUTOR
since 1975

PENSTOCK, INC., AN AVNET CO.

520 Mercury Dr.
Sunnyvale, CA 94086-4060
800 PENSTOCK; 408 730-0300;
Fax: 408 730-4782

Sales Dept.
See Our Ad On Page 71

PENTA LABORATORIES, INC.

21113 Superior St.
Chatsworth, CA 91311
800 421-4219; 818 882-3872; Fax: 818 882-3968

PENTEK, INC.

55 Walnut St.
Norwood, NJ 07648
201 767-7100; Fax: 201 767-3994
Gina DeMeo, Mktg. Mgr.

PESA-MICRO COMMUNICATIONS, INC.

438 Kelly Ave.
P.O. Box 4365
Manchester, NH 03108-4365
603 624-4351; Fax: 603 624-4822
Dennis Heymans, Sales & Mktg. Mgr.

PETROND MICROWAVE

2628 Bayshore Pkwy.
Mountainville, CA 94043
415 968-5986; Fax: 415 968-5987
Pete Lau

PHASE THREE LOGIC, INC.

19545 NW Von Neumann Dr., Ste. 210
Beaverton, OR 97006
503 531-2410; Fax: 503 531-2401
Robert Jones, Mktg. Mgr.

PHILIPS COMPONENTS

1440 N. Indiantown Rd.
P.O. Box 689605
Jupiter, FL 33468-9605
407 745-3300; Fax: 407 745-3601
Sharon Falso, Mktg./Comm. Asst.



PHILIPS

Philips Semiconductors provides
advanced, highly integrated
system solutions for wireless
communications.

PHILIPS SEMICONDUCTORS - INTEGRATED CIRCUITS

811 E. Arques Ave., Mail Stop 22
Sunnyvale, CA 94088-3409
408 991-4520; Fax: 408 991-2122
Rob Ockeloen, Prod. Sales

PHILIPS SEMICONDUCTORS - DISCRETE SEMICONDUCTORS

811 E. Arques Ave., Mail Stop 41
Sunnyvale, CA 94088-3409
408 991-2294; Fax: 408 991-3136
Michael Gray, Prod. Sales



THE PHOENIX COMPANY
OF CHICAGO, INC.

THE PHOENIX CO. OF CHICAGO, INC.

555 Pond Dr.
Wood Dale, IL 60191
800 323-9562; 708 595-2300; Fax: 708 595-6579
Sales Dept.

PHONON CORP.

7 Herman Dr.
P.O. Box 549
Simsbury, CT 06070
203 651-0211; Fax: 203 651-8618
Walter Narog, Reg. Acct. Mgr.

PHOTO TRANSFER INDUSTRIES (PTI)

436 W. Rawson Ave.
Oak Creek, WI 53154
414 571-5200; Fax: 414 571-5202
M.K. Stetter, Engr. Mgr.

PICO ELECTRONICS, INC.

453 N. MacQuesten
Mount Vernon, NY 10550
914 699-5514; Fax: 914 699-5565
Joseph Sweeney, Pres.

PICONICS, INC.

26 Cummings Rd.
Tyngsboro, MA 01879
508 649-7501; Fax: 508 649-9643
James Dossett, Gen. Mgr.

PICOSECOND PULSE LABS, INC.

P.O. Box 44
Boulder, CO 80306
303 443-1249; Fax: 303 447-2236
James Andrews, Pres.

PIEZO CRYSTAL CO., INC.

100 K Street
P.O. Box 619
Carlisle, PA 17013
717 249-2151; Fax: 717 249-7861
Glenn Kurzenknebe, Sls. Mgr.

PIEZO TECHNOLOGY, INC.

2525 Shader Rd.
P.O. Box 547859
Orlando, FL 32854-7859
407 298-2000; Fax: 407 293-2979
Pat Jones, Sales Admin.

PIKE & FISCHER, INC.

4600 East West Hwy., Ste. 200
Bethesda, MD 20855
301 654-6262; Fax: 301 654-6297
Zach Wheat, Mktg. Mgr.



- Turnkey supplier of plastic enclosures offering molding/plating/conductive and decorative paint.
- CADD assistance available

4251 Brockton Court SE • Grand Rapids MI 49512

PLASTIC PLATE, INC.

4251 Brockton Ct. SE
Kentwood, MI 49512
616 698-2030; Fax: 616 698-7756
Jeff Dolbow, Sls. Mgr.

PLATRONICS SEALS

320 Colfax Ave.
Clifton, NJ 07013
201 478-3700; Fax: 201 478-5277
Dennis Decker, Dir., Sales & Mktg.

PLETRONICS, INC.

19015 36th Ave. West #H
Lynnwood, WA 98036
206 776-1880; Fax: 206 776-2760
Les A. Podgorny, VP, Mktg.

PNEUMAFIL CORP.

P.O. Box 16348
Charlotte, NC 28297-6348
704 399-7441; Fax: 704 392-8780
J. Swett

POLARIS ELECTRONICS CORP.

630 S. Rogers Rd.
Olathe, KS 66062
913 764-5210; Fax: 913 764-5045
Jim Kay

POLE/ZERO CORP.

5530 Union Centre Dr.
West Chester, OH 45069
513 870-9060; Fax: 513 870-9064
Andrew Ruggiero, Dir. Ops.

RF company index

PC Dynamics/Poly Circuits

M-WAVE Company

- Large Board Capability
- Bonded Carriers
- Metal Backed
- Mixed Dielectric
- Microstrip
- Multilayer
- Stripline

Sales Info: (708) 860-3560
Fax: (708) 860-5350

**The Technology Leaders
For Microwave Circuits**

POLY-CIRCUITS, INC. - AN M-WAVE CO.

215 Park St.
Bensenville, IL 60106
708 860-3560; Fax: 708 860-5350

POLYFET RF DEVICES

1110 Avenida Acaso
Camarillo, CA 93012
805 484-4210; Fax: 805 484-3393
Ed Greenbaum, Dir. of Mktg.

POLYFLON CO.

One Willard Rd.
Norwalk, CT 06851
203 840-7555; Fax: 203 840-7565
Will LaRusso, Pres.

POLYMER CORP.

P.O. Box 14235
Reading, PA 19612
610 320-6600; Fax: 610 320-6866
Cathy Bell

POLYPHASER CORP.

2225 Park Pl.
P.O. Box 9000
Minden, NV 89423-9000
800 325-7170; 702 782-2511; Fax: 702 782-4476
James J. Renwick, Sls. Mgr.

POTTER PRODUCTION CORP.

3004 Hwy. 51N
P.O. Box 337
Wesson, MS 39191
601 643-2215; Fax: 601 643-5126
Bob Smith, Dir., Sls./Mktg.

POWER DYNAMICS, INC.

59 Lakeside Ave.
P.O. Box 539
West Orange, NJ 07052
201 736-5722; Fax: 201 736-8930
Jim Papianni, Exec. VP

POWER ELECTRONIC COMPONENTS

6333 Old LaGrange Rd.
Crestwood, KY 40014
800 245-0193; Fax: 502 241-5970
Zoltan Bogdan

POWER SYSTEMS TECHNOLOGY

105 Baylis Rd.
Melville, NY 11747
516 777-8900; Fax: 516 777-8877
Diane Calise, Mktg. Admin.
See Our Ad On Page 37

POWEREX, INC.

200 Hillis St.
Youngwood, PA 15697-1800
412 925-7272; Fax: 412 925-4393
Claudia Tapper, Comm. Mgr.

PRECISION FILTERS, INC.

240 Cherry St.
Ithaca, NY 14850
607 277-3550; Fax: 607 277-4466
Donald Hall, Pub. Mgr.

PRECISION TUBE CO., INC.

287 Wissahickon Ave.
North Wales, PA 19454
215 699-5801; Fax: 215 699-0761
John Gentile

PRECISION TUBE CO. - INC., COAXITUBE DIV.

620 Naylor Mill Rd.
Salisbury, MD 21801
410 546-3911; Fax: 410 546-3913
Doug McNeil

PREMIER METAL PRODUCTS CO.

381 Canal Pl.
Bronx, NY 10451
718 993-9200; Fax: 718 993-9211
Anthony Bozza, Sales Mgr.

PREMIER MICROWAVE CORP.

33 New Broad St.
Port Chester, NY 10573
914 939-8900; Fax: 914 939-9239
David Williamson, Mktg. Dir.

PRESCO, INC.

8 Lunar Dr.
Woodbridge, CT 06525
203 397-8722; Fax: 203 389-1129
Mktg.

PROBE MASTER

215 Denny Way
El Cajon, CA 92020
800 772-1519
Mktg. Mgr.

PTS

**DIRECT (DIGITAL/ANALOG),
LOW NOISE, FAST, 0.1-3200MHZ
FREQUENCY SYNTHESIZERS
HF - VHF - UHF**

TEL: 508-486-3400
FAX: 508-486-4495

PROGRAMMED TEST SOURCES, INC.

9 Beaver Brook Rd.
P.O. Box 517
Littleton, MA 01460
508 486-3400; Fax: 508 486-4495
Diane Morin, Admin. Asst.
See Our Ad On Page 41

PROTEK

154 Veterans Dr.
Northvale, NJ 07647
201 767-7242; Fax: 201 767-7343
Alex Orloff

PROXIM, INC. DIGITAL RF PRODUCT LINE

295 N. Bernardo Ave.
Mountain View, CA 94043
415 960-1630; Fax: 415 960-0332
Brian Messenger, Dir., Prod. Dev.

PULSAR MICROWAVE CORP.

48 Industrial West
Clifton, NJ 07012
201 779-6262; Fax: 201 779-2727
Mae Edwards

Q

Q-BIT CORP.

2144 Franklin Dr. NE
Palm Bay, FL 32905
407 727-1838; Fax: 407 727-3729
Mary Rogers, Sls./Mktg. Mgr.

QMI

301 Ballardvale St.
Wilmington, MA 01887
508 988-9090; Fax: 508 988-9393
Jay Brewster, Nat'l Sls. Mgr.

Q-TECH CORP.

10150 W. Jefferson Blvd.
Culver City, CA 90232
310 836-7900; Fax: 310 836-2157
R. Gary Slacum, Sls. Admin.

QUALCOMM
VLSI Products

- ✓ Direct Digital Synthesizers
- ✓ Digital-to-Analog Converters
- ✓ Phase Locked Loop Frequency Synthesizers

YOUR Synthesizer Solution!

QUALCOMM, INC. VLSI PRODUCTS

6455 Lusk Blvd.
San Diego, CA 92121
619 658-5005; Fax: 619 658-1556
D'Ann Johnson, Mkt. Devel. Spec.

QUALITY COMPONENTS INC.

RD#1, Rte. 120
Ridgway, PA 15853
814 834-2817; Fax: 814 834-9141
Michael Renaud, Mktg./Sales Mgr.

QUALITY SEMICONDUCTOR

851 Martin Ave.
Santa Clara, CA 95050
408 450-8000
Steve Vonderach

QUARTZITE PROCESSING, INC.

6 Holyoke St.
Malden, MA 02148
617 322-3611; Fax: 617 322-9623
David Yanofsky, Pres.

QUARTZTEK, INC.

20 S. 48th Ave.
Phoenix, AZ 85043
602 272-7944; Fax: 602 233-2440
Mktg.

QUATECH, INC.

662 Wolf Ledges Pkwy.
Akron, OH 44311
216 434-3154; Fax: 216 434-1409
Tiffini Bloniarz, Mktg. Mgr.

RF company index

QUINTECH ELECTRONICS & COMMUNICATIONS INC. (QEC)
Rt. 286 N.
P.O. Box 235
Indiana, PA 15701
412 349-1412; Fax: 412 349-1421
Frank Elling, GM

R

RAG ELECTRONICS, INC.
2450 Turquoise Cir.
Newbury Park, CA 91320
800 732-3457; Fax: 800 272-4329
Keith Gertzman, Pres.

R&B ENTERPRISES
20 Clipper Rd.
W. Conshohocken, PA 19428
610 825-1960; Fax: 610 825-1684
Elizabeth Miller, Mktg. Coord.

RCD COMPONENTS, INC.
520 E. Industrial Pk. Dr.
Manchester, NH 03109
603 669-0054; Fax: 603 669-5455
Michael Arcidy, VP

RDL, INC.
7th Ave. & Freedley St.
Conchohocken, PA 19428
610 825-3750; Fax: 610 825-3530
David Sprenkle

RE AMERICA, INC.
31029 Center Ridge Rd.
Westlake, OH 44145
216 871-7617; Fax: 216 871-4304
Steve Watts

REL LABS, INC.
30 Midland Ave.
Hicksville, NY 11801
516 935-7272; Fax: 516 935-8568
Randall Prince, Eng. Mgr.

RF CONNECTORS
7620 Miramar Rd., Bldg. 4100
San Diego, CA 92126-4202
619 549-6340; Fax: 619 549-6345
Les Perlman, Mktg. Dir.

RF CONSULTANTS, INC.
8758 SW 51 Pl.
Cooper City, FL 33328
305 434-5465
Alan Victor, Pres.

R.F. INDUSTRIES
7610 Miramar Rd.
San Diego, CA 92126
619 549-6340; Fax: 619 549-6345
Les Perlman, VP

RF MICRO DEVICES
7341-D W. Friendly Ave.
Greensboro, NC 27410
910 855-8085; Fax: 910 299-9809
Linda Duckworth, Corp. Comm. Mgr.

RF MICROSYSTEMS, INC.
7191 Engineer Rd.
San Diego, CA 92111-1406
619 278-1300; Fax: 619 278-3030
Randy Moubert, VP, Microwave Prod. Div.



RF Monolithics, Inc.

- SAW Filters
- Low-Power UHF Radio Products
- High-Frequency Digital Clocks

(214) 233-2903 • Fax: (214) 387-8148

RF MONOLITHICS, INC. (RFM)
4441 Sigma Rd.
Dallas, TX 75244
214 233-2903; Fax: 214 387-8148
Arlene Todd, Marcom Mgr.
See Our Ad On Page 29

RF NEULINK
7610 Miramar Rd.
San Diego, CA 92126
619 549-6340; Fax: 619 549-6345
Donald J. Catledge, Dir./Gen. Mgr.

RF POWER COMPONENTS, INC.
125 Wilbur
Bohemia, NY 11716
516 563-5030; Fax: 516 563-4747
Paul Davidson

RF POWER LABS, INC.
21820 87th S.E.
Woodinville, WA 98072
206 485-9000; Fax: 206 486-9657
Jeannie Olson, Sales/Cust. Svc.

RF GENERATORS

- Solid State • Microprocessor Controlled •
- 50 kHz to 60 MHz • 500 watts to 25,000 watts •

AUTOMATIC MATCHING NETWORKS

- Inductive and Capacitive •
- Full custom capability • To 25 kW •



RFPP
RF Power Products Inc.

RF POWER PRODUCTS
502 Gibbsboro-Marlon Rd.
Voorhees, NJ 08043
609 751-0033; Fax: 609 751-1673
William Triggs, VP Mktg.

RF POWER SYSTEMS
17827 N. 26th St.
Phoenix, AZ 85032
602 867-0389; Fax: 602 971-9295
Bruce Meyer

RF PRIME, INC.
10569 Old Placerville Rd.
Sacramento, CA 95827
916 368-4400
Steve Markoe

RF PROTOTYPE SYSTEMS
9400 Activity Rd., Ste. J
San Diego, CA 92126
619 689-9715; Fax: 619 689-9733
Dan T. Gavin

R.F. TECHNOLOGIES CORP.
238 Goddard Rd.
Lewiston, ME 04240-1002
207 777-7778; Fax: 207 777-7784
Lisa Johnson, Mktg. & Sales

RF TECHNOLOGY, INC.
16 Testa Pl.
South Norwalk, CT 06854
800 762-4369; 203 866-4283; Fax: 203 853-3513
Erin Wouch

RFI CORP.
100 Pine Aire Dr.
Bay Shore, NY 11706
516 231-6400; Fax: 516 231-6465
Rich Michelson, Dir.

RHS HARNTEC, LTD.
Renslade House, Bonhay Rd.
Exeter, Devon, UK EX1 3BY
44 1392 217850; Fax: 44 1392 435226
Bruce Mattock, Mktg. Mgr.

RLC ELECTRONICS, INC.
83 Radio Cir.
Mt. Kisco, NY 10549
914 241-1334; Fax: 914 241-1753
Arthur Butts, Dir. Sales/Mktg.

RS MICROWAVE CO.
22 Park Pl.
P.O. Box 273
Butler, NJ 07405
201 492-1207; Fax: 201 492-2471
Dr. Richard Snyder, Pres.

WHERE RF MEETS DIGITAL



Full Custom Designs For Production:
• Mixed-Signal: RF, Analog & Digital
• ICs: Bipolar, CMOS, Bi-CMOS.
• Hybrids & MCMs: Thick-film, HTCC, LTCC.
Customized Cadence CAE Tools

(310) 534-3016

RTG, INC.
2790 Skypark Dr., #209
P.O. Box 3986
Torrance, CA 90510-3986
310 534-3016; Fax: 310 534-3728
Kurt Rasmussen, Pres.
See Our Ad On Page 20

RTRON CORP.
8151 N. Ridgeway Ave.
P.O. Box 743
Skokie, IL 60076
708 679-7180; Fax: 708 675-3709
Rich McLean, Pres.

RACAL INSTRUMENTS, INC.
4 Goodyear St.
Irvine, CA 92718
800 722-3262; 714 859-8999; Fax: 714 859-2505
Arlene Meadows, Product Mktg. Mgr.

RACHE CORP.
1160 Avenida Acaso
Camarillo, CA 93010
805 389-6868; Fax: 805 389-6866
Steve Garcia, Applications Engr

RF company index

RADAR TECH, INC.

15 Hale St.
Haverhill, MA 01830
508 372-8504; Fax: 508 372-3241
Sales Mgr.

RADIALL, INC.

150 Long Beach Blvd.
Stratford, CT 06497
203 386-1030; Fax: 203 375-3808
Bill Pitcher

RADIAN TECHNOLOGY, INC.

4211 Burton Dr.
Santa Clara, CA 95054
408 980-9877; Fax: 408 980-1614
Len Johnson, VP

RADIATION SCIENCES, INC.

3131 Detwiler Rd.
Harleysville, PA 19438
215 256-4133; Fax: 215 256-0775
VP, Tech. Ops.

RADIATION SYSTEMS, INC., MARK ANTENNAS DIV.

1757 S. Winthrop Dr.
Des Plaines, IL 60018
708 298-9420; Fax: 708 635-7946
Al Crego

RADIO MATERIALS CORP.

E. Park Ave.
P.O. Box 339
Attica, IN 47918
800 356-9956; Fax: 317 762-6814
Diana Beedle

RADIO RESEARCH INSTRUMENT CO., INC.

584 N. Main St.
Waterbury, CT 06704
203 753-5840; Fax: 203 754-2567
E.B. Doyle, Exec. VP

RADIO TELEVISION PRODUCTS CORP.

2702 Washington Ave. N.
R#2, Box 247
Douglas, AZ 85607
602 364-4438; Fax: 602 364-4430
W.J. McGaw, Pres.

RADIOMETRICS MIDWEST CORP.

55 W. 22nd St., Ste. 106
Lombard, IL 60148
708 932-7262; Fax: 708 932-7271
Dennis Rolling, CEO

RALTRON ELECTRONICS CORP.

2315 N.W. 107th Ave.
Miami, FL 33172
305 593-6033; Fax: 305 594-3973
Sandy Cohen, Sales Mgr.

RAMAR COMMUNICATIONS, INC.

2685C Park Center Dr.
Simi Valley, CA 93065
805 527-9585; Fax: 805 527-6362
Mark Killian, Pres.

RAMSEY ELECTRONICS, INC.

793 Canning Pkwy.
Victor, NY 14564
716 924-4560; Fax: 716 924-4555
Ed VanVoorhis, Controller



RANTEC

2205 Kramer Ln.
P.O. Box 1546 (78767)
Austin, TX 78758
800 253-3761; Fax: 512 835-4684
Don Fogle, Mktg. Coord.

RANTEC S A

5, rue des Sports
69003 Lyon, France
(011) 33 78 53 12 26; Fax: (011) 33 78 53 65 23
Roger Chamblas, European Mgr.

RAPID SYSTEMS

4307 Leary Way NW
Seattle, WA 98107
206 784-4311; Fax: 206 784-0333
Jann Hegle, Mktg. Mgr.



RAY PROOF

2205 Kramer Ln.
Austin, TX 78758
800 253-3761, 512 835-4684; Fax: 512 835-4729
Don Fogle, Mktg. Coord.

RAYTHEON CO., MPTD

190 Willow St.
Waltham, MA 02254
617 899-8400

RAYTHEON ELECTRONICS, ADVANCED DEVICE CEN.

362 Lowell St.
Andover, MA 01810
508 470-9518; Fax: 508 470-9058
Patricia Gifford, Strat. Mktg. Mgr.

REACTEL, INC.

687-K Lofstrand Ln.
Rockville, MD 20850
301 279-5535; Fax: 301 340-7304
Manny Assurian, Pres.

REEVES-HOFFMAN

400 W. North St.
Carlisle, PA 17013
717 243-5929; Fax: 717 243-0079
Ted Faust, Dir. Mktg. & Sales
See Our Ad On Page 32

RELIANCE COMM/TEC

5875 Landerbrook Dr., Ste. 250
Cleveland, OH 44124
216 266-5300; Fax: 216 266-5390
John Nisky, Mktg. Serv. Mgr.

REMEC

9404 Chesapeake Dr.
San Diego, CA 92110
619 560-1301; Fax: 619 560-0291
Guy Margard, VP Mktg.

REMTEC, INC.

51 Morgan Dr.
Norwood, MA 02062
617 762-9191; Fax: 617 762-9777
Nahum Rapoport, Pres.

REMTRON, INC.

1916 W. Mission Rd.
Escondido, CA 92029-1114
619 737-7800; Fax: 619 737-7810
John Schooley, Pres.

- Combiners
- Isolators & Circulators
- Drop-In, Coaxial, High & Low Power Commercial & Military Applications
- Up & Down Converters
- Loads & Terminations
- Multipliers

RENAISSANCE ELECTRONICS CORP.

1300 Massachusetts Ave.
Boxborough, MA 01719
508 263-4994; Fax: 508 263-4944
David Bloom, Sales Dept.

RENTELCO CORP.

1901 N. Glenville Dr., Ste. 401-A
Richardson, TX 75081
800 233-5807; 214 234-2422; Fax: 214 680-0070
Bill Chapman, Br. Mgr.

REPUBLIC ELECTRONICS, A DIVISION OF MICROWAVE POWER DEVICES, INC.

49 Wireless Blvd.
Hauppauge, NY 11788
516 273-9800; Fax: 516 273-9820
Diane Dickler, Admin. Assist.

RESEARCH ASSOC. OF SYRACUSE

510 Stewart Dr.
N. Syracuse, NY 13212
315 455-7157; Fax: 315 455-8037
Dr. R.G. Wiley

RESIN SYSTEMS CORP.

62 Rt. 101-A
Amherst, NH 03031-2295
603 673-1234; Fax: 603 673-4512
Daniel Prawdzik, Pres.

RETCONN

199 W. Pearl Rd.
Torrington, CT 06790
203 489-1220; Fax: 203 496-7307
Mktg. Mgr.

RICH'S BUSINESS DIRECTORIES, INC.

845 Commercial St.
Palo Alto, CA 94303-4906
415 493-7424; Fax: 415 493-7525
Kelly Hudson

Indicates Advertiser

RF company index

Turn to the source that specializes in the value-added services and technical support you need for your RF and microwave component requirements.



More than 50 locations worldwide.
(800)348-5580 in the U.S. & Canada
International inquiries (708)208-2200

RICHARDSON ELECTRONICS, LTD.
40W267 Keslinger Rd.
P.O. Box 393
LaFox, IL 60147
800 348-5580; 708 208-2200; Fax: 708 208-2550
Joel Levine, Sr. V.P.

RITRON, INC.
505 W. Carmel Dr.
P.O. Box 1998
Carmel, IN 46032
800 872-1872; Fax: 317 846-4978
Pat Allen, Sales Rep.

RITTAL CORP.
One Rittal Pl.
Springfield, OH 45504
800 477-4000; Fax: 513 390-5599
Heidi Beke-Harrigan, PR Mgr.

ROBINSON LABORATORIES
1 Tanguay Ave.
Nashua, NH 03063
603 880-7880; Fax: 603 880-4349
Bruce Baker, Dir. Sales/Mktg.

ROCK HILL INTERFERENCE LAB
420 Bryant Blvd.
Rock Hill, SC 29732
803 324-0202; Fax: 803 324-1730
William Hall

ROCKWELL INTERNATIONAL
2990 Airway Ave.
Costa Mesa, CA 92626
714 641-5311; Fax: 714 641-5320
Robert A. Johnson, Sales Mgr.

ROEDERSTEIN
P.O. Box 5579
Statesville, NC 28677
704 872-8101; Fax: 704 872-8023

ROGERS CORP. (AZ)
100 S. Roosevelt Rd.
Chandler, AZ 85226
602 961-1382; Fax: 602 961-4533
Art Aguayo, Tech. Svc. Engin.

ROGERS CORP. (CT)
One Technology Dr.
P.O. Box 188
Rogers, CT 06263-0188
203 774-9605; Fax: 203 774-9630
Robert White, Mktg. Comm. Mgr.

ROGERS CORP. SOLADYNE DIV.
7447 Convoct Ct.
San Diego, CA 92111
619 279-7872; Fax: 619 277-9105
Kevin Walker, Mktg. Mgr.

ROHDE AND SCHWARZ GMBH CO.
Muhldorferstr 15
P.O. Box 801469 D-81614 Munchen
D-81677 Munchen, Germany
(089) 41292625; Fax: (089) 41293208
Mktg. Mgr.

ROHDE & SCHWARZ, INC.
4425 Nicole Dr.
Lanham, MD 20706
301 459-8800; Fax: 301 459-2810
David G. Stephenson, Pres.

ROSS ENGINEERING CORP.
540 Westchester Dr.
Campbell, CA 95008
408 377-4621; Fax: 408 377-5182
Hugh C. Ross, Pres.

ROTATING PRECISION MECHANISMS, INC.
8750 Shirley Ave.
Northridge, CA 91324
818 349-8680; Fax: 818 772-7577
Daniel Flynn

RUBYTRON INSTRUMENTS
117 N. Ridge St.
Port Chester, NY 10573
914 937-6376; Fax: 914 925-2555
Sheldon Rubin, Pres.

S

SAE POWER, INC.
280 Martin Ave. #5
Santa Clara, CA 95050
408 987-2700; Fax: 408 986-8529
Jonathan Sek, Sales Mgr.

S&E MFG.
18800 Parthenia
Northridge, CA 91324
818 349-4111; Fax: 818 349-4651
H. Johnson

SFS SYSTEMS, INC.
4 Professional Dr., #115
Gaithersburg, MD 20879
Shireen Butz

SGS-THOMSON MICROELECTRONICS
211 Commerce Dr.
Montgomeryville, PA 18936
215 361-6400; Fax: 215 362-1293
Carl Lump, Prod. Mktg. Mgr.

SMI (CA)
12811 Sunshine Ave.
Santa Fe Springs, CA 90670
310 946-7681; Fax: 310 944-1303
Alan Newcomb, Mktg. Mgr.

SMI (IL)
1010 Pauly Dr.
Elk Grove Village, IL 60007
708 228-0090; Fax: 708 228-0695
Mktg. Mgr.

SMI (MA)
184 Prescott St.
Worcester, MA 01605
508 799-9809; Fax: 508 798-0708
Don Kurahara, Mktg. Mgr.

SMI (NY)
630 Rte. 303
Blauvelt, NY 10913
914 353-7770; Fax: 914 353-7833
Allan G. Newcomb, Mktg. Mgr.

SMT PLUS, INC.
5403-F Scotts Valley Drive
Scotts Valley, CA 95066
408 438-6116; Fax: 408 438-5450
Bonnie Fine, Mktg. Mgr.

SRC CABLES, INC.
5590 Skylane Blvd.
Santa Rosa, CA 95403
707 573-1900; Fax: 707 573-1999
Dan Hirschnitz, Gen. Mgr.

SSI CABLE CORPORATION
W. 150 Wm. White Way
Shelton, WA 98502
360 426-5719; Fax: 360 426-5912
Steve McMoyler, Applic. Eng. Mgr.

ST KELTEC CORP.
84 Hill Ave.
Ft. Walton Beach, FL 32548
904 244-0043; Fax: 904 664-0546
A. Coronis

ST MICROSONICS
28 Tozer Rd.
Beverly, MA 01949
508 922-0019; Fax: 508 927-9328
David Strand, Agency rep.



ST MICROWAVE CORP., ARIZONA OPERATIONS
340 N. Roosevelt Ave.
Chandler, AZ 85226
602 940-1655; Fax: 602 961-6226
Gene L. Joles, Pres.

ST MICROWAVE CORP. CALIFORNIA OPERATIONS
955/975 Benecia Ave.
Sunnyvale, CA 94086
408 730-6300; Fax: 408 733-0254
Joseph F. Lee, VP

ST OLEKTRON CORP.
28 Tozer Rd.
Beverly, MA 01949
508 922-0019; Fax: 508 927-9328
Dennis P. Ritchie, VP Mktg./Sls.

ST OLEKTRON SYSTEMS
37 Sutton Rd.
Webster, MA 01570
508 943-7440; Fax: 508 949-1804
David Strand, Agency rep.

S.T. RESEARCH CORP.
8419 Terminal Rd.
Newington, VA 22122
703 550-7000; Fax: 703 550-0883
Betty Wells, Prod. Sales Mgr.

ST SYSTRON DONNER CORP.
13100 Telfair Ave.
Sylmar, CA 91314
818 364-7235; Fax: 818 367-4709
Bruce A. Carpenter, Sls. Mgr., Mktg. & Sls.

SAGE LABORATORIES, INC.
11 Huron Dr.
Natick, MA 01760
508 653-0844; Fax: 508 653-5671
Peter Alfano, Sales Mgr.

RF company index

SALISBURY ENGINEERING, INC.

1955 Northwood Dr.
Salisbury, MD 21801
410 543-2141; 800 989-2141; Fax: 410-543-0641
Ralph Newberry

SAMSUNG MICROWAVE SEMICONDUCTOR

1530 McCarthy Blvd.
Milpitas, CA 95035
408 433-2222; 800 664-2748; Fax: 408 432-3268
Bill Chung, Mktg.

SANDERS CO., A CO. OF LOCKHEED MARTIN

95 Canal St. NCA4-3114
P.O. Box 868
Nashua, NH 03061
603 885-3604; Fax: 603 885-2919
Susan Stearns, Admin. Asst.

SANTEK

9765 Marconi Dr. #205
San Diego, CA 92173
619 661-8119
Luis Mendoza, Pres.



The U.S. company serving the world

- Quartz crystals
- Clock oscillators to 600 MHz
- VCXOs to 622.08 MHz
- TCXOs

ISO 9001/ISO 9002 Certified Manufacturer

SARONIX

151 Laura Ln.
Palo Alto, CA 94303
415 856-6900; Fax: 415 856-4732
Beat A. Kocher, Mgr. Mktg.

SAWTEK, INC.

P.O. Box 609501
Orlando, FL 32860-9501
407 886-8860; Fax: 407 886-7061
Marjorie Buckley, Mktg. Svcs. Dir.

SCALA ELECTRONIC CORP.

P.O. Box 4580
Medford, OR 97501
503 779-6500; Fax: 503 779-3991
Dan Fowler, Mktg. Mgr.

SCHAFFNER EMC, INC.

9-B Fadem Rd.
Springfield, NJ 07081
201 379-7778; Fax: 201 379-1151
Sangeeta T. Patel, Mktg. Mgr.

SCHLEGEL CORP.

1555 Jefferson Rd.
P.O. Box 23197
Rochester, NY 14692
716 427-7200; Fax: 716 427-9993
Donna Hickling, Mktg. Comm. Mgr.

SCI TRAN PRODUCTS

1734 Emery Drive
Allison Park, PA 15101
412 367-7063; Fax: 412 367-7063
Shinil Cho, Pres.

SCIENCE & ENGINEERING CONSULTANTS, INC.

11800 Sunrise Valley Dr., Ste. A
Reston International Center
Reston, VA 22091-5302
703 471-1600; Fax: 703 620-1561
Joseph Siewick

SCIENTIFIC ATLANTA

3845 Pleasantdale Rd.
Atlanta, GA 30340
770 903-2530; 800 848-7921; Fax: 770 903-2020

SCIENTIFIC HARDWARE SYSTEMS

3097 Benito St.
Hayward, CA 94544
510 471-0398; Fax: 510 471-1650
Scott Hagel

SCIENTIFIC RESEARCH LABS

1450 W. McCoy, Ste. G
P.O. Box 2729
Santa Maria, CA 93455
805 928-0133; Fax: 805 925-2744
Melany Shapiro, Controller

SCITEQ ELECTRONICS, INC.

4775 Viewridge Ave.
San Diego, CA 92123
619 292-0500; Fax: 619 292-9120
Bill Lennartz, Pres.

SEACOR, INC.

123 Woodland Ave.
Westwood, NJ 07675
201 666-5600; Fax: 201 664-8544
S.J. Birenbaum, Pres.

SEAVEY ENGINEERING ASSOCIATES, INC.

135 King St.
Cohasset, MA 02025
617 383-9722; Fax: 617 383-2089
Mktg./Sls. Mgr.

SECTOR MICROWAVE IND., INC.

999 Grand Blvd.
Deer Park, NY 11729
516 242-2300; Fax: 516 242-8158
Thomas Nelson, VP

SEIKO INSTRUMENTS, INC.

2990 W. Lomita Blvd.
Torrance, CA 90505
310 517-7832; Fax: 310 517-7792
Shirley Ning

SELECTONE CORP.

23278 Bernhardt St.
Hayward, CA 94545
510 887-1950; Fax: 510 887-4011
John Sullivan, VP Sales

SEMELAB PLC

Coventry Rd., Lutterworth
Leicestershire, UK LE17 4JB
44 455 556565; Fax: 44 455 552612
C.F. Battersby, Mktg. Dir.

SEMFLEX, INC.

5550 E. McDowell Rd.
Mesa, AZ 85215
602 985-9000; Fax: 602 985-0334
Richard Thomas, Mktg. Mgr.

SENAH

32 Timber Cove Dr.
P.O. Box 110936
Campbell, CA 95008
408 374-1031; Fax: 408 374-7231
Donald Hanes, Pres.

SENCORE, INC.

3200 Sencore Dr.
Sioux Falls, SD 57107
800 736-2673; Fax: 605 339-0317
Brad Johnson, M/C Spec.

SENSOR SYSTEMS, INC.

8929 Fullbright Ave.
Chatsworth, CA 91311
818 341-5366; Fax: 818 341-9059
Stan Wolf, VP Programs

SENTRY MFG. CO.

1201 Crystal Park
P.O. Box 250
Chichasha, OK 73018
800 252-6780; 405 224-6780; Fax: 405 224-8808
Steve Webb, Gen. Sales Mgr.

SHASON MICROWAVE CORP.

1120 Nasa Rd. One, Ste. 106
Houston, TX 77058
713 333-1950; Fax: 713 333-1954
Roland Shaw, Mktg. Dir.

THE SHEDD GROUP

7260 Terrace Pl.
Boulder, CO 80303
303 499-9517
Andrzej Przedpelski, EE

SHERRITT INC.

10101 144 Street
Fort Saskatchewan, Alberta, Canada T8L3W4
403 992-5324; Fax: 403 992-5325
Howard Imhof

SHOKAI FAR EAST LTD.

9 Elena Ct.
Peekskill, NY 10566
914 736-3500; Fax: 914 736-3656
Joe Weber, VP

SIEMENS COMPONENTS INC. - SPECIAL PRODUCTS DIV.

186 Wood Ave. S.
Iselin, NJ 08830
908 906-4376; Fax: 908 632-2830
Richard Kolster, Sr. Mktg. Mgr.

SIERRA MICROWAVE TECHNOLOGY

One Sierra Way
Georgetown, TX 78626
512 869-5007; Fax: 512 869-2730
James Mitchell, Pres.

SIGNAL MANAGEMENT, LTD.

Plumpton House, Plumpton Rd.
Hoddesdon, Herts, UK EN11 OLB
44 992 463603; Fax: 44 992 443824
David Hill

SIGNAL MICROWAVE ELECTRONICS

4704 Rayford St.
Jacksonville, FL 32254
904 384-7023; Fax: 904 389-9144
Norman L. Tyson, Owner
See Our Ad On Page 121

SIGNAL PROCESSING GROUP (SPG)

561 E. Elliot Rd., Ste. 171
Chandler, AZ 85225
602 892-1399; Fax: 602 892-1782
Art Gruszynski, VP Bus. Dev.

SIGNAL PROCESSING TECHNOLOGIES, INC.

4755 Forge Rd.
Colorado Springs, CO 80907
719 528-2300; Fax: 719 528-2370
Rick Mintle, Dir. of Mktg.

RF company index

SIGNAL SWITCH CO.

1791 Capital
Corona, CA 91720
909 736-5404; Fax: 909 736-5406
Leroy Tichiy, Chief Eng., Ge. Mgr.

SIGNALCRAFTERS, INC.

P.O. Box 3406
Lawrence, KS 66046
800 523-5815; Fax: 913 841-6133
Dennis Vandiver

SIGNATRON TECHNOLOGY CORP.

29 Domino Dr.
Concord, MA 01742-2845
508 371-0550; Fax: 508 371-7414
John Eschle, VP

SIGNATURE DESIGNS

253 Linda Dr.
Tucker, GA 30084
770 921-8083; Fax: 770 388-9611
Bob Langford

SIGTEK, INC.

9841 Broken Land Pkwy., Ste. 206
Columbia, MD 21046
410 290-3918; Fax: 410 290-8146
Jim Shea, Pres.

SILICON SYSTEMS

14351 Myford Rd.
Tustin, CA 92680
714 573-6200; Fax: 714 573-6914
Diana Spicer

SILICON VALLEY POWER AMPLIFIERS

529 Forman Dr. #B
Campbell, CA 95008
408 986-9700; Fax: 408 986-9700
Roy Mullard, VP Engin.
See Our Ad On Page 25

SILICONIX, INC.

2201 Laurelwood Rd.
Santa Clara, CA 95054
408 988-8000; Fax: 408 727-5414
Linda Cosner

SILVACO INTERNATIONAL

4701 Patrick Henry Dr., Bldg. 1
Sunnyvale, CA 95054
408 496-6000; Fax: 408 496-6080
Vicky Gourlay, Mktg.

SILVER CLOUD MANUFACTURING CO.

525 Orange St.
Millville, NJ 08332-5002
609 825-8900; Fax: 609 825-8969
Robert C. Cowperthwait, Sls. & Mktg. Mgr.

THE SIMCO CO., INC.

2257 N. Penn Rd.
Hatfield, PA 19440
215 822-2171; Fax: 215 822-3795
Lorraine Miner, Mktg. Asst.

SIMPLICITY TOOL CORP.

10330 N.E. Marx St.
P.O. Box 20456
Portland, OR 97220
503 253-2000; Fax: 503 253-2009
G. Berliner

SIMPSON ELECTRIC CO.

853 Dundee Ave.
Elgin, IL 60120
708 697-2260; Fax: 708 697-2272
Ron Barma, Comm. Mgr.

SINCLAIR TECHNOLOGIES, INC.

675 Ensminger Rd.
Tonawanda, NY 14150
800 288-2763; Fax: 716 874-4007
Meg Driggers

SIPEX

22 Linnell Cir.
Billerica, MA 01821
508 671-1946; Fax: 508 670-9001
Richard DeFreitas

SMITH ELECTRONICS, INC.

8200 Snowville Rd.
Cleveland, OH 44141
216 526-4386; Fax: 216 526-9205
James Pollock, Pres.

SOFIMATION C/O AXTRADE INC.

300 Atlantic St.
Stamford, CT 06901
203 326-5251, 800 840-9350; Fax: 203 326-5281
Lars Sundberg, Sls.

SOFTWARE

P.O. Box 366
Cedar Park, TX 78750
512 250-5087
Ali Syed, VP

SOFTWRIGHT

1010 S. Joliet, Ste. 204
Aurora, CO 80012
303 344-5486; Fax: 303 344-2811
Larry Ellis, Pres.

SOKOL CRYSTAL PRODUCTS, INC.

121 Water St.
Mineral Point, WI 53565
608 987-3363; Fax: 608 987-3882
Steven M. Sokol, Sls.

SOLADYNE DIV. OF ROGERS CORP.

7447 Convoy Ct.
San Diego, CA 92111
619 279-7872; Fax: 619 277-9105
Kevin Walker, Mktg. Mgr.

SOLDER ABSORBING TECHNOLOGY, INC.

144 Oakland St.
Springfield, MA 01108-1787
800 628-8862; Fax: 413 788-0490
Joyce White, Gen. Mgr.

SOLITRON/VECTOR MICROWAVE PRODUCTS, INC.

3301 Electronics Way
West Palm Beach, FL 33407
407 840-1800; Fax: 407 844-8551
Al Ragl, VP

SOLTEC CORP.

12977 Arroyo St.
San Fernando, CA 91340
800 423-2344; Fax: 818 365-7839
Byron McIntire, Exec. VP

SOMERSOFT

921 Transport Way, Ste. 16
Petaluma, CA 94954
707 778-7690; Fax: 707 778-7774
Gerald L. Somer, Owner

SONNET SOFTWARE, INC.

135 Old Cove Rd., Ste. 203
Liverpool, NY 13090
315 453-3096; Fax: 315 451-1694
Shawn Carpenter, VP, Mktg. & Sales

SONOMA INSTRUMENT

P.O. Box 9011
Santa Rosa, CA 95405
707 542-8569
V. Temer

SONOMA SCIENTIFIC

P.O. Box 1189
Forestville, CA 95436
707 887-1525; Fax: 707 887-1681
Dwight Caswell

SONOMA SCIENTIFIC, INC.

3579 Westwind Blvd.
Santa Rosa, CA 95403
707 522-0181; Fax: 707 522-0184
James Lautermilch, Mgr. Sales & Mktg.

SOUTH AMERICAN DEVELOPMENT CORP.

29 Noxon Rd.
Poughkeepsie, NY 12603
914 452-1305; Fax: 914 452-2526
C. Harrison, Office Mgr.

SOUTHWEST CIRCUITS

3760 E. 43rd Pl.
Tucson, AZ 85713
520 745-8515; Fax: 520 747-8334
G. S. Papanikolas, Pres.

SOUTHWEST MICROWAVE, INC.

2922 S. Roosevelt St.
Tempe, AZ 85282-2042
602 968-5995; 800 587-5995; Fax: 602 894-1731
Jim Rawlins, Dir. Sales

SPANG SPECIALTY METALS

P.O. Box 391
Butler, PA 16003
412 282-1515; Fax: 412 282-4209
Kelly Schmidt, Cust. Svc.

SPECIAL HERMETIC PRODUCTS, INC.

River View Mill
P.O. Box 269
Wilton, NH 03086
603 654-2002; Fax: 603 654-2533
Jack Pollock, Pres.

SPECIALTY CONNECTOR CO., INC.

2100 Earlywood Dr.
Franklin, IN 46131
317 738-2800; Fax: 317 738-2858
Dave Kostka, VP Mktg./Sls.

SPECIALTY PRO-SERV, INC.

250 Brinsmayd Ave.
Stratford, CT 06497-1356
203 378-8495; Fax: 203 380-2999
Frank M. Rose, Pres.

SPECTRACOM CORP.

101 Despatch Dr.
E. Rochester, NY 14445
716 381-4827; Fax: 716 381-4998
Edward O'Connor, Pres.

SPECTRUM CONTROL, INC.

6000 West Ridge Rd.
Erie, PA 16506
814 835-4000; Fax: 814 835-9000
Dick Zaday, VP, Mktg. & Sales

SPECTRUM ELECTRONICS/SAGAMI

5903-B Peachtree Ind. Blvd.
Norcross, GA 30092
770 448-1516; Fax: 770 441-3076
Michael Watson, Prod. Mgr.

RF company index

SPECTRUM ELEKTROTECHNIK GMBH

Olschewskibogen 1
P.O. Box 45 05 33
80935 Munich, Germany
(089) 354 80 40; Fax: (089) 354 80 4-90
Peter von Nordheim, Mng. Dir.

SPEFCO SOFTWARE

14 Sussex Ln.
Stony Brook, NY 11790
516 689-6582
Steve Sussman

A.W. SPERRY INSTRUMENTS, INC.

245 Marcus Blvd.
Hauppauge, NY 11788
516 231-7050; Fax: 516 434-3128
Carol Sugrue, Office Mgr.

SPINNAKER MICROWAVE

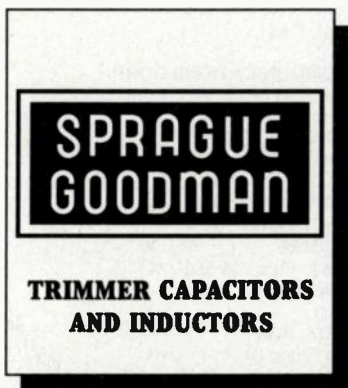
11854 Page Mill Rd.
Los Altos Hills, CA 94022
415 941-6513; Fax: 415 941-6513
Ernie Bertram

SPIRA MFG. CORP.

12721 Saticoy St. South
N. Hollywood, CA 91605
818 764-8222; Fax: 818 764-9880
Bonnie Kunkel, Gen. Mgr.

SPRAGUE

678 Main St.
Sanford, ME 04073
207 324-4140; Fax: 207 324-7223
Connie Wooden, Sales Secy.



SPRAGUE-GOODMAN ELECTRONICS, INC.

1700 Shames Dr.
Westbury, NY 11590
516 334-8700; Fax: 516 334-8771
Bernice Feller
See Our Ad On Page 16

SPRAYLAT CORP.

716 S. Columbus Ave.
Mt. Vernon, NY 10550
914 699-3030; Fax: 914 699-3035
Roy Bjorlin, Prod. Mgr.

STANDARD CRYSTAL CORP.

9940 E. Baldwin Pl.
El Monte, CA 91731
818 443-2121; Fax: 818 443-9042
David Upton, Kathy Allee, Betty Longwell, Reg.
Sales Mgrs.

STANDEX ELECTRONICS

4538 Camberwell Rd.
Cincinnati, OH 45209
513 871-3777; Fax: 513 871-3779
Gary Rasmussen, Sls. Mgr.

STANFORD MICRODEVICES

2880 Zanker Rd. #203
San Jose, CA 94086
800 764-6642, 408 496-4774; Fax: 408 730-2621
Nick Halloway, Mktg. Dir.

STANFORD RESEARCH SYSTEMS

1290 D. Reamwood Ave.
Sunnyvale, CA 94089
408 744-9040; Fax: 408 744-9049
Dan Melick, Mgr. Sls. & Mktg. Engr.

STANFORD TELECOM - TELECOM PRODUCTS GROUP

480 Java Dr.
Sunnyvale, CA 94089
408 541-9031; Fax: 408 541-9030
Rob Corrigan, VP Mktg.

THOMAS H. STANFORD ENGINEERING

454 W. Bluebridge Pl.
Escondido, CA 92026
619 741-7783
Tom Stanford

STATE OF THE ART, INC.

2470 Fox Hill Rd.
State College, PA 16803
800 458-3401; Fax: 814 355-2714
Diane Kerty, Robert Ziegler, VP, Mktg. Mgr.

STATEK CORP.

512 N. Main St.
Orange, CA 92668
714 639-7810; Fax: 714 997-1256
Suzanne Schaefer, VP Mktg.

STEINBRECHER CORP.

30 North Ave.
Burlington, MA 01803
617 273-1400; Fax: 617 273-4160
Tracey Coolen, Mktg. Admin. Asst.

STERLING TECHNOLOGY, INC.

1486 Highland Ave.
Cheshire, CT 06410
203 272-7728; Fax: 203 272-9860
Patrick Bradbury, Pres.

STETCO, INC.

3344 Schierhorn Ct.
Franklin Park, IL 60131
708 671-4208; Fax: 708 671-5270
Ralph Souders, VP

D.M. STEWARD INC.

E. 36th St.
P.O. Box 510
Chattanooga, TN 37401
615 867-4100; Fax: 615 867-4102
Don Lepard

STORM PRODUCTS, ADVANCED TECHNOLOGY GROUP

116 Shore Dr.
Hinsdale, IL 60521
708 323-9121, 800 247-8676; Fax: 708 323-9398
Maggie Vondra, Mktg. Dir.

STRONGBOX

5555 Inglewood Blvd.
P.O. Box 2726
Culver City, CA 90231
310 305-8288; Fax: 310 305-1905
S.E. Henigson, VP

SUMITOMO ELECTRIC USA

Park Ave. Tower, 16th Fl., 65 E. 55th St.
New York, NY 10022
212 308-6444; Fax: 212 308-6575
Thomas J. Miehe, Mgr. Sls. & Mktg.

SUN ELECTRONIC SYSTEMS, INC.

1900 Shepherd Dr.
Titusville, FL 32780
407 383-9400; Fax: 407 383-9412
Veronica L. Pasqua, Sales Engr.

SUNAIR ELECTRONICS, INC.

3101 S.W. Third Ave.
Ft. Lauderdale, FL 33315-3389
305 525-1505; Fax: 305 765-1322
James E. Laurent, VP, Mktg.

SUPERCONDUCTIVE COMPONENTS, INC.

1145 Chesapeake Ave.
Columbus, OH 43212
614 486-0261; Fax: 614 486-0912
J.R. Gaines

SUPERCONDUCTOR TECHNOLOGIES INC.

460 Ward Dr., Suite F
Santa Barbara, CA 93111-2310
805 683-7646; Fax: 805 967-0342
Joe Madden, Mgr. Sls. & Appl.

SURCOM ASSOCIATES, INC.

2215 Faraday Ave., #A
Carlsbad, CA 92008
619 438-4420; Fax: 619 438-4759
Doug Gordon, VP Mktg.
See Our Ad On Page 15

SURPLUS SALES OF NEBRASKA

1502 Jones St.
Omaha, NE 68102
402 346-4750; Fax: 402 346-2939
Bob Grinnell, Pres.

SURVEY TECHNOLOGIES, INC.

17980 SW Shadypeak
Beaverton, OR 97007
503 848-8500; Fax: 503 848-8534
Carl W. Peek, Mktg. Mgr.



SVETLANA ELECTRON DEVICES

3000 Alpine Rd.
Portola Valley, CA 94028
415 233-0429; Fax: 415 233-0439
George Badger, Pres.

SWIFT TEXTILE METALIZING CORP.

23 Britton Dr.
P.O. Box 66
Bloomfield, CT 06002-0066
203 243-1122; Fax: 203 243-0848
Steven T. Smith, Gen. Mgr.

SYMBIONICS NETWORKS LTD.

St. John's Innovation Pk., Cowley Rd.
Cambridge, UK CB4 4WS
011-44-1223-421025; Fax: 011-44-1223-421025
John Edney, Gen. Mgr.

SYNDETIX, INC.

2820 N. Telshor Blvd.
Las Cruces, NM 88011
505 522-8762; Fax: 505 521-1619
Troy Scoughton, RF Grp. Ldr.

RF company index

SYNERGETIX

310 S. 51st St.
Kansas City, KS 66106
913 342-0404; Fax: 913 342-6623
Karen Bock, Mktg. Mgr.

SYNERGY MICROWAVE CORP.

201 McLean Blvd.
Paterson, NJ 07504
201 881-8800; Fax: 201 881-8361
Antonio Almeida, Regional Mgr.

SYNETCOM DIGITAL, INC.

1426 Aviation Blvd., Ste. 203
Redondo Beach, CA 90278
310 379-2000; Fax: 310 372-2331
Etienne Resweber, VP Dev.

SYNTEK CORP.

159 Keyland Ct.
Bohemia, NY 11716
516 567-0477; Fax: 516 567-0726
John Scala

SYNTEST CORP.

40 Locke Dr.
Marlboro, MA 01752
508 481-7827; Fax: 508 481-5769
Odd Bjerkmann

T

TBE ELECTRONICS

442 Cass Hill Rd.
Candor, NY 13743
607 659-3030; Fax: 607 659-3650
Thomas Banas, Pres.

TCI/BR COMMUNICATIONS

222 Caspian Dr.
Sunnyvale, CA 94089
Paul Duffer

TDK CORP. OF AMERICA

1600 Feehanville Dr.
Mount Prospect, IL 60056
708 803-6100; Fax: 708 390-4405
Mike Tumminaro, Mktg. Mgr.

TE SYSTEMS

P.O. Box 25845
Los Angeles, CA 90025
310 478-0591; Fax: 310 473-4038
F. Helene

TEW NORTH AMERICA

5903-B Peachtree Ind. Blvd.
Norcross, GA 30092
800 762-0420; Fax: 404 441-3076
Michael Watson, Prod. Mgr.

TIW SYSTEMS, INC.

2211 Lawson Ln., Bldg. 20
Santa Clara, CA 95054
408 654-5600; Fax: 408 654-5613
Rob Wellins, Dir. of Mktg.

T&M RESEARCH PRODUCTS, INC.

139 Rhode Island St. NE
Albuquerque, NM 87108
505 268-0316
Richard Ingram

T/MAC Inc.

THE POWER TO DELIVER

- RF and MICROWAVE POWER AMPLIFIERS and SUB-SYSTEMS
- ASSEMBLY and TEST SERVICES
- MSC AMPLIFIER REPAIR
- POWER TRANSISTOR TEST FIXTURES
- RF IC TEST FIXTURES

CALL: (908) 247-0022
OR FAX: (908) 545-0120
100 Jersey Ave., Bldg. D 6, New Brunswick, NJ 08901

T/MAC, INC.

100 Jersey Ave., Bldg. D-6
New Brunswick, NJ 08901
908 247-0022; Fax: 908 545-0120
Ted Marks, Pres.

TRL TECHNOLOGIES

2155 Stonington Ave., Ste. 218
Hoffman Estates, IL 60195
708 519-9690; Fax: 708 519-9691
Mktg.

TTE®

TTE, INC.

11652 W. Plympic Blvd.
Los Angeles, CA 90064
310 478-8224; Fax: 310 445-2791
Steve Sodaro, Sls. Mgr.

T-TECH, INC.

5591-B New Peachtree Rd.
Atlanta, GA 30341
770 455-0676; Fax: 770 455-0970
Lisa Herbert, Mktg. Comm.

TUV PRODUCT SERVICE (CA)

10040 Mesa Rim Rd.
San Diego, CA 92121
619 546-3999; Fax: 619 546-0364
Gabriele Howard, Sls. & Mktg. Rep.

TUV PRODUCT SERVICE (MN)

1775 Old Hwy. 8
New Brighton, MN 55112
612 631-2487; 800 TUV-0123; Fax: 612 631-3515
Gene Panger, Sls. Mgr.

TUV PRODUCT SERVICE (MA)

5 Cherry Hill Dr.
Danvers, MA 01923
800 472-7999; Fax: 508 777-8441

TUV PRODUCT SERVICE (CO)

5541 Central Ave.
Boulder, CO 80301
303 786-7999; Fax: 303 449-3004
Lesley Swain, Sls. & Mktg. Rep.

TUV RHEINLAND OF NORTH AMERICA, INC.

12 Commerce Rd.
Newtown, CT 06470
203 426-0888; Fax: 203 270-8883
Valerie Moger, Corp. Mktg. Coord.

TACONIC PLASTICS, LTD.

Coonbrook Rd.
P.O. Box 69
Petersburg, NY 12138
800 833-1805; 518 658-3202; Fax: 800 272-2503; 518 658-3204
Buck Smith, VP Sales & Mktg.

TACTICAL ELECTRONICS CORP.

P.O. Box 1743
Melbourne, FL 32902
407 676-6907; Fax: 407 951-4630
Lance Lyman

Tafa Inc.

146 Pembroke Rd.
Concord, NH 03301
603 224-9585; Fax: 603 225-4342
Robert Unger, Cindy Brown

TAIYO YUDEN (USA), INC.

714 W. Algonquin Rd.
Arlington Heights, IL 60005
708 364-6104; Fax: 708 870-7828
M. Tomita

TALBOT TECHNOLOGY CORP. (T-TECH)

1 Dean St.
P.O. Box 151
Hudson, MA 01749
508 562-5820; Fax: 508 568-1219
Daniel Talbot, Pres.

TALLEY COMMUNICATIONS CORP.

11824 E. Hamden Place
Santa Fe Springs, CA 90670
310 949-7005; Fax: 310 948-3126
Steve Warner, Oper. Mgr.

TAMPA MICROWAVE LAB, INC.

12160 Race Track Rd.
Tampa, FL 33626
813 855-2251; Fax: 813 855-7741
John Nicosia, Nat'l Sls. Mgr.

TATUM LABS, INC.

1287 N. Silo Ridge Dr.
Ann Arbor, MI 48108
313 663-8810; Fax: 313 663-3640
Fred Ebert, Pres.

TAUBER-DREYER CORP.

17074 Dearborn St.
Northridge, CA 91325
818 993-0048; Fax: 818 993-5758
Robert Dreyer, Pres.

TECDIA, INC.

2672 Bayshore Pky., #702
Mountain View, CA 94043
415 967-2827; Fax: 415 967-8428
N. Aguilar, Sls./Mktg.

TECH-CERAM CORP.

18 Hunt Rd.
Amesbury, MA 01913
508 388-2755; Fax: 508 388-6280
William F. Dinardo, Pres.

TECH ETCH, INC.

45 Aldrin Rd.
Plymouth, MA 02360
508 747-0300; Fax: 508 746-9639
Philip A. Thomas, Sales Mgr.

RF company index

TECHDYNE, INC.

2230 W. 77th St.
Hialeah, FL 33016
305 556-9210; Fax: 305 364-1350
Barry Pardon, Pres.



**Technical
Research and
Manufacturing, Inc.**

TEL: (603) 627-6000
FAX: (603) 627-6025
Applications Hotline:
(800) 876-2746

- Power Dividers / Combiners
- Directional Couplers
- 90 & 180 Degree Hybrids
- Transformers
- Beamformers
- Modulators
- Image Reject Mixers
- Phase Comparators

Sales Hours: 8:00 AM - 8:00 PM EST

TECHNICAL RESEARCH AND MFG., INC. (TRM, INC.)

280 S. River Rd.
Bedford, NH 03110
603 627-6000; Fax: 603 627-6025
Tracy M. Tirollo, Mktg. Admin.

TECHNICAL SYSTEMS ASSOCIATES, INC.

1900 Central Florida Pkwy.
Orlando, FL 32837-9290
407 857-3235; Fax: 407 857-2377
Eugene Augustin, Pres.

TECHNO DIV., DALE ELECTRONICS, INC.

7803 Lemona Ave.
Van Nuys, CA 91405-1139
818 781-1642; Fax: 818 781-8647

TECHNOLOGY FUTURES, INC.

11709 Boulder Ln.
Austin, TX 78726-1808
512 258-8898; Fax: 512 258-0087
Julia Marsh, Mktg. Dir.

TECHTROL CYCLONETICS, INC.

815 Market St.
New Cumberland, PA 17070
717 774-2746; Fax: 717 774-6799
Craig Sunday, Mktg. Mgr.

TECKNIT

129 Dermody St.
Cranford, NJ 07016
908 272-5500; Fax: 908 272-2741
James L. Pean, Ad. Mgr.

TEGAM, INC.

10 Tegam Way
Geneva, OH 44041-1144
216 428-7505; Fax: 216 428-1068

TEKTRON MICRO ELECTRONICS, INC.

7483-B Candlewood Rd.
Hanover, MD 21076
410 850-4200; Fax: 410 850-4209
Stanley Schneider, Pres.

TEKTRONIX, INC.

Box 1500
Pittsfield, MA 01202
800 426-2200; Fax: 503 690-3959
Tom Brinkoetter, Mktg. Mgr.

TELECOM ANALYSIS SYSTEMS, INC.

34 Industrial Way E.
Eatontown, NJ 07724
908 544-8700; Fax: 908 544-8347
Rebecca Fish, Mktg. Mgr.
See Our Ad On Pages 68-69

TELECOMMUNICATIONS INDUSTRY ASSOC.

2001 Pennsylvania Ave., NW, Ste. 800
Washington, DC 20006
202 457-4935; Fax: 202 457-4939

TELEDYNE ELECTRONIC TECHNOLOGIES (LOS ANGELES)

12964 Panama St.
Los Angeles, CA 90066
310 822-8229; Fax: 310 574-2015
William Kennedy

TELEDYNE ELECTRONIC TECHNOLOGIES (MOUNTAIN VIEW)

1274 Terra Bella Ave.
Mountain View, CA 94043
415 962-6944; Fax: 415 962-6845
Melvin Lee, Mktg. Mgr.

TELEDYNE RELAYS

12525 Daphne Ave.
Hawthorne, CA 90250
213 777-0077; Fax: 213 779-9161
Harvey Laner, Dir., Sales & Mktg.

TELEMETRY TECHNOLOGIES, INC.

3307 West St.
Rosenberg, TX 77471
713 344-9000; Fax: 713 344-0884
John Keplinger, RF Syst. Engr.

TELEPLEX, INC. (ALFORD DIV.)

4801 Industrial Pkwy.
Indianapolis, IN 46226
317 895-8800; Fax: 317 895-2900
Tom L. Fitch, Pres.

TELE QUARZ GROUP

Landstrasse
Neckarbischofsheim, 74924 Germany
07268801-0; Fax: 072681435
Cornelia Saam

TELE QUARZ USA INC.

3545 H Centre Circle Dr.
Ft. Mill, SC 29715
803 547-0770; Fax: 803 547-0775
J. H. Atkinson, Area Mgr.

TELE-TECH CORP.

2050 Fairway Dr.
P.O. Box 790
Bozeman, MT 59771
406 586-0291; Fax: 406 587-0653
Al Zoller, Sales & Mktg. Mgr.

TELEWAVE, INC.

1155 Terra Bella Ave.
Mountain View, CA 94043
415 968-4400; Fax: 415 968-1741
Ray Collins, Pres.

TELEX COMMUNICATIONS, INC.

8601 Cornhusker Hwy.
Lincoln, NE 68505-5579
402 467-5321; Fax: 402 467-3279
Jim Roths, Mktg. Mgr.

TELLURIAN TECHNOLOGIES, INC.

1801 Hicks Rd., #B
Rolling Meadows, IL 60008
708 934-4141; Fax: 708 934-4175
Mike Wade, Mktg. Mgr.

TELOGY

3885 Bohannon Dr.
Menlo Park, CA 94025
800 835-6494
Melissa McCurhin, Mktg. Comm.

TELONIC BERKELEY, INC.

2825 Laguna Canyon Rd.
P.O. Box 277
Laguna Beach, CA 92652
714 494-9401; Fax: 714 497-7331
Richard Aaron, Pres.

TELSOR CORP.

6786 S. Revere Pkwy.
Englewood, CO 80112
303 790-8877; Fax: 303 792-0908
James Heurich

TEMEX ELECTRONICS, INC.

3030 W. Deer Valley Rd.
Phoenix, AZ 85027
602 780-1995; Fax: 602 780-2431
Steve Gholson, Pres.

TEMIC

2201 Laurelwood Rd., M/S 43
Santa Clara, CA 95056-0951
408 988-8000
Joyce De Sorro

TESLATRONICS, INC.

4303 Vineland Rd. #F-8
Orlando, FL 32811
407 481-0160
Michael Koch, Prod. Mgr.

TESOFT, INC.

205 Crossing Creek Ct.
Roswell, GA 30076
800 631-1113; 770 751-9785; Fax: 770 664-5817
Steve Lafferty, Pres.

TEST EQUIPMENT CORP.

2232 Old Middlefield Way
Mountain View, CA 94043
415 964-3923; Fax: 415 964-5226
John Fisher, Jr.

TEST PROBES, INC.

9178 Brown Deer Rd.
San Diego, CA 92121
800 368-5719; 619 552-2090; Fax: 619 535-1260
Gary Lee

TEXAS INSTRUMENTS INC., MICROWAVE MILITARY COMPONENTS

13510 N. Central Expwy.
P.O. Box 655474, M/S 402
Dallas, TX 75265
214 995-3043; Fax: 214 995-4288
Dolphene Davis, Engin. Data Asst.

**TexasSpectrum
Electronics, INC**

TEXAS SPECTRUM ELECTRONICS, INC.

9110 Autobahn Dr.
Dallas, TX 75237
214 296-3699; Fax: 214 296-7881
Thomas A. Galgano, VP Sales/Mktg.

THERMODISC, INC., MIDWEST COMPONENTS GROUP

1981 Port City Blvd.
Muskegon, MI 49442
616 777-4100; Fax: 616 773-4214
David Clow, Sls. Mgr.

RF company index

THIN FILM TECHNOLOGY

1980 Commerce Dr.
N. Mankato, MN 56003
507 625-8445; Fax: 507 625-3523
Mark Brooks, R&D Mgr.

THOMSON COMPONENTS AND TUBES CORP.

40G Commerce Way
P.O. Box 540
Totowa, NJ 07511
201 812-9000; Fax: 201 812-9050
Hans Sandager, Gen. Mgr., Spec. Prod. Div.

THOR ELECTRONICS CORP.

321 Pennsylvania Ave.
Linden, NJ 07036
908 486-3300; Fax: 908 486-0923
Angelo Crudele, Pres.

3L GLOBAL ELECTRONICS

2915 Anvil St., N.
St. Petersburg, FL 33710
813 343-2679; Fax: 813 343-4410
Bruce Small, VP Ops.

3M ELECTRICAL SPECIALTIES DIV.

6801 River Place Blvd.
Austin, TX 78726-9000
800 328-1368; Fax: 512 984-2210
Wayne Young, Sr. Mktg. Comm. Admin.

TIL-TEK ANTENNAS, INC.

500 Van Buren St.
P.O. Box 550
Kemptville, Ontario, Canada K0G 1J0
613 258-5928; Fax: 613 258-7418
Hector Boudreau, Dir. Sls. & Mktg.

TIMCO ENGINEERING, INC.

14260 S.W. 136 St., Unit #4
Miami, FL 33186
305 255-2424; Fax: 305 233-8237
Sid Sanders, Pres.

TIMES MICROWAVE SYSTEMS, INC.

358 Hall Ave.
P.O. Box 5039
Wallingford, CT 06492
203 949-8400; Fax: 203 949-8423
Dennis Dubuc, Reg. Sls. Mgr.

TOKIN AMERICA, INC.

155 Nicholson Ln.
San Jose, CA 95134
408 432-8020; Fax: 408 434-0375
Sales

TOKO AMERICA, INC.

1250 Feehanville Dr.
Mt. Prospect, IL 60056
708 297-0070; Fax: 708 699-7864
Linda Kastiel, Mktg. Comm. Mgr.
See Our Ad On Page 19

TOSHIBA AMERICA ELECTRONIC COMPONENTS, INC.

9775 Toledo Way
Irvine, CA 92718
800 879-4963
Daleen Comer, Coord., Adv./PR

TOYOCOM U.S.A., INC.

617 E. Golf Rd.
Arlington Heights, IL 60005
800 TOYOCON; 708 593-8780;
Fax: 708 593-5678
Dennis Reifel

TRAK MICROWAVE CORP.

4726 Eisenhower Blvd.
Tampa, FL 33634-6391
813 884-1411; Fax: 813 886-2794
Thomas Roberts, Sr. VP, Dir. of Mktg.

TRAN-TEC CORP.

P.O. Box 1044
Columbus, NE 68601
402 564-2748; Fax: 402 564-4946
Cliff Schroeder, Exec. VP

TRANS-TECH, INC., A SUBSIDIARY OF ALPHA INDUSTRIES, INC.

5520 Adamstown Rd.
Adamstown, MD 21710
301 695-9400; Fax: 301 695-7065
Peggy Gelhard

TRI-MAG, INC.

1601 N. Clancy Ct.
Visalia, CA 93291
209 651-2222; Fax: 209 651-0188
Hal Burger, Pres.

TRICOR FLIGHT SYSTEMS INC. - ELECTRONIC SYSTEMS DIV.

Industrial Park; 557 Mary Esther Cut-Off
Ft. Walton Beach, FL 32548-4090
904 244-7752; Fax: 904 244-1183
J.L. Atkinson

TRILITHIC

Today's ICON in RF and Microwave Components:

- Filters
- Attenuators
- Switches
- Switching and Control Subsystems

TRILITHIC INC.

9202 E. 33rd St.
Indianapolis, IN 46236
317 895-3600; Fax: 317 895-3613
David Distler, Sls. Mgr.

TRIM-TRONICS, INC.

2763 Rt. 20 East
Cazenovia, NY 13035
315 655-9528; Fax: 315 655-2149
J.E. Dowd

TRIPLETT CORP.

One Triplett Dr.
Bluffton, OH 45817
419 358-5015; Fax: 419 358-7956
Ted Suever

TRIQUINT SEMICONDUCTOR

3625 A. SW Murray Blvd.
Beaverton, OR 97005
503 644-3535; Fax: 503 644-3198
Joseph Skovron, Mktg. Mgr.

TROMPETER ELECTRONICS

31186 La Baya Dr.
Westlake Village, CA 91362
800 982-2629, 818 707-2020; Fax: 818 706-1040
Ray Calvin, VP Mktg. Sales



TRONTECH, INC.

38 Industrial Way E.
Eatontown, NJ 07724
908 542-1133; Fax: 908 542-1118
George Oliver, Sales & Mktg.

TRU-CONNECTOR CORP.

245 Lynnfield St.
Peabody, MA 01960
800 COAX-TRU (800 262-9878)
David Strand, Agency Rep.
See Our Ad On Page 59

A.J. TUCK CO.

32 Tuck Rd.
P.O. Box 215
Brookfield, CT 06804
203 775-1234; Fax: 203 775-4705
Alvin J. Tuck IV, Pres.

TUCKER ELECTRONICS

1717 Reserve St.
P.O. Box 551419
Garland, TX 75042
214 348-8800; Fax: 214 348-0367
Lynn Cagle



TUSONIX INC.

7144 N. Business Park
P.O. Box 37144
Tucson, AZ 85740-7144
520 744-0400; Fax: 520 744-6155
John R. Lane, VP Mktg.



UHF ASSOCIATES

6068 Dolores Dr.
Rohnert Park, CA 94928
707 584-7844
Martin Hill, Tech. Sales

UTE MICROWAVE, INC.

3500 Sunset Ave.
Asbury Park, NJ 07712
908 922-1009; Fax: 908 922-1848
Len Nilson, VP, Gen. Mgr.

ULTRA LASERTECH, INC.

6423 Northam Dr.
Mississauga, Ontario, Canada L4V 1J2
905 677-8091; Fax: 905 677-5160
George Bremner, Int'l. Mktg. & Sales

ULTRACAST, INC.

199 Freshwater Blvd.
P.O. Box 1114
Enfield, CT 06082
203 253-5015; Fax: 203 253-5019
Maynard Stowe, Pres.

RF company index

UNADILLA ANTENNA MANUFACTURING CO.
P.O. Box 4215
Andover, MA 01810-0814
508 475-7831; Fax: 508 474-8949
Ralph Jannini

UNDERWRITERS LABORATORIES, INC.
333 Pfingsten Rd.
Northbrook, IL 60062
800 873-8536; Fax: 708 272-8864
Steve Urbanski, Sr. Engin. Assoc.

UNITED GLASS TO METAL SEALING INC.
11A Executive Park Dr.
N. Billerica, MA 01862
508 670-6494; Fax: 508 670-6492
Paul Sullivan, VP

UNITED MICROWAVE PRODUCTS, INC.
22129 S. Vermont Ave.
Torrance, CA 90502
213 320-1244; Fax: 213 320-9729
Edwin Jacobs, Pres.

UNITED STATES CRYSTAL CORP.
3605 McCart St.
Ft. Worth, TX 76110
800 433-7140; 817 921-3014; Fax: 817 923-0424
Jan Henderson, Pres.

V

VALPEY-FISHER CORP./CARLISLE
469 E. North St.
Carlisle, PA 17013
717 258-5425; Fax: 717 258-5840
Jack B. Ross, Sls. Engr.
See Our Ad On Page 8

VANGUARD ELECTRONICS
1480 W. 178th St.
Gardena, CA 90248
213 323-4100; Fax: 213 329-8427
John Hoenig, Sales Mgr.

VANTAGE ASSOCIATES, INC.
6350 Nancy Ridge Dr., Ste. 101
San Diego, CA 92121
619 453-3680; Fax: 619 453-3768
Paul Roy, VP

VARI-L COMPANY, INC.
11101 E. 51st Ave.
Denver, CO 80239
303 371-1560; Fax: 303 371-0845
Bill Barrett, VP Sales

VARIAN X-RAY TUBE PRODUCTS
301 Industrial Rd.
San Carlos, CA 94070
415 592-1221; Fax: 415 592-9988
Bob Tornoe, Seg. Mgr.

VECTOR ELECTRONIC CO.
12460 Gladstone Ave.
Sylmar, CA 91342-5320
818 365-9661; Fax: 818 365-5718
Jan Tuchinsky

Indicates Advertiser

Books with Software:

- Q Factor
- Dielectric Resonators
- Notes on Microwave Circuits



VECTOR FIELD PUBLICATIONS

P.O. Box 757
University, MS 38677

(601) 234-4287

VECTOR FIELDS
P.O. Box 757
University, MS 38677
601 234-4287
Iva Kajfez



VECTRON LABORATORIES, INC.
166 Glover Ave.
P.O. Box 5160
Norwalk, CT 06856-5160
203 853-4433; Fax: 203 849-1423
Larry Jawitz, VP Mktg.

VECTRONICS MICROWAVE CORP.
113 Lincoln Blvd.
P.O. Box 70
Middlesex, NJ 08846
908 356-2377; Fax: 908 356-6782
John Vogler

VENKEL
4807 Spicewood Springs Rd., Bldg. 3
Austin, TX 78759
512 794-0081; Fax: 512 794-0087
Anil Venkatrao, Pres.

VERITECH MICROWAVE
111B Corporate Blvd.
S. Plainfield, NJ 07080
908 769-0300; Fax: 908 769-0300
Jeff Holmquest, Mgr. Sls. & Mktg.

VERNITRON CORP.
2801 72nd St. N.
St. Petersburg, FL 33710
813 347-2181; Fax: 813 347-7520

VIEWLOGIC SYSTEMS, INC.
293 Boston Post Rd. W.
Marlboro, MA 01752
508 480-0881; Fax: 508 480-0882
Karen Wills, PR Mgr.

VIEWSONICS, INC.
6454 E. Rogers Cir.
Boca Raton, FL 33487
407 998-9596; Fax: 407 998-3712
John Still, Prod. Dev. Mgr.

VOCOM PRODUCTS CO., L.L.C.
731 W. Lunt Ave.
Schaumburg, IL 60193
800 USA-MADE; Fax: 708 924-9078
James Hougo, Pres.

VOLTRONICS
100-10 Ford Rd.
Denville, NJ 07834
201 586-8585; Fax: 201 586-3404
Nicholas J. Perrella, Natl. Sales Mgr.

VORTEX MICROWAVE CORP.
2601 Garfield Ave.
Silver Spring, MD 20910
301 585-5128; Fax: 301 585-5261
David P. Berry, Pres.

W

WACOM PRODUCTS, INC.
W. Hwy. 6 at Spur 412
P.O. Box 21145
Waco, TX 76702
817 848-4435; Fax: 817 848-4209
Kit M. Parsons, Pres.

WAGO CORP.
9085 N. Deerbrook Tr.
Brown Deer, WI 53223
414 354-5467; Fax: 414 354-1268
Bill Tennie, Mktg. Mgr.

WALKER SCIENTIFIC
Rockdale St.
Worcester, MA 01606
800 962-4638; 508 852-3674; Fax: 508 856-9931
Bruce Langley, Sales Mgr.

WALLINGFORD WIRE & CABLE (ADVANCED CABLE TECHNOLOGY, DBA)
One Cable Dr.
Wallingford, CT 06492
203 265-0955; Fax: 203 284-8894
Jack Barbera

WANDEL & GOLTERMANN INC.
1030 Swabia Ct.
P.O. Box 13585
Research Triangle Park, NC 27709-3585
919 941-5730; Fax: 919 941-5751
Russ Mattingly, Tech. Support Engin.



WATKINS-JOHNSON

EXCELLENCE IN ELECTRONICS

For literature contact:
Watkins-Johnson Company
3333 Hillview Ave.
Palo Alto, CA 94304-1223
(415)493-4141 Fax: (415)813-2402

WATKINS-JOHNSON CO.
3333 Hillview Ave.
Palo Alto, CA 94304
415 493-4141; Fax: 415 813-2402
S.B. Witmer, Mgr., Comm.

WAVE TECHNOLOGY
1171 Melayn Dr.
Lebanon, OH 45036
513 932-3385; Fax: 513 932-6241
Dave Wissel, Sr. Officer

RF company index

WAVELINE, INC.

160 Passaic Ave.
Fairfield, NJ 08006
201 226-9100; Fax: 201 226-1565
Don Morsillo

WAVETEK CORP. (IN)

5808 Churchman Bypass
Indianapolis, IN 46203-6109
800 622-5515; 317 788-9351; Fax: 317 782-4607
Jeff Perrin, Wireless Bus. Dev. Mgr.

WAVETEK CORP. (CA)

9145 Balboa Ave.
San Diego, CA 92123
619 279-2200; Fax: 619 450-0325
Holly Bertz, Marcom Mgr.

WAVETEK LTD., DATRON DIV.

Hurricane Way, Norwich Airport
Norwich, UK
603 404824; Fax: 603 483670
David Walker

WAYNE KERR, INC./FARNELL

11 Sixth Rd.
Woburn, MA 01801
800 933-9319; Fax: 617 933-9523
Ken Harrison, Natl. Sales Mgr.

WEBB LABORATORIES

13731 W. Capitol Dr., Ste. 260
Brookfield, WI 53005
414 367-6825; Fax: 414 367-6824
John Haag, Dir. Sales & Mktg.

WERLATONE, INC.

P.O. Box 47, Rt. 22
Brewster, NY 10509
914 279-6187; Fax: 914 279-7404
G. Werlau
See Our Ad On Page 51

WEST BOND, INC.

1551 Gene Autry Way
Anaheim, CA 92805-6721
714 978-1551; Fax: 714 978-0431
Vic Bezjian, Prod. Mktg. Mgr.

WEST COAST MAGNETICS

356 Preston Ct.
Livermore, CA 94550
510 373-7711; Fax: 510 373-6465
Chris Connolly, Sls. Mgr.

WESTEC COMMUNICATIONS, INC.

14405 N. Scottsdale Rd.
Scottsdale, AZ 85254
602 948-4484; Fax: 602 998-8701
Bob O'Hara

WESTERN MICROWAVE, INC.

495 Mercury Dr.
Sunnyvale, CA 94086
408 738-2300; Fax: 408 738-2395
Wayne Warden

WHITTAKER ELECTRONIC SYSTEMS

1785 Voyager Ave.
Simi Valley, CA 93063
805 584-4100; Fax: 805 584-8200
Kevin Strack

WIDE BAND ENGINEERING CO., INC.

P.O. Box 21652
Phoenix, AZ 85036
602 254-1570; Fax: 602 254-1570
M. Ticknor, Sec./Treas.

WILBRECHT ELECTRONICS, INC.

1400 Energy Park Dr., Ste. 18
St. Paul, MN 55108
612 659-0919; Fax: 612 659-9204
Laurie Wilbrecht, Prod. Mgr.

WILMANCO

5350 Kazuko Ct.
Moorpark, CA 93021
805 523-2390; Fax: 805 523-0065
Deke Williams, Pres.
See Our Ad On Page 121

WILTRON CO.

490 Jarvis Dr.
Morgan Hill, CA 95037
408 778-2000; Fax: 408 778-0239
John Hamilton, Mgr.

WINTEK CORP.

1801 South St.
Lafayette, IN 47904-2993
317 448-1903; Fax: 317 448-4823
Jenilyn Rausch, Oper. Mgr.

X

XL MICROWAVE

5811 Racine St.
Oakland, CA 94609
510 428-9488; Fax: 510 428-9469
William Artz, Sales Mgr.

XTAL TECHNOLOGIES, LTD.

28 Millrace Dr.
P.O. Box 4235
Lynchburg, VA 24502
804 385-8300; Fax: 804 385-8100
Mary Lund, Sr. VP

Z

Z-COMMUNICATIONS, INC.

9939 Via Pasar
San Diego, CA 92126
619 621-2700; Fax: 619 621-2722
Chuck Eapen

Z DOMAIN TECHNOLOGIES, INC.

1170 Grimes Bridge Rd., #500
Roswell, GA 30075
770 587-4812; Fax: 770 518-8368
Dr. K. Heidarian, Pres.

ZELAND SOFTWARE, INC.

39120 Argonaut Way, Ste. 499
Fremont, CA 94538
510 623-7162; Fax: 510 623-7135
Jian X. Zheng, Pres.

ZERO ENCLOSURES

200 North 500 West
P.O. Box 0310
North Salt Lake, UT 84054-0310
801 298-5900; Fax: 801 299-7350
Evon Young, Mktg. Mgr.

THE ZIPPERTUBING CO.

13000 S. Broadway
P.O. Box 61129
Los Angeles, CA 90061
310 527-0488; Fax: 310 767-1714
Mike Sullivan

ZONIC A&D CO.

50 W. TechnCenter Dr.
Milford, OH 45150-9777
513 248-1911; Fax: 513 248-1589
Jeffrey Zobrist



ZYCON CORPORATION - BURIED CAPACITANCE™

435 El Camino Real
Santa Clara, CA 95050
408 243-1976; Fax: 408 247-8728
Helene Lavelle, Advanced Tech. Prod. Mgr.

ZYMET, INC.

7 Great Meadow Ln.
E. Hanover, NJ 07936
201 428-5245; Fax: 201 887-3678
Karl Loh

Include your logo or Target Ad
next year.

Weinschel

a division of Sierra Networks, Inc.

Fixed, Programmable, Variable & Step Attenuators
Precision Adapters & Connector Systems
Power Splitters & Dividers
Directional Couplers
Terminations & Loads
Measurement Instruments



P.O. BOX 8001 GAITHERSBURG, MD 20884-6001
301-948-3434 • 800-638-2048 • FAX: 301-948-3625

ISO-9001 Certified!

WEINSCHTEL, A DIV. OF SIERRA NETWORKS INC.

P.O. Box 6001
Gaithersburg, MD 20884-6001
301 948-3434; Fax: 301 948-3625
Geoffrey Smith, Dir. Sls./Mktg.
See Our Ad On Page 47

WEINSCHTEL ASSOCIATES

42 Cessna Ct.
Gaithersburg, MD 20879-4145
301 948-8342; Fax: 301 869-9783
Winnie Warfield, Sales

WENTWORTH LABORATORIES, INC.

500 Federal Rd.
Brookfield, CT 06804
203 775-0448; Fax: 203 775-8172
Don Feuerstein, Mktg. Serv. Mgr.

WENZEL ASSOCIATES, INC.

1005 LaPosada Dr.
Austin, TX 78752
512 450-1400; Fax: 512 450-1490
Liz Ronchetti, VP

RF LITERATURE/PRODUCT SHOWCASE

Custom Ceramic Filters



Proprietary Pole/Zero Design Technique yields steep shape factors with low loss
Frequency Range: 500 - 3000 Mhz
Bandwidths up to 5%
6, and 12 mm Profiles
Moderate to large volume

Give you what you want, not what's on our shelf!

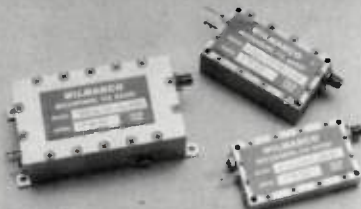


228 Northeast Rd
Standish, Me. 04084
Phone: (207) 642-4535
Fax: (207) 642-0198

INFO/CARD 40

LOW COST HIGH PERFORMANCE FREQUENCY SOURCES

CRYSTAL OSCILLATOR-MULTIPLIER



✓ MODEL VSA - \$195.00 .01 GHz TO 1.0 GHz
✓ MODEL USA - \$245.00 1.0 GHz TO 1.8 GHz
✓ MODEL SSA - \$295.00 1.8 GHz TO 4.2 GHz
RF OUTPUT: +8dBm min., at any spot frequency in above ranges
FREQ. STABILITY: ±30ppm, -20°C to +60°C
B+: +12 to +16 VDC

Wilmanco

5350 Kazuko Court, Moorpark, CA 93021
(805) 523-2390 FAX (805) 523-0065

INFO/CARD 41

GOULD POWERDEX

Thin Lithium Batteries
As thin as 0.7 mm



- Thin rectangular format
- High energy density
- Customized capacity
- Solder or pressure contacts
- Available in 3 and 6 volt



family of products:

- Standard: A, B, C sizes
- Ultrathin: less than 1 mm
- Customized: capacity and/or size
- Rechargeable: call for information

Gould Electronics Inc., Electronic Power Sources

35129 Curtis Blvd. Eastlake, Ohio 44095-4001

Phone: (216) 953-5059 Fax: (216) 953-5152

Toll Free: 1-800-722-7890

(U.S. & Canada)



INFO/CARD 42

NEC-Win Basic for Windows™

\$75.00 !



First Integrated Antenna Design & Analysis Program
for Windows Under \$100 Supporting NEC2

Features Include:

- Intuitive Graphical User Interface
- Powerful Azimuth and Elevation Plotting
- Three-Dimensional Radiation Patterns
- Automated VSWR, Beamwidth, F/B Ratio, Input Impedance and Current Calculations

Amagon Technology, Inc.
300 Innovation Blvd. Suite 240
State College, PA 16803
E-mail: NecWin@aol.com
(814) 234-3335 Fax: (814) 234-0228

INFO/CARD 43

RF/Microwave

- CRO, DRO, LC Microstrip Designs.
- Free Running or Phase Locked.
- Designs Matched to Your Requirements.
- Cost Effective, High Quality Custom Design and Development.
- Fax or Send Requirements for Quick Response.

Signal Microwave Electronics

4764 Rayford Street
Jacksonville, Florida 32254
Phone: (904) 384-7023
Fax: (904) 384-9144

INFO/CARD 44

The filter design tool
that does it all...for less.

- Lumped, Distributed and Hybrid Circuits
- Mechanical Dimensions for Distributed Circuits
- Pole Placed Transfer Functions
- Much More

\$995 Complete
Domestic Shipping Included

FILTROID



Distributed By
Amber Technologies, Inc.
(508) 369-0515
FAX (508) 371-9692

INFO/CARD 45

RF POWER AMPLIFIERS



200 W • 150-200 MHz • 55% Efficiency • 35dB Gain

1 MHz-2GHz 1W-1KW

- Small Size • High Efficiency • Durable
- Module and Rack Mount Systems
- Customization Available



651 Via Alondra, #712
Camarillo, CA 90312 USA
TEL: (805) 388-8454
FAX: (805) 389-5393

INFO/CARD 46

RF DESIGN Product Showcase

- Available Monthly
- Full color - 1/9 pg. with Reader Service #
- Call Shannon Shuman at (800) 443-4969

WFO

RECRUITMENT

*** RF ENGINEERS - ALL LEVELS ***

Design/Test/Project (BS/MSEE)
Quality/Manufacturing (BSME/EE/EE)
** FOR BROADBAND/CATV
INDUSTRY LEADERS **

"Plus" Backgrounds Include:
Analog/Digital Design
Fiber Optics/Lasers
Amplifier/PIN Diode Circuits
Touchstone/Eagleware/Spice/Compact
CAD/AutoCAD/MathCAD

*ASK ABOUT EXCLUSIVE BONUS,
ALL POSITIONS *

Females and minorities encouraged to apply. We
represent equal-opportunity firms. All fees company paid.

**CHRISTIE
ASSOCIATES**

10955 Jones Bridge Road
Suite 131-264
Alpharetta, Georgia 30202
Telephone: (770) 772-7175
FAX: (770) 772-7177

IOWA MIDWEST

MIDWEST RF COMMUNICATIONS EQUIPMENT DESIGN ENGINEERS
B.S./M.S., 2 to 8+ years experience, base-band to 3.0 GHz, in any of
the following: Receivers, Transmitters, Power Amplifiers, Synthe-
sizers, Spread Spectrum, RF ASIC/MMIC Design, Modems, Com-
munications DSP. Desire strong analytical skills and experience in
RF circuit simulation using RF CAE tools. Multiple openings with
top commercial companies in attractive Midwest locations. Reply
with assured confidentiality to:

DON GALLAGHER MSEE
Gallagher & Associates
1145 Linn Ridge RD. MT. Vernon, IA 52314
Phone: 319-895-8042 Fax: 319-895-6455
RF Engineering Recruiting for Midwest Clients Since 1987

(800) 443-4969

COMMUNICATIONS ENGINEERS

Our clients are hiring RF engineers with the
following skills:

Wireless Telecomm, Cellular, Mobile, Telephony,
NPCS, spread spectrum, DSP, AMPS, SMR,
GSM, CDPD, TDMA, CDMA, WLAN, WPBX,
Transmitters, Receivers, modulators, demodula-
tors, low noise amps, mixers, oscillators, filters,
DDS, synthesizers, 900/1900 MHz.

- ✓ Never a fee to applicants.
- ✓ Positions available nationwide.
- ✓ Send email, fax, or call Randy Brei today!

Brei & Associates, Inc.
P.O. Box 445 Marlon, IA 52302-0445
(319)377-9196 FAX (319)377-9219
RBREI@NETINS.NET
<http://www.NETINS.NET/showcase/RDBREI/>

COMMUNICATIONS RF DESIGN

Executive and Technical Openings
Throughout the United States

Lanni Johnson, CPC

Excel

OF ALBUQUERQUE, INC.

505-262-1871

FAX 505-268-4954

Excel of Albuquerque, Inc.

excelalb@ix.netcom.com

1700 Louisiana NE, Suite 210

Albuquerque, New Mexico 87110

**ENGINEERING
OPPORTUNITIES**

PCS/PCN/CELLULAR/CDPD
RF/HW/SW/FW/DSP
Terminals/Systems

FITZPATRICK & ASSOCIATES

16540 East Ashbrook Dr. • Fountain Hills, AZ 85268-2832
E-Mail: FITZPAT@ix.netcom.com
FAX: (602) 956-7644

SCTE
Sustaining
Member

**Peter
Froehlich & Co.**
executive search

Engineering Positions Available:

Senior RF Design,
Test • Digital • Analog
Market Development
Software Applications
Fiber Optic Electrical
Applications • Reliability
Manufacturing • Sales

Call or write. Fees paid.

P.O. Box 339 Weatherford, TX 76086
(800) 742-4947 • Fax: (817) 594-1337
E-Mail: 72774.3617@compuserve.com

PRODUCTS & SERVICES

NOLAN LABORATORIES, INC.

Consulting, Design, Test and Manufacture
FOR

RF, Microwave, Antennas, Electromagnet-
ics, EMI/RFI, Bioelectromagnetic Sensors
Design and Support for Manufacturability

James A. Nolan, MSEE PO Box 567
President Conifer, CO 80433-0567

(303) 838-0057

RF advertising index

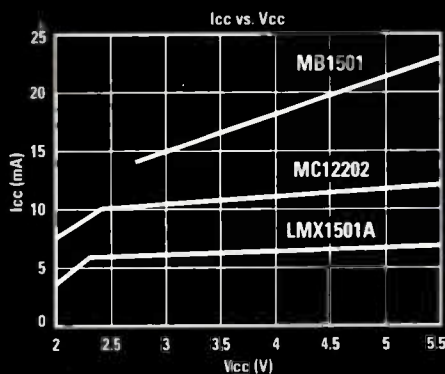
ADVERTISER	PAGE #	READER SVC #
American Tech. Ceramics Corp.	17	1
American Radio Relay League, Inc.	C-4	2
Amplifier Research	64	3
Analog Solutions	21	4
Brei & Associates	122	
California Eastern Labs	3	5
Christie Associates	122	
Coilcraft	2	6
Communication Concepts, Inc.	24	7
Control Devices, Inc.	121	40
Don Gallagher & Associates	122	
Ecliptek Corporation	9	8
Electro Dynamic Crystal	33	9
Eliara Electronics Systems	10	10
ENI - A Div. of Astec America, Inc.	5	11
Excel	122	
Fitzpatrick & Associates	122	
Geesaman Software	121	45
Gould Electronics, Inc.	121	42
International Crystal Mfg Co., Inc.	28	12
ITS Electronics, Inc.	27	13
Kalmus Engineering, Inc.	35	14
Kay Elemetrics Corp.	50	15

ADVERTISER	PAGE #	READER SVC #
KVG North America, Inc.	18	16
LCF Enterprises	121	46
National Semiconductor	C-3	18
Nolan Laboratories, Inc.	122	
Paragon Technologies	121	43
Penstock, Inc.	71	19
Peter Froehlich & Co.	122	
Power Systems Technology	37	20
Programmed Test Sources, Inc.	41	21
Reeves-Hoffman	32	22
RF Monolithics, Inc.	29	23
RTG, Inc.	20	31
Signal Microwave Electronics	121	44
Silicon Valley Power Amps	25	24
Sprague Goodman	16	25, 38
Surcom Associates	15	26
Telecom Analysis Systems, Inc.	68-69	27
Toko America, Inc.	19	28
Tru-Connector Corp.	59	32
Valpey-Fisher Corp.	8	29
Weinschel, A Div. of Sierra Net	47	17
Werlatone, Inc.	51	30
Wilmanco	121	41

Low Power *is* PLLatinum.

PLLatinum™: the industry's highest performing PLLs.

Our single and dual PLLs are about to take you lower than you've ever gone before. In fact, the PLLatinum family of PLLs consumes just 6mA at 3V. As a result, they deliver increased battery life for all your wireless designs. They also offer better noise performance, improved lock times, and the industry's widest frequency range. So call 1-800-272-9959 Ext. 604* for a free sample and a product selection guide. Because isn't it time you went PLLatinum?



	LMX1501A	LMX1511	LMX2314/15	LMX2320	LMX2325	LMX2330A	LMX2331A	LMX2332A	LMX2335	LMX2336	LMX2337
RF Input-Main PLL	1.1GHz	1.1GHz	1.2GHz	2.0GHz	2.5GHz	2.5GHz	2.0GHz	1.2GHz	1.1GHz	2.0GHz	550MHz
RF Input-Aux PLL						510MHz	510MHz	510MHz	1.1GHz	1.1GHz	550MHz
I _{cc} (typ) @3V	6mA	6mA	6mA	10mA	11mA	15mA	14mA	8mA	9mA	11mA	9mA
Powerdown (typ)	N/A	N/A	30µA	30µA	30µA	1µA	1µA	1µA	1µA	1µA	1µA



National Semiconductor

*In Europe call +49 (0) 180 532 78 32 (English) or +49 (0) 180 530 85 85 (German); in Japan call 81-43-299-2300; in Southeast Asia call 852-2737-1600.
©1995 National Semiconductor Corporation. PLLatinum is a trademark of National Semiconductor Corporation. All rights reserved.



Now is the time. This is the year.

If you've put it off... make your move
on the new **1996 ARRL Handbook**.

Building on last year's top-to-bottom rewrite, the brand new **1996 ARRL Handbook** is packed with new projects and updated information. And, for the first time in **Handbook** history, the 1996 edition includes SOFTWARE. See the full description of disk below for details! Whether you're an Amateur Radio beginner, an experienced operator, electronic technician, engineering student or engineer, you'll find each chapter of the 1996 ARRL Handbook a standalone "mini-book" that will cover your favorite topics and provide invaluable reference material, fascinating facts and some great new do-it-yourself projects.

No matter what aspect of Amateur Radio piques your interest, you'll find what you're looking for in the new **1996 ARRL Handbook**. Take a look at some highlights:

Station Accessories—12-V distribution boxes for station (and mobile) accessories. An audio break-out box feeds several accessories from a single source. Use the RF Sniffer to track down sources of RF. A simple two-channel analog-to-digital converter project lets your computer make measurements and compute SWR. An audio display for meters is handy for both vision impaired and sighted hams. Several hams tell how to transport H-Ts conveniently. And keys for all! An updated Uncle Al's keyer reads code too, two more based on the Curtis 8044ABM IC, and a CW send and receive system for IBM compatible computers.

Antennas—More antennas for new hams! Examples: a simple wire loop for 28 MHz and a copper 2-meter J-pole. Also, selected antenna Hints and Kinks.

Transceivers—Check out the new multiband QRP transceiver from Wayne Burdick, N6KR, and the NorCal QRP club: Operate 160 through 10 meters with plug-in band modules. Try a VLF transceiver (no license required!) or a QRP transmitter built from a single IC.

Filters—A new DSP filter from Dave Hershberger, W9GR, offers 18 different modes, including DTMF and CTCSS tone decoding.

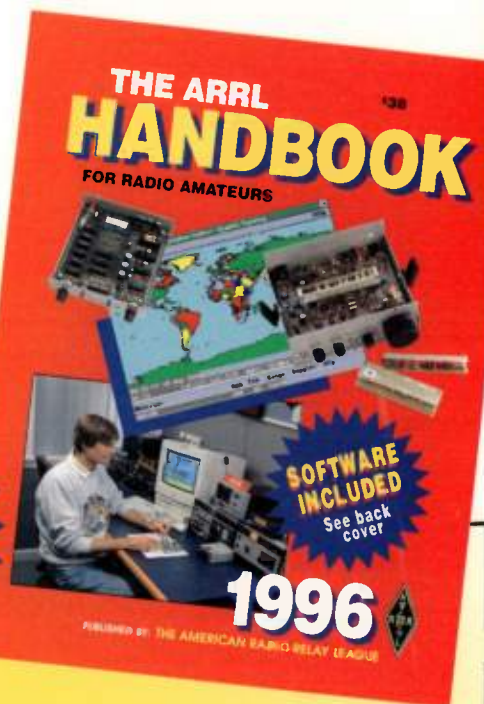
Satellites—Learn about plans for the new Phase 3D bird. Build a "Junk Box" Satellite Receiver or a Mode-S Receive Converter.

Amplifiers—'96 is the year for 2-meter amplifiers: A new "brick" amplifier can boost an H-T to 25 or 50 W (builder's choice), and a 3CX1200Z7 provides 1.2 kW. Now that's talk power! For high-power buffs, there's a 3200-V, 2-A supply.

Modulation Sources—G-TOR, CLOVER and PACTOR II are on the cutting edge of amateur HF digital communication. Read Chapter 12 and decide which mode is best for your application.

Once you pick up your copy of the new **1996 ARRL Handbook**, you'll be glad you waited. Order your copy today. ARRL Order #1735 — Retail \$38 plus \$6 for shipping and handling, 1168 pages in softcover.

**SOFTWARE
INCLUDED**



For the First Time: ARRL Handbook Software

This year's **ARRL Handbook** includes a 3.5-inch, 1.44-MB IBM compatible diskette with a variety of standalone applications and programs used with projects in the book.

TISFIND, a Windows application from the ARRL's Technical Information Service, provides you with the names and addresses of more than 900 Amateur Radio vendors and organizations. Your frustrating hunts for suppliers are history!

COILS, from Brian Beezley, K6STI, calculates the important characteristics of solenoidal coils.

ACTFIL is for designing active audio filters described in the Filters chapter.

The disk also features the software side of several projects in the book: an SSTV interface from Ben Vester, K3BC; a PC interface for sending CW from Ralph Taggart, WB8DQT; and a PC voltmeter from Paul Danzer, N1II.

Other software is useful for helping to find true North; for designing shortened, inductively loaded dipoles; and for designing Pi and Pi-L matching networks.

ARRL 225 Main Street, Newington, CT 06111-1494

e-mail: ltardette@arri.org

tel: 860-594-0200 fax: 860-594-0303

World Wide Web: <http://www.arri.org/>

INFO/CARD 2

