



1993 IEEE MTT-S EXHIBITION GUIDE

The following list is complete as of press time and may not include all companies.

Accumet Engineering Corp. 653
Hudson, MA

H. Muffoletto, L. Voyer

Dicing, lapping and polishing ceramic, BeO, silica, AlN and other dielectric substrates.

Advance Reproductions Corp. 948
North Andover, MA

C. Losanno, M. Crowley

High quality CAD, scanning, phototooling and photolithography services.

Advanced Technology Group 843
Rockaway, NJ

L. Tao, F. McIver-Hanus, E. Maier

Glass-to-metal seal packages, including flatpacks, dual-in-line headers, microwave, TO, power, fiber-optic, machined, unibody package feedthroughs and other custom designed hybrid microcircuit packages.

Advantest America 1165
Lincolnshire, IL

AEL Defense Corp. 1311
Lansdale, PA

A. Musto, C. Yablon, J. Klepchick, J. Schuchardt, D. Ritchie

Spiral, horn and log periodic antennas; radomes; custom front-ends; translators; converters; subassemblies; MICs; log amplifiers; IF components; SDLAs; monolithic and hybrid.

Aerowave Inc. 1002
Medford, MA

T. Kozul, M. Kozul, L. Kahn, E. Walters

18 to 325 GHz mm-waveguide devices;

monitoring and measurement directional couplers, power dividers and combiners; variable attenuators, super power loads, terminations, waveguide switches, pressurizing units, bends, twists, flanged lengths and hardware.

A.J. Tuck Co. 1316
Brookfield, CT

A. Tuck, D. Tuck, L. Hunt

Customized precision electroformed components, WG transitions, filters, cavities, polarizers, OMTs, horns, miniature double ridge and millimeter waveguide components and air dielectric coaxial cables.

Alan Industries Inc. 737
Columbus, IN

W. Kennedy, S. Kennedy, B. Kennedy, C. Shofner

Programmable, continuously variable, rotary, fixed, cam actuated, toggle switch, rocker switch and push button attenuators; terminations, directional couplers, RF fuses, resistive dividers, impedance matching pads and switches.

Alcatel Network Systems-Ferocom 1327
San Jose, CA

M. Kyser, M. Swift, T. Nguyen

100 MHz to 40 GHz isolators and circulators in coaxial, drop-in, waveguide and coaxial-to-waveguide isodaptor configurations.

Alessi Inc. 613
Irvine, CA

D. Miller, J. Tylka, T. Reese, J. Alford, G. Hunt, A. Spriet

Manual and semi-automatic microwave probe stations and accessories, including laser cutters, probe heads, thermal systems, closed circuit TV cameras and monitors.

Alpha Industries Inc. 932
Woburn, MA

L. Hayman, D. Barker, J. Gillard, R. Langlais, W. Cormier, D. Emerick

RF and microwave semiconductor devices, materials and ceramics; GaAs MMICs and microwave and mm-wave components and multifunction subsystems.

American Technical Ceramics 1143
Huntington Station, NY

Amplica Inc. 947
Newbury Park, CA

Amplifier Research 705
Souderton, PA

D. Shepherd, E. Shepherd, L. Pokorny

10 kHz to 1 GHz broadband RF power amplifiers and accessories for laboratory and industrial uses, including RF susceptibility testing, wattmeter calibration, NMR/MRI, particle accelerators, EMP simulation, RF plasma research, RF heating and other medical, biological and physical research applications.

Anadigics Inc. 1146
Warren, NJ

Anaren 1338
E. Syracuse, NY

Andrew Corp. 944
Orland Park, IL

Helix® coaxial cables and custom cable assemblies.

Anritsu Wiltron 953
Morgan Hill, CA



Applied Microwave Magazine 1340
Lexington, MA

*J. White, E. White, S. Spencer,
 L. Casaletto, C. Stout, H. Stout*

A quarterly magazine for the RF and microwave fields.

Applied Specialties Inc. 718
Beltsville, MD

R. Pouliot, G. Pouliot

Semi-rigid cable tooling, coaxial cable assemblies, coaxial components, cable and connectors, custom connectors, RF cases, amplifiers, multicouplers and outdoor accessories.

Applied Systems Engineering Inc. 744
Fort Worth, TX

E. Reed, L. Marks, B. Jostrand

400 MHz to over 100 GHz pulse/CW microwave amplifiers/transmitters and subsystems utilizing helix, ringbar and coupled cavity TWTs, klystrons, CRAs, magnetrons, oscillators and amplifiers.

Arlon Materials for Electronics 754
Bear, DE

*M. Carlson, J. Frankosky, P. Sanza,
 D. Watt, T. Welo, T. Tschida, K. Husted*

Substrates for frequency dependent applications using PTFE as the base resin system with structural support consisting of woven glass, nonwoven fibers and ceramics; and microwave absorbing materials.

Artech House Inc. 822
Norwood, MA

W. Bazzzy, M. Walsh

Technical books and software on microwave applications and techniques.

Artwork Conversion Software Inc. 624
Santa Cruz, CA

S. DiBartolomeo, A. Morwaski, H. Pettel

CAD translators and postprocessors for RF and microwave masks; interfaces for Gerber, GDSII, EGS, Postscript, Academy, Excellon and DXF databases.

Assemblies Inc. 637
Warner Robins, GA

J. Daniel, J. Daniel, Jr., J. Tinney,

C. Daniel, U. Daniel

Flexible and semi-rigid coaxial cable assemblies and precision coaxial connectors.

Astrolab 1158
Warren, NJ

S. Toma, J. Toma, J. Jennrich

Designers and manufacturers of commercial and military coaxial connectors, cable, adaptors and other passive components.

ATN Microwave Inc. 941
Billerica, MA

*V. Adamian, M. Fennelly, C. Woodin,
 D. Wandrei*

Load-pull power device characterization; noise parameter custom measurement systems

A.T. Wall Co. 966
Warwick, RI

*J. Matzen, R. Sorenson, B. Diggett,
 C. Deinert*

Rigid waveguide tubing in a variety of sizes and alloys, including aluminum, copper, bronze, invar and silver.

Avantek, a subsidiary 732
of Hewlett Packard
Santa Clara, CA

*K. Robertson, D. Mov, G. Harmonv,
 M. Madden*

Microwave and mm-wave amplifiers, oscillators, power modules, subassemblies, hybrid functional modules and mixers and oscillators in hermetic PlanarPak™ surface-mount packaging.

AVX Corp. 1317
Myrtle Beach, SC

R. Phillips, D. O'Toole, J. Lucia

High frequency multilayer, porcelain, single layer, maxi SLC, thin-film accu-f and accu-p capacitors; SMT style thin-film fuses; thin-film SMT inductors, EMI filters, STD and custom design.

Balo Hermetics Co. 1329
Butler, NJ

E. Rapoza, J. Koppen

Hi-rel packages for microwave, hybrid and power applications; glass-to-metal RF

packages with all metal designs; laser-weldable micro D aluminum flange multipin connectors; and in-house machining, sealing and plating capabilities in compliance with MIL specs.

Bandgap Technology Corp. 614
Broomfield, CO

Barnes Engineering Div./EDO Corp. 1113
Shelton, CT

R. Stetson, K. Carlile, D. Simko

ThermaScope infrared microthermal imaging system with 4 µm spatial resolution and real time imaging using Windows-based software for semiconductor design, failure analysis and reliability engineering.

Belden Wire and Cable 641
Richmond, IN

*K. Coates, C. Snyder, B. Gebs, C. Serrani,
 T. Siekierka, D. Frist, M. Vanderburgt,
 D. Trotta*

RF and microwave and coaxial and hand-formable conformable® coaxial cable.

Buckbee-Mears 632
St. Paul, MN

*F. Grimm, P. Beadles, J. Bowgren,
 P. Gburek*

Custom metal etching, high frequency strip-line and microstrip circuits, electroformed mesh and sieves and imaged glass reticles.

Cadence Design Systems Inc. 922
San Jose, CA

*M. Mezgar, J. Waters, W. Ghijsen,
 D. Neilson*

The analog artist microwave design system, which provides full front-to-back microwave IC design capability for RF through mm-wave MMIC design; a unified and consistent microwave simulation environment; and powerful microwave IC layout, extraction and verification tools.

California Eastern Laboratories 1125
Santa Clara, CA

*L. Lea, B. Tyson, J. Swan, S. Morris,
 J. Kellelt, G. Clark, R. Weber, J. Barry,
 S. Rynas*

NEC RF and microwave semiconductors, including small signal and power bipolars,

low noise and power GaAs FETs, silicon MMICs, GaAs analog MMICs, silicon and GaAs prescalers, diodes and surface mount devices.

Cardiff Publishing Co. 1355
Englewood, CO

Cascade Microtech 1148
Beaverton, OR

D. d'Almeida, D. Rierdan, T. Burcham

RF microwave and W-band probe heads; high frequency calibration substrates; thermal and parametric on-wafer probing systems; manual and semi-automatic probing systems; microwave hybrid test stations; and automatic calibration software.

Celeritek Inc. 840
San Jose, CA

R. Jones, G. Koker, T. Herdt, Z. Palmer, D. Braunstein, S. Fujisaka, R. DeBoo, R. Chou

Manufacturer of GaAs FET amplifiers, MMICs, GaAs FETs and converters for commercial communication and VSAT transmitters.

Coleman Microwave Co. 1332
Edinburg, VA

K. Coleman, Sr., K. Coleman, Jr., J. Coleman, D. Braithwaite, M. Emswiller

Microwave filters, duplexers and tunable and fixed tuned triplexers featuring direct frequency tape and LED readouts; IEEE-bus compatible programmable filters with accuracy of ± 1 MHz in coaxial and waveguide designs; and 0.15 to 26 GHz rigid and flexible waveguide assys, bends, twists, straight sections, terminations and coaxial adapters.

Communication Techniques Inc. 1232
Whippany, NJ

E. McDonald, R. Badami, J. Marino

7 MHz to 23 GHz RF and microwave signal sources, including frequency synthesizers for VSAT applications, phase-locked and free-running DROs and CROs, voltage-controlled oscillators and synthesized stalo-coho-afc subassemblies for radar systems and VXI synthesizers.

Compac Development Corp. 738
Holbrook, NY

C. Groves, P. Rao

Over 500 sizes of RFI/EMI shielded enclosures off the shelf with 80 dB attenuation at 20 GHz.

Compex Corp. 720
Medford, NJ

G. Gordon, C. Ennis

Single-layer ceramic microwave chip capacitors with either gold or tin-plated electrodes configured in split electrode, binary electrode, electrode array and safety margin electrode patterns; and metalized and un-metalized substrates.

Component General Inc. 1142
Odessa, FL

L. Cook, T. Floridio

Power base mounted components, including resistors, terminations and attenuators; SMA terminations; conduction-cooled loads; power chips, including resistors, terminations and attenuators; coaxial components, including rods, discs and T-pads; and flange terminations.

Comsat Laboratories 717
Clarksburg, MD

A. O'Neill, B. Geller, R. Potockuchi, R. Gupta, S. Chen, T. Ho, H. Huang, T. Kirkendall

1 to 100 GHz amplifiers, attenuators, switches, phase shifters and mixers; and integrated devices, circuits, chips and modules into microwave and/or subsystem functions.

Comstron 839
A division of Aeroflex
Plainview, NY

Conductus Inc. 1144
Sunnyvale, CA

R. Withers, G. Liang, J. Martens

High temperature superconducting films, devices and subsystems, including delay lines, resonators, filters, instantaneous-frequency measurement subsystems, and custom film products.

Connecting Devices Inc. 825
Long Beach, CA

J. Dunbabin, W. Carpenter, J. O'Dell
Handi-Form II™ lightweight aluminum com-

pliable hand formable cable assemblies, Handi-Form™ flexible reformable cable assemblies, 2.9 mm K™ connectors with unique swept right angle types, phase adjustable SMA connectors, automatic network analyzer test cables, TNC swept right angle in-series adapters and 7 mm adapters.

Continental Microwave & Tool Co. 1319
Hampton, NH

T. Brown, J. Ripel, D. Wall

Flexible and rigid waveguide assemblies, passive components, waveguide calibration kits, satellite waveguide and antennas; 30 sizes of rectangular and double-ridge waveguide in rigid, thin-wall and seamless flexible waveguide from WR430 to WR22.

Continental Microwave Technology 633
Glen Cove, NY

R. Herrmann, C. Pardo, B. Patel, D. Sellick

Precision RF and microwave frequency sources, including frequency synthesizers, phase-lock oscillators and multipliers; custom microwave subassemblies for frequency conversion, generation and signal processing applications; containing mixers; filters; circulators; PIN devices and amplifiers.

Coors Ceramics Co. 816
Golden, CO

T. Glass; J. Gagnon

Thin-film substrate materials including ADS 99.5, ADS 99.6 and Superstrate™ 99.6; and production capabilities, including NC Punch, lasered and hard tooled products.

Cougar Components Corp. 1216
Santa Clara, CA

Cascadable, AGC and limiting amplifiers, limiters, 0.1 to 5000 MHz attenuators in TO-8 or TO-8B, and surface mount, flatpack and SMA connectorized packages to meet or exceed MIL-STD-883.

CTT Inc. 913
Santa Clara, CA

D. Tai, S. Mussynski, G. Graham, R. Shubin

0.5 to 40 GHz low, medium and high power microwave amplifiers and subassemblies.



Daden Associates Inc. San Clemente, CA	1046	ance receiver protectors; TWTs and TWT amplifiers for radar, communications and ECM applications.		oscillators, synthesizers, crystal and combine oscillators.	
Dielectric Labs Cazenovia, NY <i>G. Vorlop, R. Mitchell, B. Semans, E. Arnold, S. Branchevsky</i> Single-layer ceramic capacitors to MIL-C-49464 (QPL), porcelain capacitors to MIL-C-55681 (QPL), ceramic substrates, as fired, polished, unmetallized and metallized.	1236	E.F. Johnson Waseca, MN <i>D. Cullinan, T. Kari</i> RF connectors and cable assemblies, electronic hardware, spacers, air variable capacitors and tube sockets.	612	Epitaxial Products International Londonderry, NH	945
Dorado International Corp. Seattle, WA	642	EIP Microwave Inc. Milpitas, CA <i>R. Bush, R. Meers, C. McDaniel, J. Notor, D. Hunsinger</i> Microwave VXIbus instrumentation, including synthesizers, converters and microwave CW, pulsed and source-locking counters.	759	ETM Electromatic Inc. Newark, CA <i>C. Hayse, T. Hayse, K. Lillis</i> Satcom TWT uplink amplifiers, high voltage test systems for microwave amplification, scientific research, medical applications and communications systems.	719
DuPont Wilmington, DE <i>A. Lauder, R. Dorothy, K. Harthett, M. Brenner, Z. Shen, C. Wilker</i> Superconducting thin films in several superconducting composites.	739	Electromagnetic Sciences Inc. Norcross, GA	1117	Evered Birmingham, UK <i>T. Tripp, C. Estrada, D. Deck, R. Goodrich</i> Standard and special profile waveguides in all sizes and alloys, including ultra-thin high strength aluminum for aerospace applications; duplex thick wall tubing for high power systems; rigid waveguide assemblies; passive components; low noise amplifiers; micro-controllers; and downconverters.	743
Dynatech Microwave Technology Calabasas, CA <i>D. Colletta, P. Graham, S. Smith, L. Roland, P. Williams</i> DC to 40 GHz coaxial switches; HF- to K-band waveguide and coaxial filters, multiplexers and integrated assemblies.	1005	Elisra Electronic Systems Ltd. Hybrid Microelectronics Bene Beraq, Israel	648	FEI Microwave Inc. Sunnyvale, CA <i>J. Allan, P. Clark, M. Elwood, J. Lee, L. Martire, T. Nguyen, D. Tuccori, W. Patton</i> Microwave components, vertically integrated assemblies and MMIC devices designed for EW, radar, missile, satellite, test equipment and telecommunications applications.	725
Dynawave Inc. Georgetown, MA <i>C. Lewis, D. Gartzke, B. McLaughlin, T. Scannelli, P. Terardi, B. Brann</i> Precision microwave connector and cable assemblies, including SMA, SSMA, KTNC, type N, blindmate Dynamate™, Blindmate Dynamite™, Dynacon™ interconnects, Dynaseal™ hermetic cable assemblies and Dynapac™ DC to 50 GHz blindmate, push-on; delay lines and cable assemblies.	1266	Elisra Microwave Components Division Bene Beraq, Israel <i>U. Friedman, H. Hirschberg, R. Perez, J. Feldbeber</i> 0.1 to 40 GHz passive and active microwave components, including filters, low noise amplifiers, high dynamic range amplifiers, solid-state PIN diode switches, mixers, oscillators and multipliers, multicouplers, RF matrices and RF solid-state transmitters.	648	Ferretec Inc. Fremont, CA <i>W. Keane, D. Hoekstra, T. Teuthorn, C. Schiebold, R. Bourdon, L. Earl</i> YIG-tuned microwave components and subsystems for commercial and military applications, including Ferretrac® REGISTER\$ closed-loop filters, open-loop filters, oscillators and YIG-based subsystems.	1013
EEsof Inc. Westlake Village, CA	905	EMC Technology Inc. Cherry Hill, NJ	1361	Filtronics Chelmsford, MA	1206
EEV Inc. Elmsford, NY <i>P. Fochi, A. Markiewicz, A. Sayers</i> Magnetrons for industrial heating applications; X- and Ku-band injection-locked magnetron amplifiers; 250 KW S-band packaged magnetrons for radars; high perform-	726	Emerson & Cuming Inc. Woburn, MA	1221	Flexco Microwave Inc. Port Murray, NJ <i>A. Jones, M. Brewster, D. Lutkins, W. Pote, M. Pelenski</i>	849
		EMF Systems Inc. State College, PA <i>John Chemega, Joan Chemega, Jack Chemega, Jim Chemega, J. Rosenfeld, C. Lorenc, R. Smith, J. Schwartz</i> Microwave oscillators and associated circuitry, including dielectric and phase-locked	862		

Flexible, precision coaxial cable assemblies for laboratory test, network analyzers and system hook-up.

Florida RF Labs Inc. 918
Palm City, FL

D. Sampson, G. Fenex

Microwave thin-film resistor products, including flange, chip, power threaded, coaxial and pill-shaped terminations; rod, stud, chip, power and disc resistors; waveguide vane, power, film card and stripline attenuators; and flexible, semi-rigid, phase-matched and delay line cable assemblies.

Focus Microwaves Inc. 700
Pointe Claire, Quebec, Canada

C. Tsironis, R. Meierer, I. Fichtner, M. Ait-Aissi

0.6 to 110 GHz computer-controlled microwave tuners; noise and load-pull measurement and design verification software; μ W-PADS power amplifier design software; and GPC7 and GPC2.92 TRL calibration kits for 0.5 to 40 GHz VNAs.

Fotofabrication 639
Chicago, IL

FSY Microwave Inc. 865
Rockville, MD

W. Forrestal, J. Yania, F. Behdin, D. Gildea

DC to 40 GHz filters, diplexers and multiplexers in LC, miniature, lumped element, surface mount, suspended substrate, coaxial, combline, cavity, interdigital, waveguide and ceramic resonator topologies.

Fujitsu Compound Semiconductor 1147
San Jose, CA

B. Utter, T. Downing, N. Boan, R. Tiede, R. Maly, S. Rupp, B. Holdsworth, P. King, M. Myerow, D. Geller, Y. Nemoto, H. Takahashi, T. Shintani

Microwave GaAs FET devices and related products, including microwave power amplifiers, power FETs' low noise HEMT devices, GaAs MIC and devices for microwave and cellular radio applications.

Gamma-f Corp. 631
Torrance, CA

M. Stupnik, B. Terry, G. Peale

2 to 110 GHz passive microwave compo-

nents, including filters, diplexers, orthomode transducers, polarizers and feeds for commercial, defense and space applications.

GEC-Marconi Materials Tech. 1353
San Diego, CA

Gel Pak Div./Vichem Corp. 1318
San Jose, CA

A. Wilson, M. Althouse

Shipping and handling products that transport semiconductor die, wafers and packaged components using a proprietary coating integrated into the system that keeps devices immobilized and allows them to be handled damage free; and conductive components for ESD sensitive devices.

General Microwave Corp. 1114
Amityville, NY

S. Rinkel, B. Grand, R. Schachter, M. Balfour, A. Caggiano

Microwave PIN diode control components, including attenuators, modulators, switches, phase shifters, IQ vector modulators, limiters and coaxial mm-wave; voltage controlled, digitally tuned and dielectric resonator oscillators; and microwave instruments, including automatic single and dual channel peak power meters, average power monitors and radiation hazard measuring systems and RF/microwave radiation badges.

GHz Technologies 626
St. Laurent, Quebec, Canada

Z. Huszar, J. Lindover, J. Miller

Microwave passive components, including filters, circulators, isolators, couplers, adapters, terminations and waveguide assemblies.

Giga-Tronics Inc. 853
Pleasant Hill, CA

D. Armann, D. Bosque, D. Brockway, R. Chikhani, P. Edwards, M. Hagins, K. Harvey, B. Johnson, H. Mette, D. White, S. Zimmerman

Multiband and singleband synthesized microwave signal sources, sweepers and generators, microwave power meters with simultaneous operation of peak power and 90 dB dynamic range CW sensors, millimeter frequency extenders, precision scalar network analyzers, radar and noise figure test sets and VXIbus power meters and signal generation systems.

Gilbert Engineering 1335
Glendale, AZ

R. Dentremon, D. Burris, J. Lokken, R. Shamblin

Microwave RF coaxial connectors and custom connector products, including SMA, TNC, EWTNC, N, SC, GPO, GMS, GSP, GSSMA and 7 mm.

GTE Control Devices Inc. 815
Standish, ME

L. Prager, M. Geesaman, P. Bornhorst

Dielectric resonator ceramic materials, including 800 MHz to 6 GHz custom resonators, DRO resonators, cellular receive filters, combiner resonators and coaxial resonators; and design software.

Harris Microwave Semiconductor 1326
Milpitas, CA

S. Hecker, J. Klug, P. MacLeod, S. Varaitch, J. Barrera, J. Tenedorio

GaAs FETs and MMICs, and custom MMIC foundry services.

Haverhill Cable & Manufacturing 820
Haverhill, MA

D. Kneeland, T. Kneeland, S. Raucci, F. Kneeland

Semi-rigid coaxial cable, including MIL-SPEC, commercial and fiber-optic versions in various sizes and finishes.

Herotek Inc. 1045
Sunnyvale, CA

C. Lai, C. Lai, P. Lau, E. Colety

Microwave detectors, limiters, amplifiers, PIN switches, comb generators, MIC sub-assemblies, up- and downconverters and switch matrices.

Hewlett-Packard 931
Palo Alto, CA

High frequency design products; systems design and test products; microwave, RF and lightwave component test products; and components.

Hittite Microwave Corp. 1261
Woburn, MA

B. Bedard, N. Hildreth, P. Katzin, Y. Ayasli, F. Paik



MMIC chips and packaged MMIC modules for mixers, converters, switches, attenuators, VCOs and multifunction chips and modules.

HK Microwave Inc. 1005
Santa Clara, CA

B. Stookey, E. Castro, M. Long, J. Andrews
Crystal oscillators; coaxial resonant oscillators; phase-locked crystal oscillators, DROs and VCOs; and synthesized, phase-locked DROs and frequency synthesizers.

Huber + Suhner Inc. 844
Essex, VT

B. Cussimano, S. Gurley, A. Tobacco
Microwave connectors; Sucoflex low loss flexible cable assemblies; passive devices, including attenuators, terminations and adapters; and EMP protectors and antennas.

Hughes Aircraft Co. 706
Electron Dynamics Division
Torrance, CA

H. Bell, J. Johnson, R. Aikins
Microwave and mm-wave traveling wave tubes; traveling wave tube amplifiers; and cryogenic coolers.

Hughes GaAs Operations 706
Torrance, CA

K. Conklin, H. Kuno, F. Morese
1.5 to 40 GHz GaAs MMICs and MMIC-based products, including MMIC amplifiers and mm-wave subsystems.

IFR Systems Inc. 1321
Wichita, KS

T. Dideum
RF and microwave spectrum analyzers and communications service monitors.

Image Technology 622
Palo Alto, CA

Insulated Wire Inc. 1242
Danbury, CT

A. Nixon, S. Bruno
Low loss microwave cable and cable assemblies to 60 GHz for commercial and military applications, including standard and internally ruggedized products.

Inter-Continental Microwave 1137
Santa Clara, CA

J. Tatum, D. Schuerch, W. Schuerch, D. Martell, J. Martin

DC, RF, microwave, high speed digital and materials measurements; cryogenic and optoelectronic test fixtures and calibration standards; RF and microwave test fixtures to test transistor and MMIC chips, packaged devices and circuitry in subsystems or on substrates; and high speed TDR, RF probes and associated test platforms.

International Manufacturing Service 716
Portsmouth, RI

N. Attemann, W. Hall
Thick-film chip resistors for solder, wire bonding and epoxy attachment.

Ion Beam Milling Inc. 915
Manchester, NH

R. Quagan, J. Kelley, J. McDonnell, G. Quagan
Thin-film circuits, including chip inductors and attenuator pads, with standard fabrication tolerances of 1 μ m; filled vias; and very high density components.

ITT GaAs Technology Center 942
Roanoke, VA

ITT Sealectro 1014
New Britain, CT

A. Melite, G. Blazas, R. Kauffman
RF connectors; cable assemblies; sub-miniature RF connectors; and standard SMA, SMB, SMC, SSMB, SSMC, K, TNC, N, slide-on, QPL military-qualified and between-series adaptors.

Jansen Microwave/Eagleware 709
Stone Mountain, GA

R. Jansen, R. Rhea, R. Lefebvre, P. Pogatski
Synthesis and circuit simulation software, including linear and nonlinear and three-dimensional electromagnetic for IBM PC and workstation machines.

JCA Technology 610
Newbury Park, CA

J. Chao, P. Dauphenbaugh, K. Polk, J. Chew, C. Davis

0.01 to 26 GHz microwave amplifiers, frequency converters and integrated systems.

JFW Industries Inc. 1351
Indianapolis, IN

Johanson Manufacturing Corp. 1217
Boonton, NJ

Air dielectric trimmer capacitors; GIGA-TRIM gigahertz trimmer capacitors; Thin-Trim, Seal-Trim and Cera-Trim ceramic trimmer capacitors; and microwave tuning elements.

John Wiley & Sons 723
New York, NY

C. Shaffer, G. Telecki, V. Sydnor, R. Frederick
Books covering the latest technology; and *Computer Applications in Engineering Education* journal.

Kaman Instrumentation 647
Colorado Springs, CO

T. Dillahunty, B. Miller, T. Maddalena, M. Grier, B. Callahan, J. Parker, T. Sherrer
Custom, high precision, high reliability RF transmission and delay line assemblies.

Karl Suss America Inc. 638
Waterbury Center, VT

R. Jamison, D. Place, D. Smith, R. Most
Analytical probes, including the semi-automatic and manual probe stations.

Karl Suss America Inc. 638
GGB Industries
Naples, FL

G. Boll, H. Boll
40, 65 and 120 GHz Picoprobe microwave probes; custom microwave probe cards having RF and DC probes; and high impedance probes.

KDI/triangle Electronics Inc. 938
East Hanover, NJ

C. Schraufnagl
RF and microwave resistors, attenuators, terminations, diode switches, phase shifters, digital attenuators, couplers, dividers, subassemblies, up- and downconverters, oscillators, mixers, amplifiers, filters, IF and

microwave frequency up to 18 GHz, thick and thin film, coaxial, microstrip, stripline and microelectronic hybrid circuits.

**K&L Microwave Inc. 1231
Salisbury, MD**

*C. Schaub, J. Price, S. Pusey, J. Tinkler,
R. Hershtig, G. Ardis, P. Wiltsey*

500 kHz to 40 GHz microwave and RF components, including miniature filters, cavity and waveguide filters, tunable filters, dielectric resonators, frequency agile and integrated subsystems, integrated subassemblies, coaxial switches to 25.5 GHz, PIN diode switches, and RF switching matrices.

**Kyocera America Inc. 1315
San Diego, CA**

C. Langhammer, J. Pierce, P. Orlandi

RF and microwave packages, including low noise transistor, power FET, silicon power transistor, monolithic microwave, GaAs and diode packages; metalized substrates, lids and windows; SCR housings; and sub-contract assembly capabilities.

**Lemo RF Inc. 1100
Santa Rosa, CA**

*S. Sokolik, I. Bhawnani, C. Taylor,
K. Beehler, W. Lee, E. Proctor*

High performance, special microwave and mm-wave coaxial connectors, including 18 and 26 GHz SMA, 3.5mm, 2.92mm, 2.4 mm, 1.85mm and other special application types.

**Lemo USA Inc. 1100
Santa Rosa, CA**

*S. Sokolik, I. Bhawnani, C. Taylor,
K. Beehler, W. Lee, E. Proctor*

High quality self-latching quick connect/disconnect circular connectors, in single, multi- or mixed contact insert styles, including signal, coaxial, triaxial, high voltage, fiber optic, fluidic/pneumatic and thermocouple versions; and in standard chrome plated brass, plastic, environmentally sealed or underwater shell styles.

**Litton Airtron 655
Morris Plains, NJ**

**Locus Inc. 860
State College, PA**

E. Brem, D. Richards, W. Capian

RF and microwave components serving the telecommunications, satcom and military industries, including ultra-low noise, solid-state power and high dynamic range amplifiers; multicouplers; and converters.

**LogiMetrics Inc. 1255
Plainview, NY**

**Loral Microwave-FSI 906
Chelmsford, MA**

*W. Sobie, R. Knowles, D. Langan,
J. Caruso, P. Fahjani*

Sources, VCOs, VTOs, frequency synthesizers and high power switches.

**Loral Microwave-Narda 906
Hauppauge, NY**

*B. Leibowitz, R. Damiano, V. Chitkara,
R. Koelzer, J. Kirch*

Power dividers, couplers, attenuators, low cost DROs, high performance PIN switches, RF mechanical switches and RF safety equipment.

**Loral Microwave-Narda West 906
Rancho Cordova, CA**

L. Becker, B. Swartz, R. Immeccs

Isolators, circulators, filters, hi-rel components and assemblies.

**Lucas Epsco 1105
Hopkinton, MA**

*R. Ranslow, P. Rees, J. Shalhoub,
C. Warrington*

2 to 18 GHz high power, narrowband GaAs FET amplifiers and power levels above 1 W; custom waveguide and coaxial components; antenna systems; high power CW and pulse signal sources; and VSAT terminals.

**Lucas Microwave Technologies Div. 1105
Mississauga, Ontario, Canada**

J. Leizerowicz, P. Mercer, P. Sood

Low noise to high power GaAs FET multi-octave and narrowband amplifiers; 0.1 to 40 GHz amplifier-based integrated subassemblies for defense and commercial applications; and waveguide and coaxial circulators, isolators and isodapters for volume telecom and satcom applications.

**Lucas Weinschel 1105
Gaithersburg, MD**

R. Stephens, G. Smith, R. Mugg, J. Dholoo

RF and microwave coaxial components, including fixed, variable, step, binary and programmable attenuators and connectors, terminations and adapters; and microwave test and measurement instruments, including power standards frequency synthesizers; power and attenuation calibration systems.

**Lucas Zeta 1105
San Jose, CA**

*N. Stecklein, J. Rolling, T. Leotta, E. Ulrich,
B. Dominguez*

Microwave frequency sources, high power RF amplifier modules and systems and signal intercept and direction finding systems.

**M/A-COM 1206
Burlington, MA**

C. Ducharme

RF, microwave and mm-wave semiconductors, MMICs, components, integrated subsystems, connectors, cable assemblies and antennas for the commercial and defense industries.

**MAC Technology Inc. 842
Klamath Falls, OR**

M. Bailey

Stripline couplers, power dividers, directional couplers, 90° hybrids and high-power airline couplers; and 0.5 to 18 GHz components.

**MacNeal-Schwendler Corp. 765
Los Angeles, CA**

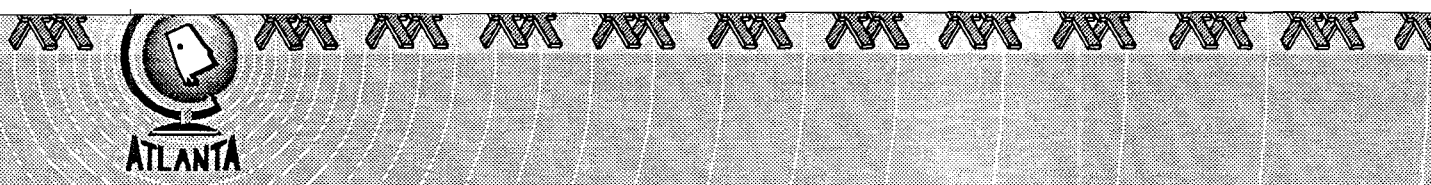
**Magnum Microwave Corp. 701
Fremont, CA**

B. Bridge

Microwave mixers, thin-film voltage controlled oscillators, dielectric resonator oscillators, telecommunication sources, free-running and phase-locked cavities, integrated supercomponents and subassemblies.

**Marconi Instruments 1331
Allendale, NJ**

**Matcom Inc. 731
Palo Alto, CA**



*B. Jones, C. Huynh, S. Canning, D. Olsen,
B. Guthrie, E. De Vera*

Microwave semiconductors and power modules.

Maury Microwave 1131
Ontario, CA

*M. Maury Jr., J. Adamson, W. Pastori,
R. Ramirez, G. Simpson, J. McKinney*

DC to 110 GHz precision microwave components and instruments, including the automated tuner system with PC-based application software for noise, power and network characterization solutions; the MT2075B05 noise gain analyzer; the MT7600 solid-state noise generator; noise calibration system products; ATS ancillary equipment; and calibration standards and kits.

Menlo Industries 1356
Fremont, CA

R. Alm, D. Adams, D. Arbaugh

Low noise, medium- and high-power amplifiers, DLVAs, up- and downconverters, thin-film fabrication and substrate materials.

Merrimac Industries 1055
West Caldwell, NJ

*J. Blahosky, B. Doman, W. Joswick,
J. Howard, E. Niemiec, T. Ramsden*

Power dividers, quadrature hybrids, hybrid junctions, phase shifters, attenuators, directional couplers and I & Q products operating at up to 6 GHz.

Metelics Corp. 847
Sunnyvale, CA

F. Kwan, J. Godbout, C. McAllister

Microwave superconductors and components; Schottky barrier diodes; beam lead PINs; SRDs; tuning varactors; tunnel diodes; MNOS and binary capacitors; attenuator diodes; limiters; and switches.

MIC Technology Corp. 920
Richardson, TX

Mica Microwave 724
San Jose, CA

*R. Wood, J. Patel, N. Khayat, A. Campbell,
F. Mills*

Microwave detectors, including tunnel, biased Schottky and zero bias Schottky; PIN

diode limiters; ferrite devices; coaxial isolators; drop-ins MICA*PAC surface mount ferrite series; standard isodapters; waveguide circulators; and custom components.

Micro-Chem Inc. 742
Santa Clara, CA

*L. Matts, T. Selski, L. Hutchison, E. Bond,
L. Tooker, S. Tooker*

Stripline, microwave and rigid groundplane PTFE circuit boards, and chemically milled metal parts for the microwave industry.

Micro-Coax 926
Collegeville, PA

B. Ash, R. Souders, M. Neiman, C. Kneizys

Flexible microwave cable, filters, delay lines, semi-rigid cable and assemblies.

Micro-Now Instrument Co. 1001
Skokie, IL

C. Arnow, R. Janyia, F. Arnow

Up to 170 GHz high- and low-power mm-wave sweepers; 2 to 110 GHz microwave signal sources; and microwave power generators for plasma sources.

Micronetics Inc. 817
Hudson, NH

P. Gale, R. St. Laurent, D. Robbins

Noise products, including diodes, sources, modules and instruments; solid-state switches, attenuators and drivers; coaxial switches; waveguide components; and VCOs.

Microphase Corp. 1246
Norwalk, CT

*F. Parin, N. Cockerham, R. Jerome,
A. Armstrong, J. McGovern, F. Groman,
S. Temel, H. Weil, R. Smith, J. Powell,
T. Costa, L. Stille, E. McBride, D. McBride*

Detector log video amplifiers, wide dynamic range DLVAs, successive detection log video amplifiers, threshold detector amplifiers, multiplexers, thin-line multiplexers, filters, miniature lumped elements filters, detectors, limiters, channelizers, detector modules, filter modules, video receivers, channelized receivers, microwave integrated assemblies, solid-state multithrow switches, switch/filters assemblies and switch filter preselectors.

Microsource Inc. 821
Santa Rosa, CA

*M. Lampenfeld, M. Cheong, M. Shandas,
J. Clarke, C. Maker, J. Albright*

YIG-tuned oscillators and filters; frequency synthesizers; phase-locked oscillators; receiver subsystems; and customized microwave systems.

Microtech Inc. 800
Cheshire, CT

Microwave Applications Group 801
Santa Maria, CA

T. Janzen, W. Hord, C. Boyd

Design, fabrication and test of microwave ferrite components and antenna subsystems and related electronic control circuits; and components, including reciprocal phase control modules for electronic scanning antennas.

Microwave Communications Labs 1167
Dover, NJ

*Thien Nguyen, T. Nguyen, C. Nguyen,
L. Siegel, H. Williams, D. Flash,
B. Davidson*

High quality, low cost, precision passive and active microwave components from 10 MHz to 40 GHz, including power dividers, couplers, attenuators, amplifiers, gain equalizers, DROs, VCOs, switches and custom-designed units.

Microwave Components Inc. 608
Stuart, FL

*F. Scalzo, J. Devine, M. Trivison, K. Zlonts,
L. Fontaine*

RF connectors, coaxial cable, RF cable assemblies, resistive products, RF mixers and amplifiers, fixed and variable attenuators, couplers, power dividers, terminations, isolators, circulators and coaxial and EMI filters.

Microwave Development Co. Inc. 819
North Andover, MA

*J. Cook, C. Tomes, M. Slipp, P. Hocknell,
M. Crittenden*

Waveguide components, including C-band duplexers, high power circulators, monopulse comparators, double-ridge waveguide components, terminations and couplers; subsystems; and tunable bandpass, channel, harmonic absorptive and interdigital filters.

Microwave Development Labs Inc. 640
Natick, MA

R. Tucker, E. Bannister, M. Hale

Adapters, assemblies, attenuators, bends, twists, corporate feeds, couplers, crystal holders, circulators, diplexers, filters, flanges, gaskets, SSB generators, hybrids, isolators, mixers, mixer duplexers, monopulse comparators, rotary joints, double ridge, phase shifters, power dividers, rotary switches, tees, terminations, transitions, waveguide tubing, windows and suspended substrates.

Microwave Engineering Corp. 715
North Andover, MA

G. Smith, D. Cloutier

Microwave and mm-wave passive components and subsystems.

Microwave Engineering Europe 1347
London, UK

R. Lawrence, J. Anderson, P. Jackson, B. Kirstine, K. Connolly, L. Vickers, K. Smith

A technical journal for microwave and RF engineers in design, production, test and engineering management, covering developments in the worldwide industry from a European perspective.

Microwave Journal 826
Norwood, MA

H. Howe, H. Ellowitz, E. Johnson, C. Sheffres, W. Cook, M. Stiglitz

Microwave Journal magazine subscription and editorial information.

Microwave Printed Circuitry 748
Lowell, MA

M. Casper, P. Beaulieu, B. Deitz

Microstrip, stripline and metal-backed PWBs using PTFE materials; bonded assemblies; and RF testing and MIL-STD-2000 assembly.

Microwave Product Digest 1345
Hackensack, NY

A monthly new product and new literature tabloid serving the microwave industry.

Microwave Technology 1237
Fremont, CA

A. Rosenzweig, A. Roberts, A. Herbig, W. Wilson

500 MHz to 26 GHz GaAs FET devices in chip form and in packages; GaAs FET wireless power amplifier modules to 1 W; hybrid gain modules to 23 GHz; and silicon power FETs.

Microwaves & RF Magazine 1358
Hasbrouck Heights, NJ

This magazine serves engineers and engineering managers involved with RF, microwave and optical devices used in a broad spectrum of applications.

Millitech Corp. 1048
South Deerfield, MA

R. Huguenin, N. Deo, D. Dixon, A. Mathew

Millimeter- and submm-wave active components, including oscillators, mixers, multipliers, detectors, isolators, antennas, subassemblies and assemblies, systems, Gaussian optic components, frequency extension units for mm-wave test applications, block downconverters and wideband receiving subsystems.

Milliwave 1346
Diamond Springs, CA

Mini-Systems Inc. 841
Electronic Package Division
Plainville, MA

K. Barlow, P. Solan, R. Duff, A. Ashe, A. Lepane

Glass wall and ceramic microwave packages and custom microwave machine housings.

Mini-Systems Inc. 841
Sunbelt Microelectronics Division
Delton, FL

K. Barlow, P. Solan, R. Duff, A. Ashe, A. Lepane

Custom hybrid circuits utilizing chip and wire surface mount technology; metalized substrates; and custom packaging, resistor trimming and laser marking services.

Mini-Systems Inc. 841
Thick Film Division
N. Attleboro, MA

K. Barlow, P. Solan, R. Duff, A. Ashe, A. Lepane

Thick-film resistors and attenuators with full back electrode metalization and are solderable and/or wire bondable.

Mini-Systems Inc. 841
Thin Film Division
N. Attleboro, MA

K. Barlow, P. Solan, R. Duff, A. Ashe, A. Lepane

Thin-film metalized substrates; circuits; resistor networks; chip resistors and attenuators; moscaps; surface mount chip resistors, including half-wrap style; and arrays.

Mitec Electronics 1243
Pointe Claire, Quebec, Canada

J. Robinson, A. Bertch

Active and passive microwave components, including filters, diplexers, circulators, isolators, couplers, electroforming, adaptors, terminations, dummy loads and flexible waveguides; subsystems, including integrated component assemblies and up- and downlink networks; and controllers, including 1:1, 1:2 and 1:N standard models and custom monitor and alarm systems.

MITEQ Inc. 848
Hauppauge, NY

S. Eisenmesser, T. Heil, P. Kalisiak, H. Kiiss, H.E. Kiiss, D. Krautheimer

1 MHz to 40 GHz low noise amplifiers in moderate and ultrawide bandwidths; frequency sources, including cavity-tuned oscillators, VCOs, DROs, phase-locked cavities and DROs; signal processing components, including mixers, mixer-preamplifiers, image-reject mixers, switches, PIN attenuators, phase shifters, limiters, discriminators, log amplifiers and multifunction assemblies.

Mitsubishi Electronics America Inc. 810
Sunnyvale, CA

S. Child, J. Berger, R. Pender, C. Janson, I. Cenuse, R. Ramchandani, J. Dreyfuss

Microwave and RF products, including GaAs FETs, HEMTs, MMICs and pre-scalers; and power transistors, power modules and antenna switches.

Modular Components National 838
Forest Hills, MD

Morrow Technologies 1011
Largo, FL



- | | | | | |
|--|-------------|---|--|-------------|
| Motorola Semiconductor
Phoenix, AZ | 806 | OSA90/hope™ general purpose non-linear/linear simulation and optimization system; HarPE™ device characterization software system; OSA90™ optimization system; and Empipe™ smart interface for electromagnetic optimization. | Phase II Inc.
San Bruno, CA | 620 |
| MPC Inc.
Lowell, MA | 748 | | <i>R. Scott, D. Natz, J. Wiley</i>
Quick-turn prototypes through mid-production double-sided and multilayer stripline and microstrip printed circuit boards. | |
| MPR Teltech Ltd.
Burnaby, B.C., Canada
<i>H. Minkus, M. Lord</i>
Miniature hybrid microwave integrated circuits. | 740 | Optotek Ltd.
Kanata, Ontario, Canada
<i>R. North, D. Kennedy, S. Dindo, R. Meierer, R. Vincent, A. Lemay</i>
MMICAD analysis and optimization program for active and passive electronic circuits; Honeycomb PC-based CAT software for automated wafer prober, VNA and DC stimulus hardware control. | Philips Components
Slatersville, RI
<i>P. Earle, G. Carley, G. Frisch</i>
CATV-video, RF small signal, RF and microwave power transistors, circulators and isolators. | 1322 |
| Murata Erie North America
Smyrna, GA | 835 | | Phoenix Company of Chicago
Wood Dale, IL | 1325 |
| Nanowave Technologies Inc.
A division of GHz Technologies Inc.
Markham, Ontario, Canada
<i>J. Miller, J. Lindover, Z. Huszar</i>
Microwave active components, including low noise and power amplifiers; Gunn and phase-locked sources; and DROs. | 626 | Oscillatek
Olathe, KS
<i>B. Beck, B. Camp</i>
Hybrid crystal oscillators, temperature compensated oscillators, ovenized oscillators, TCXOs, VCXOs and OCXOs. | Picogiga Inc
Oxnard, CA | 1245 |
| NEOS Technologies Inc.
W. Melbourne, FL
<i>R. Belfatto, G. Georgiadis, F. Sanzone</i>
Microwave laser photo plotter systems and software packages; polychromatic modulation systems; acousto-optic tunable filter systems; and fiber-optic pigtail modulation systems. | 635 | P/M Industries Inc.
Portland, OR
<i>P. Parks Jr., D. Enyart, L. Timiney</i>
Hypertine polished substrates with surfaces of less than or equal to 0.5 μm; ceramic substrate lapping, polishing and diamond sawing; laser drilling and scribing of substrates; laser resistor trimming of thin, thick and polymer thick films; and passive and functional trimming. | Picosecond Pulse Labs
Boulder, CO
<i>J. Andrews, M. Van Pelt</i>
Pulse generators with 15 ps rise time and GPIB control; and broadband coaxial components, including bias tees, transformers, amplifiers, signal probes, DC blocks, power dividers and attenuators. | 1241 |
| NOISE/COM
Paramus, NJ | 1218 | Pacific Monolithics
Sunnyvale, CA
<i>S. Layton, E. Russell, R. Gold, A. Podell</i>
GaAs MMIC-based products, including switches, attenuators, amplifiers, frequency converters, VCOs, DROs, PLOs, subsystems and systems. | Poly Circuits Inc.
Bensenville, IL
<i>J. Turek, D. Kincade</i>
High frequency circuit boards using Teflon and Duroid; microwave frequency components, including couplers, dividers and filters; and heavy metal-backed boards using the Flexlink™ process. | 721 |
| NTK Technical Ceramics
Mt. Prospect, IL
<i>T. Kato, R. Hanson, M. Sato, M. Ota</i>
Resonators, substrates and filters. | 1240 | PC Dynamics
Frisco, TX
<i>L. Eslinger, J. Holbrook, C. Malone, B. Amsler, L. Harvey</i>
Teflon PWBs, including metal-backed, microstrip and stripline substrates and multilayer assemblies; and advanced etching, plating, machining, PTH and autoclave lamination technology. | Polyflon Co.
New Rochelle, NY
<i>W. LaRusso, J. Seminoro, F. Monger, J. Klugman</i>
Nonmagnetic fixed, variable, trimmer and chip capacitors; virgin PTFE substrate material; PTFE-based printed circuit boards; custom manufactured transmit/receive antennas; and plastic fabricated components. | 1348 |
| Olin Aegis
New Bedford, MA
<i>A. Durr, M. Medeiros, S. Benisatto</i>
Hermetic glass-to-metal seal packages and special composite material packaging. | 713 | | Power Systems Technology
Melville, NY
<i>C. Gerbino, B. Liebman, T. Dowling</i>
1 to 4000 MHz RF and microwave solid- | 968 |
| Optimization Systems Associates
Dundas, Ontario, Canada
<i>J. Bandler, R. Biernacki, S. Chen, S. Ye, P. Grobelny, H. Yu</i> | 1259 | | | |

state amplifiers with RF power output up to 10 kW including Class A, B and C operation; synthesizers; and 1 to 18 GHz and L- to Ku-band up- and downconverters.

Precision Tube Co. Inc. 736
Salisbury, MD

W. McNeil, D. McNeil, A. West

Semi-rigid and high performance flexible coaxial cables and cable assemblies.

Q-Bit Corp. 1320
Palm Bay, FL

0.1 to 3 GHz high isolation and high dynamic range RF amplifiers; and cellular base-station products with low noise, high inter-mods and soft-fail redundancy.

Qualcomm Inc. 1044
VLSI Division
San Diego, CA

Quantum Epitaxial Designs 1333
Bethlehem, PA

T. Hierl, W. Weisbecker, D. Capo

GaAs and InP epitaxial wafers grown by MBE; GaAs MESFET, HEMT, PHEMT, Be-base HBT, C-doped HBT and custom epitaxial profiles; and optoelectronic materials, including lasers and MQW detectors.

Raytheon Co. 1325
Lexington, MA

Reed Exhibition Companies (UK) 1349
Tunbridge Wells, Kent, UK

D. Leah, A. Sales

MM and EUMC conference organization, conference proceedings and reprint volumes.

Republic Electronics Corp. 644
Wilkes-Barre, PA

L. Eisenberger

Hi-rel, high frequency ceramic capacitors; and high voltage, high current capacitors.

Robinson Laboratories 636
Nashua, NH

Rogers Corp. 831
Microwave Div.
Chandler, AZ

R. Cole, C. Santiago, M. Norris, J. Carroll, G. Bull, D. Belden, A. Hassell, S. DeGreef, E. Sandor, R. Traut, R. Jansen, A. Aguayo, D. Arthur

TMM® temperature stable microwave laminate; RT/duroid® 6002, RT/duroid® 6010, RT/duroid® 6010LM microwave laminates; and RT/duroid® 5000 core products.

Rogers Corp. 950
Soladyne Div.
San Diego, CA

D. Reed, K. Walker, R. Farris, D. Savery, G. Harris

Microwave circuit board fabrication services utilizing primarily PTFE-based laminates.

Sage Laboratories Inc. 1101
Natick, MA

C. Marguerite, T. Cieri, P. Alfano, J. Moore, H. Chapell, J. Majewski

DC to above 40 GHz passive microwave components and subsystems, including switches, couplers, hybrids, power dividers, rotary joints, filters, wireline and wirepac drop-in couplers, terminations, coupler detectors and mixers.

Satellink Inc. 743
Garland, TX

R. Goodrich, J. Lill, J. Muller, E. Williams

RF and microwave products, including low noise amplifiers, up- and down-frequency converters, special receiving equipment and microprocessor-based controller firmware and software.

Scientific-Atlanta 615
Atlanta, GA

Microwave network measurements systems suitable for high-speed production testing of microwave and mm-wave integrated circuits and assemblies.

Scientific Microwave Corp. 802
Mississauga, Ontario, Canada

A. Saad, G. Saad, M. Saad, K. Saad

Original passive microwave and mm-wave components, including filters, diplexers, circulators, hybrids, couplers, transitions and terminations; application of new design

techniques to various evanescent-mode ridge waveguide and planar structures to cover narrowband, wideband, low- and high-power requirements; and custom production and consulting services.

Sciteq Electronics 918
San Diego, CA

H. Eisenson, N. Schaut, J. Handzel

Frequency synthesizers and related RF subsystems, including DDS, PLL, DDS+PLL and patented arithmetically-locked loop designs for VSAT, ATE, communications, EW and radar systems; and the DCP-1 chirp synthesizer.

Semiconductor Packaging Materials 1344
Mamaroneck, NY

SGS-Thomson RF Products Group 1047
Montgomeryville, PA

C. Lump, W. Koehn, W. Henderson, E. Gdowik

Hybrid RF modules for digital cellular radio and other UHF communications applications; 1.6 GHz SATCOM hybrid power modules; and 2 MHz to 4 GHz silicon RF and microwave power transistors.

Sierra Microwave Technology 1041
Georgetown, TX

Signal Technology Corp. 805
Sunnyvale, CA

D. Peterson, P. Cox

Solid-State Equipment Corp. 936
Ft. Washington, PA

Southwest Microwave Inc. 1247
Tempe, AZ

J. Kubota, J. Rawlins, J. Cheal, E. Foley, D. McCormick, V. McHenry, S. Wende

Connectors, including SMA, SSMA, TNC, 3.5mm, 7mm, SC and TK versions.

Space Machine & Engineering Corp. 608
St. Petersburg, FL

A. Loyd, P. Chandler, E. Loyd

Waveguide components and assemblies, including rectangular waveguide straight sections; cast and formed bends and twists;



tees; transitions; couplers; waveguide-to-coaxial adapters; windows; terminations; rotary joints; double-ridge straights, bends, twists, terminations, couplers and waveguide-to-coaxial adapters; and precision machine shop capabilities.

SSPA Microwave Corp. 818
Mississauga, Ontario, Canada

T. Cheng, A. Leung, A. Shum
400 MHz to 15 GHz microwave solid-state power amplifiers with output power up to 125 W from 5.85 to 6.45 GHz and up to 40 W from 14 to 14.5 GHz.

ST Keltec Corp. 805
Fort Walton Beach, FL

R. Bowman, R. Blaisdell, A. Coronis
High voltage high current microwave tube, high voltage low current display, and custom multioutput power supplies; specialized TWT amplifiers; 1 to 40 GHz TWTs; amplifiers; and specialized power supply test equipment.

ST Microsonics Corp. 805
Weymouth, MA

V. Servello, K. Lambert, D. Barlas, R. Painter
1 kHz to 1 GHz TCXOs, OCOs, VCXOs, crystal bandpass and bandreject filters; lumped element filters; frequency discriminators; acoustic memories and delay devices; and frequency synthesizer products.

ST Microwave Corp. 805
Chandler, AZ

J. Reynolds, M. Barnett, R. Rupp, A. Davis, T. Curtis, G. Wehrfritz, M. Maesel, E. Hiekali, P. Thesing
30 MHz to 27 GHz VCOs; DTOs; DROs; PLOs; synthesizers; YIG-tuned oscillators and filters; mixers; mixer pre-amps; up and downconverters; polar frequency discriminators; switches; solid-state power amplifiers; filters and multiplexers; circulators and isolators; and stainless steel semi-rigid cable assemblies.

ST Olektron Corp. 805
Beverly, MA

M. Smith, U. Barzilay, T. Zinkowky
10 MHz to 2 GHz mixers; power dividers; phase shifters and attenuators; RF switches; digital attenuators; integrated RF pack-

ages; and complex phase modulators and detectors.

Stanford Telecom 532
Santa Clara, CA

Steinbrecher 1220
Woburn, MA

R. Shaw, R. Shute, D. Peterson, M. Kosmicki, R. Cyr, J. Nazarian, S. Caliguri
RF, microwave and mm-wave subsystems for advanced signal acquisition applications; power sources and transceivers; tuners; cellular base station receiving and transmitting equipment; and complex systems development and manufacturing.

StratEdge Corp. 1043
San Diego, CA

Superconductor Technologies Inc. 1253
Santa Barbara, CA
J. Madden, G. Hey-Shipton, J. Long, R. Forse, N. Fenzi

Superconducting microwave components and cooled subassemblies, including filters and filter banks, downconverters, delay lines, oscillators, lumped element filters, multiplexers and antennas.

T-Tech Inc. 1362
Atlanta, GA

J. Taylor, H. Taylor, R. Bell, K. Ledford, E. West, M. Wolanski, E. Stroud, J. Ramlow, F. Farivar, R. Ricker, M. Mehrvarz, A. Rayudu, S. Ashraf, C. White
Quick Circuit milling and drilling system for circuit board fabrication.

Taconic Plastics Ltd. 1245
Petersburgh, NY

C. Smith, B. Nurmi, J. Daniels
Materials and PTFE substrates.

TDK Corp./MH&W International Corp. 867
Mahwah, NJ

E. Hozeny, R. Nitzl, G. Van Schaick, C. Hughes, H. Brooks, E. Proctor, T. Iwata, K. Itagaki, K. Shimozawa, R. Kiernan, D. Matthews, B. Farber
Microwave devices, circulators and isolators of connector, stripline and ferrite sub-

strate type; waveguide isolators and circulators; and terminations, mixers and combiners.

Tecdia Inc. 1156
Mountain View, CA

N. Aguilar, A. A'Neals, K. Koyama, Y. Kubota
Single-layer parallel plate chip capacitors to 40 GHz; and custom-etched alumina substrates.

Technical Research & Manufacturing 646
Bedford, NH

D. Crocker, A. Tirollo
Application-specific integrated modules and components, including beamformers, mixers, frequency multipliers, amplifiers, VCOs, power divider/combiners, hybrids, couplers and transformers operating from DC to 26.5 GHz.

Tekelec Components 1323
Montreuil, Cedex, France

J.-M. Billaud, G. Martin, S. Rassouliau, H. Sandager
PIN, Schottky and SOT23 microwave silicon diodes; coaxial to very high power isolators/circulators; duplexers/filters; ferrite and ceramic materials; and quartz, OCO, VCXO, TCXO and MCXO.

Tektronix Inc. 605
Beaverton, OR

L. Garrett, T. Brinkoetter, E. Browning, D. Walker, D. Fritch, H. Elovitz
100 Hz to 325 GHz RF and microwave test instrumentation.

Teledyne Microelectronics 621
Los Angeles, CA

W. Kennedy, D. German, Y. Rubin
1 MHz to 26 GHz RF and microwave hybrids and modules; frequency synthesizers; up- and downconverters; amplifiers; receivers; transmitters; DLVAs; and SDLAs.

Teledyne Microwave 625
Mountain View, CA

M. Lee, R. Leier, E. Kirchner, R. Ando, S. Ludvik, R. Sun
RF and microwave components, including

isolators, circulators, switchable filters and multiplexers, BAW delay devices, switches, amplifiers and equalizers; 2.4 and 5.8 GHz wireless communication components; power amplifiers; diversity antennas and transceivers; and build-to-print and thin-film MIC substrates circuit fabrication services.

Test & Measurement World Magazine 1359
Newton, MA

Free sample issues and subscription forms for this technical magazine for electronics engineers responsible for the quality of electronic products.

Texas Brazing Inc. 743
Microwave Products Group
Forney, TX

D. Deck, J. Archbold

Waveguide components; including bends, twists, straight sections and waveguide-to-coax adapters; and precision assemblies.

Texas Instruments 1153
Dallas, TX

Thin Film Technology 1350
Buellton, CA

G. St. Amour, J. Wafer

Vacuum coating and substrate patterning services.

Thomson-CSF Semiconducteurs 606
Specifiques
Orsay, France

H. Sandager, T. Librizzi

Microwave and high speed semiconductor devices, including Si and III-V Gunn, IMPATT, Schottky and varactor diodes, GaAs FETs, and GaAs ICs and foundry services; and analog to 1 GHz fiber-optic receivers.

Times Microwave Systems 1334
Wallingford, CT

R. Krimmier, R. Perelman, F. Weissgerber, J. Ritter

High performance flexible and semi-rigid coaxial cable, connectors and coaxial cable assemblies.

TRAK Microwave Corp. 1225
Tampa, FL

D. Killen, M. Smith, K. Morrison, G. Pate, T. Roberts, J. Krastel, S. Taylor

Frequency synthesizers, multifunction assemblies, XCOs, OCXOs, TCXOs, VCXOs, VCOs, DSOs, DTOs, phase-locked oscillators, frequency multipliers, comb generators and multipliers, IF amplifiers, circulators, isolators and precision time and frequency systems.

Trans-Tech Inc. 932
A subsidiary of Alpha Industries
Adamstown, MD

D. Ottey, J. Alberici

Microwave ceramics and materials, including dielectric resonators, coaxial line elements, ferrites, garnets, substrates and thick- and thin-film metallization.

Trim-Tronics Inc. 722
Cazenovia, NY

J. Dowd, M. Tronser

Air and sapphire dielectric variable capacitors, and microwave tuning elements.

Trontech Inc. 1005
Eatontown, NJ

UTE Microwave Inc. 814
Asbury Park, NJ

L. Nilson, J. Gruber, M. MacCallum, B. Scammell, S. Lehrfelt, R. Helgas

Ferrite devices, coaxial circulators and isolators, iso-adapters, high power coaxial and waveguide circulators and isolators, low power terminations, filter isolator assemblies, microwave assemblies and test units.

Vari-L Co. Inc. 746
Denver, CO

Veritech Microwave Inc. 616
South Plainfield, NJ

J. Holmquest, P. McGeough Sr., R. Stegens, D. Alliss, P. McGeough Jr.

0.5 to 26.5 GHz ultra-broadband and narrow-band, low noise, medium power amplifiers and multifunction modules for ELINT, ESM, ECM and telecom systems; DC to 26.5 GHz multigigabit pulse amplifiers and multifunctions for applications in high data rate fiber-optic communications systems; and UHF K-band pulse/CW power amplifiers.

Wandel & Goltermann Inc. 1257
Morrisville, NC

B. Mullen, J. Sanchez, G. Rohlke, S. Gupta
9 kHz to 32 GHz and 9 kHz to 26.5 GHz portable spectrum analyzers; and software packages using spectrum and network analyzers.

Watkins-Johnson Co. 1310
Palo Alto, CA

Waveguide Metals Corp. 743
Dallas, TX

C. Estrada, L. Tooker

Adzar precision waveguide tubing in sizes from WR-770 to WR-8, in aluminum, 90/10 brass and OFHC copper materials and in double ridge, reduced height, circular, space-qualified and custom sizes; and waveguide components and assemblies.

W.L. Gore & Assoc. Inc. 1224
Newark, DE

M. Adams, B. Savitsky, G. Adler, F. Beckous, J. Haag, C. Debnam, T. Fairchild

Custom high performance cable assemblies for defense, aerospace, automatic test equipment, commercial applications, flexible dielectric waveguides for mm-wave applications, GS2000 line of EMC products and off-the-shelf Ready Flex® assemblies.

XL Microwave Inc. 745
Oakland, CA

W. Artz, R. Swift, D. Thornton, R. Duke, T. Theodore, G. Dishong, A. Lumpkin

DC to 40 GHz CW microwave frequency counters and source-locking counters.

ZAX Millimeter Wave Corp. 1219
San Dimas, CA

D. Zacharias, S. Rigdon

35 to 350 GHz millimeter-wave components and systems; antennas; polarizers; orthogonal mode transducers; detectors; cryogenic mixers; subharmonic and balanced mixers; fixed frequency, mechanically tuned and varactor tuned Gunn oscillators; frequency multipliers; calibration loads; radars; and radiometers.