



1983 IEEE/MTT-S Exhibition Guide

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|---|-----|---|--|--|
| ACRIAN, INC.
Cupertino, CA | 348 | tors, matching pads, detectors and accessories. | AMPLIFONIX, INC.
Bristol, PA | 135 |
| ADAMS-RUSSELL CORP.
Waltham, MA | 634 | ALLEN AVIONICS | 721 | <i>Dr. A. Riben, J. Day</i> |
| <i>G. Adams, J. Connolly, R. Frederick, Harold Leach, J. Lynch</i> | | ALPHA INDUSTRIES, INC.
Woburn, MA | 620 | Broadband RF Amps in the frequency range of kHz to 2000 MHz. Low-noise, low power hybrid construction, military screening. |
| ADAMS-RUSSELL, ANTENNA AND MICROWAVE DIVISION
Amesbury, MA | 634 | <i>P. Lentini, A. Kariotis, N. Bishop, J. Korb, D. Milligan, F. Leith, R. Goldwasser, R. Phaneuf, A. Blankenship, T. Rogala, C. Kamnitsis</i> | | ANAREN MICROWAVE, INC.
East Syracuse, NY |
| <i>H. Leach, R. Guimond, D. Ryan, J. Ripel, H. Schlegel, R. Quinn, D. Herling, K. Akerley, R. Schwartz</i> | | Major manufacturer of materials, devices, components, and subsystems used in microwave applications for the defense electronics, commercial telecommunications and other commercial markets. | | <i>H. Hair, C. Gerst, R. Worden, L. Buckridge, L. Nielsen, J. Krastel, R. Sickles</i> |
| High-performance coaxial cables and antennas for electronic warfare and C.N.I. applications. | | ALROY MICROWAVE
Stevenage, Herts, England | 344 | EW subsystem elements including digital frequency discriminators and digital ESM receivers; wideband stripline microwave components 0.03 to 18 GHz including couplers, power dividers, mixers, PIN attenuators and phase discriminators. |
| ADAMS-RUSSELL, ANZAC DIV.
Burlington, MA | 634 | <i>D. Hucker, D. Grist</i> | | ANDERSEN LABORATORIES, INC.
Bloomfield, CT |
| <i>M. Rosenzweig, J. Packer, K. Lambret, S. Pengratz, F. Weber, J. Windhol, L. Dempsey, L. Yadoff, J. Thompson, J. Murgo, S. Horne.</i> | | Manufactures, tests, and supplies microwave components, s-assys., and assemblies, including Double Ridge for commercial and military requirements. Land, sea and air approved. | | <i>R. Green, R. Bernardo, R. Jacobs, M. Yanowetz, J. Fassett</i> |
| ADAMS-RUSSELL, MICRO-TEL DIVISION
Baltimore, MD | 634 | AMERICAN TECHNICAL CERAMICS
Huntington Station, NY | 149 | Acoustic signal processing devices including Surface Acoustic Wave (SAW), Bulk Acoustic Wave (BAW), and Acousto-Optic technologies; also UHF and microwave frequency synthesizers. |
| <i>R. Biller, W. Trussell</i> | | <i>B. Welford, L. Brown</i> | | ANRITSU AMERICA, INC.
Oakland, NJ |
| Attenuator/signal generator calibrator (MOD 1295) for 10 MHz-40GHz, and sweep/signal generator covering 10MHz-18GHz (MOD 5G-811B) expandable to 40 GHz. | | AMPEREX ELECTRONICS
Hicksville, NY | 345 | <i>L. Thomas-Witt, P. Young, R. Scala</i> |
| ADAMS-RUSSELL, MODPAK DIVISION
Burlington, MA | 634 | <i>J. Salvey, B. Koelzer, C. Weyer, N. Brill, E. Hanson</i> | | Microwave system analyzer, microwave repeater checker, microwave frequency counter, power meter. |
| <i>P. Corrigan, M. Rosenzweig</i> | | RF transmitting transistors, microwave transistors, microwave powers including klystrons, magnetrons. | | APPLIED ENGINEERING
New Haven, CT |
| ADAMS-RUSSELL, SEMICONDUCTOR CENTER
Burlington, MA | 634 | AMPHENOL, AN ALLIED COMPANY
Oak Brook, IL | 621 | <i>W. McNeil, A. Garrett, B. Trivelli</i> |
| <i>R. Gold, M. Rosenzweig, J. Parker</i> | | Amphenol® SMA AND SSMA connectors, coaxial and triaxial switches, microwave cable assemblies and precision connectors and adapters. | | Coaxial connectors, cable assembly, MIC launchers. |
| ADVANCED ABSORBER PRODUCTS INC.
Amesbury, MA | 609 | AMPLICA, INC.
Newbury Park, CA | 547 | ARISTOGRAPHICS
Downers Grove, IL |
| AEG-TELEFUNKEN
Somerville, NJ | 604 | <i>M. Lampenfeld, T. Herdt, B. Wilson, G. Keithley, B. Childs, B. Mehrmann, J. Cole, R. Rodman, H. Lester, C. Samuelson, C. Abronson</i> | | <i>N. Isaacson, R. Cook, E. Harthaus</i> |
| <i>Dr. C. Schenk, V. Pastore, R. Leonardo</i> | | Solid state microwave amplifiers and subsystems from 500 MHz to 26.5 GHz. low noise, medium power narrow and broadband units will be featured including drop-in and flatpack units. (The Amplimodule TM). | | Precision mask/artwork generator for microwave/hybrid circuitry. |
| Travelling Wave Tubes for Satellite and Terrestrial applications. R.F. Tubes and Millimeter Wave accessories. | | AMPLIFIER RESEARCH
Souderton, PA | 313 | ARRA, INC.
Bayshore, NY |
| AERTECH
See TRW Microwave | 541 | <i>D. Shepherd, R. Sickles, R. Oliver, R. Spinney, D. Spencer, M. Devane</i> | | <i>B. Alimena, C. Solomon</i> |
| AIKEN ADVANCED SYSTEMS
Alexandria, VA | 260 | High power, broadband, RF amplifiers. Frequency range from 10 kHz to 1000 MHz. Power levels from 1 to 10,000 watts. Antennas, Tem cells and accessories for RFI susceptibility testing. | | Microwave components, both coaxial and waveguide, featuring newly designed tape reout, precision attenuators, all featuring thin-wall waveguide as used in spacecraft. |
| <i>R. Korb, M. Broderick</i> | | | | ARTECH HOUSE
Dedham, MA |
| Crystal video receiver, detector/log video amplifier, microwave switch matrices, D.F. subassemblies, multicouplers, custom chassis. | | | | <i>D. Ricci</i> |
| ALAN INDUSTRIES, INC.
Columbus, IN | 312 | | | Artech House books record the latest findings in high tech fields such as microwave radar, and telecommunications. Our reputation for providing engineers with the information they need continues to grow with our newest titles in GaAs MESFET technology and applications, CAD of Microwave Circuits, and VLSI. |
| <i>Bill Kennedy, Susan Kennedy, Bob Snapp, Mark Burton, Georgeann Talbot</i> | | | | ASTROLAB, INC.
Linden, NJ |
| RF and microwave components, attenua- | | | | 809 |

J. Toma, S. Toma, O. Johnson, R. Hynes, J. Bullard

Manufacturers of RF connectors 90° Sweep SMA, 1.7 millimeter assembly, N & TNC Modfree to 18 GHz. TK to 22 GHz, SC to 11 GHz, APC-7 (7 millimeter sexless), APC 3.5-35 GHz (SMA), NCW 90° Sweep assembly to 40 GHz (28) microwave coaxial cables, semi-rigid and flexible. Cable assemblies for HP8542C, 8409C, 8505A & B and 8502 A & B. Wraparound quick disconnect clamps for waveguide (ridge and double ridge). High power (high-flex° semi-rigid flexible 7/8", 1 5/8", 1 3/8" cables up to 20 feet long. New 179-page catalog, cable/connector and technical manual.

AVANTEK, INC. 517
Santa Clara, CA

O. Brigham, B. Berridge, B. Goff, D. Wong, B. Etheredge, F. Russell, L. Kirton, L. Lea, J. Reid

At booths number 517 and 519 at the MTT show in Boston (June 1 through 3, 1983) AvanteK will be showing the industry's first 26.5 to 40 GHz low-noise GaAs FET amplifier, available in either compact packages with 2- or 3-mm coaxial connectors, or configured as a direct replacement for low-noise TWTs with integral AC power supply and waveguide input and output.

Also on display will be the unique, economical, MODamp™ silicon monolithic amplifiers in hermetic transistor packages, offering up to 19 dB gain, operation through 3 GHz and excellent cascaded performance combined with *in-stock availability for immediate delivery*, a new series of microwave switches and limiters, as well as samples from AvanteK's complete line of solid-state YIG- and varactor-tuned oscillators, small-signal and medium power amplifiers, YIG filters, mixers and related components for operation at frequencies up to 26.5 GHz.

AYDIN MICROWAVE 608
San Jose, CA

D. Tuccori

GaAs FET amplifiers from 1.0 to 18 GHz, including power, low noise and limiting models, and featuring new miniature "flat-pack" designs.

AYDIN VECTOR 608
Newtown, PA

R. Blake, H. Jastrow, B. Kanuck, R. Antonucci, J. Perkins

RF and custom hybrid amplifiers from 5 MHz to 1.0 GHz. Models available screened to MIL STD 883B.

BALO PRECISION PARTS, INC. 361
Franklin Lakes, NJ

E. Rapoza, S. Sacco

Specialists in high-reliability hermetic packaging, offering a line of modules designed to withstand the rigors of most hostile environments and qualify to MIL-STD-883, 1 x 10⁻⁸ Std. C.C./SEC. He leak rate. We comply with rigid customer or military specs (MIL-C-45662A, MIL-I-45208A, etc.) as required by the electronics, aerospace and connector industries.

BBC 544
Chelmsford, MA

W. Berry, L. Pihl

Representing: Ferretec, Inc., Storm Products, Inc., Radar Technology, Inc., and Daden Associates, Inc.

CABLE ASSEMBLIES, INC. 602
Amherst, NH

D. Boulard

Semi-rigid and flexible RF coaxial cable assemblies and delay lines.

CABLEWAVE MINIATURE 349
Wallingford, CT

S. Raucci

Listed with M/A COM Omni Spectra.

CALIFORNIA AMPLIFIER 236
Newbury Park, CA

J. Inbar, S. Schmalzried

1-12 GHz low noise or medium power amplifiers.

CALIFORNIA EASTERN LABS 420
Santa Clara, CA

G. Swan, S. Sando, J. Carollo, J. Colesworthy, J. McGovern, J. Kellett, D. Bunnell, N. Kitagawa, Y. Tateyama

NEC microwave components including GaAs FETs, power bipolars, small signal bipolars, power modules, diodes, and TECDA capacitors.

CGIS, A COMSAT COMPANY 536
Palo Alto, CA

H. Wong, C. Holmes, J. Lindauer, J. Morrison, D. Leiss, J. Byrnes, B. Billingsley, D. Aldridge

SUPER-COMPACT™ — a CAD program for the analysis, optimization, and synthesis for microwave circuit design. AUTO-ART™ — an interactive layout package for microwave circuit design.

CINOX 602
Cincinnati, OH

J. Lazazzera

Crystals, TCXO's, VCXO's, OCXO's, frequency standards.

CIRQTEL 810
Kensington, MD

COLEMAN MICROWAVE 643
Edinburgh, VA

Judith Coleman, Ken Coleman, George Brinkley, Ken Coleman, Jr.

Coleman Microwave Co. designs and produces all types of microwave filters from Port 1-26 GHz. Our designs include low pass and high pass band reject and band pass filters tuneable and fixed tuned coax or waveguide.

COMPAC 525
Deer Park, NY

Peter C. Rao, Charles T. Groves

RFI shielded enclosures and accessories.

COMPEX CORP. 905
Marlton, NJ

G. Gordon, S. Chen, A. Gordon

Compex manufacturers single layer parallel plate microwave chip capacitors with

gold electrodes for T.C. and untrasonic bonding and pretinned electrodes for solder reflow. Split electrodes and arrays also available.

CONDOR SYSTEMS 602
Santa Clara, CA

DF systems (2-40 GHz), audio, video and IF matrix switches.

CONNECTING DEVICES, INC. 324
El Segundo, CA

J. Dunbabin, G. Black, C. Wirtz, W. Carpenter

Radius right angle connector (developed and patented by CDI), subminiature RF coaxial connectors, types SMA, N, TNC, and special connectors, between series adapters, microwave cable assemblies, and now a hermetic connector series.

CONTINENTAL MICROWAVE AND 602
TOOL COMPANY
Bradford, MA

R. Cicale, D. Wall

Rectangular and double-ridged seamless flexible waveguide, waveguide components (double ridge and rectangular), waveguide subsystems, precision machining.

DADEN ASSOCIATES 544
Laguna Hills, CA

D. Hook

RF and microwave filters, bandpass, band reject, high pass., coax, pc mount drop in's etc.

DELTA MICROWAVE 602
Camarilla, CA

R. Reed

Custom microwave filters, diplexers, multiplexers, isolators, gain equalizers, integrated assemblies.

DEXCEL 144
Santa Clara, CA

Travis Duder, L. Han, Steve Block, Paul Tipon

GaAs FET, low noise, through power GaAs FET prod covering 2-26 GHz. MIC amplifiers broad band and narrow band low noise and power amplifiers covering 2-20 GHz.

DIAMOND ANTENNA & 222
MICROWAVE
Winchester, MA

H. Tiger, B. LaPage

Radar/Microwave Antennas, Single & Multi-channel Rotary Joints, Gain Horns, Directional Couplers, Single & Double Ridged Components, Waveguide & Coaxial Components.

DIELECTRIC COMMUNICATIONS 359
ELECTRONAUTICS DEPT.
Littleton, MA

N. Diehm, P. Colombo, B. Holroyd

Microwave absorbers, load material, dummy loads, attenuators.

DIELECTRIC LABORATORIES, INC. 436
Cazenovia, NY

W. Hatuaniemi, D. Lupfer, J. Tinkler

RF/microwave high q porcelain fixed

capacitors and single wafer, precision, parallel plate fixed ceramic capacitors with widths to match the circuit stripline width.

DYNATECH/UZ, INC. 542
Venice, CA

N. Renfrow, T. Jamias, N. Feigenbaum, J. Hoffman, M Okano, R. Klenske, F. Bennett

Diverse product line of RF switches, circuits, termination and numerous circuit options. Component line includes power dividers, combiners, attenuators, couplers, and switch matrices.

EATON CORP. 250
COMMUNICATIONS PRODUCTS DIV.
ADDINGTON SOLID STATE PRODUCTS
Sunnyvale, CA

R. Alper, R. Mauldin

Microwave Subsystems including: thin film VCO's and other sources, up and down converts, mixer subsystems, sophisticated multipole tuneable filter subsystems and high reliability cable products.

EATON CORP. 518
ELECTRONICS DIV.
Ronkonkoma, NY

G. McCarthy, A. Fieland, A. Brown, R. Rapant

Spectrum analyzers, frequency synthesizers, power-amplifiers, noise measuring equipment and sources, programmable EMT Test Systems. Programmable ratio transforms and synchro resolver test equipment.

EATON CPD, (MCS) 250
Sunnyvale, CA

R. Townsend

Coaxial and Drop-In Isolators, Circulators, Double Balanced Mixers, Switches with or without Drivers, Microwave Diodes and Integrated Packages.

ELECTRONIC ENGINEERING 343
ASSOCIATION
London, England

P. Thornberry

Information on the British electronics industry; EEA Product Directory; EEA Annual Report. Also available 139-page brochure on the exhibits of UK companies exhibiting at the show.

EEV 336
Elmsford, NY

T. Soldano, J. Wadnowski, G. White, P. Plurien

Comprehensive range of microwave devices including travelling wave tubes, magnetron, duplexer devices, travelling wave tube chains and thyratrons.

EIP MICROWAVE 645
San Jose, CA

R. Bush, B. Dentinger, J. DuRant

Microwave/millimeter wave frequency counters 10 Hz - 110 GHz microwave sweep generators 1-18 GHz.

EMERSON & CUMING 308
Canton, MA

R. Berardi, J. Gear, T. DeSisto, L. Baron, R. Finn, D. Turi

Electromagnetic materials: high loss/low loss microwave materials, anechoic chambers, radar absorbing materials. Electrically conductive materials: gaskets, sealants, adhesives for EMI/RFI and pulse protection.

EMF SYSTEMS, INC. 326
State College, PA

John Chernega, Joan Chernega

Development and manufacture of solid-state microwave oscillators and associated circuitry.

ENGELMANN MICROWAVE 521
COMPANY
Whippany, NJ

V. Caruso, H. Bailey, R. Hartwig, H. Engelmann, C. Schraufnagl

RF and microwave components including attenuators, power dividers, couplers, hybrids, terminations, mixers, phase shifters, oscillators, stripline and microstrip, including thin and thick film products.

EPSCO MICROWAVE 237
Westwood, MA

J. Shalhoub, W. Coffin, W. Currier, J. Majewski, T. Dunn, D. Mahoney

Model 2076 is a high power pulsed oscillator and a MIL-qualified solid-state modulator. This oscillator/modulator combination is used in EPSCO's Peak Power Calibration unit, Model 2027, with a great deal of success. For complete specs, please refer to our data sheet. For other frequency ranges, please consult the factory. Model EP250C is a CW signal source that guarantees 250 W of output power over a wide frequency range. Typically, all plug-in heads produce an average of better than 300 W. This instrument will soon be the industry standard and is quickly becoming known as the best Watt per dollar buy.

EPSILON LAMBDA ELECTRONICS 641
Geneva, IL

R. Knox

Millimeter Integrated circuits using Dielectric Insular Waveguide; Gunn Oscillators with isolators and modulators; balanced mixers; bandpass filters.

EW COMMUNICATIONS, INC. 723
Palo Alto, CA

J. Jacobs, K. Sund, R. Rose, A. St. John, A. Hoshida, J. Fawcette

Microwave Systems News (MSN), Defense Electronics, The International Countermeasures Handbook and the new Microwave System Designer's Handbook. Plus the organizers of Microwave Systems Applications Technology (MSAT) conference and exhibition.

FERRANTI plc 342
Dundee, Scotland

W. Allan, D. Packham, J. Lowe

Microwave components including ferrite, isolators, circulators, receiver protection devices, filters, multiplexers, microstrip subsystems, drop-in isolators and circulators, microwave power tubes, travelling wave tubes, klystrons and magnetrons.

FERRETEC, INC. 544
San Jose, CA

W. Keane, A. Rosenzweig

Open and closed loop YIG filters and sub-systems.

FILM MICROELECTRONICS 148
Burlington, MA

J. Hughes, S. Dawe, M. Lioz, A. Tasker, B. Stickland

PIN diode switch drivers. Also, microwave chip resistors (thin-film on ceramic) as well as metalized ceramic substrates and etchants for microstrip application.

FILTRONIC COMPONENTS, LTD. 333
Shipley, West Yorks, England

Microwave filters, multiplexers and sub-systems radar warning receiver group delay measurement systems detector LUX unit. Signal processing software simulator ('Spectre').

FORBES & WAGNER 602
Silver Creek, NY

Custom transformers

FUJITSU MICROELECTRONICS 617
MICROWAVE & OPTOELECTRONICS
DIVISION
Santa Clara, CA

S. Erickson, N. Corpron, J. Cotsworth, B. Hampton, E. Mirabella, M. Itoh

Fujitsu Microelectronics, Inc., Microwave and Optoelectronics Division's product line includes GaAs, FET's, Silicon Bipolar transistors, power amplifiers and optoelectronics devices.

GAMMA-F CORP. 346
Torrance, CA

L. Alford, C. Goss, B. Terry

Passive waveguide components spanning 4 to 100 GHz fabricated to customer requirements utilizing electroforming techniques. Bandpass, band stop, high pass and loss pass waveguide filter designed and fabricated to customer requirements.

GENERAL MICROWAVE CORP. 433
Farmingdale, NY

M. Wind, S. Rinkel, E. Blum, B. Grand, B. Smilowitz

General Microwave Corporation will feature the NEW Model 478 Peak Power Meter, a microprocessor-based instrument. In addition, our general product line will be exhibited consisting of the following: Broadband Multi-throw PIN Diode Switches.

In addition, our general product line will be exhibited consisting of the following:

- Series 91/92 Broadband Multi-throw PIN Diode Switches (0.5 to 18 GHz)
- Analog and Digitally Programmable PIN Diode Attenuator/Modulator (0.5 to 18 GHz)
- A broad line of Microwave Integrated Circuits (MIC) Assembly (0.5 to 18 GHz)
- Analog and Digitally Programmable Phase Shifters (4 to 18 GHz)
- Radiation Hazard Meters (200 KHz to 26 GHz)
- CW Power Meters (10 MHz to 40 GHz)

GILBERT ENGINEERING 509
Phoenix, AZ

Complete line of 14mm 50 ohm connectors, adapters, terminations, attenuators, airlines, power dividers, low pass filters, miscellaneous coupling elements and cable assemblies all utilizing the G874, G890, and G900 connectors. In addition, many of the above items are also available in 75 ohm versions.

W. L. GORE & ASSOCIATES 533
Newark, DE

G. Walter, H. Walling, T. Whitten, D. Slothour, R. Kauffman

Our flexible microwave cable assemblies operable through 40 GHz.

A. I. GRAYZEL 137
Needham, MA

B. Omswiler, A. Grayzel, S. Boerman, J. Cuddy

Frequency multipliers, COMB generators, UP convertors, frequency dividers.

GREENRAY INDUSTRIES, INC. 135
Mechanicsburg, PA

L. Barbary, J. Murphy

Various stability crystal oscillators covering the ranges .01 Hz up to GHz. Featuring low noise, high stability package.

HARRIS MICROWAVE 453
SEMICONDUCTOR, INC.
Milpitas, CA

B. Hoffman, R. Lange, L. Becker, J. Barrera, T. Strouth, D. Hanes, W. Curtis, K. Duras

Offers broad and narrow band GaAs FET amplifiers, power and general purpose GaAs FETs for use through 18 GHz, and is a leading U.S. developer of digital GaAs ICs.

HERLEY INDUSTRIES, INC. 421
Lancaster, PA

L. Blatt, H. Kagan, C. Michaeli

High power microwave components, waveguide switches, dummy loads, directional couplers, antennas, phase shifters, microwave comparators, microstrip and stripline application, slot array feeds, rotary joints.

HEWLETT-PACKARD, NETWORK 424
MEASUREMENTS DIVISION
Palo Alto, CA

Powerful new automatic scalar network analyzer featuring wideband 40 dB-directivity bridges, ideal for cost-effective production testing. New 10 MHz - 26.5 GHz synthesized sweeper: 1 Hz resolution and full analog sweep in one instrument.

HEWLETT-PACKARD, 424
STANFORD PARK DIVISION
Palo Alto, CA

8673A synthesized signal generator (2-26 GHz); 8684B-H18 cavity-tuned signal generator with internal doubler for 5.4-18 GHz (usable to 20 GHz). 11729B low noise down converter for single sideband phase noise measurement.

HEWLETT-PACKARD, 424
SIGNAL ANALYSIS DIVISION
Palo Alto, CA

8566A high performance spectrum analyzer: 100 Hz to 22 GHz internally preselected range; extendable to 300 GHz with external harmonic mixers. 8569B microwave spectrum analyzer: 10 MHz to 22 GHz internal range; extendable to 115 GHz with external mixers.

HIGH TECH SALES 721
Wayland, MA

B. McCarthy

Video delay lines and pulse lines.

HONEYWELL, INC. 244
SPACEKOM MICROWAVE CENTER
Santa Barbara, CA

E. Speer, R. Davidson

Microwave and millimeter wave mixers, frequency doublers and triplers, receiver front ends, subassemblies from 2 GHz to 110 GHz.

HORIZON HOUSE- 427
MICROWAVE, INC.
Dedham, MA

William Bazy, Richard Briden, Rick Devens, Prof. Lew Schnurr

Microwave Journal, Telecommunications, Journal of Electronic Defense Publications and Artech books.

HUGHES AIRCRAFT COMPANY, 443
EDD
Torrance, CA

M. Talley, J. Kuno, J. Nichols, L. Mohrfeld, S. Edberg, P. Crandell

1077H12 (26-40 GHz) TWTZ. Synthesizer, network analyzer and components.

HYBRID MICROCIRCUITS 910
Mountain View, CA

W. Hickes

Metallized ceramic substrates etched thin-film circuits and custom designed thinfilm hybrid microwave components.

INTEGRA MICROWAVE 527
Santa Clara, CA

W. Schuerch, L. Johnson, S. Astulfi, R. McClaren, D. Brown

Microwave test equipment from 1 to 40 GHz. Tunable microwave filters, panoramic receiver, VCO test set, mixer test set sweeping voltage and current supplies, two-tone test generator.

INTERNATIONAL MICROWAVE 806
DEVICES
Somerville, NJ

ISOTRONICS, INC. 539
New Bedford, MA

M. LoFrumento, S. Overall, D. Sheerin

Manufacturers of a complete line of high reliability, all metal packages for the hybrid and microcircuit and microwave industries. Latest advances now include full in-house capabilities for machined housings.

JOHANSON MFG. CORP. 534
Boonton, NJ

E. Fagerlund

Variable air capacitors, GIGA-Trim Sapphire dielectric capacitors, Thin-trim and Seal-trim ceramic capacitors, microwave tuning elements, microwave diode holders,

and high voltage variable capacitors.

K&L MICROWAVE 628
Salisbury, MD

KDI PYROFILM CORPORATION 521
Whippany, NJ

Alice Arfin, Albert Arfin, P. Levine, H. Shinn, D. McConnell

Passive resistive components: terminations, attenuators, power resistors, coaxial components, stripline circuits, power dividers.

KEENE CORP., 609
RAY PROOF DIVISION
Norwalk, CT

KEENE CORP., 609
Chase Foster
Bear, DE

KEVLIN MICROWAVE CORP. 550
Woburn, MA

E. Lattanzi, J. Ley, M. Winn, C. DeRosa, M. Aghion, J. Rice, D. Brown, J. Tracy, V. Hariet, P. Christian

RF rotary joins, from single channel to 12 channels and from low power to multi-megawatt power levels. Also, high frequency coaxial components operating up to 50 GHz.

KRYTAR 347
Sunnyvale, CA

T. Russell, C. Gentile

Broadband directional couplers, directional detectors and crystal detectors.

KW ENGINEERING, INC. 441
San Diego, CA

A. Brand, D. Czagany, B. Cherot, I. Hunter, D. Chambers

Miniature microwave filters, switched filters, multiplexers, frequency multipliers, integrated subsystems.

LARK ENGINEERING 407
San Juan Capistrano, CA

F. Baier, R. Lein, W. Wheeler, N. Baier

RF and microwave filters, multiplexers-military, space qualified.

LITCHFIELD MICROWAVE 307
Campbell, CA

M. Litchfield

Microwave components utilizing diode chips.

LITTON INDUSTRIES, 212
ELECTRON TUBE DIVISION
San Carlos, CA

K. Connell, S. Mussynski

Microwave Tubes and Solid State Devices.

LITTON SYSTEMS, INC., 546
AIRTRON DIVISION
Morris Plains, NJ

A. Egger, M. Wilson, M. Grosso, J. LoSchavo, J. Michalski

Microwave components (rectangular and double ridge), antenna arrays, couplers, ferrite devices, filter couplers, rotary joints, integrated subsystems, stripline; also rectangular circular and double ridge flexible and rigid waveguide.

- LOCUS, INC.** 326
State College, PA
F. Thompson, J. Thompson, W. Coyle
The RF 1347 series power amplifiers are designed for terrestrial telephone relay links and C-Band satellite uplinks. The RF 1089 series of uncooled LNAs are specifically designed for satellite earth station receivers.
- LOGIMETRICS, INC.** 256
Plainview, NY
J. Deutsch, M. Feigenbaum, S. Feigenbaum
Travelling wave tube amplifiers, signal generators, electronic warfare systems, electromagnetic field generating systems.
- LOGUS** 602
Deer Park, NY
Waveguide switches, coax switches, electromechanical subsystems.
- LORAL** 241
- LORCH ELECTRONICS CORP.** 434
Englewood, NJ
J. Lorch, M. Bloom
RF, IF and microwave signal processing components and sub-assemblies; amplifiers, digital and variable attenuators, directional couplers, filters, mixers, phase comparators and shifters, power splitters, quadrature hybrids, switches, switch matrices, transformers.
- 3M** 411
Minneapolis, MN
- M/A-COM COMPONENTS MARKETING, INC.** 349
Burlington, MA
D. Gallagher
Worldwide field marketing.
- M/A-COM GALLIUM ARSENIDE PRODUCTS, INC.** 349
Burlington, MA
J. Locke
Gallium arsenide material: microwave GaAs diodes, field-effect transistors and microwave GaAs integrated circuits.
- M/A-COM LASER DIODE, INC.** 349
New Brunswick and Metuchen, NJ
J. McNeely
Gallium arsenide optical semiconductor materials, light emitting diodes, laser and optical detectors.
- M/A-COM MICROWAVE CIRCUITS, INC.** 349
Burlington, MA, and Hudson, NH
N. Brown, J. Fallon, P. Gale, G. Porter
Low-power broadband microwave control and receiver components and integrated multifunction assemblies and subsystems for receiving, amplifying and control functions.
- M/A-COM MICROWAVE COMPONENTS, INC.** 349
Burlington, MA, and Chatsworth, CA
Microwave ferrites, tubes, transmission and high-power control components.
- M/A-COM MILLIMETER PRODUCTS, INC.** 349
Burlington, MA
W. Ronis
Millimeter wave sources, components and subsystems.
- M/A-COM MPD, INC.** 349
Hauppauge, NY
R. Sheloff
High-power, solid-state RF and microwave amplifiers, transmitters, subsystems and instruments.
- M/A-COM OMNI SPECTRA, INC.** 349
Merrimack, NH
T. Parker
Microwave connectors, cable assemblies and passive components.
- M/A-COM OSW, INC.** 349
Tempe, AZ
D. Emerick
Low-noise, low-power broadband microwave amplifiers, oscillators and subsystems.
- M/A-COM PHI, INC.** 349
Torrance, CA
F. McAdara
High-power silicon RF and microwave transistors and amplifiers.
- M/A-COM SILICON PRODUCTS, INC.** 349
Burlington, MA
J. Locke
Silicon materials, microwave diodes, low-noise transistors and subassemblies.
- MAGNUM MICROWAVE** 437
Mountain View, CA
D.M. Feakoff, S.J. Hostetler, S.L. Davis, G.W. Graham
Mixers (5 MHz - 18 GHz) and oscillators (0.6 - 5 GHz). Included will be a new sub-harmonic 3.7 - 4.2 GHz mixer, a 6-18 GHz mixer, temperature stabilized oscillators and a new 0.6 - 1.0 GHz oscillator. A new line of downconverters and LNC's will also be shown.
- MARCONI ELECTRONIC DEVICES, LTD** 334
Lincoln, England
E. Smith, J. Evans, T. Oxley
RF Microwave and millimeter wave (10 MHz - 100 GHz) semiconductors, materials, components, modules and subsystems to provide a total solid state and passive microwave technology from a single source. The vertical integration policy of the microwave division enables MEDL to offer the optimum component solution for the microwave systems company. Devices include SBD mixer and detector diodes pin, gunn and tuning diodes; microwave integrated circuits cover mixers, amplifiers, limiters, modulators and multifunction circuits. Other products include saw filters and oscillators, gunn oscillators and frequency synthesized sources. Passive products cover waveguide circulators, isolators and loads plus high power multi-channel combiners; filters and couplers; rotating joints and space qualified waveguide switches.
- MARCONI INSTRUMENTS, INSTRUMENTS DIVISION** 454
Northvale, NJ
K. Elkins, G. Lisk, J. Gorbald, T. Ramsden, L. Pollack, W. Foster, R. Smith
Scalar analyzer with full graphics, power meter, signal generators and modulation meters.
- MASS HIGH TECH** 911
Burlington, MA
- MAST MICROWAVE** 248
Burlington, MA
C. Theophile, D. Gartzke, G. Watkins, A. Pellerin
Coaxial, rectangular, and double-ridge waveguide rotary joints, components and subsystems. Also cable assemblies and precision RF coaxial connectives.
- MATCOM** 238
Palo Alto, Ca
- MATERIALS RESEARCH CORP.** 605
Orangeburg, NY
I. Drangel, M. Lipton, B. Reisner, R. McPhillips
Thin film ceramic substrates - 99.6% Alumina; sputter-coated substrates; pattern etching services.
- MATSUSHITA ELECTRIC INDUSTRIAL COMPANY, LTD. (PANASONIC)** 142
Osaka, Japan
H. Taki, S. Yamashita, M. Makimoto, S. Kawashima
High Q dielectric resonators (Q > 10,000 at 12 GHz), UHF bandpass filters, lowpass filters.
- MAURY MICROWAVE CORP.** 423
Cucamonga, CA
Mario Maury, Jr., Marc Maury, D. Smith, D. Payette, G. Simpson
A complete line of microwave components and instruments, live measurement demonstration of the Universal Transistor Test Fixture, Model MT950, on an Automatic Network Analyzer. A complete line of waveguide to coaxial adapters with APC3.5 connectors, and calibration kits for automatic network analyzers.
- MERRIMAC INDUSTRIES, INC.** 551
West Caldwell, NJ
A. Cox, D. Pechfelder, J. Blahosky, J. Cappucci, E. Niemiec, G. Talhmore, R. Ranta
Offers a complete line of signal processing components from DC-18 GHz employing lumped element techniques and stripline designs. In addition, Merrimac has the ability to incorporate various components into single packages as higher order integrated subsystems.
- METELICS CORPORATION** 444
Sunnyvale, CA
R. Dorilag, B. Clarke
Low, medium, and high barrier Schottky diodes; PIN diode for fast switching and attenuating; high Q, low tuning drift, varactor diodes; step recovery multiplier for

low and high order multiplications.

MICRO-DYNAMICS, INC. 322
Woburn, MA

R. Redstone, R. Jacobson, J. Pare, T. Haley, J. Latassa, A. Wonson, N. McCoy, J. Ruane, E. Higham, T. Krzesowski, J. Brown, R. Morton, G. Degon, S. Morley

Microwave control devices, including diode switches, attenuators, microwave integrated packages, Tr limiter, coaxial and waveguide limiters.

MICROLAB/FXR 405
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H. Augenblick, R. Vincent, M. Bruno, L. DeTrollo, T. Riley

Passive waveguide and coaxial components, couplers, filters, power dividers, dummy loads, etc.

MICRONETICS, INC. 610
Norwood, NJ

D. Sampson, K. Stern

Noise diodes, noise sources, noise standards, programmable noise generators, waveguide switches, coaxial switches, dummy loads, terminations, attenuators, bolometers, crystal detectors, micropotentiometers.

MICRO-NOW INSTRUMENT 145
COMPANY, INC.
Chicago, IL

C. Arnow, W. Openlander

Products including 6 port Vector Network Analyzer operating from 22-38 GHz. The source is a high power .5 watt BWO powered by our Model 705B Millimeter Wave Sweep Power Supply. Operation from IEEE488 bus will be demonstrated.

MICROPAC INDUSTRIES, INC. 907
Garland, Texas

B. Wehe, D. Schuyler, P. Day, E. Russell
Oscillators, Thin Film Substrates, Thick Film Substrates, Hybrid Substrates.

MICROPHASE CORP. 318
Cos Cob, CT

MICROTECH, INC. 306
Cheshire, CT

J. McGregor, W. Hallock, J. Radder, W. Broer, B. Tremblay, J. Callahan

Flexible and rigid waveguide assemblies and passive microwave components including attenuators, couplers, terminations, waveguide to coax adapters, pressure windows, coaxial components from 100 MHz to 40 GHz. Double ridge and rectangular waveguides.

MICROWAVE APPLICATIONS 360
GROUP
Santa Maria, CA

C. Boyd, P. Boyd, D. Prigge, F. Lauriente, B. Snow

Manufacturers of switchable and nonswitchable ferrite components for performing specialized control of microwave signals. Non-ferrite microwave components include custom design circuit elements, coupling, and filtering networks.

MICROWAVE COMPONENT 602
MARKETING
Woburn, MA

C. M. Jones

Representative for: Cable Assemblies, Inc., Continental Microwave & Tool Co., Cinox, Condor Systems, Microwave, Forbes & Wagner, Logus, Microwave Filter Co., North Hills Electronics, Omohundro Co., Oscillatek, Space Microwave Laboratories, Technical Research & Manufacturing, Vecronics Microwave, V/S Networks.

MICROWAVE COMPONENTS, INC. 448
Lowell, MA

P. Smith, D. McCarthy

Precision wound coils for microelectronics; RF air coils; inductors, microminiature coils made from gold, copper, bronze, iron, nichrome and nickel-copper alloys. Applications include bias tees, switches, amplifiers, filters, mixers, oscillators.

MICROWAVE DEVELOPMENT 444
CO., INC.
Lawrence, MA

J. Cook, C. Tomes, A. Bresnahan, E. Vincent

Passive waveguide components.

MICROWAVE DEVELOPMENT 625
LABORATORIES
Natick, MA

R. Tucker, R. Stanley, E. Bannister

Microwave components and assemblies, adapters, attenuators, bends and twists, crystal holders, couplers, diplexers, filters, flanges, rotary joints, phase shifters, isolators, circulators, tapers, tees, hybrids, terminations, transducers, pressure windows, switches, shutter and waveguide type.

MICROWAVE DISTRIBUTORS CO. 451
Commack, NY

MICROWAVE EXHIBITIONS AND 439
PUBLISHERS LTD.
Tunbridge Wells, England

R. Marriott

Organizers of European Microwave Conference and Military Microwaves Conference and Exhibition. Publishers of all past EuMC and MM Conference Proceedings and reprint volumes covering major areas of microwave activity.

MICROWAVE FILTER COMPANY 602
East Syracuse, NY

C. M. Jones

Custom microwave filters to 18 GHz, absorber materials.

MICROWAVE JOURNAL 427
Dedham, MA

W. Bazzzy, B. Bossard, R. Briden, A. Chiavio, C. Donahue, H. Ellowitz, M. Farrell, D. Heller, E. Johnson

Microwave Journal Magazine — subscription and editorial information.

MICROWAVE PRINTED CIRCUITRY 448
Lowell, MA

M. Casper, D. McCarthy, S. Newbegin, R. Lesage

Fabricators of precision microstrip and

stripline circuitry in both hard and soft substrates. Capabilities include: artwork generation, etching, plating, no drilling, routing, machining, bonding, sputtering-thin film metalization.

MICROWAVE SEMICONDUCTOR 528
CORPORATION
Somerset, NJ

J. Holmquest, C. Lump, K. Eidson, H. Bruning, V. Schiel

Microwave silicon power transistors, GaAs FET power transistors, bipolar power amplifiers, GaAs FET power amplifiers, noise sources, low-noise bipolar and GaAs FET transistors, DRO material, microwave diodes.

MICROWAVES & RF 147
Rochelle Park, NJ

S. Bearse, W. Bojsza, J. Novellino, J. Browne, M. Kachmar, J. Matusow, H. Dolan, G. Roberts, L. Hookey

Magazine whose more than 50,000 subscribers are involved in areas from 10 kHz through light, with practical information on news, design features, and product technology.

MILLIS CORP. 908
Millis, MA

T. Boucher, B. Mitchell, B. Gasko, D. Bradshaw, R. Visser, S. Alexander

MIC Thin Film coated substrates circuits, resistor networks, chip resistors, filters, power dividers, custom coatings.

MILLITECH CORPORATION 410
Amherst, MA

J. Amacker, R. Hubuenin, D. Loger, P. Goldsmith, N. Erickson, R. Mathews, T. Poole, W. Cooke, A. Parrish, R. Berson, S. Saia, N. Board, S. Potts

Millitech specializes in the design and manufacture of millimeter and submillimeter components, instruments and systems. On display will be waveguide and quasi-optical products as well as information on multipliers, mixers, ultra low noise FET if amplifiers, and complete receivers.

MITEC ELECTRONICS 452
Montreal, Quebec, Canada

M. Bentob, E. Bernstein and G. Cappelli

Microwave passive components, flexible waveguide components, Waveguide transmission line systems, complete antenna systems for terrestrial microwave systems & ground satellite stations, and microwave instrumentation.

MITEQ, INC. 639
Hauppauge, NY

A. Kiess, A. Faverio, H. Kiess

Low-noise, medium power amplifiers, mixers, mixer-preamplifiers, frequency sources, and frequency synthesizers are among the exhibited components. Subsystems and systems include modulators, demodulators, up- and downconverters and synthesizer-controlled receivers.

MITSUBISHI ELECTRONICS 151
AMERICA, INC.
Sunnyvale, CA

J. Talbot, B. Bechtold, Dr. Mitsui, T. Suzuki

Microwave GaAs FETs, low noise devices, low cost/small signal devices, medium power devices, high power devices, integrals matched devices. Low cost modules, dielectric resonator oscillator modules, doppler transmit/receive modules, receiver modules.

MM MICROWAVE, LTD 337
Kirkbymoorside, York, England

A. Corlett, J. Shan, B. Davidson

Passive waveguide components, examples of subsystem design, 94 GHz comparator, filter design, double-ridged components and examples of standard range components.

THE M-O VALVE COMPANY, LTD. 340
Hammersmith, London, England

V. Smith, G. Noble

X-Band miniature transmitter packages with peak output powers of 200 W. Also a range of subminiature magnetrons in S, X, Ku and Q Bands.

MOTOROLA SEMICONDUCTOR 406
Phoenix, AZ

D. Fowler, T. Bishop, A. Casey, S. Lazar, F. Klarer, F. Augustino

A complete line of microwave transistors. Includes low-noise low power devices to high power transmitter devices.

MURATA ERIE 909
Marietta, GA

NARDA MICROWAVE CORP. 228
Hauppauge, NY

J. Coppola, A. LeMay, J. Kirch

A complete line of broadband GaAs FET amplifiers, passive product lines covering many multi-octave bandwidths to 33 GHz. A microwave measurement system with both active and passive RF heads covering 10 MHz to 15 GHz. A full display of DRO oscillators covering 3 GHz to beyond 18 GHz and a complete line of broadband radiation monitoring equipment to 44 GHz.

N.E.R.E.M. COMPANY 901
Wakefield, MA

L. Nilson, J. Walker, M. Busse

UTE isolators, circulators, filters, drop-ins, special designs; JFW attenuators, terminations, coax switches, fuses, programmable, kits; Microwave Systems frequency synthesizers, synchronizers, stabilizers, harmonic combination generators, phase-lock oscillators, p.c. boards, build-to-print, remanufacture equipment.

NEW ENGLAND MICROWAVE 311
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L. Robbins, R. Doherty, L. Trevathan

Hermetic PIN switch and attenuator miniature modules; connectorized high-reliability switches, attenuators. Diodes, including fast PINS, NIPS, tuning and multiplier diodes, chip capacitors.

NORSAL INDUSTRIES, INC. 537
Central Islip, NY

D. Kraker, N. Spector, J. Norwood, D. Sheldon, R. Donahue

Microwave products including diode switches, mixer modules, frequency trans-

lation products, directional couplers, power dividers, up to 26 GHz. Resistance card, Gunn oscillators, and super components.

NORTH HILLS ELECTRONICS 602
Glen Cove, NY

H. Marx

Precision current and voltage sources, power dividers and combiners, custom stripline integrated assemblies.

NURAD 819
Baltimore, MD

OLEKTRON CORP. 220
Webster, MA

B. Beauregard, L. Foshay, J. Canti

A complete line of quality matrix switches, digital attenuators and phase shifters, phase comparators, beam forming arrays, and our most recent innovation, the complex phasor modulator. These products are available in a wide variety of standard and custom packages, covering the frequency ranging from 100 KHz to GHz. Designs and manufactures RF signal processing components, systems and subsystems.

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Costa Mesa, CA

T. Omohundro

Radomes.

OSCILLATEK 602
Mission, KA

A. Ghafoor

Hybrid crystal oscillators (TTL, CMOS, SINE, ECL), CMOS crystal clock oscillators, baud rate generators, microprocessor drivers.

PACIFIC MEASUREMENTS, INC. 206
Sunnyvale, CA

E. Mendel, D. Armann, D. Bradley, W. Nicklin, R. Britton, S. Wetenkamp, R. Rasmussen, R. Elkus, R. Pettengill, R. Genin

Automatic and integrated scalar network analyzers, peak power meters, high-speed power meters and portable power meters, 100 KHz to 200 GHz. Full bus capability for ATE systems.

PIEZO CRYSTAL COMPANY 904
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C. Jensik, R. Burkholder, G. Kurzenknabe, R. Zeigler, W. Hanson

Quartz crystals, crystal oscillators and crystal filters for communications, defense and space applications.

PLESSEY SEMICONDUCTOR 218
Irvine, CA

POLARAD ELECTRONICS, INC. 450
Lake Success, NY

J. Schindler, F. vonBrockdorff, R. Johnson, E. Kushner, L. Estlin, J. Weilmister

Signal generators, spectrum analyzers, vector analyzer, EMI receivers, modulation analyzer, synthesized signal generator, microcomputers.

Q-BIT CORP. 447
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M. Rogers, H. Mead, G. Callaway, D.

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RF amplifiers, including TO-8 hybrid amplifiers, discrete amplifiers and flatpack amplifiers, which are a new product. In the frequency of 1/2 MHz to 1300 MHz.

RADAR TECHNOLOGY 544
Haverhill, MA

J. Noonan

RF amplifiers less than 1 GHz; IF amplifiers, log amplifiers, and complete receivers.

RAYTHEON COMPANY 249
Waltham, MA

A. Vacaro, J. Kieber, R. Roberts, O. White, W. Doherty, N. McGeouch, R. Burntham

Microwave tubes, ferrite devices, and solid-state components. Included are TWTs, CFAs, klystrons, magnetrons, BWOs, ferrite isolators and circulators, GaAs FETs, multi-function modules, GaAs FET amplifiers

RESIN SYSTEMS CORP. 309
Amherst, NH

S. Campbell, F. Harrington

Custom cast poly-iron loads and absorbers produced to tolerances as close as $\pm .001$ in any specified size or design. Meet all USWR and attenuation requirements. Military, industrial and commercial specifications.

REPUBLIC ELECTRONICS CORP. 807
Paterson, NJ

RF COMPONENT SOURCES, INC. 808
Bayshore, NY

RF DESIGN 139
Englewood, CO

R. Breashears, L. Brewster, B. Sutfin, S. Myers

The magazine for circuit designers who design communications equipment (aircraft, broadcast, CATV, mobile, ground), test and instrumentation equipment, aerospace and military equipment. Current issues will be available for distribution.

RF MONOLITHICS 138
Dallas, TX

F. Perkins, D. Ash, D. McLean, B. Kansy

SAW (Surface Acoustic Wave) resonators, SAW filters.

RFD, INC. 729
Tampa, FL

RHG ELECTRONICS 418
LABORATORY, INC.
Deer Park, NY

S. Wolin, M. Markson, R. Hirsch, D. Weaver

IF/RF processing devices (linear, logarithmic, and limiting amplifiers, AGC drivers, discriminators and AFC processors, phase detecting subassemblies), MIC microwave mixers and mixer preamplifiers, microwave receivers and TV links, are displayed along with custom monopulse and communications receivers and receiving systems.

RLC ELECTRONICS, INC. 449
Mt. Kisco, NY

P. Wright, D. Borck, R. Ranta

Passive precision microwave components,

consisting of filters, switches, attenuators, terminations, couplers, power dividers, hybrids, etc.

ROGERS CORP. 612
MICROWAVE MATERIAL DIV.
Chandler, AZ

T. Miller, H. Brooks, R. Jansen, S. Kahey, G. Archer, R. Sanders, M. Brady
 RT Duroid® microwave material.

H. ROLLET & COMPANY, LTD. 341
London, England

E. Medlicott, H. Medlicott

Precision waveguide in copper, brass, aluminum and in var, in rectangular, round and double ridge including special millimeter waveguide. Surface finish and dimensions with very close tolerances.

RS MICROWAVE COMPANY, INC. 727
Butler, NJ

R. Snyder, M. Snyder, C. Bosley, K. Givelis, L. Kahn

Microwave filters from 40 GHz to 10 MHz, including drop-in high-power, multiplexers, band reject and tunable types.

SAGE LABORATORIES, INC. 647
Natick, MA

C. Marguerite, T. Cieri, H. Chapell, K. Paradiso, L. McNamara, L. Rowe, D. McNamara

Passive microwave components attenuators, couplers, filters, hybrids, mixers, phase shifters, power dividers, rotary joints, switches, video detectors, terminations, crystal holders (Wireline and Wirepac) 3db quadrature hybrids and couplers.

SALISBURY ENGINEERING 912
Fruitland, MD

SANDERS MICROWAVE 224
DIVISION
Manchester, NH

J. Schack, W. Bradley, N. Van Dine, D. Bond, K. Leppanen

Various systems/subsystem microwave integrated modules such as antenna arrays, RF precision power monitoring detectors, switch matrices, receiver front ends, digitized instantaneous frequency measurement discriminators, and space qualified hardware.

SAT 803
Sunnyvale, CA

SAWTEK 438
Orlando, FL

SDI, INC., SOLID STATE 409
COMPONENTS DIVISION
N. Billerica, MA

G. Gray, R. Cayer, J. Devlin, D. Fishman, L. Player

Switches, limiters, attenuators with and without connectors, drivers, bias options, module packaging, pre-test modules.

SDI, INC., DIODE DIVISION 409
N. Billerica, MA

J. Caruso, P. Huyck, R. Jerome, R. Preston, O. Desilvestre

PIN/NIP, SRD, Multipliers, Si abrupt tuning varactors, schottky mixer and detector

including beam lead, diodes, MOS chip capacitors.

SEAELECTRO CORP. 140
Mamaroneck, NY

G. Smith, R. Ploudre

RF coaxial connectors, slide-on microwave connectors.

SEVEN ASSOCIATES 210
Sunnyvale, CA

H. Smith, S. Smith, B. Mathews, J. Burke, A. Lallin

Microwave cable tooling for cutting, stripping, facing, pointing, forming and soldering semi-rigid cables.

SOLADYNE 906
San Diego, CA

SOLITRON/MICROWAVE 548
Port Salerno, FL

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RF coaxial connectors, resistive film products, RF cable assemblies, microwave coaxial attenuators, stripline components, RF and microwave hybrids.

SPACE MICROWAVE 602
LABORATORIES
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W. Lloyd

.5-40 GHz pulsed high-power amplifiers, pulse generators, airborne transmitters, radar and EW simulators.

STABLE ENERGY SOURCES, INC. 421
Lancaster, PA

R. Hess, M. Myers

Solid-state microwave components; low-noise voltage controlled oscillators; dielectric resonator oscillators; high-power amplifiers; microstrip supercomponents; stripline assemblies.

STC COMPONENTS 339
Paignton, England

M. Fabian, J. Wood

11 GHz TWTAs, high-linearity communication TWTs, TWTs for SATCOMs, high-efficiency switched mode TWT power supplies, medium power wide band TWTAs, target transposer amplifiers, microwave subsystems.

STORM PRODUCTS 544
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J. Holland, C. Alto

RF and microwave cables and cable assemblies.

STRUTHERS ELECTRONICS 455
CORP.
Farmingdale, NY

A. Fischer, H. Keiles, R. Collado, J. Occhiuto, D. Brown, J. Mayer

Custom waveguide, adapters, antenna horns, WG directional couplers, magic hybrid tees, transitions, switching and combining systems, peak power meters, wattmeters, terminations, waveguide switches, power dividers.

SYSTRON-DONNER CORP., 510
INSTRUMENT DIVISION
Concord, CA

C. Nash, J. Santillo

Programmable power supplies, microwave sources, and electronic counters.

SYSTRON-DONNER CORP., 510
MICROWAVE DIVISION
Van Nuys, CA

L. Sikora, A. Madni, L. Wan

Microwave testing equipment: model 5220 portable transmission line fault locator. Model 5000A series sweep generator. Microwave components; waveguide and coax components. GaAs FET amplifiers millimeter wave component, surface acoustic wave (SAW) devices. Dielectric Resonant Oscillators (DRO). Subsystems for EW applications, velocity deception systems and dual tracking receivers.

TECHNICAL RESEARCH AND 602
MANUFACTURING
Manchester, NH

A. Marin, R. Roy

Power dividers/combiners, 90° hybrids, 0°/180° hybrids, directional couplers, double balanced mixers, amplifiers, frequency doublers, transformers, power supplies.

TEKFORM PRODUCTS 314
Anaheim, CA

M. Byrnes

Hybrid microelectronic metal packages and covers.

TEKTRONIX, INC. 624
Beaverton, OR

J. Harris, J. David, H. Payne, G. Anderson, R. Alm, H. Mayo, M. Boyesen

492P Spectrum Analyzer, with 4041 System Controller; 496P Spectrum Analyzer with 4052 Desktop Computer; 7L14 Plug-In Spectrum Analyzer with 7603 Oscilloscope Mainframe; 7L18 Plug-In Spectrum Analyzer with 7854 Oscilloscope Mainframe; and OF150 Fiber Optic TDR, also a full set of 490 Series waveguide mixers.

TELEDYNE MICROWAVE 552
Mountain View, CA

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Teledyne Microwave will display and demonstrate a broad range of circulators/isolators, coaxial switches, filters/multiplexers, MIC subsystems, and fast switching voltage controlled oscillators, for ECM, communications, radar, and space applications.

TELE-TECH CORP. 649
Bozeman, MT

C. Curtis, J. Duncan

Communications components, mixers, broadband transformers, RF switches, and power dividers.

TEST EQUIPMENT CORP. 801
Mountain View, CA

TEXSCAN 719
Indianapolis, IN

D. Whitehouse, B. Jackson

Spectrum analyzers, sweep generators, attenuators, filters, oscillators, RF volt meters, field strength meters.

THOMPSON CSF 505
ELECTRON TUBE DIVISION
Rutherford, NJ

H. Sandager

High power amplifier linearizer satellite ground station transmitting klystrons for C and Ku bands and for DBS, Ku and C band TWT's, C band TWTAs and millimeter wave components for 18-1000 GHz.

THOMSON-CSF COMPONENTS 505
CORP. SPECIAL PRODUCTS DIVISION
Rutherford, NJ

H. Sandager, M. Poirier

Dielectric resonator/ferrite materials, high power circulators, multioctave isolators, laser optical heads/transmitters, 94 GHz silicon impatt diodes, 56 GHz silicon multiplier diodes, GaAs impatt diodes - 14/16 GHz, space qualified components.

THOMSON-CSF COMPONENTS 505
CORP. SEMICONDUCTOR DIVISION
Canoga Park, CA

R. Tyson, K. Pickett, J. Walsh, D. Kupine-wicz, D. Chester, J. Conti, J. Younger

RF power transistors, from 1 MHz through 4 GHz. Power outputs to 1 kW pulsed and 500 W C.W. Reliability screening capability through space levels, also full line of small signal and power transistors.

TRAK MICROWAVE CORP. 327
Tampa, FL

T. Roberts, G. Pate, F. Perry, R. Sloan

TRANSCO PRODUCTS 234
Marina Del Ray, CA

R. Williams, J. Fricke, G. Rotundi, J. Belcher

Coax microwave switches, featuring 0-26.5 GHz, and 10 milli-second switching speed. Spiral antennas, new horn antennas. Integrated switch couplers, and a multiplexer.

TRW MICROWAVE 541
Sunnyvale, CA

K. Thompson, J. Moore, J. McCristall, W. Patton, S. Hammond, R. Bridge, R. O'Connor, R. Hassett, S. Virk

TRW will exhibit a wide range of microwave components and subsystems designed for EW, radar, satellite, telemetry, test equipment and telecommunications markets.

TRW SEMICONDUCTORS 440
Lawndale, CA

TRX 143
Attleboro, MA

R. Barry, D. Morrissey, M. Vail, T. Joyce, C. Rice, J. Foran, B. Soares, F. LeBlanc

Valbar Ind. Division will have microwave circuit etching. The material we etch is duroid. The GRX Division will have chip attenuators, chip terminations and chip resistors. Digital Dicing Division specializes in dicing for micro electronics.

A.J. TUCK COMPANY 543
Brookfield, CT

A. Tuck, W. Fawcett

Precision electroformed microwave transitions, specializing in millimeter waveguide, tolerances to $\pm .0001$.

UNIFORM TUBES 323
Collegeville, PA

L. Deery, R. Schafer, D. Snader

Semi-rigid coaxial cable assemblies, band pass and low pass filters in a cable, adapters, delay lines, connectors, flexible cable, microwave flexible cable coaxial components and fiber optics.

VARIAN ASSOC. 511
Palo Alto, CA

VECTRONICS MICROWAVE 602
Middlesex, NJ

J. Vogler

Custom MIC modules, digital attenuators and phase shifters, PIN diode switches, directional couplers, frequency translators.

V/S NETWORKS 602
Chicago, IL

M. Vlamis

Crystal filters and LC filters.

A.T. WALL COMPANY 141
Warwick, RI

C. Gibbs, R. Huntsman, R. Hudson, B. Diggett, K. Brouillard, G. Fraser, F. Frost

Waveguide tubing, special tubular shapes and tubular frames, manufactured from most metals including ferrous, non-ferrous and precious metal.

WATKINS-JOHNSON COMPANY 317
Palo Alto, CA

L. Jones, R. Lassen, D. Killen, R. Hindes, S. Kurtz, D. Butler, V. Castellano, L. McElwain, M. Verga, B. Hoglund, G. Koker, A. Isaacs, J. Rowley, R. Moubert

Microwave electronic systems, components and related equipment.

WAVELINE, INC. 607
Fairfield, NJ

D. Morsillo, R. Koenig, C. Schumann, E. Fodor

Microwave components and test equipment, featuring waveguide assemblies, waveguide switches, dummy loads, couplers, adapters, attenuators and rotary joints.

WAVETEK SAN DIEGO, INC. 633
San Diego, CA

C. Foster, K. Zublin, J. Ewing, R. VanLunen

Wavetek's microwave signal generators provide solid-state reliability and programmability in addition to high performance at an extremely moderate price. The 904, 907, and 907A provide a source of high quality CW signals with excellent power level control, pulse modulation, AM, FM, and sweep capability. Each instrument covers a separate frequency range: 904 - 3.7 to 7.6 GHz; 907 - 7 to 11 GHz; and 907A - 7 to 12.4 GHz.

WAVETEK INDIANA, INC., 633
TEST AND MEASUREMENT
Beech Grove, IN

R. Vin, J. Bush

RF microwave sweep and signal genera-

tors, group delay measurements, display oscilloscopes.

WAVETEK INDIANA, INC., 633
COMPONENTS
Beech Grove, IN

J. Connors, B. Malcolm, D. Distler

RF and microwave components including filters, programmable attenuators, miniature RF filters, tunable filters, new high accuracy tunable filters, programmable and fixed attenuators.

WAYLAND ENGINEERING 444
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