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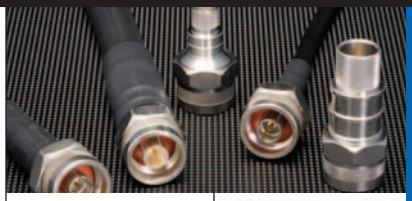

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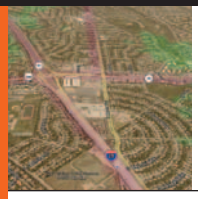

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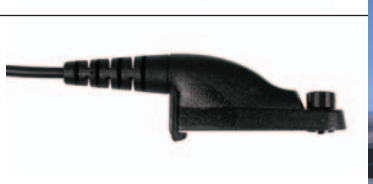

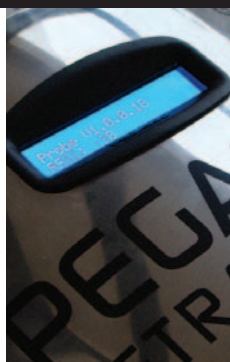

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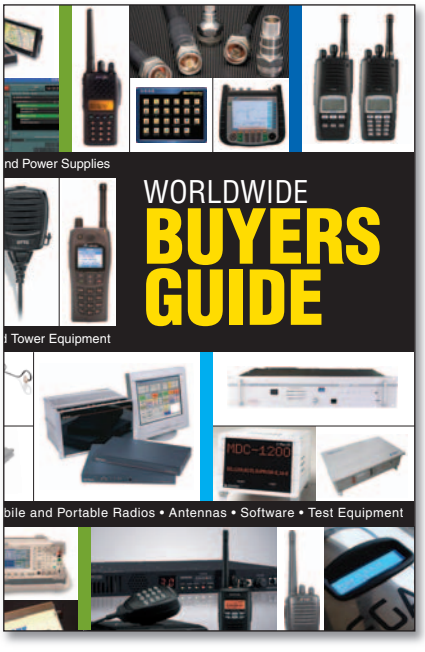
New technology promises data rates of 320 kilobits per second (kbps) in 25-kilohertz channels in the 400 MHz band. *By Dr. Kishore Mehrotra and Paul Daigneault*



18 Worldwide Buyers Guide
From TETRA and Project 25 equipment to CAD software to interoperability equipment to mobile-data and asset-tracking technology, the Worldwide Buyers Guide is a veritable resource, featuring more than 1,000 companies and the products and services they provide to the global mobile-communications market. Use this handy guide to find all the information you need.

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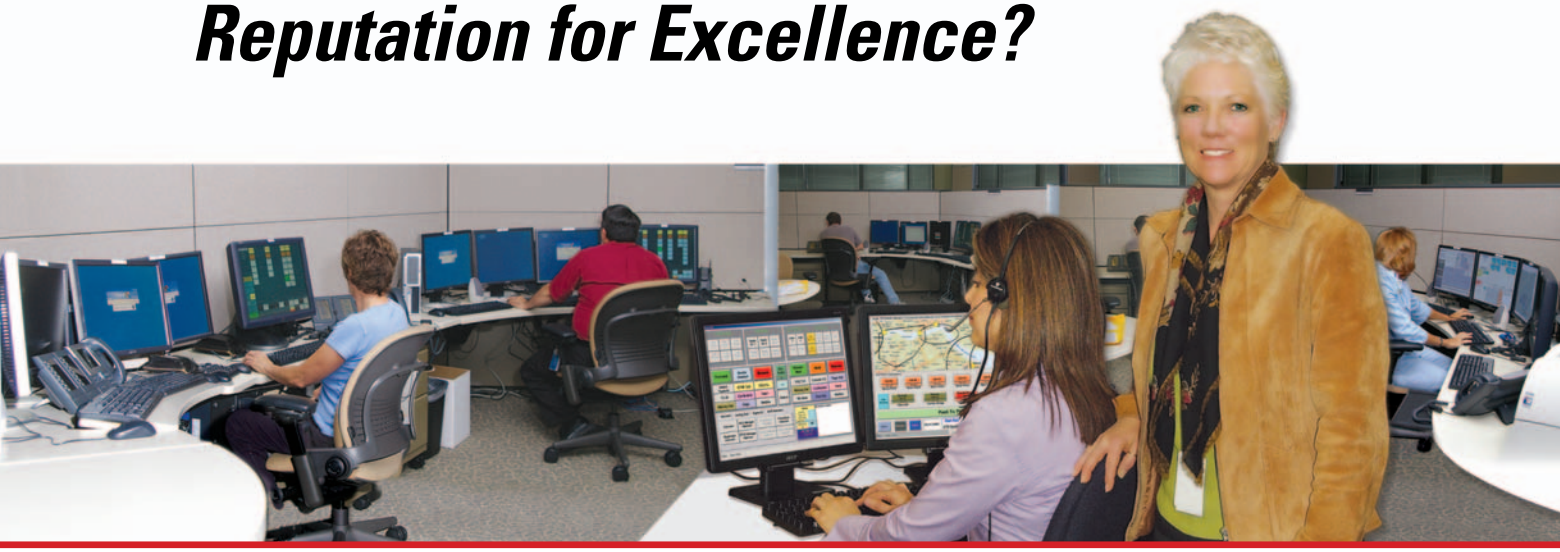

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A Big Buy

As we went to press with this *RadioResource International* 2009 Worldwide Buyers Guide, an acquisition sure to change the dynamics of the professional mobile radio (PMR) industry was announced.

Harris, which entered the U.S. public-safety portable radio market last year with its Unity line of multiband radios, acquired Tyco Electronics Wireless Systems for $675 million cash. The Unity radio is important for the U.S. market because of the various frequency bands — VHF, UHF, and 700 and 800 MHz — used for public-safety communications. The portable is one of the first radios announced that will work in all those frequencies.

But Harris officials wanted the company to be a bigger player in the PMR market, and with Tyco Electronics Wireless Systems, formerly known as M/A-COM, Harris gains a full product line of mobile communications equipment. Harris officials are optimistic about the global PMR market. David Krebs with Venture Development Corp. (VDC) values the market at about $8.4 billion in his column on Page 54.

The Tyco Electronics Wireless Systems business had 9.7-percent compound annual growth radio (CAGR) from 2006 to 2008, outpacing the industry 6-percent CAGR. That growth was driven by Project 25 (P25) adoption, the U.S. 800 MHz rebanding regulation, interoperability projects and systems, and the transition to digital products, Harris officials said.

Because Tyco Electronics Wireless Systems is the second-largest two-way radio supplier in the United States, the acquisition is significant for the North American market. The transaction, coupled with the pending outcome of the 700 MHz public-safety broadband spectrum, will cause many changes in the U.S. and Canadian markets in coming months.

But the buy is important in other geographic markets as well. Tyco Electronics Wireless Systems has about 500 systems installed worldwide and 1 million users. About 90 systems are installed in Europe; Middle East and Africa (EMEA); Asia Pacific; and Latin America. Tyco Electronics Wireless Systems, a member of the TETRA Association, donated $1 million worth of emergency wireless communications equipment and field technical services for use by disaster relief teams in China in May 2008 after the devastating earthquake in the Sichuan province. And while Harris is well known for its work with the U.S. federal government, it also has numerous international clients.

We value your opinions! Please e-mail your feedback to me at swendelken@RRMediaGroup.com.

Speaking of buying, this issue is all about PMR suppliers and products. You'll find details on wireless voice and data technologies and the companies that manufacture and supply them in the following pages. There's no other global mobile communications resource available, and we hope you use the information to make informed purchasing decisions. If you have suggestions for future issues, we welcome your input.

Sandra Wendelken, Editor
swendelken@RRMediaGroup.com

RadioResource International

RadioResource International delivers wireless voice and data for mobile and remote mission-critical operations for professionals who reside or do business outside the United States and Canada. The magazine covers private and trunked mobile radio, wireless data, location technologies, public safety communications, microwave radio, satellite, paging/messaging, remote monitoring, and other commercial and private wireless applications. Editorial content is international in scope and encompasses emerging technologies, industry reports and trends, innovative applications, product information and comparisons, news, standards, and troubleshooting tips.

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ITU Releases ICT Development Index

The International Telecommunication Union (ITU) released the ICT Development Index (IDI), comparing developments in information and communications technologies (ICT) in 154 countries from 2002 – 2007.

The index combines 11 indicators into a single measure that can be used as a benchmarking tool globally, regionally and at the country level. The indicators are related to ICT access, use and skills, such as households with a computer and literacy levels. The most advanced countries in ICT are from northern Europe in addition to South Korea. Sweden tops the new ITU index, followed by South Korea, Denmark, the Netherlands, Iceland and Norway.

Significant differences exist among countries based on income levels. Countries with high-income levels pay relatively little for ICT services, while

APCO to Provide Training in Middle East

The training arm of the Association of Public-Safety Communications Officials (APCO) International is reaching Saudi Arabia in an effort to help secure a local university. King Abdullah University of Science and Technology (KAUST) accepted the APCO Institute's proposal to provide an all-inclusive training program for communications personnel in its new communications center.

Chris Fischer

KAUST is being built as an international, graduate-level research university dedicated to inspiring a new age of scientific achievement in the kingdom. Its core campus occupies more than 36 million square meters on the Red Sea and is located about 80 kilometers north of Saudi Arabia's second-largest city, Jeddah. KAUST's goal is to advance the mission of the university by providing and maintaining a safe and orderly learning environment for the KAUST community. As part of this effort, KAUST will staff a 20-person communications center and use all of the APCO Institute's training programs and support software.

"The ultimate goal is to respect the rights and protect the safety of all students, staff, residents and visitors of their campus," APCO International President Chris Fischer said. "We are happy to support this effort by ensuring KAUST communications personnel are fully trained, self sufficient and prepared to successfully handle fire, EMS or police-related emergency calls." The training will be conducted during a three-month period by APCO Institute Adjunct Instructor Mark Boudreaux, director of Terrebonne 9-1-1 District in Louisiana, and began in April.

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countries with low income levels pay relatively more. Countries that rank at the top of the ICT price basket include Singapore, the United States, Luxembourg, Denmark, Hong Kong (China), United Arab Emirates (UAE), Taiwan (China), Sweden, Norway and Finland. Given the income levels of those countries, they offer the most affordable ICT services globally.

LONDON — U.K. telecom regulator Ofcom released a report that investigates concerns about the effects of wind farms on radio-communications systems, in particular their impact on terrestrial point-to-point and scanning telemetry wireless links.

Previous work was conducted to propose a practical method for establishing an exclusion zone around the path of a fixed link, within which it would be inadvisable to install a wind turbine. To consider further this theoretical model and to enhance understanding of the effects, Ofcom commissioned a series of field trials to measure the effects of wind farms on fixed-link systems.

The report includes a series of measurements carried out with regard to the presence of wind turbines near wireless services. The opinions and conclusions stated in the report are those of ERA Technology and Aegis Systems. The report is available on the Ofcom Web site.

BAD MUENDER, Germany — The **Rohde & Schwarz** subsidiary specializing in professional mobile radio (PMR) systems changed its name to Rohde & Schwarz Professional Mobile Radio. The new name reflects the business field of the former R&S BICK Mobilfunk and positions the subsidiary on the world market, company officials said.

The PMR business segment includes TETRA networks and applications for industry and public-safety organizations. Rohde & Schwarz has supplied TETRA networks to more than 30 countries, including the Panama Canal Authority's radio network and the national security network of the Malaysian government authorities.

"The new name underlines that we are part of the Rohde & Schwarz group of companies," said Dr. Georg Haubs, president of Rohde & Schwarz Professional Mobile Radio. "This is only logical, since our customers and business partners have always associated our products and their quality and reliability with Rohde & Schwarz."

In May 2007, Haubs succeeded company founder Heinz Bick as president. Bick was a shareholder in the subsidiary until Rohde & Schwarz recently converted its majority shareholding into a 100-percent holding. Bick will continue to support Rohde & Schwarz PMR in an advisory role.

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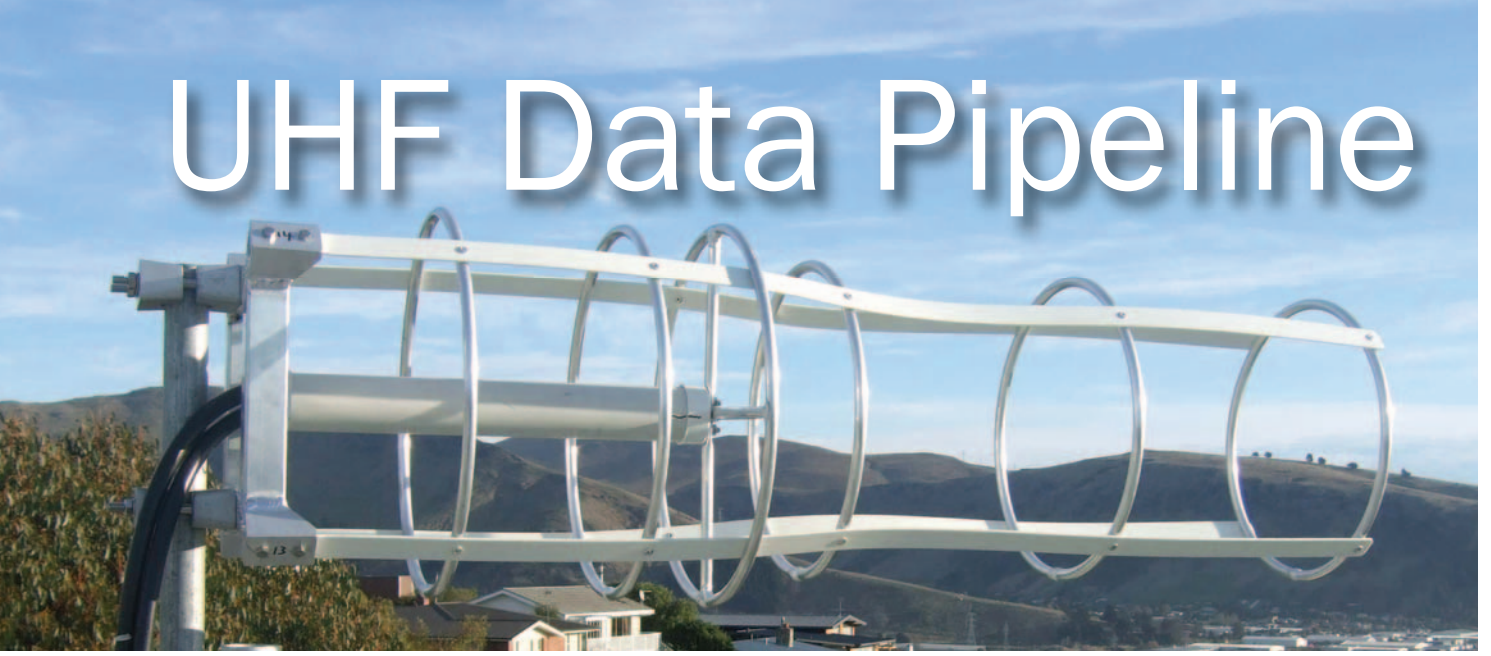

New technology promises data rates of 320 kilobits per second (kbps) in 25-kilohertz channels in the 400 MHz band.

By Dr. Kishore Mehrotra and Paul Daigneault

Narrowband licensed radio channels in the 400 MHz band have traditionally been used for both mission-critical voice applications and some medium-speed data applications in the public-safety, utility and transportation sectors. The 400 MHz band has propagation advantages over higher frequencies, particularly in paths that may not be direct line of sight (LOS) or that suffer from the effects of fading, diffraction or excessive absorption. Spectrum is finite and an extremely valuable resource, especially in this band. Because of the advantages 400 MHz offers, it's generally allocated only in narrow bandwidths for business or mission-critical applications requiring high reliability.

With new applications looking to use ubiquitous interfaces — such as Ethernet — requiring greater throughput and higher data speeds, a number of suppliers have moved to higher frequency wideband solutions to provide this pipe. When using new wireless techniques, the narrowband systems using licensed channels can provide high-reliability, highly spectrally efficient, ultra-low-latency solutions to applications requiring long-range and mission-critical performance. Most current research in communications techniques is directed toward the cellular, WLAN and WiMAX standards to increase data rates and provide fixed and mobile broadband wireless access and backhaul markets for mobile users.

Space-Time Coding and MIMO

Research by MiMOMax Wireless shows that some of the same techniques applicable to the cellular and broadband access markets are equally applicable to narrowband — 25-, 12.5- and 6.25-kilohertz — channels. Techniques such as space time, spatial multiplexing or multiple input multiple output (MIMO) can provide significant performance improvements in fixed point-to-point and point-to-multipoint narrowband communications links compared with traditional techniques used in these bands.

Conventional radio systems are sometimes referred to as single input single output (SISO) because they use a single antenna to transmit and receive signals, whereas MIMO systems use multiple transmitters, receivers and antennas. By using multiple transmit and receive antennas spaced sufficiently apart to decrease received signal correlation, spatial multiplexing can achieve high spectral efficiencies — high data rate per unit bandwidth. These techniques fall into two broad categories: MIMO and space-time coding.

MIMO methods aim for high data rates and high spectral efficiencies but need highly independent or uncorrelated signal paths. Spatial coding uses multiple antennas to improve the signal quality by coding the information-carrying signal in space and time at the expense of data rate and spectral efficiencies. MiMOMax Wireless has demonstrated that sustainable gross channel data rates of 320 kilobits per second (kbps) are achievable in 25-kilohertz channels, providing coverage diameters in excess of 60 kilometers with antennas of moderate height. The use of licensed channels ensures that interference is minimized and high reliability is preserved despite the high data rate.

MIMO works because of the rich scattering experienced by the signal in an urban environment or in a closed building where multiple and uncorrelated copies of the signal are received and processed in a high-speed digital signal processor (DSP) to extract the transmitted information. The ideal channels for traditional MIMO are non-LOS (NLOS), because the LOS component tends to add nonindependent or correlated components. The

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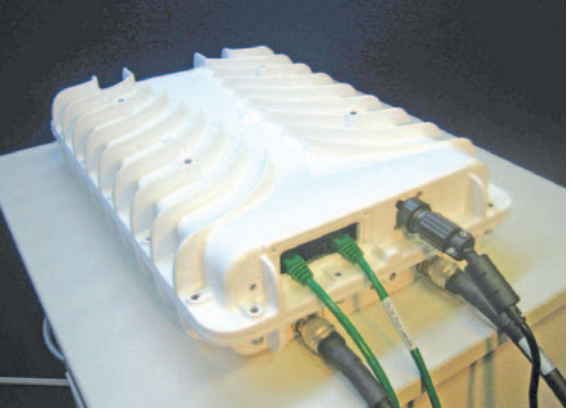

MiMOMax rack mount radio modem

advantages of the NLOS channels are that the highest possible spectral efficiencies with "square configuration" — equal number of transmit and receive antennas — are realizable. The LOS channels support only the rectangle configuration with the number of transmit antennas less than the number of receive antennas.

A practical example is the full-channel rank four-by-four MIMO configuration with four transmit and receive antennas also used by WLANs in indoor environments, while a two-by-four configuration with two transmit and four receive antennas is the low-channel rank version. The narrowband linking applications are longer LOS and experience little scattering over long distances and aren't well suited for direct application of MIMO principles. MiMOMax systems use proprietary pattern diversity in two integrated transmitter and receive antennas to address this. If more than two transmit antennas are needed, then large spatial separation is needed, which may be undesirable. The uses of spatial diversity in addition to pattern diversity may, under certain circumstances, further enhance system performance. In the diversity situation, the four receive antennas become two pairs of similarly polarized antenna elements.

Modulation

Because the symbol rate is fixed, the modulation constellation size determines the data rate in a given bandwidth. However, best performance is obtained when the constellation size is matched to the varying channel conditions. To pack more bits per symbol, higher order quadrature amplitude modulation (QAM) modulations are desirable. This requires higher channel signal-to-noise ratios, and thus, uncorrelated channels along with low noise figure front-end amplifiers. Adaptive modulation techniques can further improve the channel reliability or enable longer paths to be contemplated.

The power amplifier (PA) is nonlinear for higher signal levels and distorts the input carrier amplitude modulated information. Higher QAM performance requires tight linearization of the power amplifier because any PA distortion may lead to intermodulation distortion (IMD) products, which breach licensed channel transmit spectral masks and distort the transmitted signal information. The PA linearization is performed by sophisticated Cartesian feedback circuits to meet the specifications of high output power, high efficiency, linearity and spectral mask purity to minimize any adjacent channel interference.

By using multiple transmit and receive antennas spaced sufficiently apart to decrease received signal correlation, spatial multiplexing can achieve high spectral efficiencies.

Equalization

The received QAM signal isn't directly usable after demodulation; the symbol spreads out in time because of the effects of channel, transmit and receive filters. This symbol spreading leads to inter-symbol interference (ISI), and equalization is required to recover the transmitted information. Equalization of the signal stream effectively tries to reverse the deleterious effects of the channel to get an estimate of the symbol transmitted. MiMOMax Wireless uses a MIMO feedback equalizer algorithm to improve the channel. The equalizer has to be started with a number of known symbols, and then for the link setup, training symbols are transmitted before switching to the decision directed mode of operation.

System Overview

A MiMOMax point-to-multipoint digital link (MDL) system consists of a base radio unit (BRU) talking to multiple remote radio units (RRUs) on a set of frequencies f1 and f2, such that f1 is used for RF transmit and f2 for RF receive functionality by BRU. The RRU uses f2 for transmit and f1 for receive. The RRUs are connected by Ethernet-10BaseT, and the BRU may also be connected to a link radio unit (LRU) by Ethernet-10BaseT. The LRU may be linked to another LRU by wireless using another pair of frequencies f3 and f4.

The network device driver (NDD) accepts Ethernet frames from Ethernet physical link and extracts IP packets divided into multiple Ethernet frames by the software, and the Ethernet header and footer are re-inserted, then input to the transmit medium access controller (TXMAC). The TXMAC under control from the MDL protocol passes on the bits to physical layer for transmission. The received bits from the physical layer are processed by the receive medium access controller (RXMAC) under control from MDL protocol and then passed to dedicated software that removes Ethernet header and footer and combines multiple Ethernet frames to form an IP packet and submits it to the NDD, which in turn generates Ethernet frames for the Ethernet physical link. The overall data rate can be distributed between the Ethernet and various interfaces specific to the user, which may include serial data interface, VoIP traffic and more.

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units of time called the medium access control (MAC) frames. The MAC protocols manage the data transfer using these MAC frames in both directions. For point-to-multipoint wireless networks, the three relevant protocols are:

■ Random access: slotted aloha protocol or a variation;

■ Reservation based: distributed polling; and

■ Taking turns: polling or token passing.

In cases with a lot of continuous data to be transferred from each RRU, polling or distributed polling is a good scheme because it suits the equalization; but this may block access for other RRUs. MiMOMax uses a hybrid slotted aloha for limited byte transfer, in which the RRUs compete with each other to gain access to MAC frames. This is a proprietary variation of the original slotted aloha scheme because the equalizer training has to be provided for in the protocol within both uplink and downlink. This process works well when most of the RRUs need to transfer a considerable amount of data.

Spectrum is finite and valuable in the 400 MHz band, and needs to be used in the most efficient manner whenever possible. MiMOMax uses MIMO and space-time coding techniques, in conjunction with random access MAC protocols, to enable the implementation of low-latency, high-reliability and highly spectrally efficient wireless networks, in narrowband licensed channels. Sustainable gross radio channel data rates of 320 kbps are reliably achievable in licensed 25-kilohertz channels, yielding spectral efficiencies of 12.8 bits per second per hertz. Coverage diameters in excess of 60 kilometers with antennas of moderate height are reliably achievable, and high sites can provide even greater coverage. At 450 MHz, some NLOS and near-LOS performance can also be accommodated. Using licensed channels ensures interference is minimized and high reliability is preserved despite the high data rate. Performance may be further enhanced with the use of additional spatial diversity and redundancy. Adaptive modulation techniques may further improve link reliability or enable longer paths to be contemplated. ■

Kishore Mehrotra is a senior designer at MiMOMax Wireless and has 29 years of experience in aerospace and radio communications engineering, specializing in signal processing, algorithmic and protocol design.

Paul Daigneault is managing director at MiMOMax wireless and has tertiary qualifications in telecommunications and physics with 35 years of experience in radio, electrical engineering and business management. E-mail comments to editor@RRMediaGroup.com.

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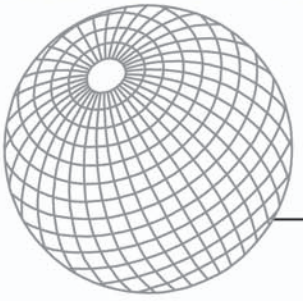

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Communications Marketing Association (CMA)
www.cma-cmc.org

Communications Research Centre (CRC)
www.crc.ca

ComTrain
www.comtrainusa.com

Concepts to Operations
www.concepts2ops.com

ConnecTel
www.connectel-cz.com

Creative Strategies
www.creativestrategies.com

Danimex Communications
www.danimex.com

Datasel Consulting
www.datasel.com

Deiton
www.deiton.com

Dialogic Communications Corp. (DCC)
www.dccusa.com

Digital Paging Co./ Golden Sab Inc. (DPC/GSI)
www.apollowireless.com

Directions
+1 214 673 5478

E Comm International
www.ecommint.com

Ears
www.ears.plc.uk

El Paso Communication Systems (Epcom)
www.epcom.net

Electronic Technicians Association (ETA) International
www.eta-i.org

Electronics Representatives Association (ERA)
www.era.org

Electronics Research Inc. (ERI)
www.eriinc.com

Emcom Africa
www.emcom.co.za

Emergensys Solutions
www.emergensys.net

European Telecommunications Standards Institute (ETSI)
www.etsi.org

European Utilities Telecom Council (EUTC)
http://europe.utc.org

Federation of Communication Services (FCS)
www.fcs.org.uk

Fiber-Span
www.fiber-span.com

Frost & Sullivan
www.frost.com

GL Communications
www.gl.com

GlenMartin
www.glenmartin.com

Global Mobile Suppliers Association (GSA)
www.gsacom.com

Global RF Solutions
www.grfs.net

Globetrotter Services
www.mwradio.com

Hartech
www.hartechinc.com

HBF Group
www.hbfgroup.com

Hitech Systems
www.hitech.com

Holaday EMF Measurement (ETS – Lindgren)
www.holadayinc.com

IMS Research
www.imsresearch.com

In-Stat
www.instat.com

International Association of Chiefs of Police (IACP)
www.theiacp.org

International Association of Emergency Managers (IAEM)
www.iaem.com

International Municipal Signal Association (IMSA)
www.imsasafety.org

Keene & Associates
+1 949 443 2749

Keller and Heckman
www.khlaw.com

Knowledgable and Innovative Technical Solutions (KITS)
www.kits-inc.com

Language Line Services
www.languageline.com

Lawrence Behr Associates
www.lbagroup.com

Leathersmith
www.leathersmithinc.com

Leavitt Communications
www.leavcom.com

Lightning Eliminators and Consultants
www.lightningeliminators.com

Location Sound
www.locationsound.com

Lockard & White
www.lockardandwhite.com

LS telcom
www.lstelcom.com

Lyncole XIT Grounding
www.lyncole.com

Macro
www.macro.com

McDermott Will & Emery
www.mwe.com

McKay Communications
www.mckayheadsets.com

Microwave Leasing Services (MLS)
www.mlseng.com

Mobile Concepts by Scotty
www.mobileconcepts.com

Monart Associates
www.monartassoc.com

Motorola
www.motorola.com

Multiple Access Communications (MAC)
www.macltd.com

Narda Safety Test Solutions
www.narda-sts.us

National Academies of Emergency Dispatch (NAED)
www.emergencydispatch.org

National Emergency Number Association (NENA)
www.nena.org

Nortel
www.nortel.com

Northrop Grumman
www.it.northrop grumman.com

Northrop Grumman Information Technology
www.it.northropgrumman.com/itsolutions

Nutel Wireless
www.nutelwireless.com

Opt-in Wireless
www.optinwireless.com

Ovum
www.ovum.com

Pacific Research Solutions
www.pacres.com

Paul Budde Communication (BuddeComm)
www.budde.com.au

Phenix Holdings
www.phenixhldgs.com

Plexus Research, an R.W. Beck co.
www.plexusresearch.com

Portable Radio Service
www.portable-radio-service.com

PowerPhone
www.powerphone.com

Priority Dispatch
www.prioritydispatch.net

Proven Ways
www.provenways.ca

Public Safety Group
www.publicsafetygroup.com

Radio Engineering Services
www.radioengineering.it

RadioMobile, div. of RF Industries
www.radiomobile.com

RadioResource International
www.RRImag.com

RadioResource Media Group
www.RRMediaGroup.com

RCC Consultants
www.rcc.com

REACT International
www.reactintl.org

Relate Technical Communications
www.relatetech.com.au

Reverse 911
www.reverse911.com

Robot Factory
www.robotfactory.com

Schwaninger & Associates
www.sa-lawyers.net

Select Advantage
www.selectadv.net

Sentor Monitoring Systems and Services
www.sentor.com

The Shosteck Group
www.shosteck.com

Simrex
www.simrex.com

Software Radio Technology (SRT)
www.softwarerad.com

Sola Communications
www.solacomm.com

Sonik Messaging Systems
www.sonik.com

Special Electronics and Designs
www.sed.bz

Staikos Associates Architects/Paragon Engineering
www.staikos.com

Synergon Solutions dba Stancil Solutions
www.synergon.net

Talon PR
www.talonpr.com

Team Simoco
www.teamsimoco.com

Telcordia Technologies
www.telcordia.com

Telecom, Media and Finance Associates
www.tmfassociates.com

Teletec
www.teleteccorporation.com

Teltronics
www.teltronics.com

Tower Innovations
www.towerinnovations.net

TP Radio
www.tpradio.dk

Trott Communications Group
www.trottgroup.com

Unisys
www.unisys.com

V-COMM
www.vcomm-eng.com

Vital Alert Communications
www.vitalalert.com

Winbourne & Costas
www.winbournecostas.com

Wireless Industry Association
www.wirelessindustry.com

WR Block & Associates
www.wrblock.com

Yankee Group
www.yankeegroup.com

Zenitel Belgium
www.zenitel.biz

DISTRIBUTORS

Allcan Electronic Distributors
www.allcan.com

American International Radio
www.airadio.net

BatteryZone
www.batteryzone.com

Beam Radio
www.beamradio.com

Bro-Comm
www.bro-comm.com

Communications West
www.commswest.com

ConnecTel
www.connectel-cz.com

CTB Wireless
www.ctbwireless.com

David Levy
www.dlcparts.com

Daytronik Solutions
www.daytronik.co.za

El Paso Communication Systems (Epcom)
www.epcom.net

Emcom Africa
www.emcom.co.za

Executive Communication Systems
www.psaplogging.com

Exporter
www.radioexport.com

Fercom
www.fercom.hu

Generation PV
www.generationpv.com

Global Communication – Kenwood South Africa
www.globalcomms.co.za

Handheld US
www.handheld-us.com

Holzberg Communications
www.holzberg.com

IHM P/S
www.ihm.as

Koning and Hartman
www.koningenhartman.com

Leavitt Communications
www.leavittcom.com

Marketronics
www.marketronics.com

Memo Communications
www.memo.com.au

Moonblink Communications
www.moonblink.com

NCG Companies
www.cometantenna.com

Network Power Solutions
www.npstelecom.com

Nutel Wireless
www.nutelwireless.com

PageCorp Industries
www.pagecorp.com

ProComm Americas (Savox Communications)
www.procommamericas.com

PSAP Logging
www.psaplogging.com

PV Comunicações S.A. de C.V.
www.pvcomm.com.mx

Radio & Trunking Distributors International

Radio and Trunking Distributors
www.radioandtrunking.com

Radio Comms Warehouse
www.rcw.co.za

Radio Hardware Supplies and PJ International
www.rhsupplies.co.uk

Radiotrans
www.radiotrans.com

RFI Antennas
www.rfi.com.au

Royal Communications International
www.royal-communications.com

Scott Communications
www.getaradio.com

Sistemas y Servicios
www.syscom.com.mx

Smelt Europe
www.smelteurope.nl

Smelt Europe
www.smelteurope.de

Southwest PV Systems
www.southwestpv.com

Talley Communications
www.talleycom.com

TESSCO Technologies
www.tessco.com

Test Equipment Connection
www.testequipment connection.com

Unicom P/L
www.unicompl.com

Universal Tracking Technologies
www.universaltracking.com

USAlert
www.usalertllc.com

VCP International
www.vcpcom.com

Viking Communications
www.viking communications.co.uk

Warehouse Cables
www.warehousecables.com

Web Cam Pro Shop
www.webcamproshop.com

Webb Industries
www.webb.co.za

Wisco International
www.wiscointl.com

WR Block & Associates
www.wrblock.com

Zenitel Belgium
www.zenitel.biz

MANUFACTURERS' REPS

ConnecTel
www.connectel-cz.com

Frontier Communications
www.frontiercomms.com

NetMark Group
www.thenetmarkgroup.com

Network Power Solutions
www.npstelecom.com

Westek Marketing
www.westekmarketing.com

Wisco International
www.wiscointl.com

SuperGUIDE

The Industry's Most Comprehensive Online Resource is Here.

Check it out!

> RRImag.com

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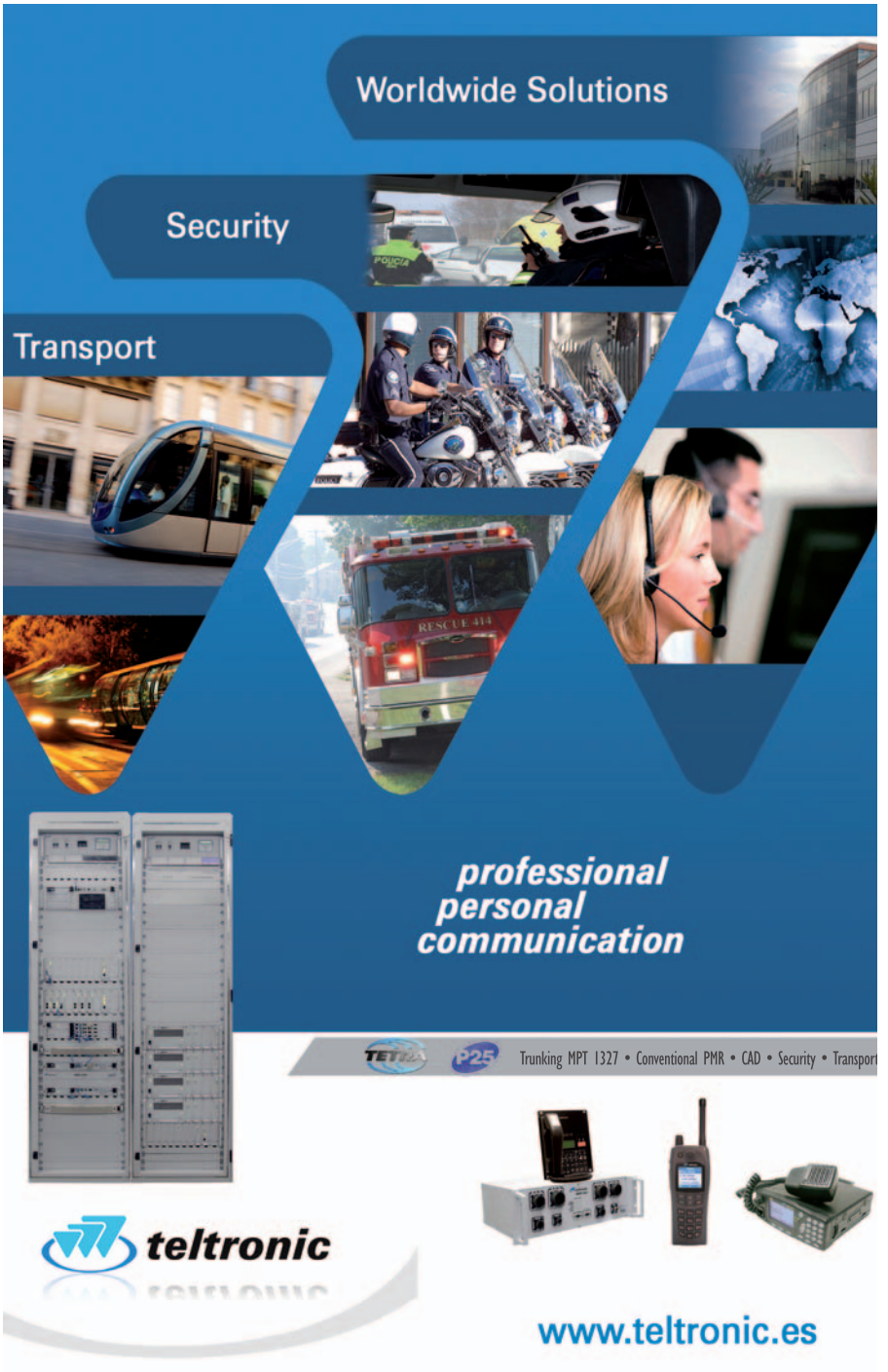
(B=bidirectional, L=line driver, RF=RF power, S=signal boosters, T=tower top)

ADC (T)
Agilent Technologies (B, S)
Albrecht Telecommunications (RF, S)
American Wireless (RF)
Amplifier Technologies (B, RF, S)
Andrew (B, RF)
Anritsu (S)
Antcom (RF)
AR RF/Microwave Instrumentation (RF, S)
Austriamicrosystems (B, RF)
Axell Wireless (B)
Barrett Communications (RF)
Bird Technologies Group (B, S)
Boston Amplifier (B, S)
Broadcast Microwave Services (RF)
Broadcom (RF)
Canam Technology (B, S)
Canamex Communications (RF)
CellAntenna (B, RF, S, T)
Cellular Specialties Inc. (CSI) (B, S)
Center Systems (RF)
CML Microcircuits (RF)
Codan (RF)
Comprod Communications (B, RF, S, T)
Comtech EF Data (B, RF)
Creowave (B, T)
Crescend Technologies (RF)
CT-Video (RF)
Cubic Defense Applications (RF, S)
Datron World Communications (RF)
dbSpectra (B, T)
Dekolink Wireless (B, RF, S)
DX Radio Systems (RF)
EMR (B, RF, S, T)
EMS Technologies (B)
European Telecommunications S.A. (ETSA) (B, RF, S, T)
Fiber-Span (B, S)
Fiplex Communications (B, RF, S, T)
FreeWave Technologies (B, S)
Futurecom Systems Group (B, RF)
GE MDS (RF)
GPS Networking (RF, S)
GPS Source (S)
HauteSpot Networks (B)
HD Communications (B, RF, T)
Holaday EMF Measurement (ETS – Lindgren) (RF)
HyperLink Technologies (B, RF)
I.S.C. Technologies (RF)
JEI Communication Recorders (S)
K&L Microwave (RF)
Kathrein, Scala div. (T)
Lone Star Aviation (RF, S)
L-3 Communications, Narda Microwave-East (S)
McDowell Research, an Ultralife co. (RF)
Microwave Radio Communications (MRC) (RF)
Mimix Broadband (RF, S, T)
Mobat USA (RF)
Mobile Communications (B, S)
Motorola (RF)
Nady Systems (B)
Narda Microwave West (L-3 Communications) (RF)
Narda Safety Test Solutions (RF)
Nello (T)
Ophir RF (B, RF, S, T)
Pasternack Enterprises (RF, T)
Peninsula Engineering Solutions (B, RF, S)
Polar Electronic Industries (B, T)
Powerwave Technologies (RF, S)
Praxsym (B, RF)
Q-MAC Electronics (RF)
Radio Frequency Systems (RFS) (B, T)
RFI Antennas (B, RF, S, T)
RF Micro Devices (RF)
RF Technology (RF)
Richardson Electronics (RF)
Rojone (B, RF, S)
Sigma6 (B, RF, S)
Sinclair Technologies (B, L, RF, S, T)
Skymasts Antennas (B)
SkyPilot Networks (B, RF)
Sonic Communications International (RF)
Sonik Messaging Systems (RF)
Spectra Engineering (RF)
Spectrum Communications (RF)
Spectrum Communications (RF)
Spotwave Wireless (B, S)
Superconductor Technologies Inc. (STI) (B, L, RF, T)
Telewave (T)
Telsate Telecomunicações (B, RF, S)
Tiger Micro-Electronics Institute (B, L, RF, T)
TPL Communications (RF)
Tunnel Radio of America (B, S)
TX RX Systems Bird Technologies Group (B, S, T)
WaveWare Technologies (RF)
Webb Industries (RF, T)
Wilson Electronics (B, RF, S)

ANTENNAS

(B=base station, E=embedded, G=GPS, MW=microwave, M=mobile, P=portable, S=satellite, SA=smart/adaptive, W=wireless and mobile data)

Abell Electronics (MW, M, P, W)
Access Battery, div. of Alpha Source (P)
Accute Micro Electronics (G)
ADC (B, I)
Airaya (B, E, W)
ALK Technologies (G, S, W)
Alvarion (B, W)
Amphenol Antel (B, I)
Amrel/American Reliance (E, G, M, SA, W)
Andrew (B, I, MW, S, SA, W)
Antcom (B, E, G, I, MW, M, P, S, SA, W)
Antenna Factor (B, E, G, P, W)
Antenna Plus (G, I, M, W)
Antenna World (B, E, G, I, MW, M, P, S, W)
ARC Wireless Solutions (B, E, G, I, MW, M, P, SA, W)
AR RF/Microwave Instrumentation (MW)
ArrayComm (SA)
Arrowmax.com/Maxtop Technology (P)
Astron Wireless Technologies (B, E, G, I, MW, M, P, S, SA, W)
Atis Calearo Antenne (B, E, G, I, M, S, SA, W)
Avulan (B, E, G, I, M, W)
Barker and Williamson (B&W) (B, P)
Barrett Communications (B, M, P)
Barrett Europe (B, G, M)
Benelec (B, G, I, M, W)
Berkeley Varitronics Systems (MW)
Bird Technologies Group (B)
BlueRadios (W)
BlueTree Wireless Data (E, G, P, W)
BridgeWave (MW, W)
Broadcast Microwave Services (MW)
CalAmp (B, G, W)
CamLite (P)
Caprock Communications (S)
C-Com Satellite Systems (S)
CellAntenna (B, E, G, I, MW, M, P, SA, W)
Cellular Specialties Inc. (CSI) (I)
Cetacea Sound (B, E, I, MW, M, P, W)
Codan (M)
Collier 2-Way (G)
Commtech Wireless (W)
Comprod Communications (B, G, I, MW, M, S, W)
Comsystems (B, M, P, W)
Comtelco (B, E, G, I, MW, M, P, S, W)
CTE International (B, G, M, P)
CT-Video (MW)
Cubic Defense Applications (M)
Data Burst Technologies (G)
Data-Linc Group (W)
dbSpectra (B, I, W)
DDS Wireless International (G)
DMS Wireless (B, E, I, MW, M, P, S, SA, W)
DTC (MW)
EF Johnson Technologies (M, P, W)
EiKa-Tronic (B, M, P)
Electronics Research Inc. (ERI) (M, W)
Elektronika Naglic (B, M, P)
EMR (B, E, I, M, P)
EMS SATCOM (G, M, S)
EMS Technologies (B)
Encom Wireless Data Solutions (M, P, W)
ESE (G, S)
Ethertronics (E, G, W)
ETS – Lindgren (P, W)



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GN Batteries (G, M, W)
GPS Networking (G)
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Groupe Pathfinder (MW)
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LEDCO-ChargeGuard (W)
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Nortel (W)
Nutel Wireless (MW)
Panorama Antennas (E, G, I, M, P, W)
Paratek Microwave (SA)
Pasternack Enterprises (B, G, I, M, S)
PCTEL (B, G, I, MW, M, P, W)
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Polar Electronic Industries (B, G, I, M, S, W)
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ProStar Batteries (P)
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Psion Teklogix (B, W)
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Radial Firm (B, I, W)
Radio Frequency Systems (RFS) (B, I, MW)
Radio Hardware Supplies and PJ International (P)
Radio Waves (MW)
Ramsey Electronics (P)
Raveon Technologies (G)
Raymar-Telenetics (MW, W)
Renair Antennae (B, G, M, P, S, W)
RFI Antennas (B, E, G, I, M, W)
Richardson Electronics (B, E, G, S)
Rojone (B, E, G, I, MW, M, P, S, SA, W)
Ross Associates/Covert Systems (MW)
Samco Antennas (B, S, W)
Sam Woo Electronics (B, M)
Sedgewall Communications Group (B)
Selex Communications – Prod-El SPA (B)
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Skymasts Antennas (B, G, I, MW, M, W)
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Telsate Telecomunicações (B, G, I, MW, M, P, W)
Thales Communications (P)
TP Radio (E, G, M)
TracStar Systems (S)
Trimble (G)
Tropos Networks (M, W)
Trylon TSF (MW)
Tunnel Radio of America (B, I)
TX RX Systems Bird Technologies Group (B)
Tyco Electronics Wireless Systems (P)
Unimo Technology (G, P)
ValuePoint Networks (W)
Wade Antenna/Taco Antennas (B, I, W)
WaveWare Technologies (I)
Webb Industries (B, G, I, MW, M, P, W)
WEH Manufacturing (M)
Westica Communications (MW)
WhereNet (W)
Wilson Electronics (I, W)
Winradio Communications (B, G, MW, M, P)
Xi'an Haitian Antenna Technologies (B, I, W)
Z Technology (B, G, M, P)

BASE STATIONS/ REPEATERS

(I=in-building, M=mobile radio, P=paging)

Airaya (I, M)
Airspan Networks (M)
Alligator Communications (M)
Amplifier Technologies (M)
Andrew (I)
ARC Wireless Solutions (M)
Ascom (P)
Avcomm International (M)
Avulan (I)
Axell Wireless (I, M)
Barrett Communications (M)
Benelec (M)
BlueRadios (M)
BridgeCom Systems (I, M)
CalAmp (M)
Canamex Communications (P)
Canam Technology (I)
CellAntenna (M)
Cellular Specialties Inc. (CSI) (I, P)
Center Systems (I, M, P)
Codan (M)
Comsystems (I, M)
Comtech EF Data (I)
CPI Communications (M)
Creowave (I)
Damm Cellular Systems (I, M)
Daniels Electronics (M, P)
dbSpectra (I)
DDB Unlimited (M)
DDS Wireless International (M)
Dekolink Wireless (M)
DMS Wireless (I, M)
DTC (M)
DX Radio Systems (M)
EADS Secure Networks (M)
Earmark (M)
EF Johnson Technologies (M)
EiKa-Tronic (M)
Elektronika Naglic (I, M)
EMR (I, P)
Encom Wireless Data Solutions (I, M)
Etherstack (M)
European Telecommunications S.A. (ETSA) (I, M)
Fiplex Communications (I)
Futurecom Systems Group (I, M)
GCD Systeme (M)
GE MDS (M)
Hwasin Uni-technology (M)
Icom America (M)
I.D. Systems (M)
IHM P/S (M, P)
Imark Communications (M)
InfoRad Wireless (P)
Innovative Circuit Technology (ICT) (M)
Intuicom (M)
IPMobileNet (M)
I.S.C. Technologies (P)
Jaybeam Wireless (I, M)
K&L Microwave (M)
Kenwood Communications (I, M)
Kenwood Japan (M)
Lyrtech (M)
Magnetek (I)
Maxon CIC (M)
McDowell Research, an Ultralife co. (M)
Midian Electronics (M, P)
Midland Radio (I, M)
Mobat USA (M)
Motorola (M)
Niros Communications (M)
Nortel (I)
Pacific Crest (I, M)
Peninsula Engineering Solutions (M)
Polycom (I)
Proxim Wireless Networks (I)
Radio Frequency Systems (RFS) (M)
Radio Systems Technologies (I, M)
Rohde & Schwarz PMR (I, M)
Ranger Communications (I)
Relm Wireless (I, M)
Renair Antennae (I, M)
RF DataTech (P)
RFI Antennas (I, M, P)
RF Technology (M, P)
Ritron (I, M)
Rohill Engineering (M)
Sedgewall Communications Group (M, P)
Selex Communications – Prod-El SPA (I, M)
Sinclair Technologies (I, M, P)
Sonik Messaging Systems (P)
South Midlands Communications (M)
Spectra Engineering (I, M, P)
Spectrum Communications (M, P)
Spectrum Communications (M)
Speedcom Communications (M)
Spotwave Wireless (I)
SR Telecom (M)
ST Electronics (Info-Comm Systems) (I)
Strix Systems (I, M)
Swissphone Telecom (P)
Tait Electronics (M)
Team Simoco (M)
TecNet International (M)
Tekk (M, P)
Telsate Telecomunicações (I, M)
Teltronic S.A. Unipersonal (M)
Thales Communications (M)
TP Radio (M, P)
Trimax Wireless (M)
Tunnel Radio of America (I)
Tyco Electronics Wireless Systems (M)
USAlert (I)
Vertex Standard (M)
Vertex Standard/Yaesu UK (M)
WaveWare Technologies (P)
Westel RF Technology (M)
WiPath Communications (P)
Wireless Pacific (M)

BATTERY EQUIPMENT

(Portable Radio)

Analyzers/Conditioners

Access Battery, div. of Alpha Source
Advanced Charger Technology
AdvanceTec Industries
Agilent Technologies
Alexander Technologies
Antcom
Astratec Electronics International
Axtech Batteries
BatteryZone
Cadex Electronics
Cut-Rate Batteries
DC Power Solutions
EiKa-Tronic
ExoComm Technology Group/ExoCel Batteries
GN Batteries
Harris RF Communications
Honeywell Batteries/Global Technology Systems
iTech – Intelligent Technologies
Kendoo Technology
Maha Energy
Marathon Norco Aerospace, Christie div.
McDowell Research, an Ultralife co.
Midtronics
Motorola
Niros Communications
North American Battery Co. (NABC)
Panelectron
Priam Technologies
Radio Hardware Supplies and PJ International
RFI Antennas
Team Simoco
TP Radio
Ultralife Batteries
Uniross Batteries
Valesco Battery Support Systems
W&W Manufacturing

Batteries

Abell Electronics
Access Battery, div. of Alpha Source
Alexander Technologies
Alpha Industrial Power
Aria Industrial
Arrowmax.com/Maxtop Technology
Axtech Batteries
Bao Tong USA dba Tysonic Batteries
Barrett Europe
BatteryJack
BatteryZone
Benelec
Bomar Crystal
Cut-Rate Batteries
DC Power Solutions
EF Johnson Technologies
EiKa-Tronic
Emerging Power
ExoComm Technology Group/ExoCel Batteries
GN Batteries
Honeywell Batteries/Global Technology Systems
Hwasin Uni-technology
Imark Communications
Infinity Gear and Technology
Jadoo Power
Kendoo Technology
Kenwood Communications
Kenwood Japan
Klong Electronics
Macleod International
Maha Energy
Maxon CIC
McDowell Research, an Ultralife co.
Merry Electronics (USA)
Midland Radio
Mobile Expertise
Motorola
Multiplier Industries
Niros Communications
North American Battery Co. (NABC)
Polaris USA Radio
Power Products
Priam Technologies
ProStar Batteries
Radio Hardware Supplies and PJ International
Relm Wireless
RFI Antennas
SmartComm USA
Sonic Communications International
Spectrum Communications
Speedcom Communications
Tait Electronics
Team Simoco
TecNet International
Telsate Telecomunicações
Thales Communications
TP Radio
Tyco Electronics Wireless Systems
Ultralife Batteries
Unimo Technology
Uniross Batteries
Valesco Battery Support Systems
Varta Microbattery
Vertex Standard/Yaesu UK
W&W Manufacturing
Wireless Pacific

Battery Chargers

Abell Electronics
Access Battery, div. of Alpha Source
Advanced Charger Technology
AdvanceTec Industries
Alexander Technologies
Alpha Industrial Power
Analytic Systems
Aria Industrial
Arrowmax.com/Maxtop Technology
Astratec Electronics International
Astron
Austriamicrosystems
Axtech Batteries
Barrett Europe
BatteryJack
BatteryZone
Benelec
Cadex Electronics
C-Can Power Systems Canada
CeoTronics
Cut-Rate Batteries
DC Power Solutions
EF Johnson Technologies
EiKa-Tronic
ExoComm Technology Group/ExoCel Batteries
GN Batteries
Harris RF Communications
Honeywell Batteries/Global Technology Systems
Hwasin Uni-technology
IdaTech
Imark Communications
Impact Radio Accessories
Infinity Gear and Technology
Innovative Circuit Technology (ICT)
iTech – Intelligent Technologies
Jadoo Power
Kendoo Technology
Kenwood Japan
Klein Electronics
Lind Electronics
Lone Star Aviation
Macleod International
Maha Energy
Marathon Norco Aerospace, Christie div.
Maxon CIC
McDowell Research, an Ultralife co.
Midland Radio
Midtronics
Mobile Expertise
Motorola
Multiplier Industries
Niros Communications
North American Battery Co. (NABC)
Panelectron

Power Products
Priam Technologies
ProStar Batteries
Radio Hardware Supplies and PJ International
RFI Antennas
Samlex America
SL Power Electronics
SmartComm USA
Spectrum Communications
Speedcom Communications
Team Simoco
TecNet International
Telsate Telecomunicações
Thales Communications
TP Radio
Tyco Electronics Wireless Systems
Ultralife Batteries
Unimo Technology
Valesco Battery Support Systems
W&W Manufacturing
Wireless Pacific
Xantrex Technology

CRYSTALS/CHANNEL ELEMENTS
Bomar Crystal
Frequency Management International
PageCorp Industries

DISPATCH EQUIPMENT
Automatic Call Distributor (ACD)
Avaya
CriSys
Infomatrix
Motorola
Nortel
Positron Public Safety Systems, an IPC co.
Sigtec
ST Electronics (Info-Comm Systems)
Telargo
Teltronics
TP Radio
Zetron

Dispatch Furniture
AFC Industries
American Wireless
Center Systems
Concept Seating
EADS Secure Networks
Ergotron
Evans Consoles
Innovant
Middle Atlantic Products
Motorola
NLnovalink
South Midlands Communications
Watson Dispatch
Winsted
Work Space Outfitters
Wright Line
Zetron

Graphics-Imaging Equipment
C4i
Matrox Graphics
Raveon Technologies

Interconnect
American Wireless
Artevea Digital
Avcomm International
CES Wireless
C4i
Communications-Applied Technology
Compuquest
Connect Systems
DX Radio Systems
Elma Electronics
Engage Communication
GAI-Tronics
Infomatrix
Intrado
Lyrtech
Midian Electronics
MoniVox - Control Service
Motorola
Omnitronics
Pacific Research Solutions
Pantel International
Penta
Selex Communications – Prod-El SPA
ST Electronics (Info-Comm Systems)
Strix Systems
TP Radio
VoiceInterop
Zetron
Zonith

Radio Consoles
Albrecht Telecommunications
American Wireless
Artevea Digital
Avcomm International
Avtec
Catalyst Communications Technologies
Communication Plus
CPI Communications
Etherstack
GAI-Tronics
IDA
IHM P/S
Infomatrix
IPC
Jotto Desk
Mentor Engineering
Microvoice
Midian Electronics
MoniVox - Control Service
Motorola
New Communications Solutions (NCS)
Omnitronics
Pantel International
Peiker Acustic
Penta
Positron Public Safety Systems, an IPC co.
Samdale
South Midlands Communications
ST Electronics (Info-Comm Systems)
Team Simoco
TechMer
Telex Dispatch
Telsate Telecomunicações
TP Radio
Tyco Electronics Wireless Systems
Unimo Technology
Zetron

Turnkey Systems (business/industry)
Amrel/American Reliance
Artevea Digital
BridgeCom Systems
Cellxion, div. of Sabre Industries
C4i
Compuquest
DDS Wireless International
DX Radio Systems
EADS Secure Networks
Frequentis
GlenMartin
IHM P/S
Infomatrix
InterAct Public Safety Systems
Intergraph
IPC
Lyrtech
McDowell Research, an Ultralife co.
Motorola
Nortel
Omnitronics
Pacific Research Solutions
Penchant Software
Penta
Positron Public Safety Systems, an IPC co.
Rohde & Schwarz PMR
Raytheon JPS Communications
Rescom Sales
Reverse 911
Samdale
Selex Communications – Prod-El SPA
Sigtec
Simrex
Sinclair Technologies
SolaCom Technologies
Sonik Messaging Systems
Special Electronics and Designs
ST Electronics (Info-Comm Systems)
Swissphone Telecom
Tait Electronics
TechMer
Tel Control Inc. (TCI)
Telargo
Telex Dispatch
TP Radio
Trilogy USA
USAlert
Vasona Technology
WaveWare Technologies
Zetron

Voice Logging Recorders
Accurate Always
ASC Telecom
Center Systems
CML Microcircuits
CriSys
CTE International
CVDS
CyberTech
Dees Communications
Digital Acoustics
Digital Loggers Inc. (DLI)
Dynamic Instruments
Etherstack
Eventide
Exacom
Frequentis
Global EPoint
HigherGround
IPC
JEI Communication Recorders
Magnasync
Microvoice
MoniVox - Control Service
Motorola
Multisuns
Nice Systems
Omnicron Electronics
OrecX
Pantel International

Product Category Index

Positron Public Safety Systems, an IPC co.
Racom Products
Recollect Recording
Record/Play Tek (RPT)
Red Box Recorders
Signal Intelligence
South Midlands Communications
Stancil
ST Electronics (Info-Comm Systems)
Synergon Solutions dba Stancil Solutions
TechMer
Telex Dispatch
Telsate Telecomunicações
Verint Systems
Versadial Solutions
Vidicode Datacommunicatie
Voice Print International (VPI)
Winradio Communications

DISTRIBUTORS/REPS

(See Distributors/Reps Index, Page 27)

ENCRYPTION/SCRAMBLING

Albrecht Telecommunications
Amrel/American Reliance
BlueRadios
Certicom
Cimarron Technologies
Codan
Communications Specialists
Comsystems
Cromack Industries
CT-Video
Encore Networks
Engage Communication
Etherstack
Global EPoint
Global Technologies Group Inc. (GTGI)
Harris RF Communications
HV Sistemas
ImageWare Systems
Imark Communications
Infomatrix
InfoRad Wireless
Kantronics
Kavit Electronics Industries
Lyrtech
Maxon CIC
Midian Electronics
Mobat USA
Niros Communications
NorComm
Nortel
Penchant Software
Q-MAC Electronics
Radio IP Software
South Midlands Communications
Team Simoco
Tekk
Telsate Telecomunicações
Teltronic S.A. Unipersonal
Thales Communications
TP Radio
Transcrypt International
Vertex Standard/Yaesu UK
Westel RF Technology

INDUSTRY SERVICES

(See Industry Services Indices, Pages 26-27)

LOCATION SYSTEMS EQUIPMENT

ANI/ALI

Archetype – TerraTrace
Benelec
BullBerry Systems
CES Wireless
Cimarron Technologies
Cobham Tracking and Locating
Control Signal
Exacom
HV Sistemas
InterAct Public Safety Systems
Intergraph
Intrado
IPC
Location Technologies
Midian Electronics
Motorola
Nicollet Technologies
Penta
Positron Public Safety Systems, an IPC co.
Raveon Technologies
South Midlands Communications
ST Electronics (Info-Comm Systems)
Syscan International
Telargo
Tel Control Inc. (TCI)
TeleCommunication Systems (TCS)
Telsate Telecomunicações
Teltronics
TP Radio
TruePosition
Zetron

Asset Tracking/RFID

Amrel/American Reliance
Archetype – TerraTrace
Ascom
Astron Wireless Technologies
Benelec
CES Wireless
Comm-Net 2000 Manufacturing
Computer Resources
Data Burst Technologies
Helicomm
I.D. Systems
InStock Wireless Components
Nortel
Panorama Antennas
Raveon Technologies
Sigtec
Skymasts Antennas
SkyWave Mobile Communications
Solomon Technology Solutions
Syscan International
Telargo
Tracker Radio
Trimax Wireless
Tunnel Radio of America

AVL/GPS

(A=AVL, G=GPS)

AC/DC Industries (G)
Aeris Communications (G)
AirIQ (G)
ALK Technologies (G)
Amrel/American Reliance (G)
Andrew (G)
Antcom (G)
Antenna Plus (A, G)
APD Communications (A, G)
Aplicom (A)
Archetype – TerraTrace (A, G)
ARC Wireless Solutions (G)
Artevea Digital (A)
Astron Wireless Technologies (A, G)
Benelec (A, G)
BlueTree Wireless Data (A, G)
Bradshaw Consulting Services (BCS) (A, G)
Broadcom (G)
BullBerry Systems (A, G)
CalAmp (A, G)
CellAntenna (G)
Center Systems (A)
CES Wireless (A, G)
CML Microcircuits (G)
Cobham Tracking and Locating (A, G)
Codan (A)
Comm-Net 2000 Manufacturing (A, G)
Communication Plus (A, G)
CompassCom Software (A)
Computer Resources (G)
CTE International (G)
Data Burst Technologies (A, G)
Data911 Mobile Computer Systems (A)
DDS Wireless International (A, G)
Dinet/Wireless Data Solutions (G)
DX Radio Systems (G)
EMS SATCOM (A, G)
Fortek Computers (G)
Furuno USA (G)
Fylde Micro Systems (A, G)
Garmin (G)
GCD Systeme (A, G)
GE MDS (A, G)
GPS Networking (G)
GPS Source (A, G)
Hemisphere GPS (A, G)
HV Sistemas (A, G)
IDA (A, G)
I.D. Systems (G)
IHM P/S (A, G)
Imark Communications (A)
Infinity Gear and Technology (G)
Infomatrix (A, G)
In Motion Technology (G)
InStock Wireless Components (G)
Integrated Tracking Solutions (A, G)
InterAct Public Safety Systems (G)
Intergraph (A)
Intuicom (A, G)
IPMobileNet (G)
Kantronics (A, G)
Kenwood Communications (A, G)
Kenwood Japan (A, G)
LEDCO-ChargeGuard (G)
LocatioNet Systems (G)
Location Technologies (A, G)
Locus Location Systems (A, G)
Logistic Systems (A, G)
Lone Star Aviation (G)
Manning Navcomp (A)
Maxon CIC (A, G)
Mentor Engineering (A, G)
Midland Radio (A)
Mobat USA (A, G)
Mobile Expertise (G)
Motorola (A)
Motorola Public Safety Solutions div. (A, G)
NavCom Technology (G)
NeoTerra Systems (A, G)
Niros Communications (G)
Nortel (A)
Ortivus (A)
Pacific Crest (G)
Pacific Research Solutions (A)
Panorama Antennas (G)
Pantel International (A)
Penchant Software (A, G)
Pendulum Instruments (G)
Positron Public Safety Systems, an IPC co. (A, G)
Pryme Radio Products (A, G)
QSI (A)
Radio IP Software (G)
RadioMobile, div. of RF Industries (A, G)
Rohde & Schwarz PMR (A)
Raveon Technologies (A, G)
RFI Antennas (A, G)
RF Micro Devices (G)
Rojone (A, G)
SCI Distribution (A, G)
Selex Communications – Prod-El SPA (A, G)
Sierra Wireless (A, G)
Signal Intelligence (G)
Sigtec (A, G)
Simrex (A, G)
Skymasts Antennas (A, G)
SkyWave Mobile Communications (A, G)
SmarTrunk Systems (A)
Solomon Technology Solutions (A, G)
South Midlands Communications (A, G)
Spectrum Instruments (G)
ST Electronics (Info-Comm Systems) (A, G)
Synergy Systems (G)
Tait Electronics (A, G)
Team Simoco (A)
TechnoCom (A, G)
TecNet International (A, G)
Telargo (A, G)
Telsate Telecomunicações (G)
Teltronics (G)
Teltronic S.A. Unipersonal (A, G)
Terrafix (A, G)
Thales Communications (G)
308 Systems (G)
TP Radio (A, G)
TransCore (G)
Trimble (A, G)
TriTech Software Systems (A, G)
TruePosition (A, G)
Webb Industries (G)
Wherify Wireless (G)
Winradio Communications (G)
WiPath Communications (A, G)

Modems/Transmitters

Antenna Factor
Antenna Plus
Archetype – TerraTrace
Austriamicrosystems
BlueRadios
BlueTree Wireless Data
CalAmp
CES Wireless
CML Microcircuits
Cobham Tracking and Locating
Comm-Net 2000 Manufacturing
Compuquest
Data Burst Technologies
DTC
Elektronika Naglic
EMS SATCOM
FreeWave Technologies
GCD Systeme
GE MDS
GPS Source
HAL Communications
Hemisphere GPS
HV Sistemas
IDA
I.D. Systems
Impact Radio Accessories
Intuicom
I.S.C. Technologies
Kantronics
Kenwood Japan
Location Technologies
L-3 Communications Nova Engineering
Maxon CIC
Mentor Engineering
Microwave Radio Communications (MRC)
Midian Electronics
Midland Radio
Mobile Expertise
Pacific Crest
Positron Public Safety Systems, an IPC co.
RAD Data Communications
Radiocrafts
RadioMobile, div. of RF Industries
Raveon Technologies
RFM
Ritron
Sierra Wireless
Sigtec
Simrex
Solomon Technology Solutions
Spectra Engineering
Strix Systems
TecNet International
Tekk
Telargo
Telsate Telecomunicações
Teltronic S.A. Unipersonal
TP Radio
Trident Micro Systems

MOBILE COMPUTING DEVICES

Handheld/Tablet Computers

ALK Technologies
APD Communications
Austriamicrosystems
Comsystems
CriSys
Data Burst Technologies
DRS Tactical Systems
General Dynamics Itronix
GN Batteries
IHM P/S
Interactive Products
Itronix
JLT Mobile Computers
LXE
Mentor Engineering
Microbus
Motorola
Panasonic Computer Solutions
Paxar
Penchant Software
QSI
Radix
Sigtec
Terrafix
TXcom
Xplore Technologies

MDTs

ALK Technologies
Amrel/American Reliance
APD Communications
Aplicom
Center Systems
CES Wireless
Comm-Net 2000 Manufacturing
CriSys
Critical Response Systems
CTE International
Data Burst Technologies
Datalux
Data911 Mobile Computer Systems
DDS Wireless International
Dinet/Wireless Data Solutions
DX Radio Systems
Hark Systems
Hitech Systems
IDA
I.D. Systems
JLT Mobile Computers
Kenwood Communications
Location Technologies
Logistic Systems
LXE
Manning Navcomp
Mentor Engineering
Microbus
Motorola
Motorola Public Safety Solutions div.
Northrop Grumman
Positron Public Safety Systems, an IPC co.
QSI
RadioMobile, div. of RF Industries
Sigtec
SkyWave Mobile Communications
Terrafix
TP Radio
Trimble
Tunnel Radio of America
USAlert
WiPath Communications
Xplore Technologies
Zetron

PDAs/Bricks/Radios

ALK Technologies
APD Communications
Austriamicrosystems
BlueRadios
CML Microcircuits
CriSys
Critical Response Systems
DX Radio Systems
Fylde Micro Systems
General Dynamics Itronix
GN Batteries
Hark Systems
Hwasin Uni-technology
Interactive Products
Location Technologies
LXE
Motorola
Panasonic Computer Solutions
Paxar
Penchant Software
Research In Motion (RIM)
Rugged Notebooks
Sigtec
Solomon Technology Solutions
Teltronic S.A. Unipersonal
Terrafix
Thales Communications
TP Radio
TXcom
USAlert
Zetron

MOBILE-DATA SYSTEMS EQUIPMENT

Mesh Networks

Airaya
Airspan Networks
BridgeWave
Carlson Wireless Technologies (CWT)
CelPlan Technologies
Cetacea Sound
C4i
ClearMesh Networks
Comtech EF Data
Data-Linc Group
DMS Wireless
Elektronika Naglic
Elma Electronics
Encom Wireless Data Solutions
Federal Signal
Firetide
Flash Technology, SPX div.
Global Mesh Technologies (GMT)
HauteSpot Networks
Helicomm
I.D. Systems
InfiNet Wireless
IPMobileNet
L-3 Communications Nova Engineering
MeteorComm Wireless Communications

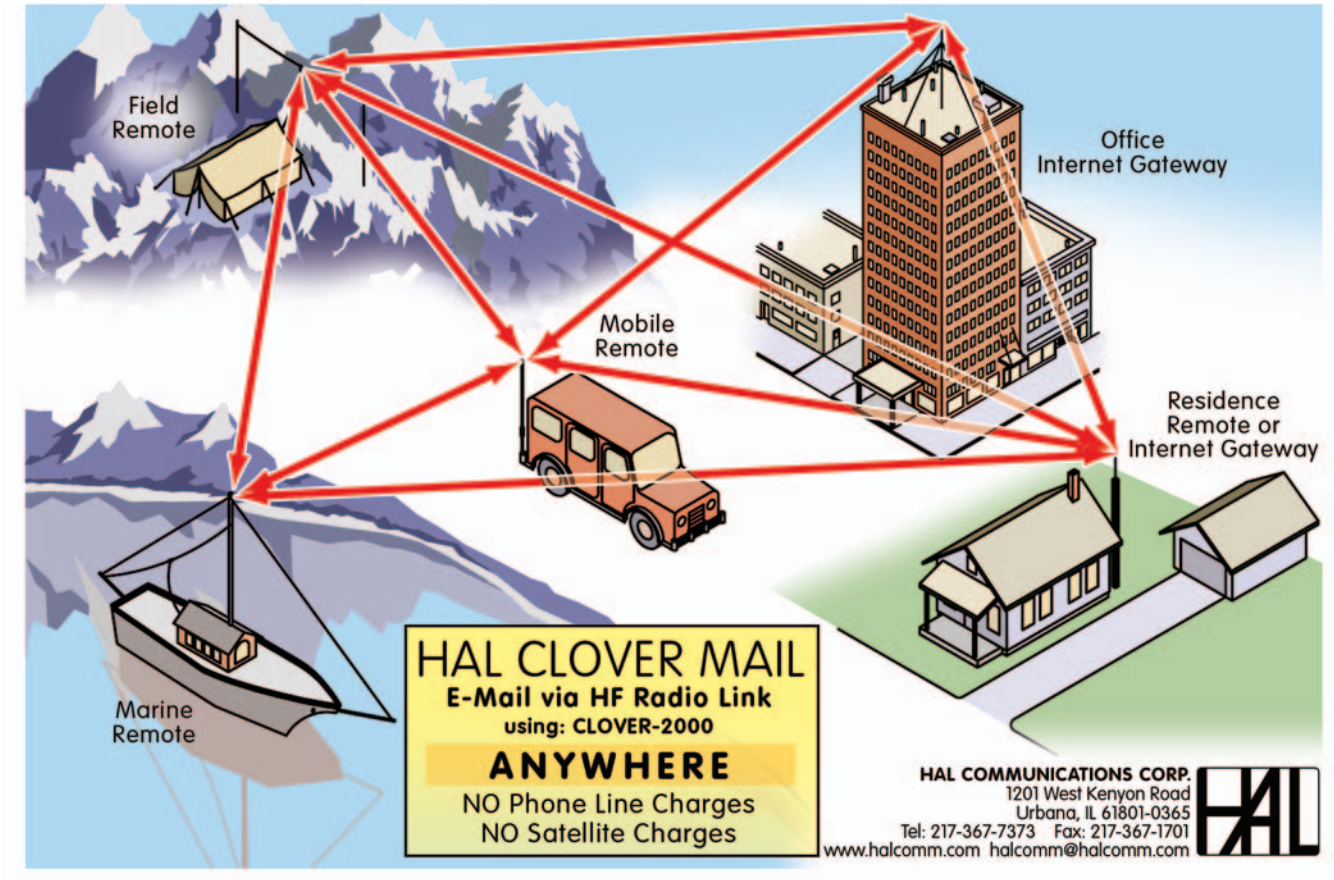
Motorola
Motorola Mesh Network Product Group
Nortel
Proxim Wireless Networks
Radio IP Software
Radiocrafts
Rohde & Schwarz PMR
RFI Antennas
Selex Communications – Prod-El SPA
SkyPilot Networks
Solectek
Solomon Technology Solutions
ST Electronics (Info-Comm Systems)
Strix Systems
TracStar Systems
Transcrypt International
Trident Micro Systems
Trimax Wireless
ValuePoint Networks
Vecima Networks
Westica Communications

Packet-Radio Systems
Applied Signal Technology
ArrayComm
BlueRadios
CalAmp
CES Wireless
C4i
CML Microcircuits
Cobham Tracking and Locating
CTE International
Data Burst Technologies
Elektronika Naglic
Elma Electronics
EMS SATCOM
Etherstack
4RF Communications
GE MDS
HM-Funktechnik
HV Sistemas
I.D. Systems
Intuicom
IPMobileNet
Kantronics
Location Technologies
L-3 Communications Nova Engineering
Maxon CIC
Microvoice
MiMOMax Wireless
Mobile Expertise
Motorola
Nortel
Omnex Control Systems
Radio IP Software
RadioMobile, div. of RF Industries
Raveon Technologies
RF DataTech
RF Neulink, div. of RF Industries
Simrex
Solomon Technology Solutions
TecNet International
Tekk
Telepoint
Telsate Telecomunicações
Teltronic S.A. Unipersonal
TP Radio
Tyco Electronics Wireless Systems
Winradio Communications
WiPath Communications

Repeaters/Bridges
Airaya
Alligator Communications
Amplifier Technologies
Andrew
Avulan
BlueRadios
CalAmp
Carrier Access
CellAntenna
CelPlan Technologies
Cetacea Sound
Coastcom
Comm-Net 2000 Manufacturing
Data-Linc Group
DX Radio Systems
EF Johnson Technologies
Elektronika Naglic
Encom Wireless Data Solutions
Etherstack
Futurecom Systems Group
GE MDS
GPS Networking
GPS Source
Harris RF Communications
HV Sistemas
InfiNet Wireless
Location Technologies
L-3 Communications Nova Engineering
M.B. International
McDowell Research, an Ultralife co.
Midian Electronics
MiMOMax Wireless
Motorola
Nera
Pacific Research Solutions
Penta
Polaris USA Radio
Proxim Wireless Networks
RAD Data Communications
Raveon Technologies
RF Neulink, div. of RF Industries
RF Technology
Ritron
Satel
Simrex
Solectek
Solomon Technology Solutions
South Midlands Communications
Spectra Engineering
Telepoint
Telsate Telecomunicações
Teltronic Unipersonal
TP Radio
Tyco Electronics Wireless Systems
Unimo Technology
ValuePoint Networks
Zetron

Wireless Broadband
Airaya
Airspan Networks
Amrel/American Reliance
ARC Wireless Solutions
Astron Wireless Technologies
Avulan
BlueTree Wireless Data
BridgeWave
CalAmp
Carlson Wireless Technologies (CWT)
CelPlan Technologies
Cetacea Sound
C4i
ClearMesh Networks
Coastcom
Cohda Wireless
Comtech EF Data
Conxx
Data-Linc Group
DMS Wireless
EMS SATCOM
Encom Wireless Data Solutions
Encore Networks
Engage Communication
Exalt Communications
Firetide
Flash Technology, SPX div.
4RF Communications
GE MDS
Groupe Pathfinder
HauteSpot Networks
HD Communications
Hughes Network Systems
InfiNet Wireless
Intuicom
Mentor Engineering
MiMOMax Wireless
Motorola
MotoSAT
Nera
Nortel
Penchant Software
Proxicast
Proxim Wireless Networks
RAD Data Communications
Radio IP Software
Selex Communications – Prod-El SPA
Sierra Wireless
SkyPilot Networks
Solectek
Solomon Technology Solutions
Strix Systems
TracStar Systems
Trango Systems
Trimax Wireless
Tyco Electronics Wireless Systems
ValuePoint Networks
Vecima Networks
Westica Communications

Wireless LANs
Agilent Technologies
Airspan Networks
Amrel/American Reliance
ARC Wireless Solutions
Astron Wireless Technologies
Avulan
Berkeley Varitronics Systems
BlueRadios
CalAmp
CellAntenna
CelPlan Technologies
Cetacea Sound
Cisco Systems
Cohda Wireless
CommScope
Conxx
Data-Linc Group
DMS Wireless
Encom Wireless Data Solutions
Firetide
4RF Communications
GE MDS
Global EPoint
Groupe Pathfinder
HauteSpot Networks
HD Communications
HM-Funktechnik
HyperLink Technologies
Icom America



Product Category Index

In Motion Technology
Kaltman Creations
KVH Industries
Location Technologies
L-3 Communications Nova Engineering
LXE
Motorola
Motorola Mesh Network Product Group
NavCom Technology
Nortel
Northrop Grumman
Panorama Antennas
Paxar
Penchant Software
Proxim Wireless Networks
Radio IP Software
RadioMobile, div. of RF Industries
RF Micro Devices
Solectek
South Midlands Communications
Strix Systems
Telepoint
Telsate Telecomunicações
308 Systems
TP Radio
TracStar Systems
Transcrypt International
Trimax Wireless
Tropos Networks
TXcom
ValuePoint Networks
VeriWave
WhereNet

Wireless Modems
Agilent Technologies
Airbiquity
Albrecht Telecommunications
Alligator Communications
Avulan
BlueRadios
BlueTree Wireless Data
CalAmp
Cellular Specialties Inc. (CSI)
CelPlan Technologies
CES Wireless
Cetacea Sound
CML Microcircuits
Cobham Tracking and Locating
Codan
Cohda Wireless
Data Burst Technologies
Data-Linc Group
Datron World Communications
DDS Wireless International
DragonWave
DTC
Encom Wireless Data Solutions
ESTeem Wireless Modems
Etherstack
Flash Technology, SPX div.
FreeWave Technologies
GCD Systeme
GE MDS
HAL Communications
Hark Systems
Hemisphere GPS
HM-Funktechnik
HV Sistemas
Intuicom
IPMobileNet
Kantronics
Lexycom Technologies
Location Technologies
L-3 Communications Nova Engineering
Manning Navcomp
Maxon CIC
Mentor Engineering
Midian Electronics
Mobile Expertise
Motorola
Motorola Mesh Network Product Group
Paxar
Proxicast
Radiocrafts
Radio IP Software
Research In Motion (RIM)
RF DataTech
RF Neulink, div. of RF Industries
Ritron
Satel
SCI Distribution
Sierra Wireless
Simrex
SkyWave Mobile Communications
Solomon Technology Solutions
Strix Systems
TechnoCom
TecNet International
Telsate Telecomunicações
308 Systems
TP Radio
TransCore
Tunnel Radio of America
Vecima Networks
Wavecom

PAGING/MESSAGING EQUIPMENT

Pager Receivers
Alertus Notification Beacons
Ascom
ATI Wireless
Canamex Communications
CML Microcircuits
Commtech Wireless
Critical Response Systems
Digital Paging Co./Golden Sab Inc. (DPC/GSI)
DX Radio Systems
I.S.C. Technologies
Motorola
Niros Communications
RF DataTech
SCA
Sedgewall Communications Group
Sonik Messaging Systems
Swissphone Telecom
Tribute 911 Pager
Unimo Technology
USAlert
Veetronix
WaveWare Technologies
Winradio Communications
WiPath Communications

Transmitters/RF Controllers
Antenna Factor
Ascom
ATI Wireless
Berkeley Varitronics Systems
Canamex Communications
Center Systems
CML Microcircuits
Commtech Wireless
Connect Systems
Daniels Electronics
Digital Paging Co./Golden Sab Inc. (DPC/GSI)
DX Radio Systems
Etherstack
IHM P/S
InfoRad Wireless
I.S.C. Technologies
Midian Electronics
Motorola
Nady Systems
NHRC Repeater Controllers
OTEK
Pacific Research Solutions
Penta
Psion Teklogix
Radiocrafts
Radio Systems Technologies
Remote Control Technology
RF DataTech
RFI Antennas
RF Neulink, div. of RF Industries
RF Technology
Ritron
Sedgewall Communications Group
Sonik Messaging Systems
Spectra Engineering
Spectrum Communications
Spectrum Communications
Swissphone Telecom
Tait Electronics
Tekk
Telepoint
TP Radio
WaveWare Technologies
WiPath Communications
Zetron

Two-Way Messaging Devices
Alertus Notification Beacons
Ascom
Center Systems
Cimarron Technologies
CML Microcircuits
Compuquest
Critical Response Systems
CTE International
Digital Acoustics
DX Radio Systems
EADS Secure Networks
EMS SATCOM
Helicomm
I.D. Systems
I.S.C. Technologies
Leathersmith
Location Technologies
Manning Navcomp
Mentor Engineering
Mobat USA
Motorola
NHRC Repeater Controllers
Radiocrafts
Rohde & Schwarz PMR
Sedgewall Communications Group
SkyWave Mobile Communications
Sonik Messaging Systems
Swissphone Telecom
Synergy Systems
Telargo
Terrafix
TP Radio
TransCore
Tunnel Radio of America
Unimo Technology
WiPath Communications

Voice Storage/ Retrieval Systems
Accurate Always
Cistera
CML Microcircuits
Commtech Wireless
CVDS
Digital Acoustics
DX Radio Systems
Dynamic Instruments
Etherstack
Exacom
Hark Systems
I.S.C. Technologies
Link Communications
Location Technologies
Motorola
Multisuns
NHRC Repeater Controllers
Nortel
Omnicron Electronics
Record/Play Tek (RPT)
Rohill Engineering
Sedgewall Communications Group
Sonik Messaging Systems
Stancil
Tribute 911 Pager
Vidicode Datacommunicatie
Winradio Communications

POWER SUPPLIES/ EQUIPMENT

Backup Systems
Absopulse Electronics
Active Power
Alpha Industrial Power
Argus Technologies
Astrodyne
Benelec
C&D Technologies
Carmanah Technologies
Carrier Access
C-Can Power Systems Canada
Compuquest
Dataprobe
DC Power Solutions
DDB Unlimited
DuraComm
DX Radio Systems
Eaton
Eaton Powerware – Pulizzi Products
Emerson Network Power
Exeltech
Generation PV
GFRC Shelters
GN Batteries
IdaTech
Imark Communications
Innovative Circuit Technology (ICT)
Jadoo Power
Lone Star Aviation
Magnetek
McDowell Research, an Ultralife co.
Motorola
Newmar
Peninsula Engineering Solutions
Pioneer Energy Products (PEPRO)
ReliOn
Samlex America
Sinclair Technologies
SL Power Electronics
Solarcraft
Spectra Engineering
SunWize Technologies
Tel Control Inc. (TCI)
Telsate Telecomunicações
TP Radio
Trylon TSF
Tunnel Radio of America
Uninterruptible Power Products
Unipower Telecom
VFP
Winco
Xantrex Technology

Converters/Inverters
(C=converters, I=inverters)
Absopulse Electronics (C, I)
Alpha Industrial Power (C, I)
Analytic Systems (C, I)
Argus Technologies (C, I)
Astrodyne (C)
Astron (C, I)
Carmanah Technologies (C, I)
DC Power Solutions (C, I)
DuraComm (C)
DX Radio Systems (C)
Elektronika Naglic (C)
Emerson Network Power (C, I)
Exeltech (C, I)
Generation PV (I)
GlenMartin (C)
GN Batteries (I)
Imark Communications (C, I)
Innovative Circuit Technology (ICT) (C)
Kyocera Solar (I)
LEDCO-ChargeGuard (C, I)
Lind Electronics (C, I)
Lone Star Aviation (C, I)
Magnetek (C, I)
Majorpower (C, I)
Motorola (C)
Newmar (C, I)
Panelectron (C, I)
Pioneer Energy Products (PEPRO) (C, I)
Polaris USA Radio (I)
RFI Antennas (I)
Samlex America (C, I)
Signal Measurement (C)
SL Power Electronics (C)
Solarcraft (C, I)
SunWize Technologies (I)
Telsate Telecomunicações (C, I)
Tripp Lite (I)
Unipower Telecom (C, I)
Vicor (C)
Wilmore Electronics (C, I)
Xantrex Technology (C, I)

Load-Management Equipment
AC/DC Industries
Amrel/American Reliance
Argus Technologies
Comm-Net 2000 Manufacturing
Fibox Enclosures
I.S.C. Technologies
LEDCO-ChargeGuard
Lind Electronics

Power Supplies
Amrel/American Reliance
Analytic Systems
Argus Technologies
B&K Precision
Benelec
C-Can Power Systems Canada
DC Power Solutions
DuraComm
Eaton
Elektronika Naglic
GN Batteries
Hwasin Uni-technology
Imark Communications
Innovative Circuit Technology (ICT)
iStar USA
Kyocera Solar
LEDCO-ChargeGuard
Lind Electronics
Lone Star Aviation
Majorpower
McDowell Research, an Ultralife co.
Newmar
Pacific Research Solutions
Panelectron
Phihong
Radio Hardware Supplies and PJ International
Rohde & Schwarz PMR
RFI Antennas
RF Technology
Samlex America
Tripp Lite
Vicor
Winco
Wright Line

Solar/Wind Power Equipment
Alpha Industrial Power
Analytic Systems
Argus Technologies
Carmanah Technologies
DC Power Solutions
Fibox Enclosures
Generation PV
GlenMartin
IdaTech
Imark Communications
Innovative Circuit Technology (ICT)
Kyocera Solar
Lind Electronics
Lone Star Aviation
Magnetek
McDowell Research, an Ultralife co.
Panelectron
Peninsula Engineering Solutions
RFI Antennas
Ritron
Solarcraft
Spectrum Communications
SunWize Technologies
United Solar Ovonic
Xantrex Technology

Uninterruptible Power Supplies
Absopulse Electronics
Active Power
Alpha Industrial Power
Argus Technologies
C&D Technologies
Carmanah Technologies
Comm-Net 2000 Manufacturing
DC Power Solutions
DuraComm
DX Radio Systems
Eaton
Emerson Network Power
Exeltech
Generation PV
GlenMartin
GN Batteries
IdaTech
Innovative Circuit Technology (ICT)
Jadoo Power
LEDCO-ChargeGuard
Lone Star Aviation
Magnetek
Majorpower
McDowell Research, an Ultralife co.
Newmar
Pacific Research Solutions
Phihong
Rohde & Schwarz PMR
RFI Antennas
Selex Communications – Prod-El SPA
SL Power Electronics
Solarcraft
SunWize Technologies
Transtector Systems
Tripp Lite
Trylon TSF
Uninterruptible Power Products
VFP
Wilmore Electronics
Wright Line

PSAP/E9-1-1 EQUIPMENT

CAD Software/Systems
Antcom
APD Communications
Artevea Digital
AssetCo Data Solutions
BullBerry Systems
Center Systems
Communication Plus
CriSys
Data Burst Technologies
Data911 Mobile Computer Systems
EDX Wireless
Emergensys Solutions
Frequentis
Genesis Group

Hitech Systems
IDA
IHM P/S
Infomatrix
InfoRad Wireless
InterAct Public Safety Systems
Intergraph
Intrado
IPC
Location Technologies
Logistic Systems
Lyrtech
Mentor Engineering
Midian Electronics
Motorola
Motorola Public Safety Solutions div.
Northrop Grumman
Ortivus
Pantel International
Positron Public Safety Systems, an IPC co.
PowerPhone
Radio Engineering Services
Selex Communications – Prod-El SPA
Sigtec
ST Electronics (Info-Comm Systems)
Stratus Technologies
Telargo
Teltronics
Teltronic S.A. Unipersonal
Tiburon
TriTech Software Systems
VoiceInterop

E9-1-1 Location Equipment
Aeris Communications
Andrew
BullBerry Systems
Cisco Systems
Datalux
Dynamic Instruments
GPS Source
Hemisphere GPS
Infomatrix
Location Technologies
Locus Location Systems
MapInfo
Microvoice
Motorola
Motorola Public Safety Solutions div.
Spectrum Instruments
TechnoCom
TeleCommunication Systems (TCS)
Teltronics
Teltronic S.A. Unipersonal
Tiburon
TruePosition
Wherify Wireless
Wireless Telecom Group
Zetron

In-Building
Andrew
Ascom
Bird Technologies Group
CellAntenna
Center Systems
Communications-Applied Technology
Dekolink Wireless
Fiber-Span
GPS Source
Laird Technologies
Powerwave Technologies
RCC Consultants
RFI Antennas
Survey Technologies Inc. (STI)
TX RX Systems Bird Technologies Group

9-1-1 Call Answering
BullBerry Systems
CriSys
EADS Secure Networks
Intrado
IPC
MapInfo
Nortel
Pantel International
Penta
Plantronics
Portrait Software Public Safety
Positron Public Safety Systems, an IPC co.
PowerPhone
Tel Control Inc. (TCI)
TeleCommunication Systems (TCS)
Zetron

TDD
CriSys
CVDS
Intergraph
Motorola
Penta
Positron Public Safety Systems, an IPC co.
Zetron

Time Stamp/ Synchronization
CriSys
Dynamic Instruments
ESE
Eventide
FEI-Zyfer
GPS Source
Hitech Systems
Infomatrix
Locus Location Systems
Masterclock
Motorola
Pantel International
Rojone
Spectracom
Spectrum Instruments
Telargo

PUBLIC-SAFETY COMMUNICATIONS
Alarm Systems
American Wireless
Ascom
Benelec
BlueRadios
Canamex Communications
Carlson Wireless Technologies (CWT)
Center Systems
C4i
Cimarron Technologies
CML Microcircuits
Commtech Wireless
Connect Systems
CriSys
DPS Telecom
Fial
Flash Technology, SPX div.
IHM P/S
Infomatrix
Intergraph
I.S.C. Technologies
Jabco (Alarmsoft)
Keltron
Location Technologies
Midian Electronics
Midland Radio
Mi-Jack Systems & Technology
MoniVox - Control Service
Motorola
NeoTerra Systems
Pantel International
RAD Data Communications
Satel
Selex Communications – Prod-El SPA
Signal Intelligence
Sonik Messaging Systems
South Midlands Communications
Special Electronics and Designs
Spectrum Communications
ST Electronics (Info-Comm Systems)
Teltronics
TP Radio
Tribute 911 Pager
Trident Micro Systems
US Digital Designs
Veetronix
WaveWare Technologies
WiPath Communications
XCel Controls
Zetron
Zonith

Automated Person Location
Ascom
C4i
LocatioNet Systems
Locus Location Systems
Motorola
NeoTerra Systems
Raveon Technologies
Ritron
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Samdale
Swissphone Telecom
Trident Micro Systems
Trimax Wireless
Wireless Pacific
Zonith

Automatic Notification Systems
American Wireless
Ascom
BlueRadios
Bosch Security Systems
Canamex Communications
CeoTronics
Cimarron Technologies
CML Microcircuits
Compuquest
CriSys
Dialogic Communications Corp. (DCC)
Digital Acoustics
DPS Telecom
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Flash Technology, SPX div.
I.D. Systems
Infomatrix
InfoRad Wireless
Intrado
I.S.C. Technologies
Jabco (Alarmsoft)
Location Technologies
Mentor Engineering
Mi-Jack Systems & Technology
MoniVox - Control Service
Motorola
NeoTerra Systems

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Ritron
Rojone
Samdale
SolaCom Technologies
ST Electronics (Info-Comm Systems)
3n (National Notification Network)
TP Radio
Trimax Wireless
US Digital Designs
Vasona Technology
Vidicode Datacommunicatie
Visiphor
XCel Controls
Zetron

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TriTech Software Systems

Call Boxes
Alertus Notification Beacons
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Tekk
Telepoint

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Northrop Grumman Information Technology
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TriTech Software Systems
Winradio Communications

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Center Systems
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Infomatrix
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Kustom Signals
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Strix Systems
Telargo
TP Radio
Trimax Wireless

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Cellular Specialties Inc. (CSI)
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Communication Plus
Communications-Applied Technology
Connect Systems
Conxx
CPI Communications
Critical RF
Daniels Electronics
Datron World Communications
DTC
EF Johnson Technologies
Etherstack
Frequentis
Futurecom Systems Group
General Dynamics Satcom Technologies
Global Mesh Technologies (GMT)
Harris RF Communications
Information Processing Systems of California
In Motion Technology
Intergraph
Intrado
IPC
Kenwood Communications
Link Communications
Locus Location Systems
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Midland Radio
Mobat USA
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Radio IP Software
Radio Systems Technologies
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Special Electronics and Designs
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Strix Systems
TechMer
Telargo
TeleCommunication Systems (TCS)
Telex Dispatch
Thales Communications
TracStar Systems
Trident Micro Systems
Trilogy USA
Trimax Wireless
Twisted Pair Solutions
Tyco Electronics Wireless Systems
Unisys
Vasona Technology
Vertex Standard
Visiphor
VoiceInterop
Westel RF Technology
Wireless Pacific
Zetron

Mobile Communications Vehicles
ALK Technologies
Aluma Tower
Amrel/American Reliance
Astron Wireless Technologies
Avcomm International
Benelec
Bickford Broadcast Vehicles
BlueRadios
Bradshaw Consulting Services (BCS)
CalAmp
Catalyst Communications Technologies
C4i
CML Microcircuits
Cobham Tracking and Locating
Connect Systems
CT-Video
Datalux
ESTeem Wireless Modems
Etherstack
Frequentis
FWT
Gamber-Johnson
GCD Systeme
GE MDS
GlenMartin
Global EPoint
Global Mesh Technologies (GMT)
GPS Source
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I.D. Systems
IHM P/S
Information Processing Systems of California
In Motion Technology
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Kantronics
Kenwood Communications
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Mentor Engineering
Microwave Radio Communications (MRC)
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Mobile Specialty Vehicles
Motorola
MotoSAT
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Shelter One
Signal Measurement
Sigtec
SkyWave Mobile Communications
SolaCom Technologies
Solomon Technology Solutions
South Midlands Communications
Special Electronics and Designs
Spectrum Communications
Speedcom Communications
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Teltronic S.A. Unipersonal
Terrafix
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TP Radio
Trilogy USA
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Vecima Networks
WiPath Communications

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Etherstack
Genesis Group
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Positron Public Safety Systems, an IPC co.
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Thales Communications
Tyco Electronics Wireless Systems

Records Management Systems
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EHS
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InterAct Public Safety Systems
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Trimble
TriTech Software Systems
Visiphor

Station Alerting
Benelec
Dialogic Communications Corp. (DCC)
Exacom
Midian Electronics
Mi-Jack Systems & Technology
Motorola
US Digital Designs
WaveWare Technologies
WiPath Communications
Zetron

Surveillance Equipment
AC/DC Industries
Aluma Tower
Applied Integration
Applied Signal Technology
Ascom
Astron Wireless Technologies
Benelec
Bosch Security Systems
Broadcast Microwave Services
Carmanah Technologies
CelPlan Technologies
CeoTronics
Comprod Communications
Compuquest
Comsystems
Conexant Systems
Cross Point Industries
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Cubic Defense Applications
Digital Acoustics
Digital Ally
DPS Telecom
DTC
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Fibox Enclosures
Firetide
GCD Systeme
GE MDS
Global EPoint
Global Mesh Technologies (GMT)
Hark Systems
HauteSpot Networks
Identix
Impact Radio Accessories
Intuicom
JDI Jing Deng Industrial
Klein Electronics
Kustom Signals
Location Technologies
Lyrtech
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Motorola
Nice Systems
Nortel
Omnicron Electronics
Optoelectronics
Pacific Research Solutions
Phonak Communications
Polaris USA Radio
Racom Products
Radio Hardware Supplies and PJ International
Rescom Sales
Ross Associates/Covert Systems
Selex Communications – Prod-El SPA
Sepura
Signal Intelligence
Simrex
Solectek
Solomon Technology Solutions

Sonic Communications International
South Midlands Communications
Special Electronics and Designs
Speedcom Communications
ST Electronics (Info-Comm Systems)
Strix Systems
Swann Communications
Tactical Command Industries
TechMer
Technotrend
Telsate Telecomunicações
Terrafix
308 Systems
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Trango Systems
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Trimax Wireless
TwitCo Distributing (ParMarLow)
Verint Systems
Vidicode Datacommunicatie
Winradio Communications
Wireless Pacific

Turnkey Emergency Systems
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TechMer
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Telepoint
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Trimax Wireless
Vasona Technology
Wireless Pacific
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Video Surveillance
Airaya
Allcom Products
Applied Integration
Atis Calearo Antenne
Atlantic Scientific
Bosch Security Systems
Broadcast Microwave Services
CamLite
Carlson Wireless Technologies (CWT)
CelPlan Technologies
Center Systems
CeoTronics
Conxx
CriSys
CTE International
CT-Video
Digital Ally
Dotworkz Systems
DTC
EF Johnson Technologies
EHS
Firetide
Frequentis
GE MDS
GlenMartin
Global EPoint
HauteSpot Networks
Intergraph
Intuicom
Kustom Signals
Lyrtech
Maxon CIC
M.B. International
Microwave Radio Communications (MRC)
Motorola
Nice Systems
Nortel
Polaris USA Radio
Quintron Systems
RAD Data Communications
Raytheon JPS Communications
Rescom Sales
Ross Associates/ Covert Systems
Selex Communications – Prod-El SPA
SkyPilot Networks
Solectek
Solomon Technology Solutions
South Midlands Communications
Special Electronics and Designs
ST Electronics (Info-Comm Systems)
Strix Systems
Swann Communications
TechMer
Telex Dispatch
Telsate Telecomunicações
Trango Systems
Trilogy USA
Trimax Wireless
Tyco Electronics Wireless Systems
Unimo Technology
Vecima Networks
Verint Systems

RADIO ACCESSORIES

Carrying Cases
Abell Electronics
Access Battery, div. of Alpha Source
Avcomm International
A.W. Enterprises
Axtech Batteries
Benelec
Case-Tech
CTE International
Datron World Communications
EF Johnson Technologies
ExoComm Technology
Group/ExoCel Batteries
GCD Systeme
GN Batteries
Harris RF Communications
Hwasin Uni-technology
HYT America
Imark Communications
Impact Radio Accessories
Infinity Gear and Technology
Kendoo Technology
Kenwood Communications
Klein Electronics
Leathersmith
Link Communications
Macleod International
Maxon CIC
McDowell Research, an Ultralife co.
Midland Radio
Mobile Expertise
Motorola
Niros Communications
Pouch Manufacturing
Power Products
ProStar Batteries
Puxing Electronics Science and Technology
Radio Hardware Supplies and PJ International
RAM Mounting Systems
Research In Motion (RIM)
Ritron
Selex Communications – Prod-El SPA
SmartComm USA
South Midlands Communications
Spectrum Communications
TecNet International
Tekk
Thales Communications
TP Radio
Tyco Electronics Wireless Systems
Unimo Technology
Vertex Standard
Vertex Standard/Yaesu UK

Hands-Free Equipment
Access Battery, div. of Alpha Source
AdvanceTec Industries
Amrel/American Reliance

www.ceotronics.com

sales@ceotronics.com • Telefon +49 6074 87510

CeoTronics
Audio · Video · Data Communication

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Benelec
BlueRadios
CeoTronics
Communications-Applied Technology
Comsystems
Con-Space Communications
CTE International
David Clark
Eartec
EF Johnson Technologies
GN Batteries
Harris RF Communications
HYT America
Icom America
Imark Communications
Impact Radio Accessories
Infinity Gear and Technology
Klein Electronics
Lowe Electronics
Macleod International
Maxon CIC
McKay Communications
Merry Electronics (USA)
Midland Radio
Mobile Expertise
Motorola
Nady Systems
Niros Communications
Phonak Communications
ProStar Batteries
Puxing Electronics Science and Technology
Radio Hardware Supplies and PJ International
Rescom Sales
Ritron
Savox Communications (ProComm Americas)
Sedgewall Communications Group
Setcom
Sigma6
Sonic Communications International
Special Electronics and Designs
Technotrend
TecNet International
Tekk
Telsate Telecomunicações
TP Radio
TwitCo Distributing (ParMarLow)
Tyco Electronics Wireless Systems

Headsets
Abell Electronics
Avcomm International
Axtech Batteries
Benelec
BlueRadios
CavCom
CeoTronics
CML Microcircuits
Comfort Telecommunications
Communications-Applied Technology
Con-Space Communications
CTE International
David Clark
Earmark
Eartec
EF Johnson Technologies
EHS
ExoComm Technology Group/ExoCel Batteries
GCD Systeme
GN Batteries
Hwasin Uni-technology
HYT America
Imark Communications
Impact Radio Accessories
Infinity Gear and Technology
JDI Jing Deng Industrial
Kendoo Technology
Kenwood Communications
Klein Electronics
Klong Electronics
Lowe Electronics
Macleod International
Maxon CIC
McDowell Research, an Ultralife co.
McKay Communications
Merry Electronics (USA)
Midland Radio
Motorola
Nady Systems
New Communications Solutions (NCS)
Niros Communications
OTTO
Peltor Communications
Phonak Communications
Plantronics
ProStar Batteries
Pryme Radio Products
Puxing Electronics Science and Technology
Radio Hardware Supplies and PJ International
Rohde & Schwarz PMR
Rescom Sales
Ritron
Savox Communications (ProComm Americas)
Sedgewall Communications Group
Selex Communications – Prod-El SPA
Setcom
Sigma6
Sonic Communications International
Special Electronics and Designs
Speedcom Communications
Starkey Laboratories
Stone Mountain
Tactical Command Industries
TecNet International
Tekk
Television Equipment Associates (TEA)
Telex Dispatch
Telsate Telecomunicações
Thales Communications
TP Radio
TwitCo Distributing (ParMarLow)
Tyco Electronics Wireless Systems
Unimo Technology
Vertex Standard/Yaesu UK
Wireless Pacific
Zetron

Labels
Abell Electronics
Anchor Graphics
Benelec
HYT America
Infinity Gear and Technology
Label Graphics
Maxon CIC
Motorola
Niros Communications
Puxing Electronics Science and Technology
Sato America
Savox Communications (ProComm Americas)
TecNet International
Telsate Telecomunicações
WS Packaging Group – Advanced Labeling Solutions

Microphones
Aria Industrial
Avcomm International
Axtech Batteries
BatteryJack
Benelec
CeoTronics
CES Wireless
Communications-Applied Technology
Comsystems
Con-Space Communications
CTE International
Datron World Communications
David Clark
Earmark
EF Johnson Technologies
EHS
Elma Electronics
GCD Systeme
Gentex
GN Batteries
Hwasin Uni-technology
HYT America
Icom America
Imark Communications
Impact Radio Accessories
Infinity Gear and Technology
JDI Jing Deng Industrial
Kendoo Technology
Kenwood Communications
Kenwood Japan
Klein Electronics
Klong Electronics
Lowe Electronics
Macleod International
Maxon CIC
McKay Communications
Merry Electronics (USA)
Midland Radio
Mobile Expertise
Motorola
Nady Systems
New Communications Solutions (NCS)
Niros Communications
OTTO
Peiker Acustic
Phonak Communications
ProStar Batteries
Pryme Radio Products
Puxing Electronics Science and Technology
Radio Hardware Supplies and PJ International
Rohde & Schwarz PMR
Ranger Communications
Rescom Sales
Ritron
Savox Communications (ProComm Americas)
Sedgewall Communications Group
Selex Communications – Prod-El SPA
Setcom
SmartComm USA
Sonic Communications International
Special Electronics and Designs
Spectra Engineering
Spectrum Communications
Speedcom Communications
Stone Mountain
Tactical Command Industries
Technotrend
TecNet International
Tekk
Television Equipment Associates (TEA)
Telex Dispatch
Telsate Telecomunicações
Thales Communications
TP Radio
TwitCo Distributing (ParMarLow)
Tyco Electronics Wireless Systems
Unimo Technology
Vertex Standard/Yaesu UK
Wireless Pacific
Zetron

RADIOS

Mobiles/Portables
(MA=mobiles analog, MD=mobiles digital, M6.25=mobiles 6.25 kHz, PA=portables analog, PD=portables digital, P6.25=portables 6.25 kHz)
Abell Electronics (MA, PA)
Alvarion (MA, MD, PA, PD)
Ascom (MD, PD)
Astron Wireless Technologies (MD, PD)
Avcomm International (MA)
Benelec (MA, MD, PA, PD)
Broadcom (MA, MD)
CeoTronics (MD)
Ceragon Networks (MD)
CML Microcircuits (MA, MD, PA, PD)
Cobham Tracking and Locating (MD)
Codan (MA, MD, PA, PD)
Communications-Applied Technology (PA, PD)
Comsystems (MA, MD, PA, PD)
CTE International (MA, MD, PA, PD)
Datron World Communications (MA, MD, PA, PD)
DX Radio Systems (MA, PA)
Earmark (PA, PD)
Eartec (PA, PD)
EF Johnson Technologies (MA, MD, PA, PD)
EiKa-Tronic (MA, PA)
Elektronika Naglic (MA, MD, PA, PD)
Elma Electronics (MA, MD, PA, PD)
Etherstack (MA, MD, PA, PD)
Fylde Micro Systems (MA, PA)
GCD Systeme (MA, MD, PA, PD)
Harris RF Communications (MA, MD, PA, PD)
Holzberg Communications (MA, MD, PA, PD)
HYT (MA, MD, PA, PD)
HYT America (MA, PA)
Icom America (MA, MD, M6.25, PA, PD, P6.25)
IHM P/S (MA, MD, PA, PD)
Imark Communications (MA, PA)
Infinity Gear and Technology (PA)
Intuicom (MD)
Kenwood Communications (MA, MD, M6.25, PA, PD, P6.25)
Kenwood Japan (MA, MD, PA, PD)
Kirisun Electronics (MA, PA)
Klein Electronics (PA, PD)
Link Communications (MA, MD, PA, PD)
Macleod International (PA)
Maxon CIC (MA, MD, PA, PD)
Mentor Engineering (MA, MD)
Microwave Radio Communications (MRC) (MA, MD, PA, PD)
Midland Radio (MA, MD, PA, PD)
Mobat USA (MA, MD, PA, PD)
Mobile Expertise (MA, PA)
Motorola (MA, MD, M6.25, PA, PD, P6.25)
Nady Systems (PA)
NeoLink Technology Communication Tech (MA, MD, PA, PD)
Niros Communications (MA, MD, PA, PD)
Pacific Crest (PA, PD)
Peltor Communications (PA, PD)
Puxing Electronics Science and Technology (PA)
Q-MAC Electronics (MA, MD, PA, PD)
Ranger Communications (MA)
Raveon Technologies (MD)
Relm Wireless (MA, MD, PA, PD)
Rescom Sales (MA, MD, PA, PD)
Ritron (MA, MD, PA, PD)
Satel (MA, PA)
Sedgewall Communications Group (MA, MD, PA, PD)
Selex Communications – Prod-El SPA (MA, MD, PA, PD)
Sepura (MD, PD)
Simrex (MA, MD)
SmartComm USA (PA, PD)
South Midlands Communications (MA, MD, PA, PD)
Special Electronics and Designs (MA, MD, PA, PD)
Spectrum Communications (MA, MD, PA, PD)
Speedcom Communications (PA)
ST Electronics (Info-Comm Systems) (MA, MD, PA, PD)
Tactical Command Industries (PA, PD)
Tait Electronics (MA, MD, PA, PD)
Team Simoco (MA, PA)
TecNet International (MA, PA)
Tekk (MA, PA)
Television Equipment Associates (TEA) (PA, PD)
Telsate Telecomunicações (MA, MD, PA, PD)
Teltronic S.A. Unipersonal (MA, MD, PA, PD)
Thales Communications (PA, PD)
TP Radio (MA, MD, PA)
Tunnel Radio of America (MA, MD, PA, PD)
Tyco Electronics Wireless Systems (MA, MD, M6.25, PA, PD, P6.25)
Unimo Technology (MA, PA)
USAlert (MA, MD, PA, PD)
Vertex Standard (MA, MD, PA, PD)
Vertex Standard/Yaesu UK (MA, MD, PA, PD)
Zonith (MA, MD, PA, PD)

P25 Radios
Benelec
CML Microcircuits
Datron World Communications
DTC
DX Radio Systems
EADS Secure Networks
EF Johnson Technologies
Etherstack
GCD Systeme
Harris RF Communications
Icom America
Kenwood Communications
Link Communications
Midland Radio
Motorola
Relm Wireless
Sedgewall Communications Group
ST Electronics (Info-Comm Systems)
Tait Electronics
Thales Communications
Tyco Electronics Wireless Systems
USAlert
Vertex Standard
Vertex Standard/Yaesu UK
Westel RF Technology
Wireless Pacific

TETRA
Artevea Digital
CML Microcircuits
Comsystems
Damm Cellular Systems
EADS Secure Networks
Etherstack
IHM P/S
Kenwood Communications
Motorola
NeoLink Technology Communication Tech
Niros Communications
Panorama Antennas
Rohde & Schwarz PMR
Samdale
Sedgewall Communications Group
Selex Communications – Prod-El SPA
Sepura
South Midlands Communications
Team Simoco
Teltronic S.A. Unipersonal
Tyco Electronics Wireless Systems
Unimo Technology
Zonith

RADIO SYSTEMS

ACSB
Motorola

Conventional/Trunked
(CA=conventional analog, CD=conventional digital, TA=trunked analog, TD=trunked digital)
Abell Electronics (CA)
Alligator Communications (TA, TD)
American Wireless (CA)
Andrew (TA)
APD Communications (TD)
Artevea Digital (TD)
Ascom (TD)
ASC Telecom (TA, TD)
Axell Wireless (TA, TD)
Benelec (CA, CD, TA, TD)
BridgeCom Systems (CA, TA)
CalAmp (CA, TA)
Carrier Access (TA, TD)
Center Systems (CA, CD, TA, TD)
Ceragon Networks (CD, TD)
CML Microcircuits (CA, CD, TA, TD)
Cobham Tracking and Locating (TD)
Codan (CA)
Comsystems (CA, CD, TA, TD)
Connect Systems (TA)
CTE International (CA, TA)
Cubic Defense Applications (CA)
Dalman Technical Services (CA, CD)
Daniels Electronics (CA, CD, TA, TD)
Datron World Communications (CA, CD)
dbSpectra (TA, TD)

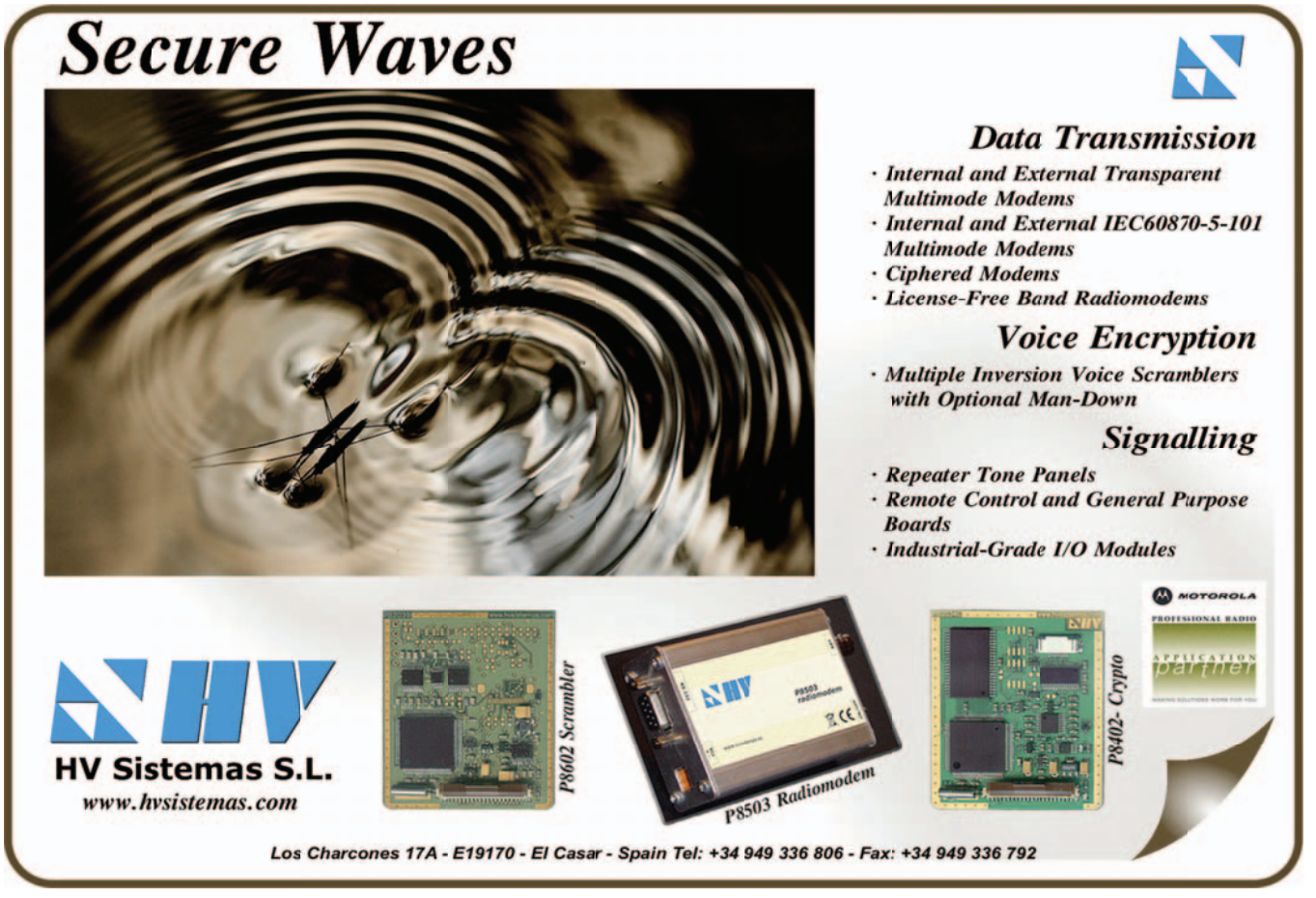
DX Radio Systems (CA, TA, TD)
EADS Secure Networks (TD)
EF Johnson Technologies (CA, CD, TA, TD)
EiKa-Tronic (CA)
Electronics Research (ERI) (CA)
Elektronika Naglic (CA, CD)
Elma Electronics (TA)
Encom Wireless Data Solutions (CA, CD)
Etherstack (CA, CD, TA, TD)
4RF Communications (TA, TD)
FreeWave Technologies (CA, CD)
Frequentis (TA, TD)
Fylde Micro Systems (TA, TD)
GCD Systeme (CA, TA)
GE MDS (CA, CD)
Harris RF Communications (CA)
Harris Stratex Networks (TD)
HM-Funktechnik (CA)
Holzberg Communications (CA, CD, TA, TD)
HYT (TA, TD)
Icom America (CA, TA)
Idylltek (CA, TA)
IHM P/S (CA, CD, TA, TD)
Imark Communications (CA, TA)
InfiNet Wireless (CD)
Infomatrix (TA, TD)
IPMobileNet (CD)
Kenwood Communications (CA, CD, TA, TD)
Kenwood Japan (CA, TA, TD)
Kirisun Electronics (CA, TA)
Locus Location Systems (CA, TD)
Lyrtech (TA, TD)
Maxon CIC (CA, TA)
M.B. International (TD)
Microvoice (TA, TD)
Midland Radio (CA, TA, TD)
Motorola (CA, TA, TD)
NeoLink Technology Communication Tech (CA, CD, TA, TD)
Nera (TD)
Omnitronics (CA, TA)
Pacific Crest (CA, CD)
Pacific Research Solutions (CA, CD)
Pantel International (CA, TA, TD)
Penta (CA, CD, TA, TD)
RAD Data Communications (TD)
Radiocrafts (TA, TD)
Radio IP Software (CD, TD)
RadioMobile, div. of RF Industries (CA)
Radio Systems Technologies (CA, TA, TD)
Rohde & Schwarz PMR (CA, TA, TD)
Raveon Technologies (CD)
Relm Wireless (CA, CD)
RF Micro Devices (TD)
RF Technology (CA, CD, TA)
Ritron (CA, TA, TD)
Rohill Engineering (TA, TD)
Sedgewall Communications Group (TA, TD)
Selex Communications – Prod-El SPA (CA, TA, TD)
Sepura (TD)
Simrex (CA)
SmarTrunk Systems (TD)
Sonik Messaging Systems (CA)
South Midlands Communications (CA, TA, TD)
Spectra Engineering (CA, TA)
Spectrum Communications (CA, TA)
Spectrum Communications (TA)
Speedcom Communications (CA)
SR Telecom (TD)
ST Electronics (Info-Comm Systems) (TA, TD)
Strix Systems (TD)
Tait Electronics (CA, CD, TA)
Team Simoco (CA, TA, TD)
TecNet International (CA, TA)
Tekk (CA)
Telepoint (CA, TA, TD)
Telsate Telecomunicações (CA, TA)
Teltronic S.A. Unipersonal (CA, TA, TD)
Thales Communications (CA)
TP Radio (CA, CD, TA, TD)
Trident Micro Systems (CA, CD, TA, TD)
Tunnel Radio of America (CA, CD)
Tyco Electronics Wireless Systems (CA, CD, TA, TD)
USAlert (TA, TD)
Vertex Standard (CA)
Vertex Standard/Yaesu UK (CA, CD, TA)
WaveWare Technologies (CD)
Westel RF Technology (CA, CD, TD)
Winradio Communications (TA)
Zetron (CA, TA, TD)
Zonith (CA, CD, TA, TD)

Microwave
Adtran
Alligator Communications
American Wireless
Andrew
Anritsu
Avcom Virginia
BlueRadios
Carlson Wireless Technologies (CWT)
Ceragon Networks
Cetacea Sound
Cobham Tracking and Locating
Codan
Comtech EF Data
DragonWave
DTC
Exalt Communications
4RF Communications
GE MDS
Groupe Pathfinder
Harris Stratex Networks
HauteSpot Networks
HyperLink Technologies
Lyrtech
Microwave Radio Communications (MRC)
Mimix Broadband
Nera
Nutel Wireless
Pantel International
Rohde & Schwarz PMR
Raymar-Telenetics
RF Micro Devices
Ross Associates/Covert Systems
Sinclair Technologies
Solectek
Sonik Messaging Systems
SR Telecom
ST Electronics (Info-Comm Systems)
Stratex Networks
Telepoint
Telsate Telecomunicações
Tiger Micro-Electronics Institute
Vecima Networks
Westica Communications
Wireless Telecom Group

Narrowband (6.25 kHz)
Icom America
Kenwood Communications
Motorola
Tyco Electronics Wireless Systems

P25 Systems Equipment
Aeroflex
Axell Wireless
Benelec
CalAmp
Catalyst Communications Technologies
CML Microcircuits
Dalman Technical Services
Daniels Electronics
Datron World Communications
DTC
DX Radio Systems
EADS Secure Networks
EF Johnson Technologies
Etherstack
Futurecom Systems Group
GCD Systeme
IPMobileNet
Kenwood Communications
Locus Location Systems
Microvoice
Midland Radio
Motorola
Pantel International
Penta
Raytheon JPS Communications
Relm Wireless
RF Technology
ST Electronics (Info-Comm Systems)
Tait Electronics
Thales Communications
Trident Micro Systems
Tyco Electronics Wireless Systems
Vertex Standard
Westel RF Technology
Wireless Pacific
Wireless Telecom Group
Zetron

Repeater Controllers
Airspan Networks
Benelec
Center Systems
C4i
Comsystems
Connect Systems
Encom Wireless Data Solutions
Etherstack
Fiplex Communications
I.D. Systems
Idylltek



LXE
Midian Electronics
Nortel
Pacific Research Solutions
Solomon Technology Solutions
Strix Systems
Telsate Telecomunicações

Simulcast
Albrecht Telecommunications
Applied Signal Technology
Benelec
Center Systems
Comsystems
Dalman Technical Services
DX Radio Systems
EF Johnson Technologies
Electronics Research Inc. (ERI)
Etherstack
IHM P/S
Locus Location Systems
Motorola
Pantel International
Penta
Racom Products
RF Technology
Selex Communications – Prod-El SPA
Sonik Messaging Systems
Spectra Engineering
Tait Electronics
Team Simoco
TP Radio
Tyco Electronics Wireless Systems

Software-Defined Radio
Alligator Communications
American Wireless
Andrew
Applied Signal Technology
CalAmp
CelPlan Technologies
CML Microcircuits
Communications Research Centre (CRC)
Comsystems
Cubic Defense Applications
DragonWave
DX Radio Systems
EF Johnson Technologies
Elma Electronics
Encom Wireless Data Solutions
Etherstack
GE MDS
Green Hills Software
Lexycom Technologies
Lyrtech
MeteorComm Wireless Communications
Mobat USA
Motorola
Multiple Access Communications (MAC)
Pantel International
Positron Public Safety Systems, an IPC co.
RF Micro Devices
Selex Communications – Prod-El SPA
Solomon Technology Solutions
Thales Communications
TP Radio
Tyco Electronics Wireless Systems
Vanu
Westel RF Technology
Winradio Communications

Spread-Spectrum Radio
Adtran
Albrecht Telecommunications
Alligator Communications
Andrew
BlueRadios
CalAmp
Carlson Wireless Technologies (CWT)
CelPlan Technologies
Cobham Tracking and Locating
Communications-Applied Technology
Data-Linc Group
Eartec
Encom Wireless Data Solutions
FreeWave Technologies
GE MDS
Great Fortress
Harris RF Communications
Harris Stratex Networks
Hemisphere GPS
HyperLink Technologies
Intuicom
Lexycom Technologies
Location Technologies
L-3 Communications Nova Engineering
Lyrtech
NavCom Technology
Nutel Wireless
Omnex Control Systems
Pantel International
Psion Teklogix
Radio IP Software
RFM
RF Micro Devices
Sage Instruments
Simrex
Solarcraft
Solomon Technology Solutions
SR Telecom
Stratex Networks
Television Equipment Associates (TEA)
Telsate Telecomunicações
Trango Systems
Trio Datacom
TXcom
Vecima Networks

TETRA
Acorn RF
Aeroflex
APD Communications
Artevea Digital
Axell Wireless
Center Systems
CML Microcircuits
Comsystems
Damm Cellular Systems
EADS Secure Networks
Etherstack
European Telecommunications S.A. (ETSA)
IHM P/S
Kenwood Communications
Lyrtech
Motorola
NeoLink Technology Communication Tech
Panorama Antennas
RAD Data Communications
Radio IP Software
Rohde & Schwarz PMR
Samdale
Selex Communications – Prod-El SPA
Sepura
Sinclair Technologies
South Midlands Communications
Spinner
Team Simoco
Teltronic S.A. Unipersonal
Tyco Electronics Wireless Systems
Wireless Telecom Group
Zonith

VoIP/RoIP
Airspan Networks
American Wireless
Applied Signal Technology
Ascom
ASC Telecom
Avtec
BlueRadios
BridgeCom Systems
Caprock Communications
Carrier Access
Catalyst Communications Technologies
Cetacea Sound
C4i
Communication Plus
Communications-Applied Technology
Connect Systems
Critical RF
Cubic Defense Applications
Dalman Technical Services
Daniels Electronics
DX Radio Systems
EF Johnson Technologies
Elma Electronics
EMR
Etherstack
Firetide
4RF Communications
Frequentis
GCD Systeme
IHM P/S
InfiNet Wireless
IPC
Link Communications
Lyrtech
Microvoice
Midland Radio
Motorola
NavCom Technology
Nortel
Omnitronics
Pacific Research Solutions
Pantel International
Penta
Psion Teklogix
RAD Data Communications
Raytheon JPS Communications
Ritron
Sage Instruments
Samdale
Selex Communications – Prod-El SPA
SmarTrunk Systems
Solectek
Solomon Technology Solutions
Spectra Engineering
SR Telecom
ST Electronics (Info-Comm Systems)
Telepoint
TP Radio
TracStar Systems
Trilogy USA
Tunnel Radio of America
Twisted Pair Solutions
Tyco Electronics Wireless Systems
Unimo Technology
Unisys
VoiceInterop
Westel RF Technology
Zetron

REMOTE SITE MONITORING

Modems
Albrecht Telecommunications
Asentria
Barnett Engineering
BlueRadios
BlueTree Wireless Data
CalAmp
Carlson Wireless Technologies (CWT)
Cellular Specialties Inc. (CSI)
CML Microcircuits
Cobham Tracking and Locating
Compuquest
Comtech EF Data
Cromack Industries
Data-Linc Group
DX Radio Systems
Elektronika Naglic
Encom Wireless Data Solutions
Etherstack
Flash Technology, SPX div.
FreeWave Technologies
GCD Systeme
GE MDS
Genave
Hark Systems
Hemisphere GPS
HV Sistemas
Lexycom Technologies
Location Technologies
L-3 Communications Nova Engineering
Maxon CIC
Midian Electronics
Motorola
Omnex Control Systems
Pacific Crest
Proxicast
RAD Data Communications
Radiocrafts
Radio IP Software
Raveon Technologies
Raymar-Telenetics
RF DataTech
RFM
Ritron
Satel
Sierra Wireless
Simrex
Tait Electronics
TC Communications
TecNet International
Telargo
Telewave
TP Radio
TransCore
Trident Micro Systems
Trio Datacom
Tunnel Radio of America
Vecima Networks
VoiceInterop
Wavecom
WaveWare Technologies
Winradio Communications

Remote Transmitter Units
Alligator Communications
Aluma Tower
American Wireless
Antenna Factor
Applied Integration
Asentria
Astron Wireless Technologies
Barnett Engineering
Berkeley Varitronics Systems
BlueRadios
CalAmp
CeoTronics
C4i
CML Microcircuits
Commtech Wireless
Compuquest
Comtech EF Data
CriSys
Dataprobe
DC Power Solutions
DPS Telecom
DX Radio Systems
Encom Wireless Data Solutions
Firetide
Flash Technology, SPX div.
4RF Communications
GE MDS
Genave
HauteSpot Networks
Honeywell Obstruction Lighting
HV Sistemas
Intuicom
Keltron
Location Technologies
Maxon CIC
MeteorComm Wireless Communications
Microwave Radio Communications (MRC)
Midland Radio
MiMOMax Wireless
Motorola
NavCom Technology
NexTek
OTEK
PageTek
Polaris USA Radio
Proxicast
Radiocrafts
Raveon Technologies
RFM
Ritron
Rojone
Sage Instruments
Samdale
Satel
Simrex
Solarcraft
Solomon Technology Solutions
Spectra Engineering
TCC Industries
Team Simoco
Tekk
Telargo
Telsate Telecomunicações
TP Radio
Tracker Radio
TransCore
Trimax Wireless
Trio Datacom
Tunnel Radio of America
WaveWare Technologies
Zetron
Zonith

SCADA
Aeris Communications
Alligator Communications
Aluma Tower
American Wireless
Asentria
Astron Wireless Technologies
BlueRadios
BlueTree Wireless Data
CalAmp
Carlson Wireless Technologies (CWT)
Carmanah Technologies
Center Systems
CML Microcircuits
Coastcom
Cobham Tracking and Locating
Comtech EF Data
CriSys
Cromack Industries
CTI Products
Dantherm Air Handling
Data-Linc Group
Dataprobe
DPS Telecom
Emerson Network Power
Encom Wireless Data Solutions
Encore Networks
Federal Signal
Fial
4RF Communications
FreeWave Technologies
Genave
Green Hills Software
HauteSpot Networks
Hughes Network Systems
HV Sistemas
Infomatrix
Intuicom
Kantronics
Kyocera Solar
Lexycom Technologies
Location Technologies
Maxon CIC
Motorola
NexTek
Omnex Control Systems
Pacific Crest
PageTek
Pantel International
Proxicast
RAD Data Communications
Raveon Technologies
Remote Control Technology
RF DataTech
RFM
RF Neulink, div. of RF Industries
Ritron
Satel
Selex Communications – Prod-El SPA
Simrex
SkyWave Mobile Communications
Solectek
Spectra Engineering
Spectrum Communications
SR Telecom
Tait Electronics
TCC Industries
TecNet International
Tekk
Telepoint
TP Radio
Trimax Wireless
Vecima Networks
Zetron

Software
Andrew
Asentria
Astellia
BlueRadios
BlueTree Wireless Data
CeoTronics
Commtech Wireless
Compuquest
CriSys
Data-Linc Group
DPS Telecom
Elektronika Naglic
Emerson Network Power
Encom Wireless Data Solutions
Etherstack
Federal Signal
Fial
Flash Technology, SPX div.
GCD Systeme
Genave
Green Hills Software
HV Sistemas
I.D. Systems
Infomatrix
InfoRad Wireless
Inquirere
Integrated Tracking Solutions
Intergraph
Kantronics
Location Technologies
Microvoice
Mi-Jack Systems & Technology
Morrow Technologies
Motorola
NeoTerra Systems
NTRglobal
OrecX
PageTek
Powerwave Technologies
Radio IP Software
Raveon Technologies
RF Micro Devices

RF Neulink, div. of RF Industries
Samdale
Signal Intelligence
Simrex
Spectra Engineering
Summitek Instruments
TAL Technologies
Team Simoco
Telargo
Teltronics
Vidicode Datacommunicatie
VoiceInterop
Wavecom
Winradio Communications
XCel Controls
Zetron
Zonith

Telemetry
Alligator Communications
Aluma Tower
American Wireless
Applied Signal Technology
ARC Wireless Solutions
Asentria
Astron Wireless Technologies
Benelec
BlueRadios
BlueTree Wireless Data
CalAmp
Carlson Wireless Technologies (CWT)
Carmanah Technologies
Cellular Specialties Inc. (CSI)
CeoTronics
CML Microcircuits
Cobham Tracking and Locating
Commtech Wireless
Comtech EF Data
Cromack Industries
Data-Linc Group
Dataprobe
Digital Paging Co./Golden Sab Inc. (DPC/GSI)
DPS Telecom
Eaton Powerware – Pulizzi Products
Elektronika Naglic
Flash Technology, SPX div.
4RF Communications
FreeWave Technologies
GCD Systeme
GE MDS
Genave
Global EPoint
Hark Systems
Helicomm
HV Sistemas
IDA
I.D. Systems
Infomatrix
Intuicom
Kantronics
Lexycom Technologies
Link Communications
Location Technologies
Masterclock
Maxon CIC
Midland Radio
Motorola
Omnex Control Systems
Pacific Crest
PageTek
Positron Public Safety Systems, an IPC co.
Proxicast
Radiocrafts
Raveon Technologies
Remote Control Technology
RF DataTech
RF Neulink, div. of RF Industries
Ritron
Rojone
Samdale
Satel
Selex Communications – Prod-El SPA
Sierra Wireless
Simrex
SkyWave Mobile Communications
Solarcraft
Solomon Technology Solutions
Sonik Messaging Systems
Spectra Engineering
Spectrum Communications
Tait Electronics
TCC Industries
TecNet International
Tekk
Telargo
Telewave
Telsate Telecomunicações
TP Radio
Tracker Radio
WiPath Communications
Zetron
Zonith

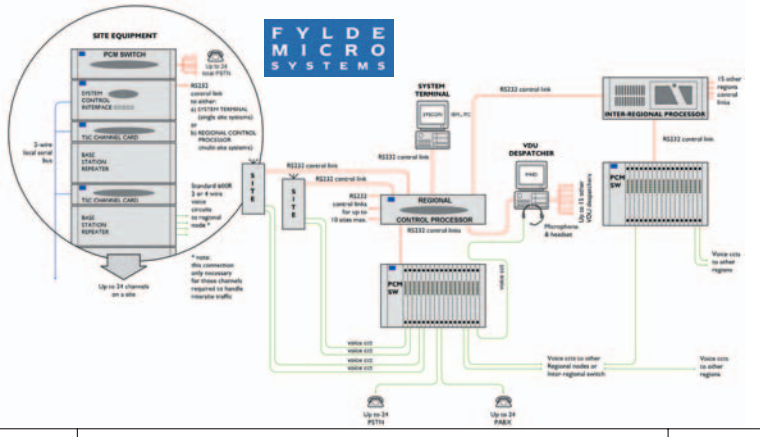
Transmitters
Alligator Communications
Aluma Tower
American Wireless
Antenna Factor
Applied Integration
Applied Signal Technology
Asentria
Astron Wireless Technologies
Berkeley Varitronics Systems
BlueRadios
CalAmp
CeoTronics
CML Microcircuits
Cobham Tracking and Locating
Commtech Wireless
Comtech EF Data
CriSys
CTI Products
CT-Video
Cubic Defense Applications
Data-Linc Group
DPS Telecom
DTC
DX Radio Systems
Firetide
4RF Communications
GE MDS
Global EPoint
Harris RF Communications
HauteSpot Networks
Hemisphere GPS
HV Sistemas
I.D. Systems
Intuicom
I.S.C. Technologies
Location Technologies
Maxon CIC
MeteorComm Wireless Communications
Microwave Radio Communications (MRC)
Midland Radio
Motorola
Omnex Control Systems
OTEK
Pacific Crest
Polaris USA Radio
Proxicast
Radiocrafts
Raveon Technologies
Raymar-Telenetics
RF DataTech
RFM
RF Neulink, div. of RF Industries
RF Technology
Ritron
Sage Instruments
Satel
Sedgewall Communications Group
Simrex
Sinclair Technologies
Spectra Engineering
Spectrum Communications
Spectrum Communications
Tait Electronics
Team Simoco
TecNet International
Tekk
Telargo
Telepoint
Telsate Telecomunicações
TP Radio
Tracker Radio
Trio Datacom
Tunnel Radio of America
WaveWare Technologies

Vendor-Specific Protocols
Asentria
Carlson Wireless Technologies (CWT)
Commtech Wireless
Cromack Industries
CTI Products
Daniels Electronics
Dataprobe
DPS Telecom
Fial
HauteSpot Networks
HV Sistemas
I.D. Systems
Infomatrix
Kathrein, Scala div.
Keltron
Location Technologies
Lyncole XIT Grounding
Motorola
NavCom Technology
Radiocrafts
Radio IP Software
Radio Systems Technologies
Raveon Technologies
Sierra Wireless
Simrex
Solomon Technology Solutions
Telargo
TP Radio
Trango Systems
XCel Controls
Zonith

Video Surveillance
Accurate Always
Airaya
Allcom Products
Applied Integration
Atlantic Scientific
BlueRadios
BlueTree Wireless Data
Bosch Security Systems
Broadcast Microwave Services
Carlson Wireless Technologies (CWT)
Center Systems
CeoTronics
CriSys
Data-Linc Group
Dotworkz Systems

MPT-1327 Trunking — Alive and In Color

System Overview-Single Site to Nationwide System



Motorola Kenwood Tait
Radios and Base Stations

System Design and Integration
Radio & Trunking Distributors International
90 Drummer Boy Road • Brewster, MA 02631 • Tel: +1-508-896-1100 • Fax: +1-508-896-1122
Contact: Charles A. DeVito • E-mail: devito@radioandtrunking.com

Motorola Kenwood Tait
Radios and Base Stations

EHS
Firetide
4RF Communications
GE MDS
Hark Systems
HauteSpot Networks
Intergraph
Microwave Radio Communications (MRC)
Mi-Jack Systems & Technology
Motorola
NexTek
Nice Systems
Nortel
Northrop Grumman Information Technology
Proxicast
RAD Data Communications
Raytheon JPS Communications
Ross Associates/Covert Systems
Selex Communications – Prod-El SPA
Solarcraft
Solectek
Solomon Technology Solutions
Strix Systems
Swann Communications
Technotrend
Telsate Telecomunicações
Trango Systems
Trimax Wireless
Tyco Electronics Wireless Systems
Verint Systems

SATELLITE SYSTEMS EQUIPMENT

Mobile Data/Voice

(MD=mobile data, MV=mobile voice)

Andrew (MD, MV)
Applied Signal Technology (MD, MV)
Astron Wireless Technologies (MD, MV)
Carrier Access (MD, MV)
C-Com Satellite Systems (MD)
CES Wireless (MD)
CML Microcircuits (MD)
Cobham Tracking and Locating (MD)
Codan (MD, MV)
Comtech EF Data (MD, MV)
CPI Communications (MV)
DMS Wireless (MD)
EMS SATCOM (MD, MV)
Encore Networks (MD)
Engage Communication (MV)
Fortek Computers (MD, MV)
Globalstar (MD, MV)
Harris RF Communications (MD, MV)
Hughes Network Systems (MD, MV)
KVH Industries (MD, MV)
McDowell Research, an Ultralife co. (MD, MV)
Microvoice (MD, MV)
Microwave Radio Communications (MRC) (MD, MV)
Mobile Expertise (MD)
Motorola (MD, MV)
MotoSAT (MD, MV)
NavCom Technology (MD, MV)
Proxicast (MD)
Radio IP Software (MD)
RadioMobile, div. of RF Industries (MD, MV)
Satel (MD)
Sola Communications (MD, MV)
Solomon Technology Solutions (MD, MV)
Stratos Global (MD, MV)
Strix Systems (MD, MV)
TeleCommunication Systems (TCS) (MD, MV)
Telepoint (MD, MV)
Terrafix (MD)
308 Systems (MD, MV)
TracStar Systems (MD, MV)
TransCore (MD)
WiPath Communications (MD)

SITE/TOWER EQUIPMENT

Alarms/Access Devices

Bosch Security Systems
CML Microcircuits
Compuquest
Connect Systems
CTI Products
DPS Telecom
Electronics Research Inc. (ERI)
EMR
Fial
Flash Technology, SPX div.
GN Batteries
Hark Systems
I.S.C. Technologies
Location Technologies
Midian Electronics
Mi-Jack Systems & Technology
Motorola
PageTek
Quintron Systems
Racom Products
Ritron
Rojone
WaveWare Technologies
XCel Controls
Zetron

Cable

Acorn RF
AF Datalink Telecom
Allcom Products
Andrew
Antcom
ARC Wireless Solutions
Astron Wireless Technologies
Atis Calearo Antenne
Benelec
BroadWave Technologies
CellAntenna
CommScope
Comtelco
Electronics Research Inc. (ERI)
Elma Electronics
Encom Wireless Data Solutions
4RF Communications
GPS Networking
Harger Lightning and Grounding
Hemisphere GPS
Hus-Tsan Group
HyperLink Technologies
I.S.C. Technologies
LEDCO-ChargeGuard
Mobat USA
Motorola
NK Communications
Pasternack Enterprises
Polar Electronic Industries
Polaris USA Radio
Pomona Electronics
Radio Frequency Systems (RFS)
Response Microwave
RFI Antennas
Rojone
Sigma6
Skymasts Antennas
Spinner
SV Microwave
Synergy Systems
Telewave
Times Microwave Systems
Trilogy Communications
Tripp Lite
Tru
WaveWare Technologies
Webb Industries
Willtek Communications
Xi'an Haitian Antenna Technologies

Cable Fault Locators

AEMC Instruments
Anritsu
Bird Technologies Group
Motorola
Sage Instruments
TX RX Systems Bird Technologies Group
Wireless Telecom Group

Combiners/Diplexers/Duplexers/Filters/Isolators/Multicouplers/Multiplexers

(C=combiners, DI=diplexers, DU=duplexers, F=filters, I=isolators, MC=multi-couplers, MP=multiplexers)

Accute Micro Electronics (F)
Acorn RF (C, DI, DU, F, MP)
ADC (MC)
Adtran (MP)
Andrew (DI, F)
Antcom (F, I)
Applied Signal Technology (MP)
Benelec (C, DI, DU, F, MC, MP)
Bird Technologies Group (C, DU, F, I, MC)
BroadWave Technologies (C)
Carrier Access (MP)
CellAntenna (DI, DU, F, I, MC)
Cellular Specialties Inc. (CSI) (C, DI, DU, F, MC)
Center Systems (C, DI, MC)
C4i (MP)
Coastcom (MP)
Comprod Communications (C, DI, DU, F, I, MC, MP)
Comtech EF Data (C, MC, MP)
Comtelco (DI, DU, MC)
Creowave (C, DI, DU, F)
dbSpectra (C, DI, DU, F, I, MC, MP)
Dekolink Wireless (DI, DU, F, MC)
DX Radio Systems (C, DU, F, I, MC)
Electronics Research Inc. (ERI) (C, DI, F, MP)
EMR (C, DI, DU, F, I, MC, MP)
European Telecommunications S.A. (ETSA) (DI, DU, F, MC)
Fiplex Communications (C, DI, DU, F, I, MC, MP)
4RF Communications (C)
GE MDS (MP)
GPS Networking (C, F)
GPS Source (C, MC)
Great Fortress (MP)
HyperLink Technologies (DI)
Imark Communications (DU, MC)
Innovative Circuit Technology (ICT) (F)
InStock Wireless Components (C)
Jaybeam Wireless (C, DI, DU, F)
JFW Industries (C)
K&L Microwave (C, DI, DU, F, MC, MP)
Kathrein, Scala div. (C, DI, DU, F, I, MC, MP)
Lone Star Aviation (F)
L-3 Communications, Narda Microwave-East (C, DU, F, I, MC)
Microwave Circuits (C, DI, DU, F, MP)
Midland Radio (DU)
MiMOMax Wireless (DI, F)
Motorola (C, DU, F)
Narda Microwave West (L-3 Communications) (C, DI, DU, F, I, MP)
NexTek (F)
Paratek Microwave (F)
Pasternack Enterprises (C, I, MC)
Polar Electronic Industries (C, DI, DU, F, I, MC, MP)
Polaris USA Radio (DI, MP)
Positron Public Safety Systems, an IPC co. (I)
Powerwave Technologies (C, DI, DU, F)
RAD Data Communications (MP)
Radial Firm (C, DI, DU, F, I, MC)
Radio Frequency Systems (RFS) (C, DI, DU, F, I, MC)
Response Microwave (C, DI, DU, F, I, MC, MP)
RFI Antennas (C, DI, DU, F, I, MC)
Richardson Electronics (MC, MP)
Rojone (C, DI, DU, F, I, MC, MP)
Sigma6 (F)
Sinclair Technologies (C, DI, DU, F, I, MC, MP)
Skymasts Antennas (C, DI, DU, F)
South Midlands Communications (DU)
Spectra Engineering (DI, DU)
Spectrum Communications (DU, F)
Spinner (C, DI, DU, F, MP)
Sti-Co Industries (MC)
Stratex Networks (MP)
Superconductor Technologies (STI) (DI, DU, F)
TC Communications (MP)
Telewave (C, DU, F, I, MC)
Telsate Telecomunicações (C, DI, DU, F)
Temwell (DI, DU, F)
Tiger Micro-Electronics Institute (C, DI, DU, F, I, MC, MP)
TP Radio (C, DI, DU, F, I)
Trak Microwave (C, DI, DU, F, I, MC, MP)
Tunnel Radio of America (MC, MP)
TX RX Systems Bird Technologies Group (C, DU, F, I, MC)
Webb Industries (C, DU, F, I, MC, MP)
Winradio Communications (MC, MP)
Wireless Telecom Group (C, DI, F, MC, MP)
Xi'an Haitian Antenna Technologies (C, DI, F)
Zetron (MP)

Connectors

Acorn RF
ADC
AF Datalink Telecom
Allcom Products
Andrew
Anritsu
Antcom
ARC Wireless Solutions
Astron Wireless Technologies
Benelec
Bomar Interconnect Products
BroadWave Technologies
CellAntenna
Cellular Specialties Inc. (CSI)
CommScope
Comprod Communications
Comtelco
Delta Electronics Manufacturing
D.W. Electrochemicals
DX Radio Systems
Electronics Research Inc. (ERI)
EMR
European Telecommunications S.A. (ETSA)
GN Batteries
GPS Networking
Harger Lightning and Grounding
Huada Connectors
Hus-Tsan Group
HyperLink Technologies
Nearson
NK Communications
Pacific Research Solutions
Pasternack Enterprises
Pomona Electronics
Radio Frequency Systems (RFS)
Response Microwave
RF Connectors, div. of RF Industries
RFI Antennas
Rojone
Sabre Site Solutions, div. of Sabre Industries
Sigma6
Sinclair Technologies
Skymasts Antennas
Spinner
SV Microwave
TCC Industries
Telewave
Times Microwave Systems
Trilogy Communications
Tripp Lite
Tru
TX RX Systems Bird Technologies Group
Webb Industries
Willtek Communications
Xi'an Haitian Antenna Technologies

Lightning-Protection Equipment

AC Data Systems
Acorn RF
Allcom Products
Alltec
Astron Wireless Technologies
Atlantic Scientific
Benelec
CellAntenna
Cellular Specialties Inc. (CSI)
Cetacea Sound
Citel
Comprod Communications
Electric Railway Improvement Co. (ERICO)
Electronics Research Inc. (ERI)
Encom Wireless Data Solutions
Fibox Enclosures
4RF Communications
GlenMartin
GN Batteries
Harger Lightning and Grounding
Hark Systems
Honeywell Obstruction Lighting
HyperLink Technologies
Imark Communications
Jaybeam Wireless
Lightning Eliminators and Consultants
Lightning Master
Lightning Prevention Systems
L-3 Communications, Narda Microwave-East
Lyncole XIT Grounding
Mobat USA
Nello
NexTek
NK Communications
Pasternack Enterprises
Pioneer Energy Products (PEPRO)
Polar Electronic Industries
PolyPhaser
Powerwave Technologies
Radio Frequency Systems (RFS)
RFI Antennas
Rojone
Sabre Site Solutions, div. of Sabre Industries
Skymasts Antennas
Swager Communications
Transtector Systems
Tripp Lite
Uninterruptible Power Products
VFP
WaveWare Technologies
Webb Industries
Xi'an Haitian Antenna Technologies
Zetron

Microwave/MUX Equipment

Antcom
Astron Wireless Technologies
Broadcast Microwave Services
CellAntenna
Cepoint Networks
Ceragon Networks
Coastcom
Codan
Comtech EF Data
DX Radio Systems
Fibox Enclosures
4RF Communications
GE MDS
Harris Stratex Networks
Microwave Circuits
Microwave Radio Communications (MRC)
Mimix Broadband
Nera
Peninsula Engineering Solutions
Praxsym
RAD Data Communications
Raymar-Telenetics
Sinclair Technologies
SR Telecom
Stratex Networks
Trak Microwave
Trango Systems
Westica Communications
Zetron

Preamplifiers

Bird Technologies Group
Center Systems
Comprod Communications
Comtech EF Data
dbSpectra
Dekolink Wireless
EMR
Fiplex Communications
GPS Networking
GPS Source
Kathrein, Scala div.
Mimix Broadband
Motorola

Polar Electronic Industries
Praxsym
Radial Firm
Radio Frequency Systems (RFS)
RF Micro Devices
Rojone
Simrex
Superconductor Technologies Inc. (STI)
Telewave
Telsate Telecomunicações
TX RX Systems Bird Technologies Group

Racks
ADC
American Wireless
Comprod Communications
Comsystems
Comtech EF Data
dbSpectra
DC Power Solutions
DX Radio Systems
Eaton Powerware – Pulizzi Products
Elma Electronics
Emerson Network Power
EMR
Fylde Micro Systems
Great Lakes Case and Cabinet
iKey
iStar USA
Magnetek
Middle Atlantic Products
NLnovalink
Pacific Research Solutions
Pioneer Energy Products (PEPRO)
Powerwave Technologies
Radio Frequency Systems (RFS)
Sinclair Technologies
Solarcraft
Spinner
Telewave
Tripp Lite
Tunnel Radio of America
VFP
Winsted
Wright Line

Site-Management Software
AEA Technology
Avocent
Carrier Access
CelPlan Technologies
CelTec Tecnologia de Telecomunicações e Comercio
Center Systems
Codan
Commtech Wireless
Compuquest
Computer Resources
Comsystems
Connect Systems
CriSys
DPS Telecom
Emergensys Solutions
Federal Signal
Fylde Micro Systems
Hark Systems
Location Technologies
LS telcom
McLeod Software
Midian Electronics
Mi-Jack Systems & Technology
Motorola
PageTek
Powerwave Technologies
Radio Frequency Systems (RFS)
Rohde & Schwarz PMR
Sage Instruments
Selex Communications – Prod-El SPA
Signal Intelligence
SoftWright
Strix Systems
Survey Technologies Inc. (STI)
Trylon TSF
TXcom
Vasona Technology
Willtek Communications

Surge Protectors
AC Data Systems
AC/DC Industries
Acorn RF
Allcom Products
Alltec
Antcom
Atlantic Scientific
CellAntenna
Citel
DC Power Solutions
DX Radio Systems
Eaton Powerware – Pulizzi Products
Electric Railway Improvement Co. (ERICO)
Emerson Network Power
Encom Wireless Data Solutions
GPS Networking
Harger Lightning and Grounding
Honeywell Obstruction Lighting
HyperLink Technologies
Innovative Circuit Technology (ICT)
iStar USA
Lightning Eliminators and Consultants
Lightning Master
Lone Star Aviation
Lyncole XIT Grounding
Middle Atlantic Products
NexTek
NK Communications
Panamax
Pasternack Enterprises
Polar Electronic Industries
Positron Public Safety Systems, an IPC co.
Radio Frequency Systems (RFS)
Response Microwave
RFI Antennas
Rojone
Signal Measurement
Sinclair Technologies
Skymasts Antennas
Solarcraft
Spinner
TCC Industries
Telsate Telecomunicações
Transtector Systems
Tripp Lite
VFP
WaveWare Technologies
Webb Industries

Switches
Applied Signal Technology
Carrier Access
Center Systems
Cisco Systems
Comtech EF Data
Dataprobe
DC Power Solutions
Electronics Research Inc. (ERI)
Elma Electronics
Encom Wireless Data Solutions
Frequentis
Fylde Micro Systems
IHM P/S
JFW Industries
Motorola
Pasternack Enterprises
Polaris USA Radio
Quintron Systems
RAD Data Communications
Rohde & Schwarz PMR
RF Micro Devices
Rojone
Selex Communications – Prod-El SPA
SolaCom Technologies
Spinner
Strix Systems
Team Simoco
Technotrend
Teltronics
Tiger Micro-Electronics Institute
Trak Microwave
VeriWave
VFP
Wright Line
Zetron

Towers, Fixed/Mobile
(F=fixed towers, M=mobile towers)
Aluma Tower (F, M)
ARC Wireless Solutions (F)
Barker and Williamson (B&W) (M)
Bell Tower (F)
Cellxion, div. of Sabre Industries (F, M)
Comprod Communications (F)
Comsystems (F, M)
Electronics Research Inc. (ERI) (F)
Fred A. Nudd (F)
FWT (F, M)
GlenMartin (F, M)
Imark Communications (F)
Nello (F, M)
Pioneer Energy Products (PEPRO) (M)
Rohn Products, div. of Radian Communication Services (F)
Sabre Site Solutions, div. of Sabre Industries (F)
Sabre Towers and Poles, div. of Sabre Industries (F, M)
Sam Woo Electronics (F, M)
Sinclair Technologies (F, M)
Skymasts Antennas (F, M)
South Midlands Communications (F, M)
Strix Systems (F, M)
Swager Communications (F)
Tower Innovations (F)
Tower Solutions (M)
TowerWorx (F, M)
Trylon TSF (F)
TWR Lighting (F)
Valmont Structures (F)
Wade Antenna/Taco Antennas (F)
Webb Industries (F, M)
Winco (M)
World Tower (F)
XCel Controls (F)

Voting Products
Center Systems
CTI Products
Dalman Technical Services
DX Radio Systems
InStock Wireless Components
Motorola
RF Technology
Selex Communications – Prod-El SPA
South Midlands Communications
Spectra Engineering
Team Simoco
TP Radio

SOFTWARE

CAD Software/Systems (See PSAP/ E9-1-1 Equipment)

Custom
Aeris Communications
Airbiquity
Albrecht Telecommunications
ALK Technologies
Amrel/American Reliance
Antcom
Aplicom
Applied Signal Technology
Archetype – TerraTrace
Ascom
AssetCo Data Solutions
BlueRadios
BlueTree Wireless Data
Bradshaw Consulting Services (BCS)
BridgeCom Systems
Broadcom
Cadex Electronics
Catalyst Communications Technologies
CelPlan Technologies
CelTec Tecnologia de Telecomunicações e Comercio
Center Systems
C4i
Cobham Tracking and Locating
Compuquest
Computer Resources
Comsystems
Connect Systems
Data Burst Technologies
Data911 Mobile Computer Systems
DDS Wireless International
Digital Voice Systems
Dinet/Wireless Data Solutions
DPS Telecom
Electric Pocket
Emergensys Solutions
Etherstack
Fial
Fortek Computers
Fylde Micro Systems
Genesis Group
Giga-Tronics
Global Mesh Technologies (GMT)
Green Hills Software
HauteSpot Networks
HBF Group
HV Sistemas
I.D. Systems
IHM P/S
Infomatrix
InfoRad Wireless
Integrated Tracking Solutions
InterAct Public Safety Systems
IPC
Lifeline Management Systems
Location Technologies
Locus Location Systems
Lyrtech
Magnasync
Manning Navcomp
MapInfo
Maxon CIC
Mentor Engineering
Microvoice
Middle Atlantic Products
MoniVox - Control Service
Multiple Access Communications (MAC)
NeoTerra Systems
NeuStar
Northrop Grumman
Northrop Grumman Information Technology
PageTek
Penchant Software
Penta
Planet Correspondence Technologies
Portrait Software Public Safety
Psion Teklogix
RadioMobile, div. of RF Industries
Realtime North America
Recollect Recording
Samdale
Selex Communications – Prod-El SPA
ServiceHub
Signal Intelligence
SoftWright
Solomon Technology Solutions
Strix Systems
Symon Communications
Team Simoco
Telargo
Telcordia Technologies
TeleCommunication Systems (TCS)
Telesoft International
Terrafix
Tiburon
TP Radio
TransCore
TriTech Software Systems
Unisys
Vanu
Ventyx

Product Category Index

VoiceInterop
WaveWare Technologies
WhereNet
Willtek Communications
Winsted
Zetron
Zonith

Dispatch (business/industry)
Abell Electronics
ALK Technologies
Antenna Software
Archetype – TerraTrace
Artevea Digital
AssetCo Data Solutions
Bradshaw Consulting Services (BCS)
BullBerry Systems
Catalyst Communications Technologies
Cobham Tracking and Locating
Communication Plus
Compuquest
Connect Systems
CriSys
Critical Response Systems
Data911 Mobile Computer Systems
DDS Wireless International
Dinet/Wireless Data Solutions
Dispatch Management Solutions
EF Johnson Technologies
Emergensys Solutions
Etherstack
Fylde Micro Systems
GeoConcept
IDA
IHM P/S
Infomatrix
Integrated Tracking Solutions
InterAct Public Safety Systems
Intergraph
IPC
Keltron
Lifeline Management Systems
Location Technologies
Logistic Systems
McLeod Software
Mentor Engineering
Microvoice
Midian Electronics
MoniVox - Control Service
Motorola
Motorola Public Safety Solutions div.
NeoLink Technology Communication Tech
NeoTerra Systems
Ortivus
Penchant Software
Penta
Positron Public Safety Systems, an IPC co.
Priority Dispatch
Rohde & Schwarz PMR
Rohill Engineering
Selex Communications – Prod-El SPA
SensCom
ServiceHub
Signal Intelligence
SolaCom Technologies
Swissphone Telecom
Symon Communications
Team Simoco
TechMer
Telargo
Telex Dispatch
Teltronic S.A. Unipersonal
TP Radio
TransCore
Trimble
TriTech Software Systems
Twisted Pair Solutions
Ventyx
VoiceInterop
Voice Print International (VPI)
WiPath Communications
Zetron
Zoll Data Systems
Zonith

Engineering
Abell Electronics
Agilent Technologies
Airbiquity
Amrel/American Reliance
Applied Signal Technology
Archetype – TerraTrace
Astron Wireless Technologies
Berkeley Varitronics Systems
BlueRadios
BridgeCom Systems
CelPlan Technologies
CelTec Tecnologia de Telecomunicações e Comercio
C4i
Comsystems
Connect Systems
Cromack Industries
Data Burst Technologies
DDS Wireless International
DPS Telecom
DX Radio Systems
EDX Wireless
Elektronika Naglic
Emergensys Solutions
Etherstack
Green Hills Software
Infomatrix
Istar
Lifeline Management Systems
Location Technologies
LS telcom
Lyrtech
Mentor Engineering
Microvoice
Motorola
Radio Engineering Services
RadioSoft
RCC Consultants
Signal Intelligence
SoftWright
Solomon Technology Solutions
Telesoft International
Teltronic S.A. Unipersonal
TP Radio
VoiceInterop

FCC Licensing
Abell Electronics
CelPlan Technologies
Lifeline Management Systems
Quixote Transportation Technologies
RadioSoft
WaveWare Technologies

Field Reporting (business/industry)
Abell Electronics
Amrel/American Reliance
Antenna Software
APD Communications
Archetype – TerraTrace
CriSys
Inquirere
Integrated Tracking Solutions
InterAct Public Safety Systems
Intergraph
Lifeline Management Systems
Locus Location Systems
Mi-Jack Systems & Technology
Motorola Public Safety Solutions div.
NeoTerra Systems
Northrop Grumman
Northrop Grumman Information Technology
Symon Communications
TAL Technologies
Telargo
Ventyx
Zetron
Zoll Data Systems

GIS Mapping
Amrel/American Reliance
Bradshaw Consulting Services (BCS)
BullBerry Systems
CelPlan Technologies
CelTec Tecnologia de Telecomunicações e Comercio
CES Wireless
CriSys
Dialogic Communications Corp. (DCC)
Dinet/Wireless Data Solutions
DX Radio Systems
Emergensys Solutions
Environmental Systems Research Institute (ESRI)
Erdas
Fortek Computers
Garmin
GCD Systeme
GeoConcept
Hemisphere GPS
Hitech Systems
Infinity Gear and Technology
Integrated Tracking Solutions
InterAct Public Safety Systems
Intergraph
IPC
Istar
LocatioNet Systems
Location Technologies
Locus Location Systems
Logistic Systems
LS telcom
MapInfo
Maxon CIC
Motorola Public Safety Solutions div.
NeoTerra Systems
Northrop Grumman
Northrop Grumman Information Technology
Ortivus
Penchant Software
Positron Public Safety Systems, an IPC co.
RadioMobile, div. of RF Industries
Raveon Technologies
Reverse 911
Selex Communications – Prod-El SPA
SkyPilot Networks
SoftWright
Solomon Technology Solutions
South Midlands Communications
Survey Technologies Inc. (STI)
Swissphone Telecom
Telargo
Terrafix
Tiburon
TP Radio
Trimble
TriTech Software Systems
Ventyx
Winradio Communications

Middleware
Amrel/American Reliance
APD Communications
Aplicom
Avaya
BullBerry Systems
CalAmp
CelPlan Technologies
Certicom
C4i
Data Burst Technologies
DataMirror
DDS Wireless International
Emergensys Solutions
GE MDS
Global Technologies Group Inc. (GTGI)
Green Hills Software
Infomatrix
InfoRad Wireless
Integrated Tracking Solutions
Intrado
Intuicom
LocatioNet Systems
Location Technologies
Lyrtech
Manning Navcomp
Mentor Engineering
Motorola
Motorola Public Safety Solutions div.
Planet Correspondence Technologies
Positron Public Safety Systems, an IPC co.
Quintron Systems
Radio IP Software
RadioMobile, div. of RF Industries
RoamWare
SensCom
ServiceHub
724 Solutions
Solomon Technology Solutions
Symon Communications
TAL Technologies
TechnoCom
Telargo
TP Radio
Transcrypt International
Twisted Pair Solutions
Ventyx
Visiphor
VoiceInterop
Wherify Wireless

Mobile-Data Systems
Airbiquity
Albrecht Telecommunications
ALK Technologies
Amrel/American Reliance
Antenna Software
APD Communications
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Radio Accessories

In this issue, we look at a variety of radio accessories. For more information on a product, please contact the appropriate company via its Web site at the end of each listing. Be sure to mention that you found the information in *RadioResource International* magazine.

Abell Industries

The AM-ES is a remote speaker microphone originally for Abell A-80

and TH-308 series mobile radios. Key features include high quality, clear voice and adjustable high-low volume control, Abell executives said. The compact microphone includes retractable coil cord and a 360-degree swivel clip. Visit the Web site www.abell.com.cn.

AdvanceTec Industries

AdvanceTec Industries introduced the first commercial pro-installed Bluetooth Hands-free Kit. The kit is ideal

for a variety of users from major metropolitan-area first responders to industrial fleet operators. The kit comes with an LCD display, 10-watt amplified speaker, a remote control module, junction box with built-in rapid charger, noise cancellation microphone and power cables. Visit the Web site www.advancetec.com.

Aria Industries

The PYD-32 replaces the original equipment manufacturer (OEM)

keypad microphone KMC-32. The unit is compatible with Kenwood mobile radios with DTMF features. Visit the Web site www.ariabattery.com.

EF Johnson Technologies

The Discover GPS Speaker Microphone transmits location, text messages and tracking information over 5100 ES series Project 25 (P25) portable radios. A large, backlit icon-based LCD screen provides graphical representation of relative distance and direction. Text messages and waypoints can be transmitted to groups,

individuals or dispatch. Highly accurate location data can be transmitted over analog or digital channels, clear or encrypted, with every push to talk (PTT) or at pre-determined intervals. The speaker microphone is compatible with commercially available graphic and mapping applications for complete real-time situational awareness. Visit the Web site www.efjohnsontechnologies.com.

Elma Electronics

C08 coded output switches provide tactical feedback while allowing users to change channels on mobile radios

by feel without looking at the selection indicator. The radio switches are available in hex, gray or custom codes. The switches meet Six Sigma quality standards. Visit the Web site www.elma.com.

Impact Radio Accessories

Impact's wireless push-to-talk (PTT) line is available on Platinum series speaker microphones, lightweight headsets, throat microphones and a three-wire kit with only two wires, company officials said. The PTT is a rubber-coated submersible unit with Velcro finger strap that can be easily

concealed or fixed to handlebars, steering wheel or rifle barrel. All available products feature a fixed back-up PTT for dual functionality; all cables are Kevlar reinforced, and all products carry a full two-year manufacturer's warranty. The products are available for nearly all brand and model analog and digital TETRA portables. Visit the Web site www.impactcomms.com.

Infinity Gear and Technology

The Infinity GPS-MIC allows users to see the exact location of their team in a heavy duty, water-rated speaker microphone with built-in GPS and LCD. By

connecting the microphone to a two-way radio, users can relay location, heading, speed, elevation and identification (ID) and navigate to team members and waypoints. Estimated time of arrival (ETA) is calculated based on average speed. Visit the Web site www.infinitygearradios.com.

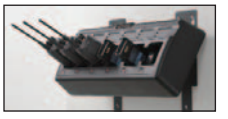
JDI

JDI makes microphones for two-way radios. Examples of microphones

include lightweight headset, surveillance, desktop, and shoulder. MOTOTRBO is the company's latest connector for Motorola two-way radios, suitable for DP3400 and MOTOTRBO series radios. Visit the Web site www.jdi-co.com.

Kenwood Japan

KSC-326/256/356/316 are Kenwood's



six-pocket multiple chargers. The chargers are designed for easy use in an inline layout, with a label space for each

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pocket, Kenwood officials said. The optional KMB-30 gives a versatile wall-mounting option, officials said. The chargers can charge a battery by itself or a radio/battery/belt clip combination. The chargers provide reliable performance with built-in overcharge protection, independent circuit design for each pocket and RF immunity, officials said. Visit the Web site www.kenwood.com.

Klein Electronics

The Director is a professional two-wire surveillance earpiece for Kenwood, Motorola, Relm and Vertex two-way radios. The earpiece kit features a clear audio acoustic coil tube with quick disconnect, which comes

in black or clear; sidebar push-to-talk (PTT) button with noise reduction microphone; steel clothing clip; junction box with strain reliefs; and premium grade cabling. Optional Comfort-Ear noise reduction foam eartips and K-Flex semicustom earmolds are also available. Visit the Web site www.headsetusa.com.

Motorola

The heavy-duty headset, PMLN5275, for Motorola's MOTOTRBO radios is ideal for high-noise environments, such as a construction site, company executives said. The headset includes a

noise-canceling boom microphone and can be worn with or without a hard-hat. The push-to-talk (PTT) switch is located on the earcup. The headset offers a noise reduction of 24 dB. Visit the Web site www.motorola.com/MOTOTRBO.

Phonak Communications

Primero is the first boomless in-ear radio headset with active noise cancellation, according to company officials.

Fully compatible with all professional portable radios, the overt communications device provides rescue, security and emergency teams with industry-leading sound quality and optimal intelligibility, whatever the setting, officials said. Visit the Web site www.phonak-communications.com.

Ranger Communications

The SRA-166B speaker is made of durable, long-lasting material. The

speaker has five LEDs in three different colors to indicate low, medium and high audio levels, and is directly driven by the audio signal. Visit the Web site www.rangerusa.com.

Zetron

Zetron's Intelligent Radio Interface Module (iRIM) expands its Kenwood radio interface support to include Kenwood's TK-5710/5810 and NX 700/800 radios. The module provides a

way to transition or interoperate between different proprietary two-way radio protocols when using the company's radio dispatch consoles. The module provides control over push to talk (PTT), privacy code monitor, channel or talk-group selection, repeat/talkaround and coded/clear. Visit the Web site www.zetron.com.

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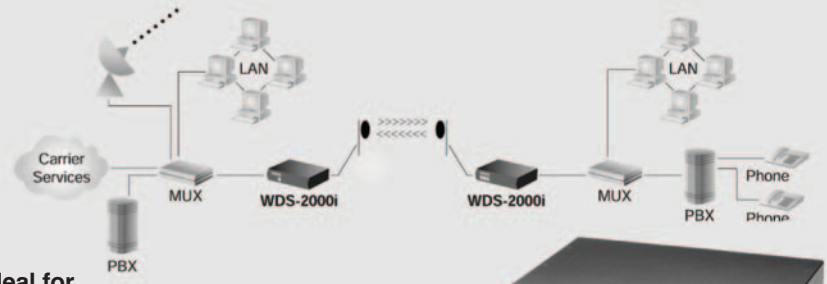

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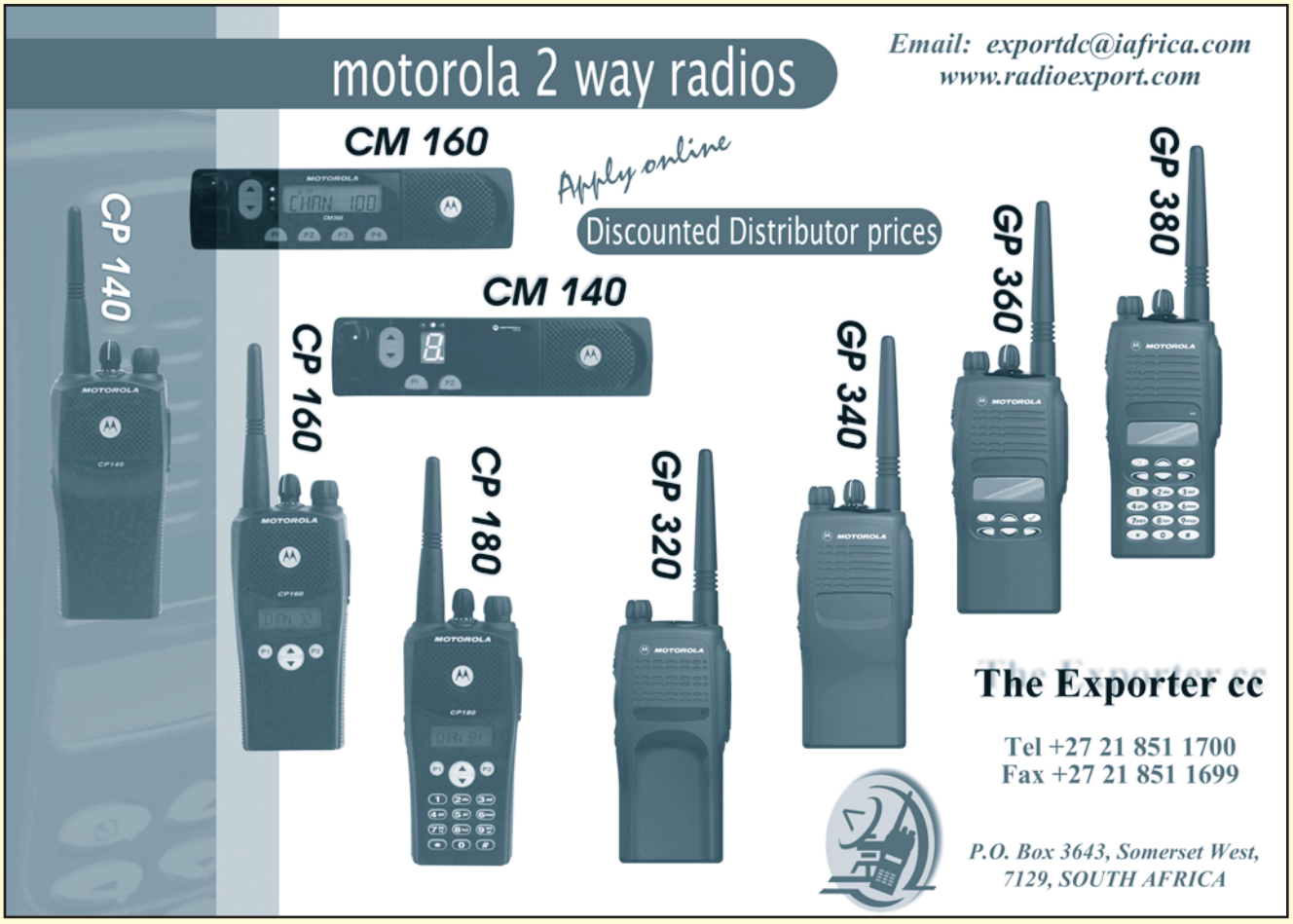

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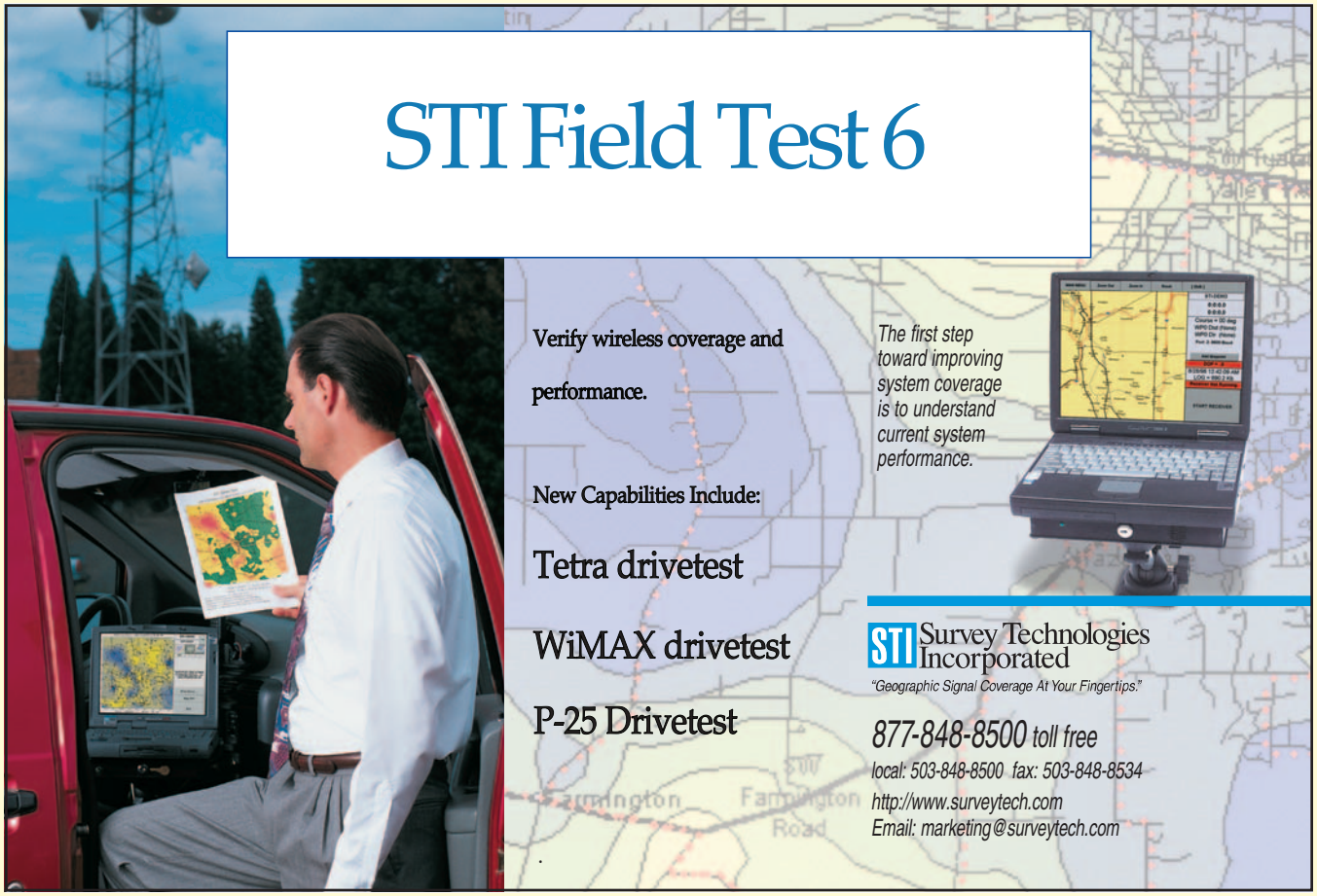

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SIGNATURE: _____

DATE: month _____ day _____ year _____

2. Which of the following best describes your organization?

❑ A Mobile Communications Dealer/Reseller
❑ B Distributor, Agent, Importer, Exporter, Rep
❑ C Commercial Trunked Radio and Other Wireless Service Providers
❑ D Government/Public Safety/Military
❑ E Business/Industrial/Transportation User
❑ F Communications Manufacturer/OEM/Software Developer
❑ G Engineering and Consulting Firm
❑ Z Other—please specify _____

3. What is your function?

❑ A Corporate Management
❑ B Operations/Administration Management
❑ C Technical/Engineering Management
❑ D Sales/Marketing
❑ Z Others Allied to the Field—please specify _____

4. Do you recommend, specify or purchase radio communications equipment or services?

❑ A Yes ❑ B No

5. Is there any servicing of radio equipment at your location?

❑ A Yes ❑ B No

6. In what area of the world do you do most of your business? (mark only one)

❑ A Western Europe
❑ B Eastern Europe
❑ C Middle East
❑ D Asia
❑ E Australia/New Zealand
❑ F Africa
❑ G Mexico/Central and South America
❑ H United States/Canada
❑ Z Other _____

7. What wireless technologies does your organization plan to use/buy over the next 2 years? (check all that apply)

❑ A Conventional Two-Way
❑ B Cellular/Personal Communications
❑ C Paging/Messaging
❑ D Mobile Data
❑ E SCADA/Telemetry
❑ F Microwave radio
❑ G Trunking
❑ H Location Technologies
❑ I Tone Signaling (ANI, Encryption, etc.)
❑ J Interconnect
❑ K Satellite
❑ L CAD
❑ M Wireless Broadband
❑ Z Other _____

BG09

Data Applications Could Drive Digital Shift

By David Krebs

Professional mobile radio (PMR) solutions represent the communications link for many users across industries including public safety, military, utilities and transportation. PMR has its roots in AM and FM radio technologies used for public safety broadcast messaging during the 1930s and 1940s and portable radio technology, which had its first major breakthrough with the advent of transistors in the 1950s. Market research firm

Venture Development Corp. (VDC) estimates the global market for PMR solutions — hardware, software and services — at about $8.4 billion in 2008 with an installed base of mobile and portable radios nearing 20 million units.

Although clearly a mature market, VDC predicts continued, consistent growth for PMR solutions during the next several years, much of which will be replacement sales as users migrate to next-generation platforms. In addition to developments around interoperability, a major PMR thrust has been the analog-to-digital transition. Based on research VDC recently conducted among more than 650 current and future global PMR users, respondents from all of the major geographic markets predicted a strong shift to digital technology during the next five years.

About 70 percent of the current installed base of PMR radios remains analog. While VDC's research indicates that by 2012 the total installed base of digital PMR radios should reach 66 percent, the transition is taking longer than expected. This is largely a factor of the long shelf life and replacement cycle of PMR solutions and the lack of clear investment drivers. A primary factor motivating the shift toward digital solutions comes from efficient use of spectrum; digital transmission more easily accommodates the 12.5- and 6.25-kilohertz channel spacing that most industrialized countries are moving toward. Specifically, digital solutions are twice as spectrally efficient as analog systems, supporting one communication per 6.25-kilohertz channel as opposed to one per 12.5- or 25-kilohertz channel in legacy analog systems.

Additional benefits of digital PMR solutions driving adoption include:

- Improvement in range and quality of communications by as much as 20 percent;
- Low bit error rate (BER) improving reception in fringe areas;
- Improved security features;
- Less expensive to operate as subscribers are added; and
- Data application opportunities.

Wireless-data applications may represent the key missing ingredient. According to VDC's research, PMR end users are not only looking for improved performance from PMR solutions, they are also looking to support a broader set of applications. In addition, the emergence of several accepted global digital standards are critical factors accelerating the transition. Voice will remain the killer application for PMR solutions — especially among traditional users such as public safety — and enhancements of voice capabilities and quality are significant investment drivers by themselves.

However, wireless-data opportunities are expected to be a critical factor driving next-generation PMR adoption, especially among emerging user segments. In fact, almost three in four end-user respondents indicated that they plan to support wireless-data applications on their PMR networks.

While standard data applications such as messaging are fairly common, requirements for more complex applications that improve worker productivity and field-based communications at the point of interaction are emerging. In addition, core PMR users increasingly leverage GPS and location-based services such as AVL. Finally, PMR support of video for remote monitoring and surveillance represents a critical growth segment.

Perhaps the greatest challenge to wireless-data application proliferation on PMR networks is competition from cellular networks, increasingly becoming the data pipe of choice for many organizations. Moreover, among users where voice is not considered mission critical, increased availability of push-to-talk (PTT) capabilities by cellular service providers is considered a key barrier. Finally, a key issue for PMR vendors is balancing the voice and data requirements with radio form factor design considerations. Most radios are optimized for voice applications — large PTT buttons and rotary dial — and with the exception of simple messaging applications, are not viable platforms for data applications.

While the shift toward digital is clear, PMR vendors need to make sure that their technical and commercial roadmaps include the following:

- Availability of multimode (analog and digital) radios to enable a more seamless transition and support backward compatibility with legacy analog systems;
- Competitive pricing with existing analog solutions with the premium not to exceed 20 – 30 percent;
- Development of form factors that better support wireless-data applications, especially improved user interfaces and intuitiveness; and
- Improved leverage of the security capabilities of digital technology. ■

David Krebs is mobile and wireless practice director for Venture Development Corp. (VDC), an independent technology market research and strategy-consulting firm in Natick, Massachusetts, USA. He can be reached at davidk@vdc-corp.com.

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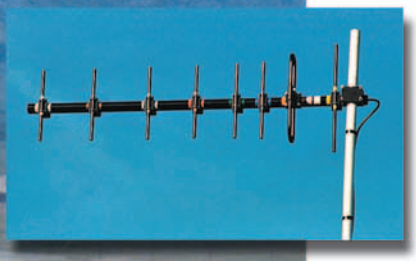

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