

Radio World

2002

Source Book & Directory



A Supplement to Radio World

If You Feel Like This



You Need This

Looks like you've got your hands full again. Except you're running out of hands. And because you have many facilities you could use a few more legs, too.

Let Harris' Intraplex STL PLUS™ give you a hand getting your new station up and running quickly and profitably or upgrading your station to the best quality digital on-air sound available today.

STL PLUS™ gives you bi-directional program audio transport over a T1 line, fiber or microwave link. So you can interconnect your studios, offices and transmitter sites. And because it's a digital system, you're delivering pure, crystal clear sound – regardless of the distance. Even if you're surrounded by the highest mountains or tallest buildings.

Now for the PLUS in STL PLUS™: You can also transmit LAN/WAN data, telephone, intercom, and remote control over the same digital line. All of which can rack up some pretty impressive cost savings for your inter-facility communications.

Best of all, STL PLUS™ grows with you as no one else can. It has the industry's largest assortment of plug-in modules. So you can design the perfect system for today and quickly, easily, and affordably upgrade it for tomorrow.

So, contact your Harris representative about STL PLUS™ today. You'll be a leg up on the rest.



next level solutions

SERVICE
SYSTEMS
AUTOMATION
TRANSMISSION

2002 Source Book & Directory

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Vote for Your Favorite Radio Products

The 2002 Source Book & Directory that you hold in your hands is intended to be saved and used all year long. Keep it near your workbench, desk or RF site.

The heart of this Source Book is our *Vendor & Product Directory*, an alphabetical listing of almost 600 broadcast equipment and service providers, including their phone, fax, e-mail and Web site information, plus information about new products.

A handy *Supplier Source Index* allows you to identify vendors by the type of equipment you need. For instance, if you are shopping for an AM transmitter, turn to the list of suppliers on page 31, then find those companies in the directory section.

In the *Product Profiles* section, companies tell you more about their latest products and innovations.

In the *Best of Buyer's Guide*, we reprint recent user stories that appeared in the popular section of Radio World.

The Radio World Source Book has its beginnings many years ago. I well recall receiving my copy in my days as an industry sales manager and marketing person. I found

From the Editor



Paul J. McLane

it greatly useful to have a handy reference, and I was disappointed when the annual edition went away in the early 1990s.

Last year, Associate Publisher John Casey and I decided to renew the format, and the first of the new annual series appeared in early 2001. This is the second.

Your input as to how to make future Source Books more helpful would be


Dear Radio World Reader:

Happy New Year! This is your official ballot form to participate in our very first Readers' Choice Award voting program. By casting your vote below, you will be expressing your opinion about which radio industry products work well for you. The results will be announced in April 2002.

As a way of thanking you for taking the time to vote, your name will automatically be entered in our Readers' Choice Sweepstakes contest. We will be selecting 26 lucky winners in 26 random drawings for 26 great prizes announced in every single issue of *Radio World* during 2002. All you need to do is follow the steps below.

Thank you for participating and good luck!

— Your Friends At Radio World



OFFICIAL BALLOT

DIRECTIONS

STEP 1 If you prefer to fill out an electronic version of this ballot, please skip the remainder of this form and go immediately to our Web site www.radioworld.com. Click on the Readers' Choice Award Sweepstakes button on the home page and follow the online instructions.

STEP 2 If you prefer to fax or mail in your ballot, carefully tear out this page at the perforated edge in the binding of this book. Fill in your contact information and mark your votes in the designated category boxes.

Refer to the flip side of this page for a list of product nominations by category. As a courtesy to the participating companies, we've listed their Web site URLs where you can learn more about any of these fine products.

Be sure to mark the corresponding number for each product by category in the empty boxes of the ballot section on the right. Only one number per category will be allowed.

STEP 3 If you're faxing back your ballot, please send it to (703) 998-0214

STEP 4 If you're mailing back your ballot, please send it to: **IMAS Publishing**, Attn: Circulation Dept., 5827 Columbia Pike, Falls Church, VA 22041

STEP 5 All ballots must be received by **March 1, 2002**. All voters must have a valid mailing address in the United States of America.

VOTE

Choose products from the illustrations list on the reverse side of this form and write in the corresponding number in the appropriate category box below:

<p>A. Audio Processors - On-Air <input type="checkbox"/></p> <p>Audio Processors - Studio or Voice <input type="checkbox"/></p> <p>B. Codexes - POTS Line <input type="checkbox"/></p> <p>Codexes - ISDN/T1 <input type="checkbox"/></p> <p>C. Consoles & Mixers - In-Air <input type="checkbox"/></p> <p>Consoles & Mixers - Production <input type="checkbox"/></p> <p>D. Digital Automation Systems <input type="checkbox"/></p> <p>Digital Audio Recording/Playback/Editing Hardware <input type="checkbox"/></p>	<p>F. Microphones - On-Air <input type="checkbox"/></p> <p>Microphones - Field & Specialty <input type="checkbox"/></p> <p>G. Remote Field Equipment <input type="checkbox"/></p> <p>H. Routers & Switchers <input type="checkbox"/></p> <p>I. Studio Accessories <input type="checkbox"/></p> <p>Telephone Hybrids & Adapters <input type="checkbox"/></p> <p>K. Transmitters - Transmitters - AM <input type="checkbox"/></p> <p>Transmitters - M <input type="checkbox"/></p> <p>L. Others <input type="checkbox"/></p>
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READER INFORMATION

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Email: _____

BALLOT on page 54

appreciated. What content or physical changes would make this reference guide more useful to you? Please let me know.

In preparing this book, the staff of Radio World made multiple efforts to contact every radio supplier known to us. If you are

By casting your vote, you can express your opinion about which products work well for you — and you'll be signed up automatically for our next sweepstakes.

a supplier and we missed you, please contact me at radioworld@imaspub.com so we can include you next year.

My thanks to Shannon Allen and Davis White for their indispensable assistance in compiling this Source Book.

★ ★ ★

Also in these pages, you will find your official ballot form to participate in our first "Readers' Choice" Award program.

Radio engineers and managers love to talk about their favorite products and technologies. Who makes the best on-air processor? What's your favorite FM transmitter, POTS codec or microphone?



Here's your chance to speak up.

We've invited the industry's suppliers to nominate their products as shown on the ballot. By casting your vote, you can express your opinion about which radio

products work well for you.

This is a complement to our popular "Cool Stuff" Awards, which are determined by a panel of judges each spring. These new awards let you, the user, vote for products that you like best.

The results will be announced in April.

The ballot is on page 54 and must be received by March 1. As a courtesy to participating companies, we've listed their Web sites so you can learn more about these fine products.

If you prefer to fill out an electronic version, just visit www.rwonline.com and click on the "Readers' Choice" Award &

Sweepstakes button on the home page.

★ ★ ★

Further, as a way of thanking you for taking the time to vote, your name will be entered automatically in our "Readers' Choice" Sweepstakes contest. We will select 26 winners in 26 random drawings for great prizes to be announced in every issue of Radio World this year.

Remember how many great prizes we gave away in our sweepstakes last year? Sign up now so you won't miss every chance to win in 2002. 🌐



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YOUR HAIR
OUT OVER
VOICEMAIL!!**

CALL S.C.M.S., INC.

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Powerful Remote Tool

COMREX®



The Matrix POTS/ISDN/ Wireless codec - a powerful tool for any remote broadcast kit. Circumstances can vary greatly from one remote to the next. Some locations offer ISDN while others may barely have a phone line. The Matrix is versatile enough to get you on the air one way or another from just about any site.

The Matrix:

- Delivers 15 kHz full duplex audio on a single, standard telephone line and is compatible with the popular Vector and HotLine codecs.
- Includes a "store and forward" feature so that 15 kHz audio cuts can be sent in "non-real time," which can be useful when a circuit won't sustain modem transmission.
- May be used with GSM wireless phones to improve the quality of the audio delivered on these circuits.
- Optional module provides ISDN operation using ISO/MPEG Layer III or G.722 for industry compatibility. (Available for portable or rackmount units.)
- Software is flash upgradeable through a multipurpose dataport using files downloaded from the internet or e-mail.
- Optional TelCell module allows connection to telephone line or the hands-free port on most mobile phones. While this does not actually add any audio enhancement to the wireless call, often the addition of professional quality microphones will make a substantial difference in audio quality.
- A battery kit is available including a rechargeable NiMH (Nickel Metal Hydride)

battery that powers the unit for up to 7 hours.

- Available in a space saving 1U rackmount version.

The Matrix - an insurance policy against obsolescence!

The Matrix is designed to accept optional modules which turn the powerful coding engine of the unit into a "future-proof" investment. In the portable Matrix, the sturdy module is easily inserted into a channel in the base of the unit. The rackmount Matrix provides room to accommodate an optional board which connects to the main board with a simple jumper cable. The Matrix's fluid design, along with flash upgrade capability allows virtually infinite potential as new circuits become available.

Phone line features

The Matrix adds several utilities which aid in ease of use and reliability on difficult phone lines. The unit automatically detects the optimal data rate and delivers the best audio possible. A Max Rate (Maximum Data Rate) can be set prior to connection, giving further assurance of stability. A quick rate drop feature sets a new Max Rate for reliability with only a 2-second loss of audio. Renegotiation can be disabled, preventing dropouts at inconvenient times. A quick rate drop or a full renegotiation can be performed at any time by pressing a single button at either end of the call. Error correction is available. And even at 14.4 kbps, the Matrix will deliver 7 kHz audio. Comrex has implemented every tool possible to aid you in delivering a seamless and uninterrupted broadcast.

Other features

The Matrix is a feature-rich codec with far more details than we can list here including contact closures, memory dial, international dialing protocols, a peak limiter, 2 XLR inputs, a balanced XLR output, a headphone output, a tape input, an adjustable mix of local and return audio to the outputs and a bunch of other stuff. For more complete information, check out www.comrex.com and click on "Matrix."

Comrex Corporation

65 Nonset Path
Acton, MA 01720
Phone: 978-263-1800

Fax: 978-635-0401

Fax-on-demand:
978-264-9973

E-mail: info@comrex.com

www.comrex.com

Matrix—

QUITE POSSIBLY THE LAST CODEC YOU'LL EVER BUY.



THE CODEC FOR THE FUTURE

Your remote equipment solutions may already include ISDN and POTS codecs plus a slew of other stuff. Now they are talking about high speed GSM digital wireless—and coming soon...3G.

The Matrix's modular approach is designed with this future in mind. The core of the Matrix's flexibility revolves around full access to its powerful coding engine through easily inserted modules and upgradeable flash memory. Whatever may be coming down the communications pipeline, the Matrix is ready.

THE CODEC FOR TODAY

WIRELESS

- 5 kHz real-time, full duplex audio on GSM wireless phones
- Up to 10 kHz real-time, full duplex audio on HSCSD GSM
- 15 kHz real-time, full duplex audio on portable Inmarsat terminals (with optional ISDN module)
- 15 kHz nonreal-time, "Store and-Forward" feature may be used on many mobile circuits
- Optional battery kit delivers power for up to 7 hours



ISDN*

- Layer III for 15 kHz at 64 kb/s
- G.722 for wide compatibility with other codecs
- Turbo-G.722 for 15 kHz with only 6 ms of delay
- Layer III transmit with G.722 return to reduce delay
- 1200 baud ancillary data available
- Fully international terminal adapter works worldwide

* ISDN module required



POTS

- 15 kHz full-duplex audio on a standard telephone line
- Available in portable or rackmount versions
- Modular design enables use on future circuits
- Will work at data rates as low as 9600 baud
- "Store and Forward" allows 15 kHz, nonreal-time audio transmission at any data rate

Comrex Corporation, 65 Nonset Path, Acton, MA 01720
Tel: (978) 263-1800 Fax: (978) 635-0401 Toll Free: (800) 237-1776 in North America
Email: info@comrex.com www.comrex.com

COMREX

Get the Scoop



The Scoop E-Z is a versatile, portable audio codec designed for live outside broadcast. Today, remote broadcasts require a codec that can adapt to environments where anything can happen and usually does. The Scoop E-Z is designed to handle these environments. Capable of using analog (POTS), digital (ISDN), wireless (GSM) and satellite (INMARSAT), broadcasts benefit from the maximum bandwidth available.

The Scoop E-Z offers some interesting features. For example, two micro/line three-pin XLR socket inputs, microphone powering via phantom 48V or 12V, dynamic or T12 and very high performance compressor/limiter. Also, two headphone outputs and a three-pin socket line out which is selectable to +2,+4,+6,+10,+16 dBu. The E-Z offers ISDN algorithms of G.722, MPEG Layer II 1B and 2B, MPEG Layer II J52, TDAC and 4 SB ADPCM.

Other features include 50 local setups and 50 stored numbers/profiles, automatic answering, and external power 9 to 15 vdc. Weighing less than 4 lbs (including batteries), the Scoop E-Z provides the best methods for the transmission paths used in today's environment.

AETA Audio
 75 Fleetwood Dr., Suite 200
 Rockaway, NJ 07866
 Phone: 973-659-0555
 Fax: 973-659-9555
 E-mail: sales@aetausa.com
www.aetausa.com



Have all your remotes covered with SCOOP E-Z

- **POTS**

7 kHz speech

- **ISDN**

7 kHz, (G722)
20 kHz, (MPEG
Layer II)

- **GSM - Wireless**

- **Inmarsat Capabilities**

- **Two Channel Audio Mixer**

- **Microphone Supplies**

Ph48, Ph12
or T12

- **Small Weight and Size**

<4 pounds
9 x 6 x 3 inches



SCOOP E-Z



ISDN

WIRELESS

POTS

INMARSAT

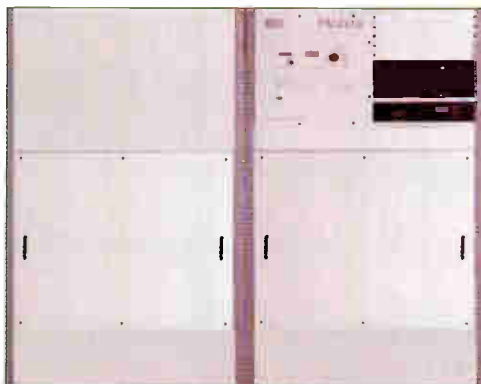


**Linking Innovation
with Clarity**

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Phone: 973-659-0555 • Fax: 973-659-9555

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sales@aetausa.com

Audio & RF Innovation



Broadcast Electronics, Inc. (BE) is a leading manufacturer of digital audio management and RF signal delivery systems for the professional broadcasting industry. For over 40 years we have successfully been working with customers to determine their audio broadcasting needs,

whether it is RF broadcasting, radio studio management, or professional Internet/Intranet streaming audio solutions.

New, innovative products are constantly being developed by Broadcast Electronics, and this year is no exception.

The new FM-20S performs like no other in the industry. An extensive redundancy and protection system has been added that will keep your signal on the air even in the most extreme conditions. The FM-20S has a lower Mean Time to Repair than any other transmitter in its class.

Our all-new Plug-N-Play 1000 produces 1,000 watts of super-clean FM signal from any analog or digital source and is easily rack mounted. The Plug-N-Play products use the latest in digital and RF technology coupled with proven exciter technology from Broadcast Electronics, Inc. The exciter portion of the transmitter takes advantage of recent advances in DSP speed and efficiency to provide performance previously not available at prices like this.

MARTI Electronics, a BE Company, is proud to introduce a new line of digital Cellcast products. This line of products will operate on the different "Cellular" systems from around the world. Included in the lineup is a TDMA unit, a Tri-Mode system (TMDS, PCS, AMPS) and a GSM model. So, there is no need to worry when reporting from the field as long as you have a Cellcast.

On the digital side of our company, we have the AudioVault Version 8.2. This version brings a list of user-requested features including Automatic Deck loading and Clearing to further improve the Live Assist capabilities. Out of Date processing has also been enhanced giv-

ing the user more control over system reactions to error conditions. The WAN and Inventory Management tool, AVExplorer, now has the ability to preview audio cuts, automatically import files from an FTP site, and to invoke dial-up networking over either phone lines or ISDN to retrieve files at a specific time.

We are very excited about our admission into the Streaming business. In a single year, SoniXtream created the world's largest distributed streaming advertisement and media applications with more than 80 million streaming rich media ads delivered, 13,000 unique localized stations in 250 markets and 55 formats including music and news. In addition, SoniXtream provides a series of embedded



multimedia Web page templates complete with easy-to-implement components that can be used to bring life to any site. Integrate streaming audio or video, as well as Java-based promotions tickers, event calendars with e-mail notification, loyal listener desktop music launchers and much more.

Ibiquity Digital's iDAB technology is a method of transmitting compact-disc-like quality audio signals to radio receivers along with new wireless data services such as station, song and artist identification, stock and news information, local traffic and weather, and much more. This technology allows broadcasters to use the current radio spectrum to transmit AM- and FM analog simultaneously with higher quality digital signals. These digital signals eliminate the static, hiss, pop and fades associated with today's radio caused by conditions known as multi-path, noise and interference.

BE's world headquarters and ISO-9001 certified manufacturing facilities are located in Quincy, Illinois. More information on BE can be found on the Internet at www.bdcast.com.

Broadcast Electronics, Inc.
4100 N. 24th St.
Quincy, IL 62305
Phone: 217-224-9600
Fax: 217-224-9607
E-mail: bdcast@bdcast.com
www.bdcast.com

State-of-the-Art Simplicity

CartWorks



In 1993, while competing systems were still running under MS-DOS, CartWorks became the first professional digital audio system to take full advantage of the capabilities of the Windows operating system. Since then, it's become a favorite at radio stations from Alaska to Florida. Not only because of its simple, easy-to-learn screens, but its powerful automation functions as well.

Our Live Assist/Cart Replacement systems are perfect for replacing those aging cart machines with state-of-the-art digital audio. Thanks to our quick learning curve, your staff may begin operating it immediately.

With additional features like Instant Access (quick access to unlimited groups of 48 frequently used carts), Automatic Cart Loading, Remote Pushbuttons, Simultaneous Record and Playback, and more, your air product will reap the benefits immediately.

CartWorks supports all the latest Digital Audio Technology. Uncompressed WAV, MPEG Layer II, MPEG Layer III, and many other formats are all supported for ultimate flexibility. Play files created on home computers, other digital audio workstations, or downloaded from the Internet, on the air without time-consuming conversion.

From single stations to multiple stations under one roof or a network of stations across the world, we've got you connected with a variety of networking options. Conventional Ethernet, dial-up networking, the Internet, or high-speed digital lines allow you to share audio recorded

on one workstation with others, virtually anywhere. And our Remote Control options allow you to control a CartWorks workstation from a remote computer, just like you were sitting in front of it. Extensive Internet capabilities are also built in to keep your Web site fresh and alive, whether you stream or not.

CartWorks Music-on-Hard-Drive systems have everything you need for live assist or automation. Simple one-button operation, In-context voice tracks, overlapped audio, and more make live and automated hours indistinguishable. Jocks listen to the music in-context while recording their voice tracks. At multiple workstations installations, several jocks may record their voice tracks simultaneously. Use our included Quick Scheduler or your favorite music scheduler.

When it comes to premium satellite automation, nothing else even comes close. Features like buffered liners, background recording, satellite transponder control, support for multiple networks, and more, handle the most complex requirement. Our advanced script-based automation gives you precision control from a simple point-and-click interface.

Easy operation for quick learning, the feature you need to get the job done, 24-hour technical support, and affordable pricing make CartWorks your best digital audio value.

While CartWorks may appear simple to use, there's a lot more going on under the surface. We use the latest state-of-the-art programming tools coupled with years of broadcast experience and the best computer, digital audio and data acquisition hardware available. You get a digital audio system that's simple to use, yet powerful enough to accommodate the most sophisticated demands.

Finally, the tools you need in a package you and your staff can use, easily.

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www.cartworks.com

US and International
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Phone: 1-800-433-2105
Dallas / Ft. Worth
(main office)

1-800-955-6800
Annapolis

1-800-257-6233
Colorado

1-877-223-2221
Mid-America

1-800-433-2105
International



Continental Electronics
AN RF COMPANY

Refined Design



816R Series FM Transmitters

The Continental 816R Series of FM transmitters' basic design has been in operation since the mid-seventies. That would make it one of the most proven designs in the industry. It has seen many refinements through the years but the design that was ahead of its time is still demanded by the most discriminating customers.

Some key features making this design stand out are:

- "Grounded Screen" Single Tube Power Amplifier
- Dual Module Solid-State IPA – Redundant IPA, broadbanded, no tuning required.
- "Soft Start™" – Smooth power control up to full power
- Automatic Power Output Control – Maintains output power even at reduced AC line voltage.
- Automatic Filament Voltage Regulation – Constant filament voltage on the PA tube to help extend tube life
- Two VSWR Protection Circuits – One for severe instances and the other to control reflected power during antenna icing or mismatches
- Engineer-Friendly Access – Components are located so that access for maintenance or replacement is easy
- Single-Cabinet Design – 11 through 30 kW. Offering small footprint of 72" x 28" and 73"
- Positive-Pressure Cooling – Pressurizes the cabinet drawing all air through the top-mounted air filter. A separate fan assures proper PA tube cooling.
- Second Power Level – Automatic second power level by simple contact closure. Provides safety for antenna work or reduce power operation.
- Quick Power-Supply Diagnosis - All power-supply protection uses breakers and indicating fuse holders located on the front panel.
- LED Status and Failure Indication – 27 LEDs indicate the operation of all control circuit interrupts, interlocks and overloads.
- Broadband Quarter-Wave Cavity – A proven design, now adopted by other companies, provides extended bandwidth for excellent stereo and extended SCA channel performance.
- Motorized Tuning and Loading – Motor-driven final amplifier tuning and loading capacitor plates are the only moving parts. No complicated mechanical right-angle drives, couplings or chain drives.
- Primary Power Monitor – AC phase loss, rotation and voltage balance provides built-in protection to transmitter components.
- Remote-Control Connections – Rear-panel opto-isolated D.C. connections allow easy interface to all available remote-control systems.
- Quick and Easy Installation - (11 through 30 kW.) All components are shipped within the transmitter cabinet including power supplies and harmonic filter. Two-year parts limited warranty – Excludes tubes and blowers.
- 10,000 Hours Tube Warranty - (11 through 27.5 kW transmitters), 5,000 Hour Tube Warranty (30 and 35 kW. transmitters).
- Automatic Power Recycle – Recycles transmitter in case of power failure or during generator switches.

Continental's high-power FM transmitters are available from the following RF Specialties offices.

RF Specialties of California, Inc. - Northern
(888) 737-7321

RF Specialties of California, Inc. - Southern
(800) 346-6434

RF Specialties of Florida, Inc.
(800) 476-8943

RF Specialties of Pennsylvania, Inc.
(866) 736-3736

RF Specialties of Pennsylvania, Inc. - Philadelphia
(888) 260-9298

RF Specialties of Texas, Inc.
(800) 537-1801

RF Specialties of Washington, Inc.
(800) 735-7051

Continental Electronics
(800) 733-5011 or www.contelec.com

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Dallas, TX 75227
Phone: 214-381-7161
800-733-5011
Fax: 214-381-4949
E-mail: bbrewer@contelec.com
www.contelec.com

High Places, High Power



ERI's Cogwheel Master Antenna
– The Answer for Multi-Station
Broadcasting.

Electronics Research, Inc., ERI, is proud of the success our Master Antenna concept has achieved over the years. As other manufacturers enter the master antenna field, ERI's experience and technical know-how continue to be unparalleled. ERI is constantly researching new techniques and advances in antenna design. From concept to installation, our team of professional engineers can design any complex antenna or tower project.

The United States is a unique market where broadcasters historically own and operate their own transmission systems. Today, however, loading restrictions for existing towers and rising costs for limited vertical real estate have forced radio stations to join forces and operate from a common facility with a master-type antenna system. ERI's Cogwheel and combining systems are the perfect solution to these new challenges.

ERI's Cogwheel is the most commonly used full FM band Master Antenna in the United States and includes the systems on the Empire State Building and the Prudential Building in Boston. It integrates antenna, structure and feed system into a single entity providing nearly identical broadcast coverage and signal quality for all participating stations. This broadband design can accommodate as many as 15 high-powered radio stations. ERI also provides the complex combining equipment required to feed the combined signals from those 15 stations into a single transmission line system.

From the outset, the Cogwheel structure, with integrated radiating elements, was devel-

oped to satisfy the demanding requirements of the high-power multi-channel FM market. The high-power design provides simplicity and greater reliability making it ideal for multi-channel licensed operation over the entire FM band-88 to 108 MHz.

Engineered for reliability, the elements' feed points are protected from severe weather conditions by a pressurized insulator. No electrical de-icing is required. This attribute increases reliability while reducing operating costs. With fully pressurized feed systems and careful attention to dissimilar metal junctions, Cogwheel arrays provide an integrated design for assured longevity even in the harshest of environments.

ERI's newest addition to its Master Antenna product line is the three-around Cogwheel design, Cog-3. Selected by a nine-station FM group in Chicago for the Chicago Hancock Building, the antenna is scheduled for installation in January. The station consortium chose the Cog-3 for its high-power performance and low-profile design. When stacked, the stout multi-bay level array supplies the strength for the three hefty top-mounted OEM antennas planned for the project. The central support spine of the Cog serves as a transmission raceway for the OEM antennas, protecting them from harmful RF. The Cog-3 provides unconditionally uniform patterns (circularity typically +/- 1.1 dB) and matches below 1.1:1 VSWR across the entire FM band.

Electronics Research, Inc. specializes in the design and production of FM broadcast antennas and associated support structures. We offer integrated antenna and tower packages, including full-scale, antenna pattern measurements, complete package delivery, system installation and final checkout.

ERI - Electronics Research Inc.

7777 Gardner Rd.
Chandler, IN 47610
Phone: 812-925-6000

Fax: 812-925-4030

E-mail: dave@eriinc.com

www.eriinc.com



The Economical Way to Precision Timing



ESE's GPS Line of Master Clock/Time Code Generators

Now you can get split-second accurate timing for all of the devices in your station or studio with ESE's GPS line of Master Clocks. Designed for use in radio, TV production and cable systems, these clocks can simultaneously feed a multitude of automated playback devices and offer numerous time-code output options to fit your particular application. All of the clocks receive time and date information from Global Positioning System satellites and supply the data in a variety of forms. ESE Master Clocks utilize an eight-channel receiver which is capable of tracking up to eight satellites at once, although only one is necessary for the time and date data to be output. The data reaches the unit through the supplied indoor/outdoor antenna and 19' cable and is easy to install. If an additional cable is needed, ESE can provide an optional low-loss cable and in-line amplifier as well as an amplifier power supply when necessary. In the event of GPS signal loss, the internal temperature-controlled crystal oscillator will maintain time accuracy better than 33 mS a day.

Once the unit is set up, it updates Daylight Savings Time automatically and even provides Leap Second Correction so you have worry-free operation. All units include a GPS "Lock" indicator, Time Zone Offset and optional DC operation for field and ground mobile operation. In addition, ESE's GPS Maser Clocks are en-

cased in either rugged desk-top cases or rack-mount enclosures for long-lasting durability.

ESE Master Clocks provide a number of options when it comes to outputting time code. All units offer ASCII (RS-232C), ESE-TC89 and ESE-TC90 Time Code outputs, dual 1 PPS outputs and a GPS "Lock" output. The ES-102 offers SMPTE Time Code for broadcast applications while the ES-103 offers an optional IRIG-B or E output. For larger operations, the data from the ESE Master Clocks can feed data throughout your facility utilizing up to 200 digital display slaves that can operate up to a distance of 4,000 feet.

Choose the model that best suits your needs:

ES-101: The most economical unit in the line, the model ES-101 is ideal for many applications, uses only 5 watts of power and offers all of the standard features of the GPS Master Clock series. Designed to sit on a desk-top, the ES-101 utilizes RS-232 ASCII time-code output and offers SMPTE and IRIG outputs as options. At a list price of only \$995, it represents a tremendous value.

ES-102: Ideal for broadcast applications, the ES-102 offers SMPTE time-code output, standard. This rack-mountable unit provides a six-digit, .56" high-output, LED readout that includes hours, minutes and seconds and consumes only 15 watts of power. At a list price of only \$1545, the ES-102 will help any broadcast station keep on-time, all the time.

ES-103: Perfect for specialized applications, including military use, the ES-103 includes a nine-digit, .56" high-output, LED display that includes day of year, hours, minutes and seconds. This rack-mountable unit can output IRIG-B or IRIG-E time code and lists for only \$1645.

All ESE products are available from professional audio and video dealers worldwide. For more information call (310) 322-2136, e-mail us at info@ese-web.com or visit our Web site at www.ese-web.com.

ESE

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El Segundo, CA 90245
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www.ese-web.com

BMXdigital Modular Digital Audio Console **BMXdigital**



Unmatched Digital Functionality, Reliability and Styling.

Building on the tradition of high performance and elegant, robust construction established by the BMX Series of analog audio consoles, the new Harris Pacific BMXdigital offers unparalleled functionality, modularity, durability and contemporary styling in a fully digital, compact design console.

Leading the Way with Industry Firsts

The BMXdigital console boasts any number of industry firsts including: two times the mixing buses of any previous digital console for unprecedented broadcast versatility, independent analog AND digital inputs for both A and B inputs on each module, and frame sizes with up to 38 input module capacity. With the BMXdigital, radio stations with sophisticated programming requirements can step into the digital future leaving behind the full-featured operation they've come to expect from past analog designs.

New Design and Versatility

The Harris Pacific BMXdigital console offers an all-new clean, sleek future-forward modular design. We analyzed and rearranged the layout of controls to provide more functionality in the same ergonomic reach as our Legacy X-Class consoles and added proprietary LED illuminated buttons with a great analog feel. The BMXdigital features an all-digital audio architecture; maximum flexibility with optional spaces for the installation of third-party control or accessory panels; and hot-swappable panels for service on the fly for today's increasingly time-constrained radio station engineers.

Features/Benefits

- Four stereo program buses, four stereo utility buses, and two stereo send buses, each with digital and analog outputs
 - Two independent off-line mix feeds for use with telephone and remote feeds
 - Telco mix record bus
 - Universal analog/digital input modules without the need for "configuration" cards
 - Up to six Telco/Codec input modules, each supported by a mix-minus output with selectable automatic on-line/off-line switching and individual IFB
 - Router/Remote Switcher control input module
 - Three mainframe sizes accommodating 22, 30 or 38 input modules
 - Hot-swappable panels for on-the-fly serviceability
 - Fully modular design
 - Control room monitoring with breakaway monitor/headphone selection and auto-cue for the operator's headphones
 - Two independent Studio monitoring systems with extensive talkback facilities
 - Stereo Cue and Solo with automatic level metering
 - On-board console session storage and recall without an external PC
 - Ten microphone preamplifiers standard, each with variable gain trim and selectable phantom powering with low-impedance, balanced outputs. Additional preamplifiers a plug-in option
 - High-accuracy, slaveable digital clock
 - Digital timer with timer control panel
 - Two-line, 10-character LED alphanumeric displays on all input modules and the session control module
 - Web-based session management accessible via LAN connection
 - Network connectivity to LANs, WANS, hard-disk systems and routers in addition to standard parallel logic connectivity
- Service on-the-fly, durability, cutting-edge style and digital capabilities – the Harris Pacific BMXdigital has it all!

Rich Redmond
Director, Studio
Systems/Consoles

Harris Corporation, Broadcast Communications Division

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Product Profiles

The Next-Level DX Transmitter



3DX-50 DX Destiny Medium-Wave
AM Transmitter

The newest DX Destiny Digital Medium-Wave AM Transmitter, 3DX-50 stretches the digital envelope of the acclaimed DX Destiny series with a new design from the ground up. The DX Destiny transmitter is the most innovative Medium-Wave broadcast trans-

mitter to date — with the world's best linearity, efficiency, reliability and auto-servicing. The 3DX-50 has all the great attributes of DX Destiny with groundbreaking digital amplitude modulation, super high efficiency, outstanding audio performance, rock solid reliability and IBOC-readiness.

DX Destiny Direct Digital Drive (3D) Technology

The 3DX-50 Destiny improves typical overall (AC to RF) efficiency to better than 86 percent, and Harris' new Direct Drive (3D) technology improves modulation linearity and bandwidth, especially important for the coming transition to Digital Audio Broadcasting. Each power amplifier module is directly driven by a low-level signal, eliminating the RF driver section, to reduce costs, complexity and energy consumption.

Additional 3DX-50 Benefits:

Auto-Servicability: With Harris' new technology, the 3DX-50 is virtually auto-servicing. Patent-pending Digital Serial Adaptive Modulation (DSAM) continuously monitors each serial encoder and RF power amplifier module and makes automatic module reassignments should any difficulty occur. Several RF modules can be out of serv-

ice with little or no impact on transmitter output power or normal modulations levels. DSAM keeps the transmitter running at peak performance until maintenance can be performed.

- **Intelligent User Interface:** The 3DX-50 Destiny is designed for easy operation with IntelliSat, a diagnostic user interface that features a combination of large, internationally identified control buttons, a status panel with selectable metering, and VGA display. IntelliSat provides all the important control and status parameters to show the status of transmitter performance. Additional parameters can be monitored through a serial terminal emulation port.

- **Hot Plugability for Next-Level Hot Serviceability:** DX Destiny offers hot plugability for RF amplifier modules — no need to take the transmitter off the air for service. An RF amplifier or binary amplifier module can be removed when the transmitter is up and running by simply inserting a diagnostic card, capable of disabling the module.

- **Next-Level Redundancy:** DX Destiny is available with optional dual exciters, dual low-voltage power supplies, dual binary amplifiers and dual binary amplifier power supplies — all with automatic switchover. A fully configured system offers unprecedented redundancy and hot serviceability.

- **Proven Digital Amplitude Modulation (DAM):** Harris-patented Digital Amplitude Modulation makes for unequalled audio performance. This innovative modulation technology has been in operation since 1987 and is operating in more than 1,000 (and counting) DX transmitters worldwide.

Broadcasters everywhere are singing the praises of Harris' 3DX-50 and the next-level digital technology. For more information on 3DX-50 visit our Web site at www.harris.com.

Gary Liebisch
Sales Applications
Engineer, AM

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Harris Intraplex STL PLUS Digital Studio-to-Transmitter Link System



Harris' Intraplex STL PLUS is a fully integrated STL system designed to transport stereo audio over T1 circuits, making it an ideal choice whether in a single studio-to-transmitter link or multi-location contribution and distribution network.

- No line of sight is needed to your transmitter site
- Overcrowded 950 MHz STL frequencies can be avoided
- Cross town or across country, digital is accurate regardless of distance
- Digital sounds better than the best analog and is unaffected by low-level noise buildup common in analog circuits
- T1 is bi-directional and allows simultaneous transport of TSL, LAN data, telephone circuits, and remote control over the same link
- T1 links cost less than the multiple leased circuits they can replace

Unlike microwave radio links, a digital T1 STL system requires no direct line-of-sight to the transmitter, and transports pure crystal-clear digital audio over any distance and terrain. The STL PLUS can be deployed in a wide-area network audio and data transport system allowing multiple locations to share talent and administrative resources, thereby reducing a station's operating costs. These other applications "ride for free" with the program audio, increasing your communications efficiency.

The basic STL PLUS system includes T1 multiplexers for both the studio and transmitter ends of the link.

A wide range of plug-in program audio,

voice and data modules allows broadcasters to create virtually any combination of payload for transport over T1 circuits. Program audio modules provide digital transport of up to 20 kHz stereo. They are available with analog or AES/EBU input or output.

Linear uncompressed audio modules provide 15 kHz stereo audio with minimum throughput delay, and are ideally suited for STL links.

Apt-X100 4:1 compressed audio modules deliver 15 kHz stereo audio and minimal delay while conserving bandwidth for STL links where multiple program audio channels and/or telephone and data traffic share the link.

MPEG Layer 2 compressed audio modules deliver up to 20 kHz stereo program audio and are used when some delay is acceptable.

Additional system modules can accommodate one-way or full-duplex data circuits, supporting a variety of data rates for LAN/WAN remote control and PAD (program associated data): voice-grade audio for telephone, intercom, remote control, fax and modem circuits; and compressed transmission of video surveillance and remote monitoring applications.

Harris' Intraplex STL PLUS operates over all types of T1 circuits: private line, public leased line, digital microwave and spread-spectrum radio, or T1 subcarrier over video microwave.

System Control and Network Management is provided by IntraGuide™, the Intraplex Windows-based configuration and management software that simplifies installation, monitoring, and control. Network management can be sent across the link from a single STL PLUS to remotely configure, perform diagnostics, and monitor performance on any other STL PLUS on the network. SNMP (Simple Network Management Protocol) is available for the STL PLUS to allow control and monitoring using industry-standard protocols via a 10BASE-T LAN connection to the network manager.

Bill Gould

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Patch It With Henry



PatchBox, (that's right, with a "P") is a new product from Henry Engineering that's sure to have some folks asking "Why didn't they think of this years ago"? PatchBox is a "passive DA" that can be used to distribute the output of a mixer to the inputs other

equipment. For example, you can use PatchBox to feed your mixer into DAT recorders, computer sound cards, cassette and reel decks, VCRs, PA systems, dubbing racks, and similar studio gear.

PatchBox takes a stereo output from any low-impedance active-balanced (transformerless) source and "splits" it into 11 isolated stereo outputs. Five of the PatchBox outputs are balanced, and six are unbalanced. The five balanced outputs (on XLR and 1/4" TRS jacks) provide a signal at "unity gain" with a 600-ohm source impedance. The six unbalanced outputs (on gold-plated RCA jacks) provide a signal that is compatible with the inputs of consumer gear. PatchBox performs the functions of a distribution amplifier, but without active circuitry. It is totally transparent to the audio signal, adding absolutely no noise, distortion or coloration.

PatchBox takes advantage of the very low source impedance outputs that are typical of today's mixer designs. In most cases, the source impedance of a mixer's output stage is just a few ohms. PatchBox uses resistive isolation to create multiple outputs from this very low-z source signal. Because the input impedance of

studio gear (both professional and consumer) is typically 10K ohms ("bridging"), there is no interaction or signal degradation when feeding multiple loads. The mixer sees a resistive load of a thousand ohms or so (depending upon the number of loads being driven) and is operating well within its specs. The gear being fed sees a source impedance and level that is appropriate: typically +4 dBm for pro gear, and about -10 dBv for consumer gear. So everyone's happy...and you don't need any active circuitry, power supply, or wall warts!

PatchBox is housed in a metal enclosure that's the same size as many other Henry Engineering products. It uses Neutrik XLR and 1/4" TRS connectors for best reliability. The RCA connectors are heavy-duty "audio-ophile-grade" units that are gold plated for exceptional longevity. PatchBox is compatible with any low-z balanced signal source that is ground-referenced, e.g., the active-balanced output of a mixer or other audio source.

PatchBox will find many applications in broadcast studios, production rooms, home studios, and other audio installations. It's ideal whenever you need to patch in (yet) another DAT recorder or cassette deck, but don't have a DA or patchbay. It's also a great way to eliminate that "rat's nest" of Y-cords, alligator clips and adaptor cables that happens when you've run out of places to plug things in!

PatchBox is another reason why Henry Engineering's slogan is We Build Solutions, for 20 years! (1982-2002)

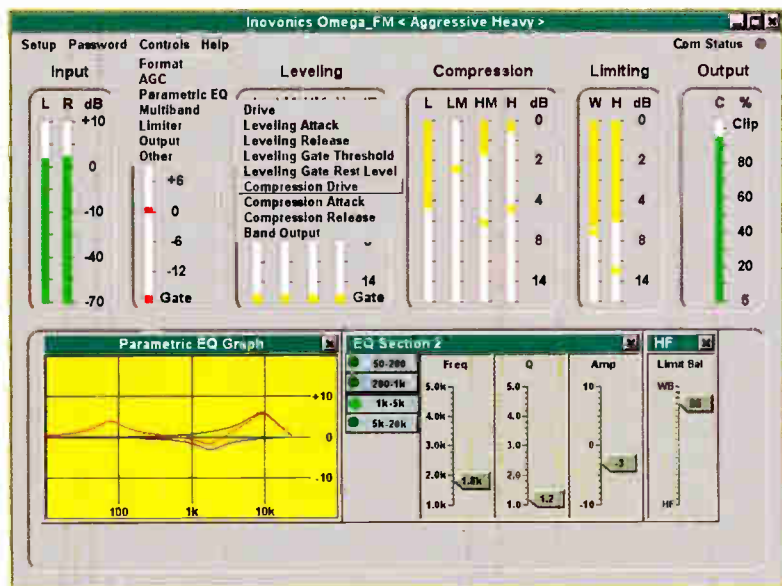
The list price is only \$195, and it's available from any Henry Engineering dealer.

For complete information, please visit www.henryeng.com, or contact Henry Engineering at (626) 355-3656.

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Digital Processing With a Difference

iInovonics
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www.inovon.com • e-mail: info@inovon.com



line outputs can be configured either with or without pre-emphasis protection limiting to feed digital FM exciters or DAB encoders, respectively.

Installation, setup and operation are also straightforward. The front panel is devoid of jog wheels and scrolling setup menus, yet the Omega_FM can be up and running in a matter of minutes without need for a computer. A front-panel RS-232 interface does, nonetheless, give the user unrestricted access to every internal adjustment with intuitive on-screen programming using any PC.

Once the input is in the digital domain, gated, gain-riding AGC erases long-term input level variations. Three separate sections of versatile parametric equalization help shape audio response, with an on-screen graph showing exactly what effect EQ adjustments have on the spectrum. Gated "Leveling" is essentially a fast AGC in four frequency bands. This imparts spectral consistency to a wide range of program sources. Leveling is followed by four bands of dynamic range compression and graphic EQ. A peak controller with independent protection for the FM pre-emphasis characteristic uses "look-ahead" techniques rather than flat-topped clipping to define absolute modulation limits. Levels, thresholds and time constants for all processing sections are under user control to shape the station's unique "sonic signature."

Despite the advanced level of technology found in today's audio equipment, processing remains a very subjective and emotionally charged issue. Something as important as a station's on-air processing should never be selected on the basis of cost, advertising claims or marketplace recognition alone. The proof is in the listening. Any product that is not evaluated on-site prior to purchase should never be considered.

For thirty years, the hallmark of Inovonics' creed has been product simplicity, consistent with uncompromised features and performance. When the time came to enter the digital audio processing arena, the company's goal was to maintain this time-honored tradition.

The Omega_FM processor/stereocoder uses a software-intensive, minimal-hardware approach. Raw numerical processing horsepower replaces the multiple DSP devices normally associated with digital audio gear. The result is a very short virtual signal path with negligible "latency" (audio delay), permitting off-air monitoring. Another advantage is that upgrades are simply uploaded, rather than requiring expansion slots or hardware updates.

The Omega-FM is 100-percent digital in operation, yet it offers both analog and digital interfaces for existing and future station gear. The unit is ready for the transition to IBOC as well. In addition to the composite/multiplex baseband output, simultaneous analog and digital

Inovonics

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Connect to the World



MUSICAM USA gives you a new way to connect to the world. Audio. Data. Streaming audio for Internet, LAN, WAN, DSL and ATM. Connect to other codecs via ISDN. Receive a feed over T1 or E1 and stream it online.

- Interchangeable Function Modules support many applications
- User configurable hardware and software
- A powerful and rugged DSP-based audio codec
- All popular compression algorithms
- High-speed data via T1 or E1 with flexible timeslot handling
- Ethernet Port for Network Audio
- Internet Protocol Audio Streaming through your server
- Multiple BRI ports for ISDN
- Multiple V.35, X.21, RS422 and RS530 ports
- Multi-channel audio
- Remote command & control capability
- Integrated functions for automatic program handling
- Flexible alarm handling; programmable relays included
- Universal power supply

SuperLink is one chassis with many applications. You choose the configuration and

SuperLink makes the connection.

SuperLink supports multiple algorithms, including world-famous CCS-enhanced MPEG Layer II. Connects to multiple ISDN lines for multi-channel, multi-point or high bit rate feeds. Sends and receives single or multi-channel audio over T1 or E1 for STL use with automatic ISDN backup. And more!

SuperLink is a powerful and rugged DSP-based platform, built to grow with your needs and provide years of continuous up time.

SuperLink has three user-configurable slots that accept any combination of the following Function Modules:

- T1 Multiplexer—connects directly to 1.536MB T1 lines via built-in CSU with full line performance statistics
- E1 Multiplexer—connects directly to 2.048MB E1 lines in accord with G.703 standards
- Full Stereo Codec—Stereo input and output; analog, AES/EBU and S/PDIF; Ancillary Data
- Encoder—Stereo input; analog, AES/EBU and S/PDIF; Ancillary Data
- Decoder—Stereo output; analog, AES/EBU and S/PDIF; Ancillary Data
- ISDN 3-BRI—Supports up to three ISDN BRIs for multiple audio connections and/or bonding to 384 kbps; all BRIs support U and S/T ISDN interface
- X.21—Supports X.21, RS422 and RS530 data at Nx64 kbps
- V.35—Supports V.35 data at Nx64 kbps

Corporate Computer Systems, Inc.

d/b/a MUSICAM USA

670 N. Beers Street, Bldg. 4
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info@musicamusa.com

www.musicamusa.com

Power in Your Pocket



With worldwide acceptance of the ARES-C and C-PP recorder/editor, Nagra has provided broadcast journalists with a pocket version of this technology in two different models, the ARES-P and RCX 220. By

employing many of the same features and functions, they are completely compatible with the Series C and, independently, produce professional, high-quality field recording performance in a handheld package.

These solid-state recorders are the most reliable recorders ever built by Nagra. Encased in machined aluminum, they withstand the rigors of the road. With no moving parts, these machines do not suffer from drive mechanism failures or defects in media. There are no adjustments necessary and no maintenance is required. Their performance is not hindered by environmental conditions or physical jostling.

Features common to both ARES-P and RCX 220 models are activated through an easy-to-use menu tree. Critical menus can be locked disabling inadvertent change. A broad range of both sampling frequencies and compression coding enable the user to adapt the performance to simultaneously maximize recording quality and recording time. Selectable "Automatic Level Control" with programmable threshold and reaction time and "Low Frequency Attenuation" ensures perfect recordings under adverse conditions. Available electret condenser microphones, mono and stereo, attach securely to the top. Extension cables al-

NAGRA

low the use of handheld mics and provide stereo line inputs. Five "AA" batteries provide more than three hours of recording time. An External Power Supply is also available. Rechargeable batteries can be charged while in the battery compartment and provide even longer operating time.

The PCMCIA recording media include Linear Flash, ATA type I and II as well as CompactFlash, and are available in sizes up to 1 Gigabyte. Nearly infinitely reusable and virtually indestructible, these media are rapidly becoming increasingly available and more affordable. Completed recordings are never lost and always available for playback until the card is purposely erased for reuse. A Directory (table of contents) is maintained on the card with detailed information about each recording. Random access playback and fast search are performed through functions within the Directory menu. One-button instantaneous Record is performed from any point in the programming menu or playback.

The ARES-P comes with software, ARES Import, that provides for download and conversion of recordings directly to computer hard-drive storage. Sampling frequency, coding, format and mono/stereo can be changed during download. It is possible, for instance, to convert 48 kHz MPEG files to Linear PCM / 44.1 files for CD creation in a fraction of real time.

The RCX 220 is unique from the ARES-P with the inclusion of two software packages from Digigram, RCX Load and X track LE. RCX Load provides similar download and conversion capabilities through an on-board USB interface and software emulation of their PCX card. The X track LE is a digital editing package for PCs that provides non-destructive editing and mixing of up to two stereo or mono tracks. Combined with a laptop, journalists have a complete production facility at their disposal in the field.

Nagra USA

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Major-Market Success: Omnia 6



Created to satisfy the most demanding radio stations in the most competitive markets, Omnia-6's deep, rich feature set and advanced DSP algorithms push the art of digital audio processing to new levels.

The elegance of Omnia 6 starts with a friendly, thoughtfully designed user interface. A large, turn-and-push control wheel and dual full-color LCD screens allow viewing and modification of all processing options while keeping metering constantly in view, allowing operators to instantly experience the effects of their changes. An adjustable headphone output also resides on the front panel, making adjustments simple even in the noisiest rack rooms.

But the beauty of Omnia-6 is more than skin deep. Team Omnia, comprising the most talented engineers, scientists and broadcasters in the industry, have used both their expertise with Digital Signal Processing and their real-world broadcast experience to create the most powerful audio processor ever. With Omnia-6, your station can have powerful, silky-smooth bass and still deliver pure, crystal-clear high frequencies. Quite simply, Omnia-6 is the loudest, cleanest audio processor ever.

Inside Omnia-6, you'll find the most powerful set of tools ever included in a broadcast audio processor. Omnia-6 is the world's first broadcast processor to employ a 96-kHz sampling rate and 24-bit resolution for unmatched clarity. Five bands of Automatic Gain Control and six bands of limiting plus Wideband AGC allow flexibility never before possible in tailoring your signature sound. Separate compressor and limiter sections eliminate IMD (Intermodulation Distortion), resulting in crisp cymbals and punchy snare drums. And Omnia-6 includes another processing first: a user-adjustable crossover network that lets operators tailor the AGC to their precise specifications.

Omnia-6 includes a new, improved version of the Omnia final limiter and distortion-cancelled clipper, which has become the industry's benchmark. The result is artifact-free processing with quick, 8-millisecond throughput, which means that on-air talent can monitor themselves off-air without the annoying effects of increased latency.

Other standard features of Omnia-6fm include remote control via modem, RS-232 or TCP/IP, built-in Omnia SPACE-EFX stereo enhancement, adjustable phase rotation and virtually unlimited preset storage using standard PCMCIA cards (up to 30 presets per card). And Omnia-6fm is DAB-ready and ITU BS-412 compliant.

Above all, though, there's the Omnia signature sound that's clearly above and beyond anything else on the dial. The sound found on top stations in major markets around the globe, from New York to Paris; from Los Angeles to Beijing. With Omnia, you lead — others follow.

Omnia, a Telos Company

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Fax: 216-241-4103

E-mail: info@omniaaudio.com

www.omniaaudio.com

CLEARLY NOT FOR EVERYONE

Your Grandmother is certainly a very nice lady, but a Porsche is probably not her ride.

It's the same with processing: Some people should stick with the conservative stuff. Give them something too fast and they just won't know what to do with it.

Frankly, the new Omnia-6 is probably not for them. It's just too potent, too flexible.

On the other hand, maybe you are the sort who can run a fast machine. Who loves the thrill of smooth power. Who revels in the admiration of others.

Omnia-6 - if you can handle it.

6
fm

Omnia
A Teles Company

www.omniaaudio.com

North America: + 1.216.241.7225

Europe: + 49.81.61.42.467

Omnia is used in 4 of 5 leading stations in New York, 2 of the 3 top stations in Los Angeles and 5 of 6 of the most listened to stations in the US. It's on the leading stations in Paris, all of the BBC's local FM stations in the UK, and the number one stations in Canada, Ireland, Germany, Finland, Australia, India, China, Denmark, and Sweden.

World Radio History

The Route to Digital



If the migration to digital is in your future, then this is the route to take. The SAS64000 is a big performance analog router that also speaks fluent digital. A true hybrid that allows you to scale the number of analog and digital ports as needed, now and in the future, the SAS64000 Audio Routing System creates a path to AES/EBU digital audio without creating analog obsolescence.

This means you can mix your analog and digital I/O in the same router frame. You can go direct

analog to analog, or digital to digital; mix it up with automatic 24-bit conversion analog to digital, and vice versa. Either way, this unique architecture sports uninterrupted signal integrity and non-blocking flexibility.

- 256 x 256 inputs and outputs in a single frame
- Mono/Stereo with stereo linking
- Wide variety of control panels
- PC or automation control
- 118 dB analog dynamic range

Sierra Automated Systems

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Phone: 818-840-6749

Fax: 818-840-6751

E-mail: sales@sasaudio.com

www.sasaudio.com



- +28 dBu max. input/output levels
- Distributed multi-processor architecture
- Digital or analog inputs and outputs
- Automatic 24-bit analog to digital conversion

Superb broadcast-quality performance

With the increased freedom from cumbersome patchbays or less-sophisticated cross bar switchers, operators can quickly and easily connect with their source or destination at the push of a button. The SAS64000 has everything you need to simplify operators' lives. This audio routing switcher is easy to use in a very fast-paced environment where accuracy is critical.

The SAS64000 is wonderfully simple to integrate, upgrade and put into service. Just plug in our new digital port expander and that's it. Welcome to digital! – Co-existing flawlessly with analog – and all in the same framework. IFB, air switcher, remote feeds, satellite inputs, redundant paths — these are just some of the things that an SAS router can do for you. SAS is the best choice when it comes to addressing your unique requirements.

There's lots more to tell. Call us at 818-840-6749 or email us at sales@sasaudio.com, or check our Web site at sasaudio.com. If you're moving into digital, then the SAS64000 Audio Routing System is your conduit to the future.

S A S 6 4 0 0 0 A U D I O R O U T I N G S Y S T E M

I N C O M M I N G

If the migration to digital is in your future, then this is the route to take. Introducing the large size, big performance analog router that also speaks fluent digital, the SAS64000 Audio Routing System.

The SAS64000 is a true hybrid that allows you to scale the number of analog and digital ports as needed, now and in the future. Best of all, the SAS64000 creates a path to AES/EBU digital audio without creating analog obsolescence.

This means you can mix your analog and digital I/O in the same router frame. Go direct analog to analog, or digital to digital. Mix it up with automatic 24-bit conversion analog to digital and vice versa.

Either way, this unique architecture sports uninterrupted signal integrity and non-blocking flexibility.



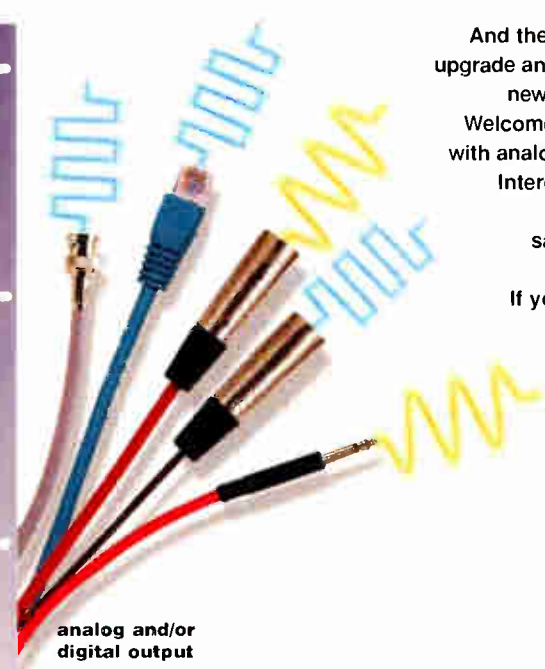
- 256 x 256 Large
- Mono/stereo with stereo linking
- Wide variety of control panels
- 118 dB analog dynamic range
- Distributed multi-processor architecture

S A S 6 4 0 0 0 A U D I O R O U T I N G S Y S T E M

S A S 6 4 0 0 0 A U D I O R O U T I N G S Y S T E M

O U T G O I N G

- Digital or analog inputs and outputs
- PC or automation control
- +28 dBu max. input/output levels
- Superb broadcast-quality performance
- Automatic 24-bit analog to digital conversion



And the SAS64000 is simple to integrate, upgrade and put into service. Just plug in our new digital port expander and that's it.

Welcome to digital!—co-existing flawlessly with analog—and all in the same framework. Interested? There's much more to tell.

Call 818 840 6749; or e-mail sales@sasaudio.com; or check our website at sasaudio.com.

If you're moving into digital, then the SAS64000 Audio Routing System is your conduit to the future.

S A S 6 4 0 0 0 A U D I O R O U T I N G S Y S T E M



**SIERRA
AUTOMATED
SYSTEMS**

sasaudio.com

Telos Zephyr Xstream

Telos



Presenting Zephyr Xstream, the newest member of the famous Zephyr family of ISDN codecs. Since its groundbreaking marriage of MPEG Layer-3 and ISDN technology in 1993, Telos Zephyr has become perhaps the most successful digital broadcast product ever. Today Zephyr is the standard for high-quality audio transmission at broadcast facilities worldwide... from California to Canberra, from Munich to Madrid, and everywhere between.

Zephyr Xstream introduces powerful MPEG AAC coding, the newest compression algorithms from MP3 inventor Fraunhofer Labs. MPEG2 AAC is the first coding system to fulfill the ITU requirement that stereo output be indistinguishable from source at 128 kbps — true CD quality.

Even more impressive is low-delay MPEG4 AAC-LD, which delivers audio quality comparable to Layer-3 while reducing transmission times by up to 80 percent. True high fidelity two-way remotes over ISDN are now a reality: perfect for out-of-studio multiple hosts, multiple guest broadcasts, sporting events or providing backhaul for remotes in poor reception areas. Of course Zephyr Xstream is fully backward-compatible with our original Zephyr.

Zephyr Xstream's friendly, straightforward user interface makes setup easy. The high-resolution graphical display guides the operator effortlessly through set up with direct access to all menu items. Two-channel flexibility over a single ISDN circuit — or two synchronous links — can be used to transmit and receive 20kHz stereo audio to and from a single location, or two mono channels to and from separate locations.

There are three models of Zephyr Xstream available to suit your needs. Zephyr Xstream

is a rackmount-style perfect for broadcast or voiceover studios, permanent remote locations or wherever high-quality transmission of news, sports, music or production is needed.

Features include:

- G.722, G.711 and MPEG Layer-3 & Layer-2 coding for compatibility, MPEG-2 AAC coding for CD-quality audio, and MPEG-4 AAC-LD coding for high audio quality with low delay.
- A built-in ISDN terminal adapter that makes Telco connections simple. Works with U.S. and EURO-ISDN connections.
- Analog and AES/EBU inputs and outputs with independent sample rate converters; 32, 44.1 and 48 kHz are supported.
- A 10Base-T Ethernet port that allows remote control and streaming of MP3-coded audio over a LAN, WAN or the Internet. TCP/IP network connectivity also allows easy upgrade of system software via FTP.
- Front-panel headphone jack with level control.
- Auto-configuring 90-240 volt power supply.
- Optional V.35/X.21 interface available.

Zephyr Xstream MX (rackmount) and MXP (portable) combine the versatility of the Zephyr Xstream with the utility of a digital four-channel stereo mixer. Zephyr Xstream MX and MXP have all the capabilities of the Zephyr Xstream (except AES/EBU I/O), plus these additional features:

- Digital stereo mixer with four mic / line switchable inputs.
- Main mixer stage feeds codec directly.
- Selectable AGC / limiter processing presets by Omnia®.
- Built-in 48-volt Phantom power for two mic inputs.
- Two separate local headphone mixes can monitor send or receive audio, or both.

Additionally, end-to-end ancillary data transmission is now possible with Zephyr Xstream while in Layer-3 and AAC modes. This allows a 9600bps serial data stream and eight bi-directional contact closures for control of remote devices.

Telos Systems

2101 Superior Ave.
Cleveland, OH 44114
Phone: 216-241-7225

Fax: 216-241-4103

E-mail:
info@telos-systems.com

www.telos-systems.com

Rave Reviews!

"Excellent Product" — Doug Walker, Clear Channel, Cincinnati

"Telos has taken two great products [the Zephyr and the Zephyr Express] and made them better. They listened to the customer." — Raul Velez KNBR, KFOG, Susquehanna Broadcasting of San Francisco

"Telos asked us what we wanted and they put it in there... you can't ask for anything more than that." — Paul Burt, Clear Channel, New Orleans

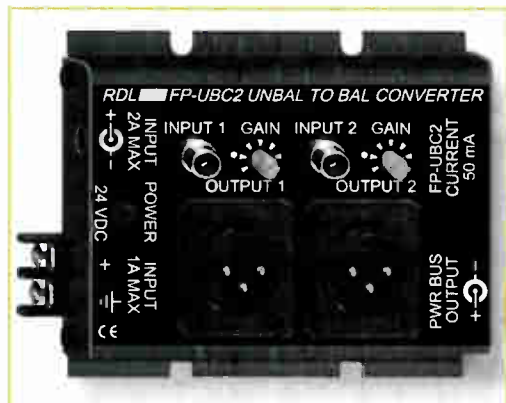
"It's even easier to use than the original Zephyr." — Michael Black, WEOS, Geneva, New York (NPR affiliate station)

"The most popular ISDN digital transceiver in the country has a fresh new look... Zephyr Xstream, a slick, updated version of [the] familiar Zephyr." — Steve Kirsch, Silver Lake Audio, New York

Telos
www.zephyr.com



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Fax: 805-684-9316
sales@rdlnet.com
exportsales@rdlnet.com

Manufacturing/Technical
Support
659 N. 6th Street, Prescott,
AZ USA 86301

Business Phone:
928-778-9678

Fax: 928-778-9430

Technical Support Phone:
800-933-1780
Fax: 928-778-3506
service@rdlnet.com

RDL Europe, BV
Gebouw Y-Tech, Van
Diemenstraat 36, 1013 NH
Amsterdam, The Netherlands
Phone: 011-31-20-6238 983

Fax: 011-31-20-6225 287

eurosales@rdlnet.com
eurotech@rdlnet.com

In this product profile, Radio Design Labs® will be highlighting just two of many new products introduced in the past two years. First is the FP-UBC2. RDL® is well known for the Stick-On® product group and the wide variety of high-performance products

available in that packaging style. The new FP product designation stands for Flat-Pak™. This innovative package concept provides for very compact installations by one of the standard adhesive methods, by directly attaching to cabinets, walls or shelves with screws or bolts, or with optional rack-mounting accessories that permit single or multiple Flat-Pak module mounting. All Flat-Pak modules are supplied with a power interconnect cable for daisy-chaining multiple modules from a single power supply.

The FP-UBC2 is the ideal choice for connectorized conversion from unbalanced to balanced audio. This module features two identical channels. Gold-plated phono jacks are utilized for each unbalanced input channel. Each output is balanced, connected through an XLR jack. A gain trim potentiometer is provided for each channel.

The normal gain setting is indicated for the trimming potentiometer. This setting produces a +4 dBu balanced output for a -10 dBV unbalanced input. The gain is adjustable -5 dB to +10 dB from the normal gain. Therefore, a +4 dBu output signal is possible from input signals ranging from -20 dBV to -5 dBV. The FP-UBC2 circuitry features low noise, low distortion, excellent headroom and crosstalk performance and the superior audio clarity for which RDL products are known.

Our second featured item is offered in the Max Series version of the Rack-Up® product group. While Rack-Up products have been with us for a few years, The RU-

AEC1 is one of nine new digital products introduced by RDL addressing both AES/EBU and S/PDIF formats.

The RU-AEC1 is the ideal choice in installations requiring high-quality analog audio from an AES-EBU digital audio source. The RU-AEC1 input XLR is 110W terminated and provides strapped terminals giving the user the option of lifting the input ground from the RU-AEC1 chassis. Audio outputs are available both on XLR connectors and on the full-size barrier block on the rear panel. This block also permits the user to lift the output grounds to each XLR jack individually.



RU-AEC1

The RU-AEC1 front panel provides a POWER LED, and a red ERROR LED. The ERROR indicator is illuminated whenever the module is not locked to a valid AES/EBU digital source. This condition occurs either in the absence of an input signal, or during a phase-lock or bit error related to an incoming signal that is present. The RU-AEC1 automatically adjusts to the incoming sample rate making operator switch settings unnecessary.

A frequent problem encountered with consumer and professional quality digital audio converters is unpredictable latch-up when digital signals are switched or connected to the converter input. Sure-Lok™ auto-recovery circuitry unique to the RU-AEC1 monitors the most frequent causes of latch-up and reinitiates digital signal lock, bringing a new higher level of stability to digital audio signal conversion under the variety of conditions encountered in professional environments.

Supplier Source Index

This section is intended to help you locate suppliers of specific types of equipment and services quickly. Find contact information for these companies starting on page 47. The product categories are based on information provided by the companies.

ACOUSTIC MATERIALS

Acoustic Systems Inc.
Acoustical Solutions Inc.
Acoustics First Corp.
Auralex Acoustics Inc.
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Partners
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
Crouse-Kimzey Co.
Golterman and Sabo Inc.
Harris Corp. Broadcast Communications Div.
illbruck/SONEX
Lightner Electronics Inc.
Location Sound Corp.
Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
S.C.M.S. Inc.
SystemsStore.com
Technet Systems Group
Walters-Stork Design Group Inc.
Wenger Corp.
WhisperRoom Inc.

AM TRANSMITTERS/EXCITERS

ARS Electronics
Bay Country Broadcast Equipment
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
Commercial Communication Associates
Communications Equipment Sales Inc.
Crouse-Kimzey Co.
Delta Electronics Inc.
Elcor
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
LBA Technology Inc.
LPB Communications Inc.
Marti Electronics
Mike Forman Electron Tubes
Nautel Maine Inc.
Radio Systems
RF Specialties
RIZ Transmitters Co.
S.C.M.S. Inc.
T.Z. Sawyer Technical Consultants
TDP
Technet Systems Group
Telecast Fiber Systems Inc.
Transcom Corp.

ANTENNAS (BROADCAST)

AM Ground Systems Co.
Andrew Corporation
Antenna Concepts Inc.
BAF Communications Corp.
Bay Country Broadcast Equipment
Belar Electronics Laboratory Inc.
Bext Inc.
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Microwave Services
Broadcast Partners

Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
CMBE Inc.
Commercial Communication Associates
Communication Technologies Inc.
Communications Equipment Sales Inc.
Comtech Antenna Systems Inc.
Crossed Field Antennas, Ltd.
Crouse-Kimzey Co.
Crown Castle International
CSA Wireless
Dielectric Communications
Elenos Srl
Elettronika Srl
ERI-Electronics Research
FM Broadcasters LLC
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Jampro Antennas/RF Systems Inc.
JT Communications
Kathrein Inc., Scala Div.
Kintronic Labs Inc.
LARCAN-TTC
LBA Technology Inc.
Linear srl
Link Comunicaciones SA
Location Sound Corp.
Marti Electronics
Micro Communications Inc.
MYAT Inc.
Nicom LLC
Nott Ltd.
OMB
Patriot/Satellite Export & Engineering Inc.
Progressive Concepts
Propagation Systems Inc. (PSI)
Ptek
Radio Applications Unlimited
Ramsey Electronics
Red Audio Pro
RF Specialties
RFS Broadcast
RIZ Transmitters Co.
S.C.M.S. Inc.
Seratel Technology SAL
Shively Labs
Superior Broadcast Products
SWR-Systems With Reliability Inc.
T.Z. Sawyer Technical Consultants
Technet Systems Group
TERACOM Components
Transcom Corp.
Winemiller Communications Inc.

ASSOCIATIONS

Association of Radio Marketing Executives (ARME)
National Association of Broadcasters
Pro-Outsource
RTNDA (Radio-Television News Directors Association)
Society of Broadcast Engineers

AUDIO FOR VIDEO PRODUCTS

360 Systems
615 Music Companies
Acousta
AirWorks Media
Akai Musical Instrument Corp.
AKG Acoustics
Antex Electronics Corp.

Arboretum Systems Inc.
ARS Electronics
Ashly Audio
ATI-Audio Technologies Inc.
Audio & Design Ltd.
Audio Accessories Inc.
Audio Tech KST AG
AudioScience
Audio-Technica U.S. Inc.
BAF Communications Corp.
Behringer
Benchmark Media Systems Inc.
Boland Communications
Bradley Broadcast & Pro Audio
Broadcast Devices Inc.
Broadcast Tools Inc.
Broadcasters General Store
Canford Audio PLC
CartGuys
Clear-Com Intercom Systems
CMBE Inc.
Conex Electro-Systems
Crane Song Ltd.
Crouse-Kimzey Co.
CSS Music/Dawn Music/Showpoppers
Cube Technologies GmbH
D&R Electronica Weesp b.v.
Dalet Digital Media Systems
Delco Wire & Cable Ltd.
Denon Electronics Pro
Digigram Inc.
Digital Audio Labs
Drawmer
Earthworks Audio Products
ENG Gadgets, Inc.
Excalibur Electronics, Inc.
Fostex America
Ghielmetti AG
Goodrich Enterprises Inc.
Graham-Patten, a division of Klotz Digital America
Group One Ltd.
Harris Corp. Broadcast Communications Div.
Hollywood Edge
Hosa Technology Inc.
Independent Audio
Inovonics Inc.
J and I Audio Video
JLCooper Electronics
JTM Audio bv
Jünger Audio Studioteknik GmbH/G Prime
Kaison Studioteknik
Keywest Technology Inc.
Knight's Communications Inc.
Kramer Electronics
Lake People
Leader Instruments Corp.
Lectrosonics Inc.
Lighthouse Digital Systems Inc.
Location Sound Corp.
Logitek Electronic Systems
Lynx Studio Technology
Mackie Designs-Soundscape Brand
Mandozzi Electronics Inc.
Marshall Electronics Inc.
Marti Electronics
Martinsound Inc.
MediaTouch
MicroBoards Technology Inc.
Midwest Digital Services Inc
Mike Forman Electron Tubes
Miranda Technologies Inc.
Music Bakery
Nady Systems Inc.
Netia
Network Music
NTI AG
Pacific Radio Electronics
PMI Audio Group
Porter Case Inc.
Prime LED
Prism Media Products Inc.
Promusic Inc.
Ram Broadcast Systems
Rane Corp.
RCI Custom Products
RDL, Radio Design Labs
RF Specialties
Roland Corporation
Sennheiser U.S.A.
Sigma Electronics Inc.
Sonic Desktop Software
Sonic Foundry Inc.
Sony Electronics
Sound Broadcast Services Ltd.
Sound Effects Library Ltd.
Sound Ideas
Sound-Effects-Library.com
Stardrive Solutions Inc.
Studio Technologies Inc.
Sundance Systems Inc. Fibox Products Div.
Syntrillium
Systems Wireless Ltd.
SystemsStore.com
TAI Audio
TC Electronic USA
Telecast Fiber Systems Inc.
TransLan Tech Sound LLC
Valentino Music and Sound Effects Library
VCS Engineering
Videoquip Research Ltd.
Ward-Beck
Waves Ltd
Weiss Engineering Ltd.
Whirlwind
WireReady NSI
Wireworks Corp.
Wohler Technologies Inc.
Yamaha Corporation of America, Commercial Audio Division
Zack Electronics
Zaolla

AUDIO PROCESSING (INCLUDES ON-AIR)

360 Systems
Acousta
AEQ Broadcast International Inc.
AEV Srl
AIR Corp.
AMEK U.S. Headquarters
Aphex Systems Ltd.
Arboretum Systems Inc.
Ashly Audio
Audio & Design Ltd.
Audio Tech KST AG
Audioarts Engineering
AudioScience
Auditronics Inc.
Bay Country Broadcast Equipment
Behringer
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Technology Co.
Broadcasters General Store
Canford Audio PLC
Circuit Research Labs
CMBE Inc.

Supplier Source Index

Commercial Communication Associates
Crane Song Ltd.
Crouse-Kimzey Co.
Crown Audio
Cube Technologies GmbH
D&R Electronica Weesp b.v.
D.A.V.I.D. GmbH
Dan Dugan Sound Design
Dartech Inc.
Digital Audio Labs
Dorrrough Electronics Inc.
Drawmer
Elenos Srl
Eventide Inc.
Excalibur Electronics, Inc.
Goodrich Enterprises Inc.
Group One Ltd.
Hafler
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
HHB Communications USA LLC
IBM Corporation
IDT - Impact Développement
Independent Audio
Inovonics Inc.
JTM Audio by
Jünger Audio Studioteknik GmbH/G Prime
Jutel
Klotz Digital America Inc.
Lake People
Lectrosonics Inc.
Leitch Inc.
Lexicon Inc.
Lighthouse Digital Systems Inc.
M.W. Persons and Associates Inc.
Mackie Designs-Soundscape Brand
Martinsound Inc.
Mayah Communications GmbH
Modulation Sciences Inc.
Nicom LLC
NPR Satellite Services
Omnia, a Telos Company
Orban
PMI Audio Group
Prime Image Inc.
Pristine Systems Inc.
Progressive Concepts
Prophet Systems Innovations
QSC Audio Products Inc.
Radio Applications Unlimited
Ram Broadcast Systems
Rane Corp.
RDL, Radio Design Labs
Red Audio Pro
RF Specialties
Rolls Corporation
S.C.M.S. Inc.
Sabine Inc.
Sealevel Systems Inc.
Sek'd America
Shure Inc.
Sierra Automated Systems
Sine Systems Inc.
Solid Electronics Laboratories
Sonic Foundry Inc.
Sonic Sense, Inc.
Sony Electronics
SPL Electronics GmbH
Studio Projects
Superior Broadcast Products
Symetrix Inc.
TAI Audio
TC Electronic USA
Technet Systems Group
Telecast Fiber Systems Inc.
Thum & Mahr GmbH
Transcom Corp.
TransLan Tech Sound LLC
True Systems/Neumann USA
VCS Engineering
Ward-Beck
Waves Ltd
Weiss Engineering Ltd.

Wheatstone Corp.
Whirlwind
WireReady NSI
Yamaha Corporation of America, Commercial
Audio Division

AUDIO WORKSTATIONS, EDITORS, EDITING SOFTWARE

360 Systems
Acosta
AEQ Broadcast International Inc.
Akai Musical Instrument Corp.
AMS Neve PLC
Arboretum Systems Inc.
Audio Tech KST AG
Audion Labs/VoxPro
Bay Country Broadcast Equipment
BIAS Inc. (Berkley Integrated Audio Software)
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Partners
Broadcast Richardson
Broadcast Software International - BSI
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
CartWorks/dbm Systems
Circuit Research Labs
Commercial Communication Associates
Computer Concepts Corp.
Crane Song Ltd.
Crouse-Kimzey Co.
Cube Technologies GmbH
D&R Electronica Weesp b.v.
D.A.V.I.D. GmbH
Dalet Digital Media Systems
Dartech Inc.
Digigram Inc.
Digital Audio Labs
Drawmer
ENCO Systems Inc.
Euphonix Inc.
Event Electronics
Fairlight On Air
First MediaWorks
Fostex America
Harris Corp. Broadcast Communications Div.
HHB Communications USA LLC
IBM Corporation
Independent Audio
Innovative Quality Software (IQS)
JLCooper Electronics
Jutel
Lynx Studio Technology
M.W. Persons and Associates Inc.
Mackie Designs-Soundscape Brand
Mayah Communications GmbH
MediaTouch
Mediatron-Digital Audio Systems
MicroBoards Technology Inc.
Minnetonka Audio Software
Miranda Technologies Inc.
Netia
OPNS s.a.
PM-Systems (Professional Management
Systems Inc.)
Pristine Systems Inc.
Prophet Systems Innovations
Ram Broadcast Systems
RCS
RDA Systems Inc.
Register Data Systems
RF Specialties
Roland Corporation
S.C.M.S. Inc.
SADIE, Inc.
Scott Studios Corp.
Sek'd America
SMARTS Broadcast Systems
Sonic Desktop Software

Sonic Foundry Inc.
Sounds Logical
Stardrive Solutions Inc.
Studer Professional Audio AG
Syntrillium
TAI Audio
Tascam
Technet Systems Group
Transcom Corp.
VCS Engineering
WireReady NSI
Yamaha Corporation of America, Commercial
Audio Division

AUTOMATION & DIGITAL STORAGE

AEQ Broadcast International Inc.
AEV Srl
Arrakis Systems
AudioScience
Auto-Mate Systems
Backbone Networks Corp.
BBC Technology
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Software International - BSI
Broadcasters General Store
Broadcastport.com
CartWorks/dbm Systems
Computer Concepts Corp.
Crouse-Kimzey Co.
D&C Electronics
D.A.V.I.D. GmbH
Dalet Digital Media Systems
ENCO Systems Inc.
Encoda Systems, Inc.
Fairlight On Air
FastChannel Network, Inc.
Harris Corp. Broadcast Communications Div.
IBM Corporation
Intelligent Broadcasting Systems, Inc.
JT Communications
JTM Audio by
Jutel
LPB Communications Inc.
Lynx Studio Technology
Master Recording Supply
Medea Corp.
MediaTouch
Mediatron-Digital Audio Systems
MicroBoards Technology Inc.
Miranda Technologies Inc.
Netia
OPNS s.a.
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Systems Inc.)
Pristine Systems Inc.
Progressive Concepts
Prophet Systems Innovations
Radio Applications Unlimited
Ram Broadcast Systems
RCS
RDA Systems Inc.
Register Data Systems
RF Specialties
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Sealevel Systems Inc.
Sek'd America
SMARTS Broadcast Systems
Sonic Foundry Inc.
Sonifex Ltd
Spry Group
Stardrive Solutions Inc.
Technet Systems Group
VCS Engineering
Waves Ltd

WireReady NSI
Yamaha Corporation of America, Commercial
Audio Division

BROADCAST DELIVERY SYSTEMS/SERVICES

360 Systems
Apex Communications Systems Inc.
Audiosonix
AudioTX Communicator
Backbone Networks Corp.
BAF Communications Corp.
BBC Technology
Boland Communications
Broadcast Software International - BSI
Broadcastport.com
Canford Audio PLC
ChainCast Networks, Inc.
Crouse-Kimzey of Annapolis
Crown Castle International
D.A.V.I.D. GmbH
Dalet Digital Media Systems
Digigram Inc.
Drawmer
ENCO Systems Inc.
FastChannel Network, Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
IBM Corporation
I-Bus/Phoenix, Inc.
Independent Audio
Industrial Logic Corp.
Intelligent Broadcasting Systems, Inc.
International Datacasting
IRT Electronics Pty. Ltd.
Isdnaudio.com
Jutel
Klotz Digital America Inc.
Knight's Communications Inc.
LARCAN-TTC
Lightningcast
Media Engineering
MediaTouch
Mediatron-Digital Audio Systems
Miranda Technologies Inc.
Netia
NPR Satellite Services
OPNS s.a.
Pristine Systems Inc.
Ram Broadcast Systems
Register Data Systems
RF Specialties
RF Technology Inc.
S.C.M.S. Inc.
Seratel Technology SAL
SMARTS Broadcast Systems
SpaceCom Systems
Studer Professional Audio AG
Technet Systems Group
TeleCast Group AS
TERACOM Components
Thum & Mahr GmbH
VCS Engineering
Waves Ltd
Whirlwind
WireReady NSI

BROKERS AND FINANCIAL INSTITUTIONS

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International Media Consulting
RF Specialties of Missouri
U.S. Commerce Equipment Finance LLC

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BBC Technology

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for under
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What do Clear Channel, CBS/Infinity, Sirius Satellite Radio, and the largest private group of stations in Mexico have in common?

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- Stability
- Flexibility
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- Wide Area Networking
- High speed digital audio extraction
- Automatic phone call recording
- Support 24 hours a day, seven days a week
- State-of-the-art training facility

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What sets Prophet Systems apart from our competitors?

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ONCE YOU GO PROPHET, YOU'LL NEVER GO BACK.

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Dan Dugan Sound Design
Dartech Inc.
Drawmer
Estemac Electronic GMBH
Fostex America
Harris Corp. Broadcast Communications Div.
Independent Audio
Leader Instruments Corp.
Mackie Designs-Soundscape Brand
Marantz Professional Europe
Master Recording Supply
MediaFORM Inc.
MicroBoards Technology Inc.
Posthorn Recordings
Prism Media Products Inc.
Ram Broadcast Systems
RF Specialties
S.C.M.S. Inc.
SADI, Inc.
Sealevel Systems Inc.
Sek'd America
Sonic Foundry Inc.
Sonic Sense, Inc.
Sony Electronics
Sound Effects Library Ltd.
Sound-Effects-Library.com
SPL Electronics GmbH
Studio Jules BV
Taylor Broadcasting Corp.
Waves Ltd
Weiss Engineering Ltd.

CODECS

AEQ Broadcast International Inc.
Aeta Audio
AEV Srl
APT - Audio Processing Technology Ltd.
Audio Specialities
AudioTX Communicator
AVT Audio Video Technologies GmbH
Bay Country Broadcast Equipment
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Software International - BSI
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
Circuit Research Labs
Comrex Corporation
Crouse-Kimzey Co.
Digigram Inc.
Global Digital Datacom Services, Inc.
Harris Corp. Broadcast Communications Div.
Harris Corp., Intraplex Products
IBM Corporation
Independent Audio
Isdnaudio.com
Marti Electronics
Mayah Communications GmbH
MediaTouch
Mediatron-Digital Audio Systems
MUSICAM USA
Orban
Radio Applications Unlimited
Ram Broadcast Systems
RF Specialties
S.C.M.S. Inc.
Silver Lake Audio
Sonic Foundry Inc.
Sonifex Ltd
Technet Systems Group
Telos Systems
TieLine America

CONSOLES & MIXERS

360 Systems
Acousta
AEQ Broadcast International Inc.
AEV Srl
AMEK U.S. Headquarters
AMS Neve PLC
Arrakis Systems
ATI-Audio Technologies Inc.
Audio Specialities
Audio Tech KST AG
Audioarts Engineering
Auditronics Inc.
Autogram Corp.
BAF Communications Corp.
Bay Country Broadcast Equipment
Behringer
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
Calrec Audio Ltd.
Canford Audio PLC
Chilton Ltd.
CircuitWerkes
CMBE Inc.
Commercial Communication Associates
Communications Equipment Sales Inc.
Cooper Sound Systems Inc.
Crane Song Ltd.
Crouse-Kimzey Co.
D&R Electronica Weesp b.v.
Dan Dugan Sound Design
Electro-Voice
Euphonix Inc.
Goodrich Enterprises Inc.
Graham-Patten, a division of Klotz Digital America
Harris Corp. Broadcast Communications Div.
Henry Engineering
HHB Communications USA LLC
IBM Corporation
Independent Audio
InnovaSon
JLCooper Electronics
Klotz Digital America Inc.
Kramer Electronics
Lawo AG
Lectrosystems Inc.
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
Location Sound Corp.
Logitek Electronic Systems
LPB Communications Inc.
M.W. Persons and Associates Inc.
Mackie Designs
MAM America
Mandozzi Electronics Inc.
Marti Electronics
Martinsound Inc.
Media Engineering
Merging Technologies
Nicom LLC
Posthorn Recordings
Progressive Concepts
Radio Systems
Ram Broadcast Systems
Rane Corp.
RDA Systems Inc.
RDL, Radio Design Labs
Red Audio Pro
RF Specialties
Roland Corporation
Rolls Corporation
S.C.M.S. Inc.
Seratel Technology SAL

Solid State Logic
Sonic Sense, Inc.
Sonifex Ltd
Sound Devices LLC
Soundcraft USA
SPL Electronics GmbH
Studer Professional Audio AG
Superior Broadcast Products
TAJ Audio
Tascam
Technet Systems Group
TeleCast Group AS
Telos Systems
Thum & Mahr GmbH
Ward-Beck
Wheatstone Corp.
Yamaha Corporation of America, Commercial Audio Division

CONSULTANTS

Adventures in Broadcasting
AM Ground Systems Co.
Association of Radio Marketing Executives (ARME)
ATDI
Audio & Design Ltd.
Auralex Acoustics Inc.
AZCAR
Balsys Technology Group Inc.
BBC Technology
BIA Financial Network
Broadcast Partners
Broadcastport.com
Career Connection
CMBE Inc.
Communication Graphics
Communication Technologies Inc.
Creative Animal
Crown Castle International
Dataworld
Evans Associates
First MediaWorks
Global Digital Datacom Services, Inc.
Grace Broadcast Sales
Graham Brock Inc.
Groove Addicts
Hallikainen And Friends Inc.
Hatfield and Dawson Consulting Engineers
Herb Kravitz Broadcast Engineering
IBM Corporation
James Loupas Associates Inc.
John Bayliss Broadcast Foundation
JT Communications
JTM Audio by
Jutel
Lightner Electronics Inc.
Lightning Experts
LPB Communications Inc.
LS Telecom AG
McPherson Radio Corp.
Media Engineering
Mullaney Engineering
Munn-Reese Inc.
Netia
On Air Digital GmbH
Owl Engineering & EMC Test Lab
PM-Systems (Professional Management Systems Inc.)
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RDA Systems Inc.
Red Audio Pro
RF Specialties
rEngineers.com Inc.
SiteSafe
SoftWright LLC
SpaceCom Systems
Stardrive Solutions Inc.
SyncCast, LLC
System One Communications

T and T Measurements
Technet Systems Group
TERACOM Components
The Lawrence Group Inc.
Thum & Mahr GmbH
TransLan Tech Sound LLC
VCS Engineering
V-Soft Communications
Walters-Storyk Design Group Inc.
Who Did That Music? Libraries

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Communication Technologies Inc.
Dataworld
Ghostwriters/Radio Mall
Global Digital Datacom Services, Inc.
Hallikainen And Friends Inc.
IBM Corporation
International Datacasting
Lightner Electronics Inc.
Radio Mall
RadioSoft
rEngineers.com Inc.
Rules Service Co.
Seratel Technology SAL
SoftWright LLC
VCS Engineering
V-Soft Communications

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AVP Mfg and Supply Inc.
AVT Audio Video Technologies GmbH
AZCAR
BAF Communications Corp.
BBC Technology
Belar Electronics Laboratory Inc.
Bext Inc.
Broadcast Electronics Inc.
Canford Audio PLC
CMBE Inc.
Commercial Communication Associates
Continental Electronics Corp.
Continental Microwave Ltd.
Crouse-Kimzey Co.
Crown Castle International
Dalet Digital Media Systems
EDX Division, CWT, Inc.
ERI-Electronics Research
Factum Electronics AB
Ghielmetti AG
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Harris Corp., Intraplex Products
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IBM Corporation
International Datacasting
Isdnaudio.com
Jutel
Kintronix Labs Inc.
Klotz Digital America Inc.
LARCAN-TTC
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
Marti Electronics
Miranda Technologies Inc.
Ram Broadcast Systems
RF Specialties
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AudioScience
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Bradley Broadcast & Pro Audio
Broadcast Devices Inc.
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
c4-Audio-Systeme GmbH
Canare Corporation of America
Canford Audio PLC
Crane Song Ltd.
Crouse-Kimzey Co.
Crown Audio
Cube Technologies GmbH
dB Technologies
Digital Audio Labs
Drawmer
Friend Chip America
Ghielmetti AG
Gotham Audio Switzerland
Harris Corp. Broadcast Communications Div.
HHB Communications USA LLC
Hosa Technology Inc.
Independent Audio
JTM Audio bv
Klotz Digital America Inc.
Kramer Electronics
Lake People
Lawo AG
Leitch Inc.
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
Logitek Electronic Systems
Lynx Studio Technology
Merging Technologies
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Prism Media Products Inc.
QSC Audio Products Inc.
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RDL, Radio Design Labs
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Sealevel Systems Inc.
Sek'd America
Studer Professional Audio AG
Sundance Systems Inc. Fibox
Products Div.
Superior Broadcast Products
Swissonic America
TAI Audio
Technet Systems Group
TeleCast Group AS
VCS Engineering
Videoquip Research Ltd.
Waves Ltd
Weiss Engineering Ltd.
Whirlwind
Zaolla

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BBC Technology
Bradley Broadcast & Pro Audio
Broadcast Microwave Services
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store

CircuitWerkes
Compromter News and Automation
Comrex Corporation
Conex Electro-Systems
Continental Microwave Ltd.
Cooper Sound Systems Inc.
Crouse-Kimzey Co.
Dalet Digital Media Systems
DIALOG4 System Engineering GmbH
EDX Division, CWT, Inc.
ENG Gadgets, Inc.
Fostex America
GMPCS Personal Communications Inc.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications
Div.
Independent Audio
Isdnaudio.com
JK Audio Inc.
Knight's Communications Inc.
Lightner Electronics Inc.
Location Sound Corp.
Marantz Professional Europe
Marti Electronics
MCL Inc.
Mediatron-Digital Audio Systems
Modulation Sciences Inc.
Multipoint Communications Ltd.
Nagra USA Inc.
Prophet Systems innovations
Ram Broadcast Systems
Red Audio Pro
RF Specialties
Rolls Corporation
Shure Inc.
Silver Lake Audio
Sonic Sense, Inc.
Sonifex Ltd
Stardrive Solutions Inc.
Studio Technologies Inc.
Systems Wireless Ltd.
Tascam
Technet Systems Group
TieLine America
WireReady NSI

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Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
CircuitWerkes
Crouse-Kimzey Co.
Dawning Technologies Inc.
Dayton Industrial Corp.
Gorman-Redlich Mfg. Co.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Honeywell International
JT Communications
Lightner Electronics Inc.
M.W. Persons and Associates Inc.
Mediatron-Digital Audio Systems
Monroe Electronics Inc.
Progressive Concepts
Radio Applications Unlimited
Ram Broadcast Systems
Red Audio Pro
RF Specialties
S.C.M.S. Inc.
Technet Systems Group
Videoquip Research Ltd.

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360 Systems
Akai Musical Instrument Corp.
ARS Electronics
Audio & Design Ltd.

Audio Tech KST AG
AudioTX Communicator
AZCAR
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
CMBE Inc.
Computer Concepts Corp.
Crouse-Kimzey of Annapolis
Cube Technologies GmbH
D&R Electronica Weesp b.v.
Drawmer
Elektronika Srl
ENG Gadgets, Inc.
Estemac Electronic GMBH
Fanfare Electronics Ltd.
Full Compass Systems
Geleco Electronics Limited
Geppo International Inc.
Harris Corp. Broadcast Communications Div.
HHB Communications USA LLC
I-Bus/Phoenix, Inc.
Independent Audio
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Kaison Studioteknik
Lightner Electronics Inc.
Location Sound Corp.
M.W. Persons and Associates Inc.
Media Engineering
Mike Forman Electron Tubes
Moody Broadcasting Network
Nott Ltd.
Patriot/Satellite Export & Engineering Inc.
Porter Case Inc.
Posthorn Recordings
Radio Applications Unlimited
Ram Broadcast Systems
Ramsey Electronics
RF Specialties
S.C.M.S. Inc.
Scott Studios Corp.
Seratel Technology SAL
Sonic Sense, Inc.
Sonifex Ltd
Stage Accompany/Stage Accompany USA
Sumatronic AG
Superior Broadcast Products
TAI Audio
Technet Systems Group
Thum & Mahr GmbH
Transcom Corp.
Whirlwind
Zack Electronics

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Broadcast Equipment Surplus Inc.
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Canford Audio PLC
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
Location Sound Corp.
Marti Electronics
Martinsound Inc.
Moody Broadcasting Network
Posthorn Recordings
RF Specialties
S.C.M.S. Inc.
Seratel Technology SAL
Silicon Valley Power Amplifier Corp.
Silver Lake Audio
Sonic Sense, Inc.
Systems Wireless Ltd.
TAI Audio
Winemiller Communications Inc.

FACILITY DESIGN/ ARCHITECTURAL SERVICES

AM Ground Systems Co.
Auralex Acoustics Inc.
AZCAR
BBC Technology
Broadcast Richardson
CMBE Inc.
Hatfield and Dawson Consulting Engineers
Kapell and Kostov Architects
Klotz Digital America Inc.
Lightner Electronics Inc.
Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
rfEngineers.com Inc.
Technet Systems Group
The Lawrence Group Inc.
Walters-Storyk Design Group Inc.
WaveSpace Inc.
Woodline Furniture, Inc.

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ARS Electronics
Bay Country Broadcast Equipment
BBC Technology
Bext Inc.
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Solutions Electronics (Pty) Ltd
Broadcast Supply Worldwide (BSW)
Broadcast Technology Co.
Broadcasters General Store
CMBE Inc.
Co.El. Complementi Elettronici SpA
Commercial Communication Associates
Communications Equipment Sales Inc.
Continental Electronics Corp.
Crouse-Kimzey Co.
Crown Broadcast/IREC
CTE International Srl
D&C Electronics
DB Electronica Telecomunicazioni SpA
Digigram Inc.
Elcor
Elenos Srl
Elektronika Srl
Fanfare Electronics Ltd.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Inovonics Inc.
Iteco USA
JT Communications
Kaison Studioteknik
LARCAN-TTC
Lightner Electronics Inc.
Link Comunicaciones SA
LPB Communications Inc.
Marti Electronics
McPherson Radio Corp.
Mike Forman Electron Tubes
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Shively Labs
Silicon Valley Power Amplifier Corp.
Sound Broadcast Services Ltd.
Superior Broadcast Products
T.Z. Sawyer Technical Consultants
TC Electronic USA
TDP
Technet Systems Group
Telecast Fiber Systems Inc.
Transcom Corp.

FURNITURE, RACKS, CASES

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Allied AirNet Services
Arrakis Systems
Audio Tech KST AG
Audioarts Engineering
Auditronics Inc.
AZCAR
Big "D" Broadcast Exchange
BlendedTone Premier Studio Suites
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
Clark Wire & Cable
CMBE Inc.
Commercial Communication Associates
Crouse-Kimzey Co.
Elenos Srl
ENG Gadgets, Inc.
E-Z UP International Inc.
Forecast Consoles Inc.
Gecco International Inc.
Hannay Reels Inc.
Hardigg Cases
Harris Corp. Broadcast Communications Div.
Kintronic Labs Inc.
Lightner Electronics Inc.
Mager Systems Inc.
Media Engineering
Mediatron-Digital Audio Systems
Murphy Studio Furniture
O.C. White
Porter Case Inc.
Posthorn Recordings
Ram Broadcast Systems
RDA Systems Inc.
Redco Audio Inc.
RF Specialties
Russ Bassett-Media Storage Solutions
S.C.M.S. Inc.
Sonic Sense, Inc.
Sonifex Ltd
Spacewise Broadcast Furniture Inc.
Studio Technology
SystemsStore.com
Technet Systems Group
Thum & Mahr GmbH
Wenger Corp.
Wheatstone Corp.
Woodline Furniture, Inc.
Zack Electronics

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AccuWeather Inc.
AEV Srl
Antex Electronics Corp.
Audiosonix

AudioTX Communicator
Backbone Networks Corp.
BBC Technology
Broadcast Electronics Inc.
Broadcastport.com
BuySellBid.com
Circuit Research Labs
CMBE Inc.
Computer Concepts Corp.
D.A.V.I.D. GmbH
FastChannel Network, Inc.
First MediaWorks
IBM Corporation
International Datacasting
Isdnaudio.com
Jutel
Lightner Electronics Inc.
Lightningcast
Mayah Communications GmbH
MeasureCast Inc.
Mediatron-Digital Audio Systems
MUSICMATCH
Netia
Ram Broadcast Systems
RCS
RDA Systems Inc.
Real Broadcast Network
RF Specialties of Texas Inc.
Scott Studios Corp.
Seratel Technology SAL
Sound Effects Library Ltd.
Sound-Effects-Library.com
SpaceCom Systems
SyncCast, LLC
VCS Engineering
Waves Ltd

LIBRARY PRODUCERS AND JINGLE HOUSES

615 Music Companies
Canford Audio PLC
CSS Music/Dawn Music/Showpoppers
Dave Dworkins Ghostwriters
FirstCom Music
Gefen Inc.
Gene Michael Productions
Ghostwriters/Radio Mall
GMI Media, LLC
Groove Addicts
Hollywood Edge
JRT Music LLC
Kool Music
Lightner Electronics Inc.
Manhattan Production Music
Music Bakery
Network Music
OMNIMUSIC
Promusic Inc.
Radio Active Productions
Radio Express Inc.
Sound Effects Library Ltd.
Sound-Effects-Library.com
Thompson Creative
Toby Arnold & Associates Inc./ TA&A
TRF Production Music Libraries
Who Did That Music? Libraries

LOGGING SYSTEMS

BBC Technology
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Partners
Broadcast Richardson
Broadcast Software International - BSI
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
Crouse-Kimzey Co.

Cube Technologies GmbH
Digigram Inc.
ENCO Systems Inc.
Eventide Inc.
Harris Corp. Broadcast Communications Div.
Independent Audio
Lightner Electronics Inc.
Mediatron-Digital Audio Systems
Netia
OPNS s.a.
Prism Media Products Inc.
Ram Broadcast Systems
RF Specialties
S.C.M.S. Inc.
Sonifex Ltd
Wicks Broadcast Solutions
Xytech Systems Corp.

MICROPHONES

AIR Corp.
AKG Acoustics
Allied AirNet Services
ARS Electronics
Audio Bauer Pro AG
Audio Engineering Associates
Audio Specialities
Audio Tech KST AG
Audio-Technica U.S. Inc.
Auxix Corp.
AZCAR
Azden Corp.
Bay Country Broadcast Equipment
Behringer
beyerdynamic Inc.
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
Commercial Communication Associates
Crouse-Kimzey Co.
Crown Audio
Dan Dugan Sound Design
DPA Microphones A/S
DPA Microphones/TGI North America Inc.
Earthworks Audio Products
Electro-Voice
ENG Gadgets, Inc.
Fostex America
Georg Neumann GmbH Berlin
Goodrich Enterprises Inc.
Group One Ltd.
Harris Corp. Broadcast Communications Div.
Independent Audio
JTM Audio bv
Kaisson Studioteknik
Lectrosonics Inc.
Lightner Electronics Inc.
Location Sound Corp.
Marshall Electronics Inc.
Media Engineering
MTC - MBHO US
Nady Systems Inc.
Neumann/USA
NTI AG
O.C. White
PMI Audio Group
Porter Case Inc.
Posthorn Recordings
Practical Radio Communications
Progressive Concepts
Ram Broadcast Systems
RDA Systems Inc.
Red Audio Pro
RF Specialties
S.C.M.S. Inc.
Sabine Inc.

Sanken
Schoeps GmbH
Schoeps/Redding Audio Inc.
Sennheiser U.S.A.
Seratel Technology SAL
Shure Inc.
Sonic Sense, Inc.
Sony Electronics
Studio Projects
Systems Wireless Ltd.
SystemsStore.com
TAI Audio
Technet Systems Group
Telex Communications Inc.
Thum & Mahr GmbH
Transcom Corp.
Wireworks Corp.

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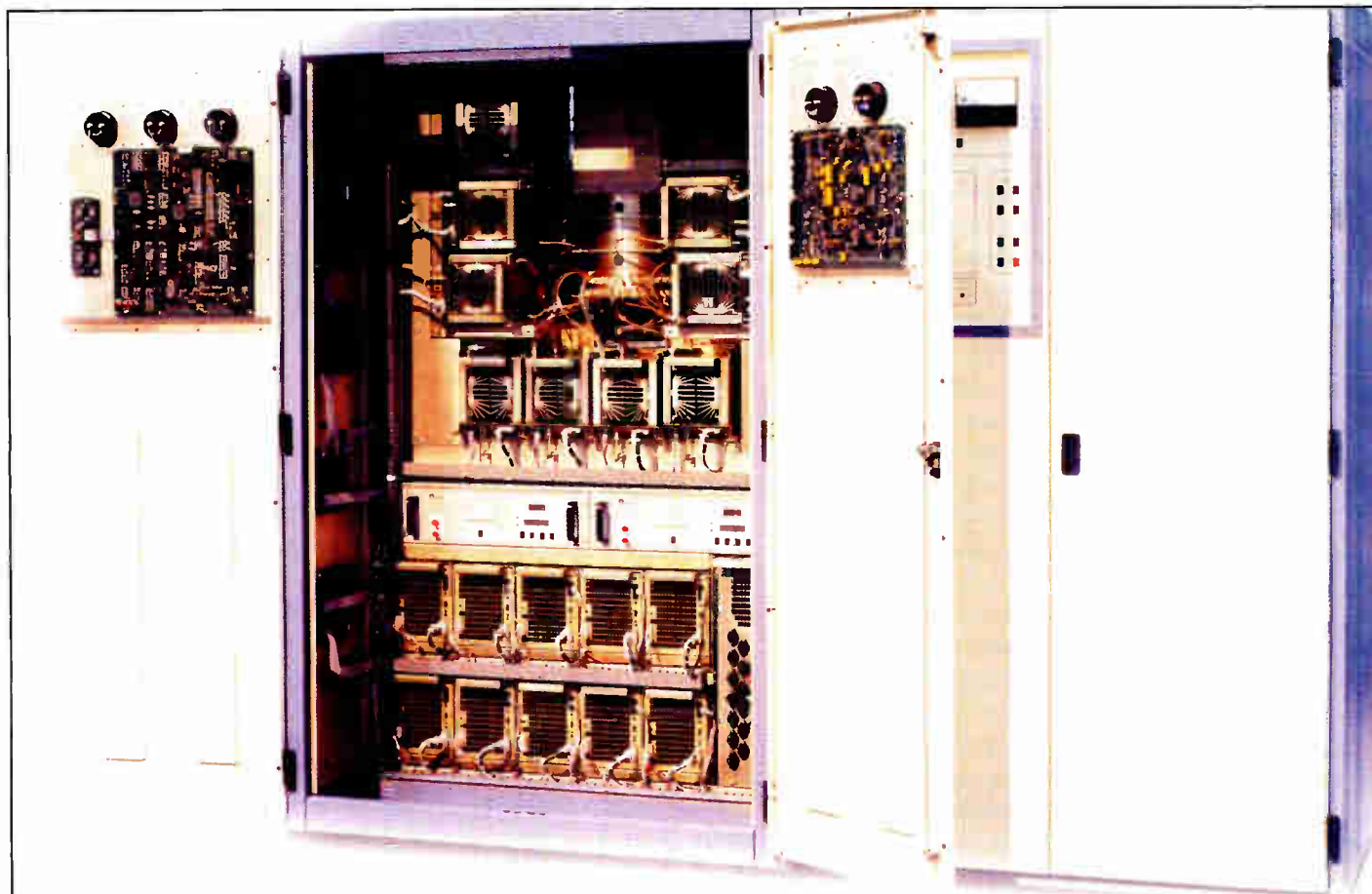
615 Music Companies
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Broadcast Software International - BSI
Chilton Ltd.
Dave Dworkins Ghostwriters
FastChannel Network, Inc.
FirstCom Music
Ghostwriters/Radio Mall
Halland Broadcast Services
Hollywood Edge
JRT Music LLC
Lightner Electronics Inc.
Manhattan Production Music
Mediatron-Digital Audio Systems
Network Music
Non-Stop Productions
Promusic Inc.
Sound Ideas
TRF Production Music Libraries
Valentino Music and Sound Effects Library
Whirlwind

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(AMSP)
Apex Communications Systems Inc.
Broadcastport.com
Computer Concepts Corp.
First MediaWorks
Grace Broadcast Sales
Lightner Electronics Inc.
LPB Communications Inc.
MediaTouch
RCS
Scott Studios Corp.
StarDate/Universo Radio Productions
SyncCast, LLC
Top Echelon Network
WireReady NSI

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ARS Electronics
Audio Tech KST AG
Big "D" Broadcast Exchange
Broadcast Equipment Surplus Inc.
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JT Communications
Kaison Studiotechnik
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LARCAN-TTC
LEDtronics, Inc.
Lightner Electronics Inc.
Lightning Experts
Location Sound Corp.
M.W. Persons and Associates Inc.
McPherson Radio Corp.
Midwest Digital Services Inc
Mike Forman Electron Tubes
MTC - MBHO US
Neutrik USA Inc.
Pro Digital Inc.
Progressive Concepts
RCI Custom Products
RDA Systems Inc.
Redco Audio Inc.
RF Specialties of Texas Inc.
Silicon Valley Power Amplifier Corp.
Surcom Associates Inc.
Systems Wireless Ltd.
TERACOM Components
Whirlwind

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Audio Surge
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Commercial Communication Associates
Control Concepts Corp.
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Equi-Tech Corp.
Flex-Core
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
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I-Bus/Phoenix, Inc.
M.W. Persons and Associates Inc.
MGE UPS Systems Inc.
Pacific Radio Electronics
Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
Rolls Corporation
Staco Energy Products Co.
Stormin Protection Products Inc.
Superior Broadcast Products
Superior Electric
SystemsStore.com
Technet Systems Group
Whirlwind
Zack Electronics

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Audiosonix
BBC Technology
Dick Brescia Associates
Dog Star Music
FamilyNet
Grace Broadcast Sales
Moody Broadcasting Network
Murray-Walsh Radio Programming Inc.
NPR Worldwide
Radio Express Inc.
StarDate/Universo Radio Productions
Studio Jules BV
Talk America Radio Networks
Taylor Broadcasting Corp.

PROMOTIONS/MKTG. PRODUCTS AND SERVICES

615 Music Companies
ABC Radio Networks
Adventures in Broadcasting
American Media & Special Promotions (AMSP)
Association of Radio Marketing Executives (ARME)
Audiosonix
Communication Graphics
Creative Animal
E-Z UP International Inc.
First Flash! Line
Grace Broadcast Sales
Groove Addicts
Inflatable Images
KD Kanopy Inc.
Olympus Flag & Banner
Pro-Outsource
Radio Active Productions
Radio Mall
Studio Jules BV
SyncCast, LLC
Top Echelon Network
Who Did That Music? Libraries

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AEV Srl
Apex Communications Systems Inc.
AUDEMAT Inc.
Bay Country Broadcast Equipment
BBC Technology
Belar Electronics Laboratory Inc.
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Devices Inc.
Broadcast Electronics Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Broadcastport.com
Commercial Communication Associates
Crouse-Kimzey Co.
CTE International Srl
Dayton Industrial Corp.
Digigram Inc.
Harris Corp. Broadcast Communications Div.
Inovonics Inc.
Leader Instruments Corp.
Link Comunicaciones SA
MediaTouch
Mediatron-Digital Audio Systems
Modulation Sciences Inc.
RF Specialties
S.C.M.S. Inc.
Sound Broadcast Services Ltd.
Technet Systems Group

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360 Systems
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Broadcast Connection
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
C. Crane Co.
Canford Audio PLC
Cooper Sound Systems Inc.

Crouse-Kimzey Co.
Dan Dugan Sound Design
Denon Electronics Pro
DIALOG4 System Engineering GmbH
Digigram Inc.
Fostex America
Harris Corp. Broadcast Communications Div.
HNB Communications USA LLC
Independent Audio
JLCooper Electronics
Location Sound Corp.
Marantz Professional Europe
Mayah Communications GmbH
MediaFORM Inc.
Mediatron-Digital Audio Systems
Nagra USA Inc.
Porter Case Inc.
Pro Digital Inc.
Ram Broadcast Systems
RF Specialties
S.C.M.S. Inc.
Sonic Sense, Inc.
Sonifex Ltd
Sony Electronics
Superscope Technologies Inc.
TAI Audio
Technet Systems Group
Transcom Corp.
WireReady NSI
Yamaha Corporation of America, Commercial Audio Division

RECORDERS AND PLAYERS: STUDIO

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Akai Musical Instrument Corp.
Audio & Design Ltd.
Audion Labs/VoxPro
AZCAR
Bay Country Broadcast Equipment
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
CartGuys
CartWorks/dbm Systems
Commercial Communication Associates
Computer Concepts Corp.
Crouse-Kimzey Co.
Cube Technologies GmbH
D.A.V.I.D. GmbH
Dan Dugan Sound Design
Denon Electronics Pro
Digital Audio Labs
ENCO Systems Inc.
Euphonix Inc.
Fairlight On Air
Fostex America
Harris Corp. Broadcast Communications Div.
Henry Engineering
HNB Communications USA LLC
JLCooper Electronics
Location Sound Corp.
Marantz Professional Europe
Marti Electronics
Master Recording Supply
MediaFORM Inc.
Mediatron-Digital Audio Systems
MicroBoards Technology Inc.
Midwest Digital Services Inc
Nagra USA Inc.
Pro Digital Inc.
Progressive Concepts

Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
S.C.M.S. Inc.
Scott Studios Corp.
Sonic Sense, Inc.
Sony Electronics
Studer Professional Audio AG
Superscope Technologies Inc.
TAI Audio
Tascam
Technet Systems Group
Transcom Corp.
WireReady NSI
Yamaha Corporation of America, Commercial Audio Division

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Broadcast Richardson
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Crouse-Kimzey Co.
Dan Dugan Sound Design
Denon Electronics Pro
Digital Audio Labs
Estemac Electronic GMBH
Euphonix Inc.
Fuji Photo Film USA Inc.
Harris Corp. Broadcast Communications Div.
HNB Communications USA LLC
Independent Audio
J and I Audio Video
JLCooper Electronics
Ken R. Inc.
Location Sound Corp.
Master Recording Supply
MediaTouch
MicroBoards Technology Inc.
RF Specialties
Sonic Sense, Inc.
Technet Systems Group
Yamaha Corporation of America, Commercial Audio Division

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Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
Burk Technology
CircuitWerkes
Commercial Communication Associates
Crouse-Kimzey Co.
Crown Broadcast/IREC
Digigram Inc.
Electronic Associates Inc.
Elektronika Srl
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
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Technet Systems Group
Transcom Corp.

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Andrew Corporation
BAF Communications Corp.
Bird Electronic Corp.
Broadcast Connection
Broadcast Partners
Broadcast Richardson
CMBE Inc.
Coaxial Dynamics
Commercial Communication Associates
Continental Electronics Corp.
Cortana Corp.
Crouse-Kimzey Co.
Crown Castle International
CTE International Srl
Delta Electronics Inc.
Dialight Corporation
Dielectric Communications
Digigram Inc.
EDX Division, CWT, Inc.
Electro Impulse Inc.
ERI-Electronics Research
Flash Technology Corp.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Herb Kravitz Broadcast Engineering
Honeywell International
Integrated Microwave Corporation
Jampro Antennas/RF Systems Inc.
JT Communications
Kintronic Labs Inc.
LARCAN-TTC
LBA Technology Inc.
Linear srl
LS Telecom AG
McPherson Radio Corp.
Micro Communications Inc.
Mike Forman Electron Tubes
Monroe Electronics Inc.
MYAT Inc.
Northrop Grumman
Owl Engineering & EMC Test Lab
PM of America
Progressive Concepts
RadioSoft
RF Specialties
rfEngineers.com Inc.
RFS Broadcast
Shively Labs
Silicon Valley Power Amplifier Corp.
SiteSafe
SoftWright LLC
Spinner GmbH
Technet Systems Group
TERACOM Components
TWR Lighting Division, o2wireless Solutions Inc.
Will-Burt Co.
Winemiller Communications Inc.

SATELLITE DELIVERY/CAPACITY

AZCAR
BAF Communications Corp.
BBC Technology
Broadcast Richardson
CSA Wireless
International Datacasting

IRT Electronics Pty. Ltd.
Lightner Electronics Inc.
MediaTouch
Norsat International
NPR Satellite Services
Pristine Systems Inc.
RF Specialties
SpaceCom Systems

SATELLITE HARDWARE

Andrew Corporation
Apex Communications Systems Inc.
AZCAR
BAF Communications Corp.
Bay Country Broadcast Equipment
Broadcast Richardson
Broadcast Tools Inc.
Broadcasters General Store
CircuitWerkes
Comtech Antenna Systems Inc.
Continental Microwave Ltd.
Dayton Industrial Corp.
Harris Corp. Broadcast Communications Div.
International Datacasting
Kramer Electronics
Lightner Electronics Inc.
MCL Inc.
Moody Broadcasting Network
Multipoint Communications Ltd.
Norsat International
NPR Satellite Services
Patriot/Satellite Export & Engineering Inc.
RF Specialties
SpaceCom Systems
WireReady NSI

SHORTWAVE TRANSMITTERS

AM Ground Systems Co.
ARS Electronics
Broadcast Connection
Broadcast Microwave Services
Broadcast Richardson
Commercial Communication Associates
Continental Electronics Corp.
Elcor
Harris Corp. Broadcast Communications Div.
Kaison Studiotechnik
Lightner Electronics Inc.
LPB Communications Inc.
Mike Forman Electron Tubes
RF Specialties of Missouri
RIZ Transmitters Co.
TDP
Transcom Corp.

SPEAKERS AND HEADPHONES

AKG Acoustics
Audio Bauer Pro AG
Audio Specialities
Audio Tech KST AG
Audio-Technica U.S. Inc.
AZCAR
Bay Country Broadcast Equipment
Behringer
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
Canford Audio PLC
CAP Audio Professional
Chilton Ltd.
Clear-Com Intercom Systems
Commercial Communication Associates

Community Professional Loudspeakers
Crouse-Kimzey Co.
DAS Audio of America Inc.
Earthworks Audio Products
Electro-Voice
ENG Gadgets, Inc.
Event Electronics
Fostex America
Genelec OY
Group One Ltd.
Hafler
Harris Corp. Broadcast Communications Div.
Independent Audio
JTM Audio by
Kaison Studiotechnik
Lightner Electronics Inc.
Location Sound Corp.
Nady Systems Inc.
Professional Audio Systems (PAS)
Progressive Concepts
QSC Audio Products Inc.
Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
S.C.M.S. Inc.
Sennheiser U.S.A.
Sonic Sense, Inc.
Stage Accompany/Stage Accompany USA
Studer Professional Audio AG
Systems Wireless Ltd.
TAI Audio
Tannoy/TGI North America Inc.
Technet Systems Group
Telex Communications Inc.
Thum & Mahr GmbH
Transcom Corp.
Wohler Technologies Inc.
Yamaha Corporation of America, Commercial Audio Division

STUDIO ACCESSORIES/SUPPORT

AIR Corp.
Allied AirNet Services
ARS Electronics
ATI-Audio Technologies Inc.
Audio Tech KST AG
Audioarts Engineering
AudioTX Communicator
Audiotronics Inc.
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Devices Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcast Tools Inc.
Broadcasters General Store
Canford Audio PLC
CircuitWerkes
Crouse-Kimzey Co.
D&R Electronica Weesp b.v.
Digigram Inc.
ESE
Excalibur Electronics, Inc.
Fanfare Electronics Ltd.
Fostex America
Friend Chip America
Gefen Inc.
Geppo International Inc.
Ghielmetti AG
Gotham Audio Switzerland
Harris Corp. Broadcast Communications Div.
Henry Engineering
Herb Kravitz Broadcast Engineering
Independent Audio
Isdnaudio.com
JLCooper Electronics
JTM Audio by
Lightner Electronics Inc.
LPB Communications Inc.

Mager Systems Inc.
MAM America
Nady Systems Inc.
O.C. White
Practical Radio Communications
Pro Digital Inc.
Progressive Concepts
Ram Broadcast Systems
Rane Corp.
RDA Systems Inc.
RDL, Radio Design Labs
RF Specialties
Sabine Inc.
Sennheiser U.S.A.
Seratel Technology SAL
Shure Inc.
Sine Systems Inc.
SOMMER Cable America
Sound Ideas
Stage Accompany/Stage Accompany USA
Studer Professional Audio AG
Studio Technologies Inc.
SystemsStore.com
Tascam
TieLine America
Valentino Music and Sound Effects Library
Videoquip Research Ltd.
Whirlwind
WhisperRoom Inc.
WireReady NSI

STUDIO-TRANSMITTER LINKS (STL) AND RPU'S

AEV Srl
APT - Audio Processing Technology Ltd.
AZCAR
Bay Country Broadcast Equipment
Bext Inc.
Big "D" Broadcast Exchange
Bradley Broadcast & Pro Audio
Broadcast Connection
Broadcast Electronics Inc.
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Richardson
Broadcast Supply Worldwide (BSW)
Broadcasters General Store
Canford Audio PLC
CMBE Inc.
Commercial Communication Associates
Comrex Corporation
Continental Microwave Ltd.
Crouse-Kimzey Co.
EDX Division, CWT, Inc.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Harris Corp., Intraplex Products
IRT Electronics Pty. Ltd.
Knight's Communications Inc.
LARCAN-TTC
Lightner Electronics Inc.
Linear srl
Link Comunicaciones SA
Mandozzi Electronics Inc.
Marti Electronics
Modulation Sciences Inc.
Moseley Associates Inc.
MUSICAM USA
Nicom LLC
OMB
Progressive Concepts
QEI Corp.
Radio Applications Unlimited
Ram Broadcast Systems
Red Audio Pro
RF Specialties
S.C.M.S. Inc.
Seratel Technology SAL
Silicon Valley Power Amplifier Corp.
Sound Broadcast Services Ltd.

Sundance Systems Inc. Fibox Products Div.
 Superior Broadcast Products
 Technet Systems Group
 Telecast Fiber Systems Inc.
 TieLine America
 Transcom Corp.
 Wheatstone Corp.

Ward-Beck Systems Ltd.
 Whirlwind
 Wohler Technologies Inc.
 Zack Electronics
 Zaolla

SWITCHING, ROUTING, DISTRIBUTION

Acousta
 AEQ Broadcast International Inc.
 Aphex Systems Ltd.
 ARS Electronics
 ATI-Audio Technologies Inc.
 Audio Accessories Inc.
 Audio Specialities
 Audio Tech KST AG
 AVP Mfg and Supply Inc.
 Bay Country Broadcast Equipment
 Behringer
 Benchmark Media Systems Inc.
 Big "D" Broadcast Exchange
 Bradley Broadcast & Pro Audio
 Broadcast Connection
 Broadcast Electronics Inc.
 Broadcast Equipment Surplus Inc.
 Broadcast Richardson
 Broadcast Supply Worldwide (BSW)
 Broadcast Tools Inc.
 Broadcasters General Store
 Canford Audio PLC
 Chilton Ltd.
 Commercial Communication Associates
 Conex Electro-Systems
 Crouse-Kimzey Co.
 D&R Electronica Weesp b.v.
 Delta Electronics Inc.
 Dielectric Communications
 Digigram Inc.
 ESE
 Excalibur Electronics, Inc.
 FastChannel Network, Inc.
 Gefen Inc.
 Geppo International Inc.
 Ghilmetti AG
 Harris Corp. Broadcast Communications Div.
 Hatfield and Dawson Consulting Engineers
 Henry Engineering
 Hosa Technology Inc.
 IBM Corporation
 IRT Electronics Pty. Ltd.
 JLCopper Electronics
 Kaison Studiotechnik
 Klotz Digital America Inc.
 Knight's Communications Inc.
 Kramer Electronics
 Lake People
 LARCAN-TTC
 Leitch Inc.
 Lighthouse Digital Systems Inc.
 Lightner Electronics Inc.
 Logitek Electronic Systems
 Mandozzi Electronics Inc.
 Miranda Technologies Inc.
 Monroe Electronics Inc.
 Radio Systems
 Ram Broadcast Systems
 RCI Custom Products
 RDL, Radio Design Labs
 RF Specialities
 Sierra Automated Systems
 Sigma Electronics Inc.
 SMARTS Broadcast Systems
 Spinner GmbH
 Studer Professional Audio AG
 Sundance Systems Inc. Fibox Products Div.
 Symetrix Inc.
 Technet Systems Group
 Telecast Fiber Systems Inc.
 TeleCast Group AS
 TieLine America
 Transcom Corp.
 Videoquip Research Ltd.
 Ward-Beck Sales Inc.

TELCO SYSTEMS AND HYBRIDS

AEV Srl
 AudioTX Communicator
 AVT Audio Video Technologies GmbH
 BAF Communications Corp.
 Bay Country Broadcast Equipment
 Big "D" Broadcast Exchange
 Bradley Broadcast & Pro Audio
 Broadcast Connection
 Broadcast Electronics Inc.
 Broadcast Equipment Surplus Inc.
 Broadcast Partners
 Broadcast Richardson
 Broadcast Supply Worldwide (BSW)
 Broadcast Telephone Systems
 Broadcast Tools Inc.
 Broadcasters General Store
 Chilton Ltd.
 CircuitWerkes
 Commercial Communication Associates
 Comrex Corporation
 Conex Electro-Systems
 Crouse-Kimzey Co.
 Digitronics Screener
 Excalibur Electronics, Inc.
 Gentner Communications
 Harris Corp. Broadcast Communications Div.
 Henry Engineering
 Independent Audio
 Inovonics Inc.
 IRT Electronics Pty. Ltd.
 Isdnaudio.com
 JK Audio Inc.
 Kaison Studiotechnik
 Lightner Electronics Inc.
 M.W. Persons and Associates Inc.
 Marti Electronics
 Miranda Technologies Inc.
 Radio Systems
 Ram Broadcast Systems
 Red Audio Pro
 RF Specialities
 S.C.M.S. Inc.
 Sonifex Ltd
 Stormin Protection Products Inc.
 Studer Professional Audio AG
 Systems Wireless Ltd.
 Technet Systems Group
 Telos Systems
 Thum & Mahr GmbH
 TieLine America
 Transcom Corp.

TEST, METERING AND MONITORING

Altronic Research Inc.
 AUDEMAT Inc.
 Audio Precision
 Avcom-Ramsey Technologies Inc
 BAF Communications Corp.
 Bay Country Broadcast Equipment
 Belar Electronics Laboratory Inc.
 Benchmark Media Systems Inc.
 Big "D" Broadcast Exchange
 Bradley Broadcast & Pro Audio
 Brainstorm Electronics
 Broadcast Richardson
 Broadcast Supply Worldwide (BSW)
 Broadcasters General Store
 Canford Audio PLC
 CMBE Inc.
 Coaxial Dynamics
 Commercial Communication Associates
 Conex Electro-Systems
 Crouse-Kimzey Co.
 Delta Electronics Inc.
 Digigram Inc.

WBS

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MP Meter Series

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 Monitor your connections

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 800 771 2556
 Portland Oregon U.S.A.
 866 771 2556

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Digital Audio Labs
Dorrrough Electronics Inc.
Earthworks Audio Products
Electro Impulse Inc.
Electronic Associates Inc.
Flex-Core
Fluke Corp.
Gepco International Inc.
Ghielmetti AG
Goodrich Enterprises Inc.
Gorman-Redlich Mfg. Co.
Graham-Patten, a division of Klotz Digital America
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Horita
Hosa Technology Inc.
Independent Audio
Inovonics Inc.
JTM Audio by
Leader Instruments Corp.
Leitch Inc.
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
Link Comunicaciones SA
Location Sound Corp.
Logitek Electronic Systems
Martinsound Inc.
MeasureCast Inc.
Media Engineering
Modulation Sciences Inc.
Neutrik USA Inc.
Nicom LLC
NTI AG
Potomac Instruments Inc.
Prime LED
Prism Media Products Inc.
Progressive Concepts
QEI Corp.
Ram Broadcast Systems
RCI Custom Products
RDL, Radio Design Labs
RF Specialties
Rolls Corporation
RTW Radio-Technische Werkstätten GmbH & Co KG
S.C.M.S. Inc.
Sealevel Systems Inc.
Sek'd America
Sigma Electronics Inc.
SystemsStore.com
T.Z. Sawyer Technical Consultants
Technet Systems Group
Tentel Corp.
Videoquip Research Ltd.
Walters-Storyk Design Group Inc.
Ward-Beck Sales Inc.
Ward-Beck Systems Ltd.
Wohler Technologies Inc.
Zack Electronics
Zaolla

TOWERS AND TOWER SERVICES

AM Ground Systems Co.
Antenna ID Products
Broadcast Connection
Broadcast Richardson
Central Tower Inc.
Commercial Communication Associates
Crouse-Kimzey Co.
Crown Castle International
Dataworld
Dialight Corporation
Dielectric Communications
ERI-Electronics Research
Flash Technology Corp.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Hatfield and Dawson Consulting Engineers
Honeywell International
Ice Krackers Inc.
Jampro Antennas/RF Systems Inc.
LBA Technology Inc.

Lightner Electronics Inc.
Lightning Experts
Magnum Towers Inc.
Millhouse Construction Utah Tower Inc.
Nott Ltd.
Radio Applications Unlimited
RF Specialties
Rohn Industries Inc.
System One Communications
T.Z. Sawyer Technical Consultants
Technet Systems Group
Transcom Corp.
TWR Lighting Division, o2wireless Solutions Inc.
UNIMAR Inc.
Will-Burt Co.

TRADE PUBLISHERS

BIA Financial Network
Hallikainen And Friends Inc.
IMAS Publishing
Lightner Electronics Inc.
Practical Radio Communications
Radio World
Rules Service Co.

TRAFFIC, BILLING, MUSIC SCHEDULING

BBC Technology
Broadcast Data Consultants
Broadcast Partners
Broadcast Richardson
Broadcast Software International - BSI
Broadcastsport.com
CartWorks/dbm Systems
Dalet Digital Media Systems
Datastar Inc.
Encoda Systems, Inc.
FastChannel Network, Inc.
IBM Corporation
Lightner Electronics Inc.
MediaTouch
Mediatron-Digital Audio Systems
Netia
On Air Digital GmbH
OPNS s.a.
Pristine Systems Inc.
Radio Express Inc.
RCS
Register Data Systems
RF Specialties of Missouri
S.C.M.S. Inc.
SMARTS Broadcast Systems
VCS Engineering
Wicks Broadcast Solutions
WireReady NSI
Xytech Systems Corp.

TUBES AND TUBE REBUILDERS

ARS Electronics
Broadcast Equipment Surplus Inc.
Broadcast Richardson
Burie Industries Inc.
CPI Canada Inc., Communications & Power Industries
CPI, Eimac Div.
Crouse-Kimzey Co.
D&C Electronics
Econco Inc.
Elenos Srl
Freeland Products Inc.
Goodrich Enterprises Inc.
Harris Corp. Broadcast Communications Div.
Lightner Electronics Inc.
M.W. Persons and Associates Inc.
Mike Forman Electron Tubes
Northrop Grumman Electronic Systems
PM of America
RF Specialties
Superior Broadcast Products

Whirlwind
Yamaha Corporation of America, Commercial Audio Division

TURNKEY SYSTEMS AND PREWIRING

AM Ground Systems Co.
Audio & Design Ltd.
AZCAR
BAF Communications Corp.
Balsys Technology Group Inc.
BBC Technology
Broadcast Connection
Broadcast Equipment Surplus Inc.
Broadcast Partners
Broadcast Software International - BSI
CMBE Inc.
Commercial Communication Associates
Crown Castle International
Harris Corp. Broadcast Communications Div.
International Datacasting
Knight's Communications Inc.
Lighthouse Digital Systems Inc.
Lightner Electronics Inc.
LPB Communications Inc.
Mager Systems Inc.
Media Engineering
MediaTouch
Mediatron-Digital Audio Systems
Patriot/Satellite Export & Engineering Inc.
Radio Systems
Ram Broadcast Systems
RDA Systems Inc.
RF Specialties
S.C.M.S. inc.
Sierra Automated Systems
Sonic Sense, Inc.
Studer Professional Audio AG
Sumatronic AG
Technet Systems Group
Whirlwind
WireReady NSI

VOICE-OVER AND PRODUCTION SERVICES

615 Music Companies
AudioTX Communicator
Grace Broadcast Sales
Groove Addicts
isdnaudio.com
Lightner Electronics Inc.
MediaTouch
Non-Stop Productions
Optimum Productions
Radio Active Productions
Radio Connection
Ram Broadcast Systems
Sound Effects Library Ltd.
Stardrive Solutions Inc.
Studio Jules BV
Taylor Broadcasting Corp.
Thompson Creative
Who Did That Music? Libraries

WEATHER SERVICES

AccuWeather Inc.
Advanced Designs Corp.
Dayton Industrial Corp.
Gorman-Redlich Mfg. Co.
Lightner Electronics Inc.
RF Specialties of Missouri
Weather Metrics Inc.
Weather Research Center

WIRE AND CABLE, AUDIO

ARS Electronics

Audio Accessories Inc.
 Audio Tech KST AG
 Audio-Technica U.S. Inc.
 AVP Mfg and Supply Inc.
 AZCAR
 Belden Electronics Division
 Bradley Broadcast & Pro Audio
 Broadcast Connection
 Broadcast Equipment Surplus Inc.
 Broadcast Partners
 Broadcast Supply Worldwide (BSW)
 Broadcasters General Store
 Canare Corporation of America
 Canford Audio PLC
 Clark Wire & Cable
 Crouse-Kimzey Co.
 Delco Wire & Cable Ltd.
 Gefen Inc.
 Gepco International Inc.
 Ghielmetti AG
 Goodrich Enterprises Inc.
 Gotham Audio Switzerland
 Hannay Reels Inc.
 Harris Corp. Broadcast Communications Div.
 Hatfield and Dawson Consulting Engineers
 Hosa Technology Inc.
 IRT Electronics Pty. Ltd.
 Kaison Studiotechnik
 Knight's Communications Inc.
 Kramer Electronics
 Lightner Electronics Inc.
 Location Sound Corp.
 Marshall Electronics Inc.
 Marti Electronics
 MTC - MBHO US
 Nady Systems Inc.
 Nema Electronics International Inc.
 Pacific Radio Electronics
 Posthorn Recordings
 Pristine Systems Inc.
 Progressive Concepts
 Radio Systems

Ram Broadcast Systems
 RCI Custom Products
 Redco Audio Inc.
 RF Specialties
 S.C.M.S. Inc.
 SOMMER Cable America
 Sonic Sense, Inc.
 SystemsStore.com
 TAI Audio
 Tascam
 Technet Systems Group
 Telecast Fiber Systems Inc.
 Transcom Corp.
 Wheatstone Corp.
 Whirlwind
 Wireworks Corp.
 Zack Electronics
 Zaolla

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 Hatfield and Dawson Consulting Engineers
 Hosa Technology Inc.
 IRT Electronics Pty. Ltd.
 Kaison Studiotechnik
 Kramer Electronics
 LARCAN-TTC
 Lightner Electronics Inc.
 Location Sound Corp.
 Marti Electronics
 MYAT Inc.
 Nady Systems Inc.
 Nema Electronics International Inc.
 Pacific Radio Electronics
 Patriot/Satellite Export & Engineering Inc.
 Progressive Concepts
 Propagation Systems Inc. (PSI)
 Ram Broadcast Systems
 RDA Systems Inc.
 Redco Audio Inc.
 RF Specialties
 S.C.M.S. Inc.
 SOMMER Cable America
 Spinner GmbH
 Superior Broadcast Products
 SWR-Systems With Reliability Inc.
 TAI Audio
 Technet Systems Group
 TERACOM Components
 Transcom Corp.
 Whirlwind
 Winemiller Communications Inc.
 Zack Electronics
 Zaolla

WIRE AND CABLE, RF

AM Ground Systems Co.
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 ARS Electronics
 ATDI
 AZCAR
 Bext Inc.
 Bradley Broadcast & Pro Audio
 Broadcast Connection
 Broadcast Equipment Surplus Inc.
 Broadcast Microwave Services
 Broadcast Partners
 Broadcast Supply Worldwide (BSW)
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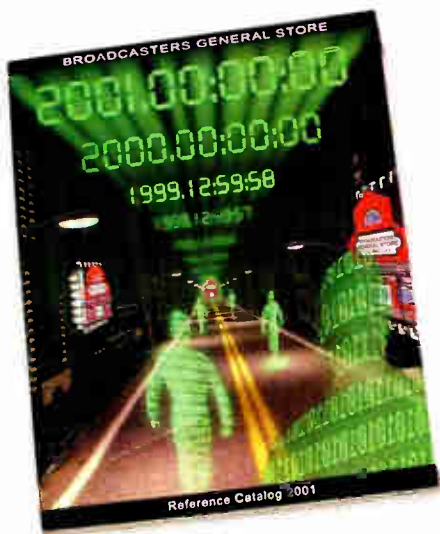
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1-352-622-7700

www.broadcastdealer.com

Directory

The following pages provide an alphabetical listing of industry suppliers and resources. We've included each firm's address, phone, fax, e-mail and Web site, along with product information, from those companies that responded to our solicitation. To find suppliers by product category, see the index on page 31.

360 SYSTEMS

5321 Sterling Center Dr.
Westlake Village, CA 91361
Ralph Goldheim, VP Sales
818-991-0360 Fax: 818-991-1360
E-mail: ralph.goldheim@360systems.com
Web Site: www.360systems.com

Products/Services: Digital audio recorders, editors and playback products for the professional sound, video production, broadcast and commercial sound markets.

New: The 360 Audio Network combines audio production tools, fast Ethernet and a central file server to distribute stereo program elements wherever needed in a television broadcast facility.

615 MUSIC COMPANIES

1030 16th Ave. S.
Nashville, TN 37212
Randy Wachtler, Pres.
615-244-6515 Fax: 615-242-2455
E-mail: info@615Music.com
Web Site: www.615Music.com

Products/Services: Emmy Award-winning company specializing in music scoring, sound design, production library music, news music, audio and post production services. Clients include cable and network broadcasters, television shows and ad agencies.

New: Promotional themes for network and cable; Production Library Music new releases; Non-broadcast corporate themes.

ABC RADIO NETWORKS

13725 Montfort Dr.
Dallas, TX 75240
Kevin Miller
972-991-9200 Fax: 972-776-4640
E-mail: Kevin.L.Miller@abc.com
Web site: www.abcradio.com

AC TRANSFORMER CO

89 Madison St.
Newark, NJ 07105
Robert Giangrande
973-589-8574 800-940-1033 Fax: 973-589-3155
E-mail: robert@actransformer.com
Web Site: www.actransformer.com

Products/Services: Manufacturer of new transformers. Can repair discontinued or outdated transformers. Quick delivery and expert engineering.

ACCUWEATHER INC.

385 Science Park Rd.
State College, PA 16823
Michael Steinberg, Sr. VP
814-235-8500 814-237-0309 Fax: 814-235-8609
E-mail: info@accuwx.com
Web Site: accuweather.com

Products/Services: AccuWeather and AccuWeather.com provide a suite of accurate, trouble-free broadcast and Internet weather services on exclusive and non-exclusive basis, delivered on schedule and tailored to clients' formats.

ACOUSTA

Moosstrasse 60
A-5020 Salzburg
AUSTRIA
Karl Putzhammer
011-43-662-82-4627 Fax: 011-43-662-824-6287
E-mail: acousta@salzburg.co.at
Web Site: www.acousta.at

New: Acousta D500 digital audio system for directors, editors and independent studio producers.

ACOUSTIC SYSTEMS INC.

415 E. St. Elmo Rd.
Austin, TX 78745
Charlie Roe, Mktg. Dir.
512-444-1961 800-749-1460 Fax: 512-444-2282
E-mail: info@acousticsystems.com
Web Site: www.acousticsystems.com

Products/Services: Pre-engineered sound enclosures for the broadcast and recording industries. Prefabricated studios bridge the gap between acoustic performance and price by using laboratory-certified modular components. The company maintains an on-site NVLAP-accredited lab and submits its sound isolation products to rigorous testing.

ACOUSTICAL SOLUTIONS INC.

3603 Mayland Ct.
Richmond, VA 23233
Don Strahle, Sales & Mktg.
804-346-8350 800-782-5742 Fax: 804-346-8808
E-mail: sales@acousticalsolutions.com
Web Site: www.acousticalsolutions.com

Products/Services: Sound control and noise reduction products for use in applications including recording studios, broadcast facilities, distance learning classrooms, architectural acoustics, houses of worship, theaters, auditoriums, gymnasiums, home theater, residential, teleconferencing and videoconferencing environments, as well as industrial noise control.

New: AlphaSorb Barrier Wall Panels in combination with Audiosorb Sound Barrier. With a NRC of .85 - 1.05 and an STC of 29, achieve sound absorption and isolation without additional building construction. Panels available in sizes up to 4'x10', thickness: 1-1/8" or 2-1/8". Covered in standard Guilford Fabric.

ACOUSTICS FIRST CORP.

2247 Tomlynn St.
Richmond, VA 23230-3334
Ryan Larkin
804-342-2900 888-765-2900 Fax: 804-342-1107
E-mail: info@acousticsfirst.com
Web Site: www.acousticsfirst.com

Products/Services: Acoustical materials to control sound and eliminate noise. Double Duty Diffuser / Bass Traps are poly-cylindrical (barrel-shaped) diffusers for high-frequency scattering over 180 degrees combined with high absorption below 500 Hz. Sizes from 2' x 2' up to 4' x 8' available in 49 fabric colors. Art Diffuser is a patented "binary array" available in woods and plastics for wall and ceiling mounting. Bermuda Broadband Triangle Traps are corner-mount foam. Sound Cylinders are stand-mounted foam absorbers. Also: Cutting Wedge & Cutting Wedge 2000 acoustical foams; Cloudscape Class 1 Melamine acoustical ceiling tiles ceiling baffles and banners; Sound Channels - 2: Acoustical wall fabric in 61 colors; Geometrix quarter- and half-round broadband absorbers; and Respond fabric-covered glass fiber wall and ceiling panels.

ADVANCED DESIGNS CORP.

1169 W. 2nd St.
Bloomington, IN 47403
Matt McGrath, Mktg Mgr.
812-333-1922 Fax: 812-333-2030
E-mail: adc@doprad.com
Web Site: www.doprad.com

Products/Services: Doppler weather radar and weather data displays.
New: DOPRAD Linux, SkyWarn, Turnkey Mobile Doppler.

ADVENTURES IN BROADCASTING

2211 Norfolk Ste. 795
Houston, TX 77098
Doug Harris, Noise Maker
713-522-4273 Fax: 713-526-4805

E-mail: dough@creativeanimal.com
Web Site: www.adventuresinbroadcasting.com

Products/Services: The Promotion Directors' School is a marketing and promotions conference devoted to radio, where every panelist and guest speaker talks about the challenges that marketing and promotions directors deal with daily. In Houston, Texas, April 18-20, 2001.

AEQ BROADCAST INTERNATIONAL INC.

2660 SW 87 Ave Davie
Ft. Lauderdale, FL 33328
Gerardo Vargas, Mgr.
954-424-0203 Fax: 954-424-0902
E-mail: aeqamerica@aol.com
Web Site: www.aeqbroadcast.com

Products/Services: Audio codecs, multi-codec systems, routing systems, portable units, mixing consoles, tele-hybrids, HD-automation, system solutions.

New: E@SY integrated control software. Eagle & Course dual-channel and multichannel multiformat audio codecs. Impact summing and distribution up to 60x60 (per block) stereo digital matrix-router. Caddy AD/DA multi-converter. Ranger multiplexer.

AETA AUDIO

75 Fleetwood Dr. Ste. 200
Rockaway, NJ 07866
Alvin Sookoo, GM
973-659-0555 Fax: 973-659-9555
E-mail: sales@aetausa.com
Web Site: www.aetausa.com

Products/Services: Audio, video and data transmission products. Responsible for the pioneering development of a number of industry standards, as well as more than 5,000 codec installations.

New: Scoop E-Z, a POTS, ISDN, wireless and INMARSAT codec. Weighing less than 4 lbs., the Scoop E-Z is ideal for remotes.

AEV SRL

Via della Tecnica 3
I-40050 Argelato - BO
ITALY
Luca Bergonzini, Pres.
011-39-051-663-4711 Fax: 011-39-051-663-4700
E-mail: bergonzini@aev.net
Web Site: www.aev.net

New: Energya is a flexible digital console for radio. Features include 24 inputs, digital router and all-digital signal path, mixing and monitoring facilities, logic controls, TCP/IP connection, serial control, low-profile design and intuitive control surface. Millennium 2 is a new-generation audio codec for ISDN, dedicated circuits, leased lines, dial-up lines. Extreme is a fully digital audio processor.

AIR CORP.

PG Box 2509
Coppell, TX 75019
James Loupas
972-304-0455 Fax: 972-304-0550
E-mail: air_corp@att.net

Products/Services: AIR Corp 500ph and 500tv microphone processors, used throughout the world to enhance microphone quality and solve difficult studio problems in radio and television stations.

AIRWORKS MEDIA

15128-45 Ave Ste. 1250
Edmonton, AB T6H 5L1
CANADA
Nicholas (Nick) Kasper, Managing Dir.
730-446-0882 Fax: 780-968-1633
E-mail: info@airworks.com

Web Site: www.airworks.com

Products/Services: Automated music editing, bridging music, production and multimedia computer industries with sound handling tools. TuneBuilder, a trademarked process for automatic music editing, and S/Link, a powerful audio file transfer conversion program. The company licenses software-based technologies to program developers, content providers and end users for application in filmed entertainment, electronic production, video, multimedia and education.

New: Pending release of VSLink for Roland VS 1680 and other hard-disk recorders (operates in Windows and Mac).

AKAI MUSICAL INSTRUMENT CORP.

4710 Mercantile Dr.
Ft. Worth, TX 76137
David Whittle, Product Mgr.
817-831-9203 800-433-5627 Fax: 817-222-1490
E-mail: info@akapro.com
Web Site: www.akapro.com

Products/Services: Audio equipment for the musical instrument, project-studio, broadcast, professional and post-production markets.

New: DPS24: 24-track digital personal studio, 100mm touch-sensitive motorized faders; MFC42 two-channel analog filter module, separate stereo and mono channels; Z4/Z8 Samplers, 24-bit 96 kHz dedicated samplers, with software control.

AKG ACOUSTICS

914 Airport Center Dr.
Nashville, TN 37217
615-620-3800 Fax: 615-620-3875
E-mail: akgsa@harman.com
Web Site: www.akgsa.com

Products/Services: Microphones for a diverse array of applications. AKG is focusing on the broadcast market with the C 4500 B-BC broadcast microphone, the PK81 camera mount receiver, the D230 electronic news gathering microphone along with numerous lavalier and shotgun microphones.

AKOO INC.

2500 N. Harem Ave.
Elmwood Park, IL 60707
Tammi Franke
708-583-9600 Fax: 708-583-1122
E-mail: tammi@akoo.com
Web Site: www.akoo.com

Products/Services: A converging technology company that has developed wireless technologies, products and services that enhance the entertainment experience. Akoo's KIMA technologies enable wireless transmission of audio and video content between PCs, set-top boxes, home servers, PDAs, speakers, headphones, cellular phones and surround-sound audio/video systems.

New: Directory of Internet radio stations for consumers.

ALESIS DISTRIBUTION

12509 Beatrice St.
Los Angeles, CA 90066
John Hancock
310-301-9563 Fax: 310-306-2650

ALLIED AIRNET SERVICES

715 Chelsea
Richmond, VA 47374
Dave Burns
765-935-3893 Fax: 765-935-3893
E-mail: dbocw@aol.com

Products/Services: Microphone support arms/angle poise microphone support booms in more varieties than any other manufacturer. Several accessories permit a variety of mounting configurations. O.C. White mic arms support most modern microphones. O.C. White is seen on TV and in print, more than any other brand.

ALTRONIC RESEARCH INC.

PO Box 249 250 MC 5048
Yellville, AR 72687
Doug Starkey, Mktg. Dir.
870-449-4093 800-482-5623 Fax: 870-449-6000
E-mail: altronic@mtnhome.com
Web Site: www.altronic.com

Products/Services: RF coaxial dummy loads in air- or water-cooled systems and self-contained heat exchangers. Power ratings from 1 kW to 1,500 kW. Lightning arrestors from 10 watts to 10 kW for RF lines to 1-5/8". Cermet resistors for air-, water-, oil- or internally water-cooled.

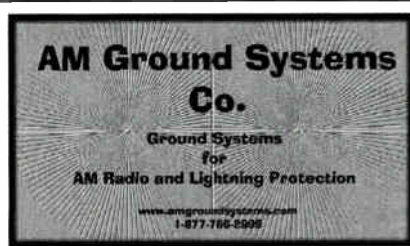
New: Fiber Optic Interlock Monitor for protection of water leaks in wave guides, coaxial lines, combiners, filters and dummy loads. The sensors detect fault conditions and will shut the transmitter off before extensive damage can occur to ancillary equipment.

AM GROUND SYSTEMS CO.

51 Ridge Ln.
Lawrenceburg, TN 38464

Kevin C. Kidd
877-766-2999 Fax: 931-766-3974
E-mail: info@amgroundsystems.com
Web Site: www.amgroundsystems.com

Products/Services: Repairs, constructs and evaluates AM ground systems nationwide. Provides reliable on-time installation with quality workmanship and materials. Call for free quote on any AM ground system project, whether new installation, repairing damage or vandalism.



AM GROUND SYSTEMS CO.

51 Ridge Lane, Lawrenceburg, TN 38464
Phone 877-766-2999, www.amgroundsystems.com

AGSC Repairs, Constructs and Evaluates AM Ground Systems Nationwide. We provide reliable on-time installation with quality workmanship and materials. Call for free quote on any AM ground system project, whether it be a new installation or repairing damage or vandalism. See our web site: www.amgroundsystems.com for complete details and pictures.

AMEK U.S. HEADQUARTERS

1449 Donelson Pike Airport Business Center 12
Nashville, TN 37217
Josh Thomas, Nat'l Sales Mgr.
615-360-0488 888-286-9358 Fax: 615-360-0273
E-mail: amekusa@harman.com
Web Site: www.amek.com

Products/Services: Analog and digital mixing console systems and signal processors for the recording, post production, broadcast and live sound markets. Many products feature Rupert Neve analog circuit designs.

New: BB100 broadcast console; Media 51 60-channel frame and Galileo 360V multi-format broadcast and recording consoles; Pure Path Driver in a Box (DIB) line amplifiers for broadcast applications.

AMERICAN MEDIA & SPECIAL PROMOTIONS (AMSP)

55 Scott St.
Buford, GA 30518
Scott Meach, Dir. of Mktg.
888-323-2257 Fax: 770-271-4006
E-mail: scott.meach@ahno.net
Web Site: www.americanholeinone.net

Products/Services: AMSP insures promotional success by providing guaranteed prize coverage up to millions of dollars for sales or programming promotions. The company customizes contests that generate sales, capture listener attention, create excitement, drive traffic to live broadcasts, attract new advertisers, generate non-traditional revenue, or build AQH and come.

New: Jumbo Dice Roll, Ice Dice, WorkForce Payroll, Beat the Bomb, Race Ticket Scratch Card, Grave Robber Money Bag Bag, Christmas Wish List.

AMS ALLTRONICS INC.

60013-300 N. Service Rd. W.
Oakville, ON L6M 3H2
CANADA
Mike Kashanizadeh
905-844-5772 877-228-8612 Fax: 905-844-6263
E-mail: ams@hard-to-find.net
Web Site: www.hard-to-find.net

Products/Services: ICs, power transistors, high-voltage capacitors, connectors, electron tubes, RF products, Eimac, Motorola, GE, Svetlana, Intel, Mitsubishi and Toshiba. All kind of sockets.

AMS NEVE PLC

100 Avenue of the Americas Fifth Fl.
New York, NY 10013
Gerard Fiocca
212-965-1400 Fax: 212-965-9306
E-mail: enquiry@ams-neve.com
Web Site: www.ams-neve.com
Products/Services: Design and manufacture of profession-

al audio equipment for world-class audio facilities. Integrated and scalable equipment solutions focused on three key applications: post production for film and video, broadcast and music recording.

New: Logic 3SC - 5.1 audio post system for high-speed editing and mixing. Modular I/O System 96 - delivers definitive Neve-quality audio at 24-bit, 96 kHz or 48 kHz/44.1 kHz resolution from a precision engineered package.

ANCHOR AUDIO

3415 W. Lomita Blvd.
Torrance, CA 90505
310-784-2300 Fax: 310-784-0533
Web site: www.anchoraudio.com

ANDREW CORPORATION

10500 W. 153rd St.
Orland Park, IL 60462
Dave Zack
708-349-3300 800-DIAL-4RF Fax: 708-349-5444
E-mail: rose.serno@andrew.com
Web Site: www.andrew.com

Products/Services: Manufacturer since 1937 of products and systems for radio and TV broadcasting, including DTV, multi-channel video and satellite-delivered broadcast services. Products for radio include HELIAX transmission line; filters, combiners and RF components for FM radio; manual and automatic pressurization systems; and broadcast antennas.

New: 4-1/6-inch and 6-1/8-inch MACXLine transmission lines; XT1000 DryLine Automatic Membrane Dehydrator for large-volume broadcast systems; MT1000 and MT2000 DryLine Automatic Membrane Dehydrators for medium- and large-volume broadcast systems.

ANTENNA CONCEPTS INC.

6626 Merchandise Way
Diamond Springs, CA 95619
Mark A. Cunningham
530-621-2015 Fax: 530-622-3274
E-mail: sales@antennaconcepts.com
Web site: www.antennaconcepts.com

ANTENNA ID PRODUCTS

22 Bryan Wynd
Glenmoore, PA 19343
Thomas Moyer
610-458-8418 Fax: 610-458-8418
E-mail: antennaid@aol.com
Web Site: www.antennaid.com

Products/Services: The Antenna Site Store makes tower signs, antenna tags and other antenna site products. Call for free product information.

ANTEX ELECTRONICS CORP.

1125 W 190th St.
Gardena, CA 90248
David Antrim, Pres.
310-532-3092 800-338-4231 Fax: 310-532-8509
E-mail: dantrim@antex.com
Web Site: www.antex.com

Products/Services: High-end digital audio sound cards for studio-quality PC-based recording and playback. Sound card, receiver and Internet appliance products are designed for system integrators and developers of digital audio workstations for broadcast automation, audio recording and archiving, messaging systems and professional entertainment systems.

New: Media Director is an intelligent digital business appliance that autonomously manages delivery, storage and processing of audio, video and data assets via remote LAN/WAN or dial-up connection.

AP BROADCAST

See Associated Press Broadcast

APEX COMMUNICATIONS SYSTEMS INC.

30 Stoughton Crescent PO Box 196
Munster, ON K0A 3P0
CANADA
Don Lee, VP Bus. Dev.
613-838-4054 Fax: 613-838-4357
E-mail: info@apexcom.net
Web Site: www.apexcom.net

Products/Services: FM SCA and RDS receivers and encoders; data on FM subcarrier; E-147 DAB receivers and transmitters; conditional access DAB data systems; satellite broadcast systems; VSAT systems; IP over satellite; vehicle location and information systems; video conferencing systems.

New: E-147 DAB receivers with special emphasis on data broadcast and conditional access data; low-cost direct-to-home IP over VSAT systems.

APNEX SYSTEMS LTD.

11068 Randall St.
Sun Valley, CA 91352

CUTS THROUGH ANY TRAFFIC

C 4500 B-BC

the new standard in
broadcast studio microphones.



H A Harman International Company

914 Airpark Center Drive • Nashville, TN 37217 • Phone: 615-620-3800
Fax: 615-620-3875 • e-mail: akgusa@harman.com • akgusa.com

World Radio History

Wayne La Farr, Product Specialist
818-767-2929 Fax: 818-767-2641
E-mail: sales@aphex.com
Web Site: www.aphex.com

Products/Services: Dynamics processing for studio and on-air. Compeller compressor/leveler; Dominator precision peak limiter, Aural Exciter and Big Bottom. Model 1788 eight-channel remote controlled mic preamp, Model 1100 Class A discrete tube mic preamp with 24/96 A/D.
New: Model 2020MKII update to the FMPro2020 audio processor. Optical split-band HF limiter, improved low-pass filter, more musical algorithms. Model 204 Aural Exciter and Optical Big Bottom. Model 207 Mic preamp and tube DI.

APPLIED RESEARCH & TECHNOLOGY

215 Tremont St.
Rochester, NY 14608
Philip Betette
716-436-2720 Fax: 716-436-3942
E-mail: artroch@aol.com
Web site: www.artroch.com

APT - AUDIO PROCESSING TECHNOLOGY LTD.

Edgewater Road
Belfast BT3 9JQ
UNITED KINGDOM
Sara Craig
011-44-28-9037-1110 Fax: 011-44-28-9037-1137
E-mail: aptmarketing@apt.com
Web Site: www.aptx.com

Products/Services: Audio codecs for broadcast applications. Products incorporate the apt-X audio compression algorithm, offering 4:1 compression with the lowest delay in the industry and resilience to multiple-coding. apt-X is available to license and is used throughout the broadcast industry.
New: WorldNet Milano ISDN audio codec; WorldNet Rio fixed-line audio codec. Both feature Enhanced apt-X offering a reduction in coding delay, improvements in audio quality and increased dynamic range.

ARBORETUM SYSTEMS INC.

75 Aura Vista Dr.
Pacifica, CA 94044
Pierre Ickovic, Internet Mktg. Mgr.
650-738-4750 800-700-7390 Fax: 650-738-5699
E-mail: pickovic@arboretum.com
Web Site: www.arboretum.com

Products/Services: Audio software solutions for enhancement, digital signal effects processing, sound design, noise reduction, mastering for Web streaming and MP3 audio, multimedia authoring, music recording, game development, post-production, broadcasting, Foley, ADR and other needs.
New: Ionizer-DX professional noise reduction master and sound design system for Cool Edit Pro and Sound Forge. Ray Gun 2.0 for DirectX is a simple and cost-effective noise reduction software.

ARRAKIS SYSTEMS

6604 Powell St.
Loveland, CO 80538
Rod Graham, VP Broadcast
970-461-0730 Fax: 970-663-1010
E-mail: Rod@arrakis-systems.com
Web Site: www.arrakis-systems.com

Products/Services: Revolution series digital mixing console with PC or console control; 12,000 series and 1200 series analog mixing consoles. Studio furniture: Radius, Modulux Deluxe, Modulux and custom packages.
New: The DL4-Max digital-audio storage and automation system, a full-featured dual studio system with 210 hours of storage. Modulux Flex studio; Digilink Free fully-functional 3 Meg file Web page download.

ARS ELECTRONICS

7110 De Celis Pl.
Van Nuys, CA 91406
Martin Sanett, Pres.
818-997-6200 800-422-4250 Fax: 818-997-6158
E-mail: 4423@worldnet.att.net
Web Site: www.arselectronics.com

Products/Services: High-power broadcast-industrial tubes; high-voltage rectifiers; rack products including racks, shelves, drawers and wiring; wiring products including connectors, punched panels and wire; audio, digital and video patch bays; UHF and VHF wireless mics; and condenser, lav and dynamic microphones.
New: Broadcast Electron Tubes.

ASHLY AUDIO

847 Holt Road
Webster, NY 14580-9103
Jim Stachowski
716-872-0010 800-828-6308 Fax: 716-872-0739
E-mail: info@ashly.com

Web Site: www.ashly.com

Products/Services: Signal processors including analog and digital graphic and parametric equalizers, active electronic crossovers, compressor/limiters and VCA remote controllers. Rack-mountable mixers include basic line or microphone mixing and a full-feature eight input stereo mixer. Three series of amplifiers range from 60W to 3000W.
New: Powerflex-6250 Six Channel Amplifier 150W/ch @8 ohms, 250/Ch @4ohms. Four input/Eight output Protea 4.24C Digital Crossover/System Processor.

ASSOCIATED PRESS BROADCAST

AP Broadcast News Center
1825 K Street NW, Suite 800
Washington, DC 20006
800-821-4747
Web site: www.apbroadcast.com

ASSOCIATION OF RADIO MARKETING EXECUTIVES (ARME)

2211 Norfolk Ste. 795
Houston, TX 77098
Doug Harris, Noise Maker
713-522-4273 Fax: 713-526-4805
E-mail: dugh@creativeanimal.com
Web Site: www.a-r-m-e.com

Products/Services: A professional organization that "speaks the language of radio." The organization is looking for passionate broadcast marketing professionals who are serious about their radio careers.

ATDI

2 Pidgeon Hill Drive
Sterling, VA 20165
Katie Shell
703-433-5450 Fax: 703-433-5452
E-mail: kshell@atdi.com
Web Site: www.atdi.com

Products/Services: Software products and services in all areas of radio propagation simulation, network planning, spectrum management, digital cartography. Products that suit the needs of radio planners from 30 MHz to 100 GHz in broadcast, mobile and fixed communications, microwave links or electronic warfare.

New: ICS Telecom: Solution to plan radio communication networks. ICS Manager: Spectrum management system based on ITU recommendations. HerTZ Mapper: Radio network simulation and analysis.

AES/EBU DIGITAL AUDIO DISTRIBUTION AMPLIFIERS



DDA106-XLR (1X6) DDA112-BNC (1X12)
DDA112-XLR (1X12) DDA124-BNC (1X24)
DDA206-XLR (Dual 1X6) DDA212-BNC (Dual 1X12)
DXA112-XLR (1X12) DXA124-BNC (1X24)

- Accepts sample rates from 27 to 96kHz
- Transformer balanced inputs
- Data reclocking and regeneration
- Adjustable input cable equalization
- Loop-thru inputs w/switchable terminations
- Sample rate, Status and Error indicators
- Up to 12 XLR or 24 BNC outputs

Free Brochure Available Upon Request



AUDIO TECHNOLOGIES INCORPORATED
www.atiguys.com

ATI-AUDIO TECHNOLOGIES INC.

328 W. Maple Ave.
Horsham, PA 19044
Samuel B. Wenzel, Pres.
215-443-0330 800-959-0307 Fax: 215-443-0394
E-mail: sam@atiguys.com
Web Site: atiguys.com

Products/Services: Audio distribution, IHF-to-Pro interface, microphone, line, turntable, meter/monitoring, press boxes and single and multiple stereo headphone amplifiers. Vanguard Series of 6, 8 and 12 stereo broadcast consoles and the System 10,000 modular plug-in, mic, line and audio distribution amplifiers. NanoAmp Series studio and field mixers, meter/monitoring, distribution, sum, mic/line and buffer amplifiers. AES/EBU digital audio distribution, monitoring and matching amplifiers.

New: Encore Series stereo, multiple-output headphone amplifiers, CE marked. HDA400 Headphone Amplifier is an economical four-output stereo monitoring system. Balanced 1/4" TRS stereo line inputs with a master level control, clipping indicator and stereo/mono switch drive four independently adjustable high-compliance stereo outputs. Each output comfortably drives typical 32 to 600 ohm headphones to SPL in excess of 120 dB at 100 mW each. Headphone output jacks are duplicated on front and rear panels. One rack space package with internal AC power supply. \$499.

HDA600 Headphone Amplifier is a full-featured, six-output stereo headphone distribution system. Parallel balanced XLR and TRS cue and stereo line inputs allow easy loop-thru and connector flexibility. A mic/line cue input is adjustable and selectable into left, right or both internal distribution busses mixed with the stereo line feed. Clip LEDs monitor cue and line inputs. Six independent, 100 mW, high-compliance stereo headphone drivers are fed from either the internal distribution busses or from individual rear TRS connectors configurable as stereo unbalanced or mono balanced inputs. Signal presence LEDs monitor each input. Headphone outputs are duplicated on front and rear of the 1RU, internally powered package. \$599.

AUDEMAT INC.

2 Pidgeon Hill Dr. Ste. 560
Sterling, VA 20165
Sophie Lion-Poulain, External Affairs Coord.
703-430-5677 866-AUDEMAT
E-mail: s.lion@audemat.com
Web Site: www.audemat.com

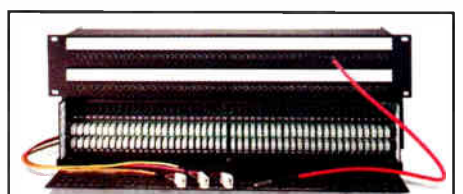
Products/Services: Test and monitoring equipment. Mobile Field strength metering equipment (FM and AM), remote monitoring equipment GoldenEagle with TCP/IP (AM, FM and TV) and the DataCaster RDS/RBDS/DARC encoder family.
New: FM_MC4 FM field-strength meter and base-band analyzer with GoldenEar quality evaluation software; GoldenEagle FM with TCP/IP remote off-air monitoring equipment; FM_C3 FM field strength meter and base-band analyzer.

AUDIO & DESIGN LTD.

Unit 3 Horseshoe Park
Pangbourne, Berks, RG8 7JW
United Kingdom
Ian Harley, Company Dir.
011-44-118-984-4545 Fax: 011-44-118-984-2604
E-mail: sales@proaudio.uk.com
Web Site: www.proaudio.uk.com

Products/Services: Professional audio equipment including A/D converters, D/A converters, AES/Word clock and video reference generators, sample rate converters, digital distribution amplifiers, digital audio mixers, digital audio management. Also IT networking for broadcasters including consultancy, design and installation.

New: For the EuroRack: an 8-channel AES manager with channel shuffling, mixing, channel delay, MS encoding/decoding, level control. DMA2 Digital Mic Amp with RS422 remote control of adjustable parameters.



Audio Accessories Inc.

This Audio Accessories Inc. "Shorti" patchbay is a 2x48x2RU unit with TRS out to Edac 3-pin connectors. The "Quick-Switch" normalling pod allows you to set the individual normals on a per jack-pair basis. Also available in 1/4" Long-frame and a Sleeve-normal version. Mating connectors and pins supplied with all units. Audio Accessories Inc. offers a complete line of Audio and Video patchbays.

audio accessories
audio-line

AUDIO ACCESSORIES INC.

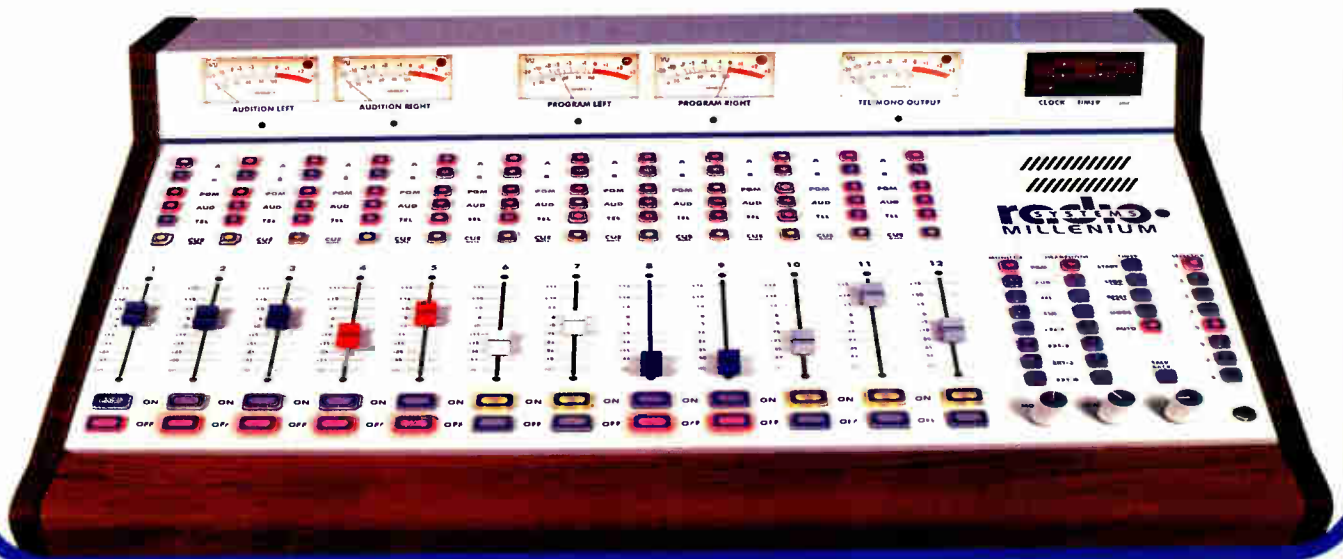
25 Mill St. PO Box 360
Marlow, NH 03456
Tim Symonds, Ops. Mgr.

radio SYSTEMS ● MILLENIUM CONSOLES

601 Heron Drive, Bridgeport, New Jersey 08014
(856) 467-8000 voice (856) 467-3044 fax www.radiosystems.com

SMART CHOICE

- ✔ **EXCELLENT VALUE**
The bottom line is that Millennium consoles work because their performance, look and sound present the best console value around.
- ✔ **PROVEN**
Over 500 broadcasters use more than 3000 Millennium and RS series consoles to stay on the air every day. Most users who have bought one of our consoles bought another.
- ✔ **FULL FEATURED**
You can buy options for a Radio Systems console – but you don't have to! From full remote control to complete monitoring, Millennium consoles work right out of the box!
- ✔ **GREAT LOOKS**
Millennium consoles are beautifully styled with glowing soft-touch keypads and rich mahogany side-panels. And, owners can even inexpensively update their older consoles to a Millennium model.
- ✔ **GUARANTEED**
Our consoles come with the best warranty in the business with 2-year no charge overnight parts delivery to keep you on the air.
- ✔ **EASY INSTALLATION**
Make an afternoon out of installing your next console – not a career! These boards almost seem to wire and install themselves.
- ✔ **SUPERB ENGINEERING**
These boards have the low noise and distortion specs that you need to compete with digital alternatives. And full DC control and modular construction keeps the performance clean and repairs a snap for the life of the console.



603-446-3335 Fax: 603-446-7543

E-mail: audioacc@patchbays.com

Web Site: www.patchbays.com

Products/Services: Audio and video patchbays, including 1/4" long-frame and Mini/TT audio panels. Pre-wired audio patchbays to punch-down terminals and multi-pin connectors. Video patchbays, audio and video patch cords. RS-422 patchbays.

New: Shorti quick-switch patchbays. Available in Mini/TT and 1/4" long-frame, these units have TRS-out-to-3-Pin-Edac connector, and a unique normalizing pod so that each individual normal can be changed on a per-jack basis.

AUDIO BAUER PRO AG

Bernerstr. Nord 182

CH-8064 Zürich

SWITZERLAND

Mr. M. Hausammann, GM

011-41-14-32-3220 Fax: 011-41-14-32-6558

E-mail: info@audio-bauerpro.ch

Web Site: audio-bauerpro.ch

Products/Services: Broadcast microphones and headsets, mini-lav microphones, one-side earphones.

New: Bone Vibration Headset for broadcasting, two-way communications and IFB intercom applications.

AUDIO ENGINEERING ASSOCIATES

1029 N. Allen Ave.

Pasadena, CA 91102

Wes Dooley, CDO

626-798-9128 800-798-9127 Fax: 626-798-2378

E-mail: stereoom@aol.com

Web Site: www.wesdooley.com

Products/Services: Manufacture and repair of ribbon microphones. Tall stand/booms/Oeeca trees. Repair of ribbon mics.

New: A low-cost, RCA 44-style prop mic for situations where the museum quality of AEA's R44S is not needed. Finish is umber and dull finish silver. The captive mic cable is wired to an internal XLR female insert, allowing live prop use with your own microphone. An internal shock mount is provided for smaller side-address microphones. Full-scale size, 13.25 tall. \$495.

AUDIO PRECISION

5750 S.W. Artic Dr.

Beaverton, OR 97005

Dave Post, North Amer. Sales Mgr.

503-627-0832 800-231-7350 Fax: 503-641-8906

E-mail: sales@audioprecision.com

Web Site: www.audioprecision.com

Products/Services: Computer-based and front-panel-controlled portable instruments to address specific requirements of both laboratory and field use. Develops and manufactures high-performance audio and communications test and measurement equipment, and offers technical support, testing consultation and ongoing audio testing seminars and training courses.

New: ATS-2 PC-based audio test and measurement system with analysis capabilities including harmonic distortion, multi-tone, FFT and serial digital audio analyzers; Cascade Plus PC-based high-performance audio test and measurement system based on the flagship System Two Cascade.

AUDIO SPECIALITIES

811 S. Main St.

Burbank, CA 91506

Gary Lanzisero

818-841-3000 888-810-1001 Fax: 818-557-2659

E-mail: garyl@audiospec.com

Web Site: www.audiospec.com

Products/Services: ASG member companies, part of The Vitec Group plc family, serve the three primary service areas of production sound: Intercom, Pro Audio, Wireless. The ASG mission is to audio and communication superiority in television, film and industry. ASG works in concert with Bexel Corp. to provide high-end broadcast communication and RF services and solutions to a shared client base.

AUDIO SURGE

398 Hwy. 51 N. Suite 80 #172

Ridgeland, MS 39157

George Thomas

601-856-9080 800-795-7234 Fax: 601-853-9976

E-mail: sales@dbmsystems.net

Web Site: www.audiosurge.net

New: Audio Surge brand Transient Voltage Suppressors protect professional and broadcast digital audio cards from damaging surges and transients. Near-instantaneous response time of 1 picosecond provides immediate peak power dissipation of up to 1,500 watts. Custom suppressors available for audio and control applications.

AUDIO TECH KST AG

Neue Bahnhofstrasse 144

CH-4132 Muttenz Basel

SWITZERLAND

Christian Kraska, Sales Director

011-41-61-461-0900 Fax: 011-41-61-461-0931

E-mail: info@audiotech.ch

Web Site: www.audiotech.ch

Products/Services: Swiss distributor for premium pro audio products.

AUDIOARTS ENGINEERING

600 Industrial Dr.

New Bern, NC 28562

Jay Tyler, Sales

252-638-7000 Fax: 252-635-4857

E-mail: sales@wheatstone.com

Web Site: www.wheatstone.com

Products/Services: High-performance, cost-effective analog and digital studio console designs for the radio broadcast industry. Product information is available on the Web site. Enter, click on Downloads in the LH navigation bar and sales brochure PDFs can be downloaded in Adobe Acrobat form.

AUDION LABS/VOXPRO

12903 Manzanita Rd., NE

Bainbridge Island, WA 98110

Charlie Brown

206-842-5202 Fax: 206-842-6029

E-mail: charlie@audionlabs.com

Web Site: www.audionlabs.com

New: VoxPro PC is a fast stereo digital audio editor optimized as an on-air phone/interview editor, networkable using peer-to-peer or server-based networks. Users can log on from any VoxPro PC. VoxPro imports and exports WAV and AIFF files for use with any WAV editor. Available as software-only and software/control panel package. VoxPro PC is a fast digital audio editor for Windows 98 and Windows 2K PII and PIII CPUs. Also: VoxNet is a VoxPro PC plug-in that allows total networkability between VoxPro PCs on peer-to-peer or server-based networks with protected user access from any VoxPro workstation.



AudioScience

The ASi6114 audio adapter provides four stereo outputs, one stereo input, one record stream and four play streams. Compression choices include MP3 and MPEG Layer 2. Powerful Multi-Rate-Mixing technology allows digital mixing of multiple audio streams of different sample rates and formats. Both analog and digital (AES/EBU or S/PDIF) interfaces are standard. A dedicated AES/EBU and Word clock input is also included for synchronization. Driver support includes Windows 98, Me, NT, 2000, XP and Linux.



302-324-5333

AUDIOSCIENCE

42C Reads Way

New Castle, DE 19720

Richard Gross, Pres.

302-324-5333 Fax: 949-650-6291

E-mail: saes@audioscience.com

Web Site: www.audioscience.com

Products/Services: AudioScience designs and manufactures digital audio peripherals for broadcast and computer-based digital audio applications. The company specializes in multistream DSP-based sound cards that offer MPEG compression and multi-rate mixing capabilities.

New: ASi6114 audio adapter provides four stereo outputs, one stereo input, one record stream and four play streams. Compression choices include MP3 and MPEG Layer 2. Powerful multi-rate mixing technology allows digital mixing of multiple audio streams of different sample rates and formats. Both analog and digital (AES/EBU and S/PDIF) interfaces are standard. A dedicated AES/EBU and Word clock input is included for synchronization. Driver support includes Windows 98, Me, NT, 2000, XP and Linux.

AUDIOSONIX

10301 Democracy Lane Ste. 410

Fairfax, VA 22030

Bill Sheehan, VP Sales and Mktg.

703-293-9613 Fax: 703-293-9609

E-mail: bsheehan@audiosonix.com

Web Site: www.audiosonix.com

New: Digital Express or DEX is a cost-effective turnkey way to move digital content. There is no hardware or software to install. If you have a PC with an Internet connection, you are ready to begin delivering and receiving content over the Internet via a secure, reliable and end-to-end asset management and distribution system.

AUDIO-TECHNICA U.S. INC.

1221 Commerce Dr.

Stow, OH 44224

Michael Edwards, Mktg. Mgr., Studio

330-686-2600 Fax: 330-686-0719

E-mail: pro@atus.com

Web Site: www.audio-technica.com

Products/Services: Wired and wireless microphones for studio production, sound reinforcement, broadcast and field recording applications. Products include 40 Series and 30 Series studio microphones, AT895 adaptive-array microphone systems, UHF and VHF professional wireless systems, SmartMixer automatic mixers, professional shotgun, stereo and interview microphones, headphones and accessories.

New: AT3035 large-diaphragm condenser microphone; AT4033/SE "Special Edition" cardioid studio microphone with shock mount, custom wooden case and microphone dust cover.

AUDIOTX COMMUNICATOR

3 Bamsley Road Edgbaston

Birmingham B15 1QS

UNITED KINGDOM

Mo Dutta

011-44-12-12-56-0200 Fax: 011-44-12-12-56-5109

E-mail: sales@audiotx.com

Web Site: www.audiotx.com

Products/Services: AudioTX Communicator is a PC software-only ISDN codec with IP network capability. In ISDN mode you can connect to CDQ Prima, Telos, WANS, leased lines, ATM and the Internet can be used for connections.

New: AudioTX Communicator ISDN and IP codec plus AudioTX POTS - for voice transmission over a standard telephone line.

AUDITRONICS Inc.

600 Industrial Dr.

New Bern, NC 28562

Brad Harrison, Sales

252-638-7000 Fax: 252-635-4857

E-mail: sales@wheatstone.com

Web Site: www.wheatstone.com

Products/Services: A trusted name in the industry for more than 31 years. Analog and digital solutions for live radio broadcast. Product information is available on the Web site. Enter, click on Downloads in the LH navigation bar and sales brochure PDFs can be downloaded in Adobe Acrobat form.

New: The 2600 Series Audio Console is a cost-effective, compact, modular countertop unit designed for the rigors of broadcast. The ALM-12d Digital Radio Console is a highly cost-effective product that combines functions of a router and on-air console.

AUDIX CORP.

9400 SW Barber St.

Wilsonville, OR 97070

Cliff Castle, VP Sales

503-682-6933 800-966-8261 Fax: 503-682-7114

E-mail: ccastle@audixusa.com

Web Site: www.audixusa.com

Products/Services: Dynamic and condenser microphones for live performance, studio and broadcast applications.

New: SCX25 brass condenser microphone with a 25 mm gold sputtered diaphragm and a new suspension mounting system that isolates the capsule from the housing and the electronics, minimizing reflective surfaces and maximizing phase coherence.

AURALEX ACOUSTICS INC.

8851 Hague Rd.

Indianapolis, IN 46256

David Harbison

317-842-2600 800-95-WEDGE Fax: 317-842-2760

E-mail: auralex@auralex.com

Web Site: www.auralex.com

Products/Services: Acoustical manufacturing and consulting firm. Absorption, isolation, bass trapping and diffusion.

New: Gramma, Platform.

AUTOGRAM CORP.

1500 Capital Ave.

Plano, TX 75074-8118

Chris Holt, Dir. of Mktg.

972-424-8585 800-327-6901 Fax: 972-423-6334

E-mail: info@autogramcorp.com

The Perfect Arrangement for Your Audio

Digital doesn't have to mean difficult. With Logitek, your studio wiring and configurations are beautifully simple - and completely flexible. Combine analog and digital sources easily and control them from anywhere. Centrally locate all of your audio sources, share them throughout your facility, network your audio with high speed optical connections and easily manage your audio distribution, routing and mixing.

Find out how at 800.231.5870 or www.logitekaudio.com



Coming in
January 2002

2002
Radio World

READERS' CHOICE AWARD
& Sweepstakes

Your Opinion Counts

For 25 years, Radio World has been your trusted resource for product news and information. Starting next year, we're giving our valued readers the opportunity to express their opinions about the products that affect their daily lives. Here's your chance to sound off and tell the industry which products work for you.

Radio World

2002

Industry Source Book



Here's How It Works

In early January, you will receive Radio World's 2002 Industry Source Book, our annual vendor directory. Included with each Source Book will be a ballot that lists new radio broadcast products in 12 categories. The ballot will include Web URLs so you can learn more about the nominated products.

Then, you will be asked to vote for your favorite product in each category via a mail-in or fax ballot or through an online Web site ballot. Radio World will announce the winners in our April 10, 2002, issue and at the NAB2002 show.

But Wait, There's More – Cast Your Vote & Win!

While submitting your ballot for the Readers' Choice Awards, your name automatically will be entered in our Readers' Choice Sweepstakes 2002. Due to the overwhelming response of our Silver Sweepstakes last year, we've decided to extend the contest. This means that 26 more great products will be given away in 2002. We will choose the winners in random drawings and announce them in every single issue of Radio World next year.



VOTE & ENTER HERE

A. Audio Processors - On Air

- 1- Apex Systems Ltd.: 2020MKII; www.aphex.com
- 2- Energy-Onix Broadcast Equipment Co., Inc.: Maximizer II; www.energy-onix.com/HTML/Catalog%20Sheets/MaximizerII.html
- 3- Inovonics, Inc.: David-II / Model 716; www.inovon.com/products/onov716s.htm
- 4- Omnia, a Telos Company: Omnia-6fm Audio Processor; www.omniaaudio.com/products
- 5- Orban/CRL: OPTIMOD-FM 8400; www.orban.com
- 6- Translantech Sound, LLC: Ariane Multi-Baud RMS Processor; www.translantech.com/public_html/Ariane.htm
- 7- Waves Ltd.: Maxxstream; www.maxxstream.com

Audio Processors - Studio or Voice

- 1- Apex Systems Ltd.: model 204 Aural Exciter and optical Big Bottom; www.aphex.com
- 2- HHB Communications: Fatman 2 Radius 5 Mic Pre/ Compressor; www.hhbusa.com
- 3- Lynx Studio Technology, Inc.: Lynx Two; www.lynxstudio.com/lynxtwo.html
- 4- Waves Ltd: L2 Ultramaximizer; www.waves.com

B. Codecs - POTS Line

- 1- Aeta Audio: Scoop Reporter II; www.aetausa.com
- 2- Comrex: Matrix POTS Codec; www.comrex.com/matrix_codec.htm
- 3- Energy-Onix Broadcast Equipment Co., Inc.: Tele-Link; www.energy-onix.com/HTML/Catalog%20Sheets/TeleLink.html
- 4- Musicam USA: Voyager; www.musicamusa.com

Codecs - ISDN/T1

- 1- Comrex: Matrix Codec with ISDN Module; www.comrex.com/matrix_codec.htm
- 2- Harris Corporation, Broadcast Communications Division: Intraplex STL Plus Program Audio Package for T1 Circuits; www.intraplex.com
- 2- Musicam USA: Super Link; www.musicamusa.com
- 3- Telos Systems: Telos Zephyr Xstream 9400 and 9600 Series; www.telos-systems.com/?zephyr/default.htm

C. Consoles & Mixers - On-Air

- 1- Auditorics: ALM-12d Digital Audio Console; www.wheatstone.com/content/products/radio/au/r_aset.htm
- 2- Energy-Onix Broadcast Equipment Co., Inc.: Perfect 8; www.energy-onix.com
- 4- Harris Corporation, Broadcast Communications Division: BMXdigital Modular Digital Audio Console; www.wheatstone.com/content/products/tv/prodset.htm
- 3- Wheatstone Corporation: A-2000 Linear Audio Console; www.wheatstone.com/content/products/tv/prodset.htm

Consoles & Mixers - Production

- 1- Harris Corporation, Broadcast Communications Division: BMXdigital Modular Digital Audio Console; www.broadcast.harris.com/studio/consoles-mixers/bmxdigital.html
- 2- HHB Communications: IL Audio M3 Tubetracker; www.hhbusa.com

D. Digital Automation Systems

- 1- Auto-Mate Systems: Auto-Mate Version 4 for Windows; www.wvi.com/automate
- 2- Broadcast Electronics, Inc.: VaultXpress; www.audiobvault.com/VaultExpress/vx_index.html
- 3- Broadcast Software International: Simian Digital Automation; www.bsuisa.com/software/simian/simian.htm
- 4- CartWorks/dbm Systems, Inc.: CartWorks MHD; www.cartworks.com
- 5- Computer Concepts Corp.: Maestro 3.1; www.computerconceptscorp.com/1-1-1.html
- 6- dbm Systems, Inc.: Audio Surge Sound Card Protection Model; ASI50; www.dbmsystems.com/audiosurge
- 7- ENCO Systems: DADpro32; www.enco.com
- 8- JT Communications: Automatronix; www.atlantic.net/jtcomm/automatronix.htm
- 9- MediaTouch: iMediaTouch \$995 Software Suite; www.imediatouch.com
- 10- Prophet Systems innovations: NexGen Digital; www.prophetsys.com/products/broadcast/default.asp?mode=broadcast
- 11- RCS: Master Control/IVT; www.rcsworks.com/products/mc/default.htm
- 12- Scott Studios Corp.: SS32; www.scottstudios.com/ss.html

E. Digital Audio Recording/Playback/Editing Hardware

- 1- 360 Systems: Instant Replay; www.360systems.com
- 2- Audion Laboratories: VOXPRO; www.audionlabs.com
- 3- Denon Electronics USA, Inc.: DN-C630 Broadcast CD Player; www.denon.com/catalog/products.asp?i=3
- 4- HHB Communications: Burnit CDR830; www.hhbusa.com
- 5- Yamaha Corporation of America: AW 4416 Professional Audio Workstation; www.aw4416.com

F. Microphones - On-Air

- 1- AKG Acoustics: C4500 B-BC Broadcast Microphone; www.akgusa.com.c4500bbc.html
- 2- Audio-Technica U.S., Inc.: AT4047/SV Cardioid Studio Capacitor Microphone; www.audio-technica.com/prodpro/profiles/AT4047SV.html
- 3- Neumann: TLM 103 Studio Microphones; www.neumannusa.com/pages/products/micproduct.asp?
- 4- Studio Projects: Studio Projects C1; www.studioprojectsusa.com

Microphones - Field & Specialty

- 1- Audio-Technica U.S., Inc.: AT835ST Stereo Shotgun Microphone; www.audio-technica.com/prodpro/profiles/AT835ST.html
- 2- Sennheiser: MD46 Interview Microphone; www.sennheiserusa.com/pages/products/micro/md46.htm

G. Remote Field Equipment

- 1- Comrex: Matrix POTS/ISDN/Wireless Codec; www.comrex.com/matrix_codec.htm
- 2- Denon Electronics USA, Inc.: DN-F20R IC Field Recorder; www.denon.com/catalog/products.asp?i=3
- 3- Easi-Set Industries: Cable Equipment Storage; www.easi-set.com/bldg/index.html
- 4- HHB Communications: Portadis MDP500 Minidisc Recorder; www.hhbusa.com
- 5- JK Audio: Remote Mix Sport - Hybrid mixer with wireless interface; www.jkaudio.com
- 6- Sennheiser: SK5012 Miniature Wireless Transmitter; www.sennheiserusa.com/pages/products/rf/sk5012.htm
- 7- Superscope Technologies: PMD680 Solid State, PC Card Recorder; www.superscopemarantzpro.com/Marantz/PMD680/pmd680.html
- 8- Telos Systems: Telos Zephyr Xstream 9500 Series; www.zephyr.com/products
- 9- Will-Burt: 25ft Hurry-up Mast P/N 903614; www.willburt.com/Mast+Products/Telescoping+Masts/Hurry-Up+Telescoping+Masts.htm

H. Routers & Switchers

- 1- Computer Concepts Corp.: Computer Concepts Epicenter Switcher with DSP; www.computerconceptscorp.com/epicenter.html
- 2- HHB Communications: Rosendahl Nanosyncs; www.hhbusa.com
- 3- Sierra Automated Systems: SAS 64000 Audio Routing Switcher; www.sasaudio.com/64000/64page.html
- 4- Wheatstone Corporation: Bridge 2001 Digital Audio Network Router; www.wheatstone.com/content/tech/techset.htm

I. Studio Accessories

- 1- Apex Systems Ltd.: model 1788 8 channel remote controlled mic preamp; www.aphex.com
- 2- Denon Electronics USA, Inc.: DN-T620 CD Cassette Combi Deck; www.denon.com/catalog/products.asp?i=3
- 3- ESE: ES-101 GPS Master Clock; www.es-web.com
- 4- Harris Corporation, Broadcast Communications Division: QuickLine Studio Furniture; www.broadcast.harris.com/studio/studio-furnishings/ql.html
- 5- Henry Engineering: THE MATCHBOX II; www.henryeng.com
- 6- Mager Systems inc.: Computer Hard drive pullout; www.magersystems.com
- 7- Omnia, a Telos Company: Omnia Tool Vox 4800.1000; www.telos-systems.com/products
- 8- RDL-Radio Design Labs: FP-UBC2 Unbalanced to Balanced Converter; www.rdlnet.com/fpubc2.htm
- 9- Sennheiser: HD 280 Pro Headphones; www.sennheiserusa.com/pages/products/headphones/headphones280pro.htm

J. Telephone Hybrids & Adapters

- 1- JK Audio: Daptor One - Wireless Telephone Adapter; www.jkaudio.com
- 2- Stormin Protection Products Inc.: Optilator; www.optilator.com

Telephone Hybrids & Adapters...continues

- 3- Telos Systems: TWO x 12 Multi-Line Talkshow System 0212 Series; www.zephyr.com/products

K. Transmitters - Transmitters - AM

- 1- Broadcast Electronics, Inc.: AM-5E; www.bdcast.com/products/am_trans/am-5e.html
- 2- Energy-Onix Broadcast Equipment Co., Inc.: Pulsar 1000, 1 KW AM Transmitter; www.energy-onix.com/HTML/Catalog%20Sheets/Pulsar2505001000.html
- 3- Harris Corporation, Broadcast Communications Division: 3DX-50 DX Destiny Transmitter; www.broadcast.harris.com/transmission/radio/dxdestiny.html
- 4- LBA Technology, Inc.: TPX-High Power Triplexer - line of triplexers to combine three AM stations up to 100kw each into one antenna; www.lbagroup.com/technology/multiplexer.htm
- 5- Nautel Maine Inc.: IBOC Compatible X112/30/60; www.nautel.com

Transmitters - FM

- 1- BEXT, Inc.: XL 1000; www.best.com/xl1000.htm
- 2- Broadcast Electronics, Inc.: FM-20S; www.bdcast.com/products/fm_trans/fm-20s.html
- 3- Energy-Onix Broadcast Equipment Co., Inc.: ECO-10, 10 KW FM Transmitter; www.energy-onix.com/HTML/Catalog%20Sheets/ECO46810.html
- 4- Marti Electronics: PNP-1000; www.martielelectronics.com/products/pluginplayfm1000.html
- 5- Nautel Maine Inc.: Q20/20; www.nautel.com

L. Others

- 1- Broadcast Electronics, Inc.: SoniXtream; www.sonixtream.com
- 2- Broadcast Software International: Timeshift Continuous Record and Advanced Playback; www.bsuisa.com/software/timeshift/timeshift.htm
- 3- Dayton industrial Corp.: AF210 Stereo, FM/SCA, RDS Receiver; www.daytonindustrial.com
- 4- Denon Electronics USA, Inc.: DN-M991RM Broadcast MD Cart Player; www.denon.com/catalog/products.asp?i=3
- 5- Dielectric Communications: FMVEE Antenna; www.dielectric.com/broadcast/fm.asp
- 6- Easi-Set Industries: Telecommunications Shelter - AES; www.easi-set.com/bldg/index.html
- 7- ERI - Electronic Research, Inc.: ERI Three-Around Cogwheel/COG3; www.eriinc.com/cogwheel.html
- 8- ESE: LX-5105 5" Self Setting Analog Clock; www.es-web.com
- 9- Dialight Corporation: L-864 Flashing Red Beacon; www.dialight.com
- 10- Henry Engineering: Audio Online Telephone Information System; www.henryeng.com
- 11- Inovonics, Inc.: FM Modulation Monitor/Model 530; www.inovon.com/products/inov530m.htm
- 12- LBA Technology, Inc.: CoLoCoil - Isolation system permitting AM towers to be used for Cell sites; www.lbagroup.com/technology/multiplexers.htm
- 13- Loudeye Technologies, Inc.: Loudeye Radio: Ad Insertion; www.loudeye.com/radio/media-insertion.htm
- 14- Measurecast, Inc.: Streaming Audience Measurement Service (SAMS); www.measurecast.com/services
- 15- MediaJobz.com: Online Professionals and Opportunities; www.mediaJobz.com
- 16- MediaTouch: iMedialogger; www.imediatouch.com
- 17- Omnia, a Telos Company: Omnia stereo generator (SG); www.omniaaudio.com
- 18- RadioSoft: ComStudy 2.2; www.radiosoftware.com
- 19- RCS: Selector XV; www.rcsworks.com/products/selector/default.asp
- 20- RDL-Radio Design Labs: RU-AEC1 Digital To Analog Converter; rdlnet.com/ruaec1.htm
- 21- rfEngineers.com, Inc.: rfDetective-FM; www.rfdetective.com
- 22- Telos Systems: Telos Series 2101 Multi-Studio Talkshow System 2101 Series; www.telos-systems.com/products
- 23- Waves Ltd.: Maxxstream; www.maxxstream.com
- 24- Will-Burt: D-Tec overhead powerline and object detect system P/N 901735; www.willburt.com/Electronics/AC+Current+Detectors/D-TEC+Mast+Monitor.htm

Dear Radio World Reader:

Happy New Year! This is your official ballot form to participate in our very first Readers' Choice Award voting program. By casting your vote below, you will be expressing your opinion about which radio industry products work well for you. The results will be announced in April 2002.

As a way of thanking you for taking the time to vote, your name will automatically be entered in our Readers' Choice Sweepstakes contest. We will be selecting 26 lucky winners in 26 random drawings for 26 great prizes announced in every single issue of *Radio World* during 2002. All you need to do is follow the steps below.

Thank you for participating and good luck!

— Your Friends At Radio World



OFFICIAL BALLOT

DIRECTIONS

STEP 1 If you prefer to fill out an electronic version of this ballot, please skip the remainder of this form and go immediately to our Web site www.rwonline.com. Click on the *Readers' Choice Award Sweepstakes* button on the home page and follow the online instructions.

STEP 2 If you prefer to fax or mail in your ballot, carefully tear out this page at the perforated edge in the binding of this book. Fill-in your contact information and mark your votes in the designated category boxes.

Refer to the flip side of this page for a list of product nominations by category. As a courtesy to the participating companies, we've listed their Web site URL's where you can learn more about any of these fine products.

Be sure to mark the corresponding number for each product by category in the empty boxes of the ballot section on the right. Only one number per category will be allowed.

STEP 3 If you're faxing back your ballot, please send it to (703) 998-0214.

STEP 4 If you're mailing back your ballot, please send it to: **IMAS Publishing**, Attn: Circulation Dept., 5827 Columbia Pike, Falls Church, VA 22041.

STEP 5 All ballots must be received by March 1, 2002. All voters must have a valid mailing address in the United States of America.

VOTE

Choose products from the nomination list on the reverse side of this form and write in the corresponding number in the appropriate category box below.

- | | | | |
|--|--------------------------|---|--------------------------|
| A. Audio Processors - On Air | <input type="checkbox"/> | F. Microphones - On-Air | <input type="checkbox"/> |
| Audio Processors - Studio or Voice | <input type="checkbox"/> | Microphones - Field & Specialty | <input type="checkbox"/> |
| B. Codexes - POTS Line | <input type="checkbox"/> | G. Remote Field Equipment | <input type="checkbox"/> |
| Codexes - ISDN/T1 | <input type="checkbox"/> | H. Routers & Switchers | <input type="checkbox"/> |
| C. Consoles & Mixers - On-Air | <input type="checkbox"/> | I. Studio Accessories | <input type="checkbox"/> |
| Consoles & Mixers - Production | <input type="checkbox"/> | J. Telephone Hybrids & Adapters | <input type="checkbox"/> |
| D. Digital Automation Systems | <input type="checkbox"/> | K. Transmitters - Transmitters - AM | <input type="checkbox"/> |
| E. Digital Audio Recording/
Playback/Editing Hardware | <input type="checkbox"/> | Transmitters - FM | <input type="checkbox"/> |
| | | L. Others | <input type="checkbox"/> |

READER INFORMATION

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Email: _____

Web Site: www.autogramcorp.com

Products/Services: Radio air and production consoles and broadcast accessories.

New: The Digital Upgrade Card for the PMLik console gives the option to accept digital signals as well as analog with no unnecessary conversions.

AUTO-MATE SYSTEMS

PO Box 695
Stayton, OR 97383
John Zolkoske, Owner
503-769-2886 Fax: 253-669-3214
E-mail: automate@wvi.com

Web Site: www.auto-matesystems.com

Products/Services: One of the first low-cost broadcast audio automation providers. The company has provided music-on-hard-drive software in the sub-\$300 range since 1994. Products include the unique "Random Playback Mode," which automates program content easily.

New: Auto-Mate Version 4 for Windows. Convenient version of the DOS-based music-on-hard-drive system. New features include audio overlap and scheduled spot insertions.

AVCOM-RAMSEY TECHNOLOGIES INC

500 Southlake Blvd.
Richmond, VA 23236
Dave Sittler, Tech. Sales & Mktg.
804-794-2500 Fax: 804-794-8284
E-mail: sales@avcomramsey.com

Web Site: www.avcomramsey.com

Products/Services: Manufacturer of portable spectrum analyzers for the satellite and RF communications industry including options and accessories that enable the user to expand the capability of the PSA that best meets their needs.

New: Lightweight PSA-45B (950-1450 MHz) and PSA-2400A (2.4-2.5 GHz) portable spectrum analyzers with LCD display.

AVP MFG AND SUPPLY INC.

87-2288 Dumfries Rd. RR2
Cambridge, ON N1R 5S3
CANADA
Phil Baker, Mktg. Mgr.
519-740-7966 800-481-2493 Fax: 519-740-0131
E-mail: sales@jackfields.com
Web Site: www.jackfields.com

Products/Services: Commercial broadcast, telecom and satellite equipment, including audio, video and digital jackfields, connectors, cables and assemblies. AVP sells through worldwide distribution and also partners directly with clients, designing and manufacturing custom jackfield and panel solutions.

New: Mosaic Product Line, Circuit Identification System.

AVT AUDIO VIDEO TECHNOLOGIES GMBH

Rathsbergstraße 17
D-90411 Nürnberg
GERMANY
Wolfgang Peters, Sales Mgr.
011-49-91-15-2710 Fax: 011-49-91-15-27-1100
E-mail: sales@avt-nbg.de
Web Site: www.avt-nbg.de

Products/Services: Manufacturer of audio codecs for transmission over ISDN, X.21 and 2 Mbps lines. DAB products including DAB Encoder, Service Multiplexer, Data Inserter and DAB Monitoring systems.

New: MAGIC ISDN Telephone Hybrid System. MAGIC DAB/STI Audio Decoder. MAGIC DAB/ETI Audio Decoder.

A-WARE SOFTWARE/MUSICMASTER

20225 Watertown Blvd.
Suite 100
Brookfield, WI 53045-3576
Joe Knapp, Pres.
800-326-2609 262-717-2220 Fax: 262-717-2230
E-mail: info@MusicMasterOnline.com
Web site: www.a-ware.com

AZCAR

121 Hillpointe Dr. Ste. 700
Canonsburg, PA 15317
John A. Luff
724-873-0800 888-873-0800 Fax: 724-873-4770
E-mail: john.luff@azcar.com
Web Site: www.azcar.com

Products/Services: A publicly owned and traded consulting and systems integration company with experience in the design and integration of conventional, digital and direct broadcast satellite (DBS) facilities, local- and wide-area (LAN/WAN) data networks, and systems integration.

AZDEN CORP.

147 New Hyde Park Rd.
Franklin Square, NY 11010
Wayne Alonso, VP Sales
516-328-7500 800-247-4501 Fax: 516-328-7506

E-mail: walonso@azdencorp.com

Web Site: www.azdencorp.com

Products/Services: Portable and AC-powered wireless microphones: VHF, UHF and infrared, plus headsets and wired mics.

New: SGM-1X Professional Shotgun Microphone is ideal for videographers using today's smaller digital cameras where longer models would appear in the frame. The hyper-directional super cardioid shotgun has a wide frequency response (80-18000 Hz), exhibits low noise and accept up to 110 dB SPL input levels. The 11.8" microphone uses a "AAA" battery that will last more than 1,000 hours. Ships with a windscreens and propriety shock-mount holder.

BACKBONE NETWORKS CORP.

PO Box 60237
Worcester, MA 01606-0237
Richard A. Cerny, Pres.
508-753-5665 Fax: 508-752-1520
E-mail: fiberac@backbone.com
Web Site: www.backbone.com

Products/Services: Streaming radio software for station automation of live and scheduled broadcasts over the Internet. Integrated control and server products range from a basic station using one desktop computer to a two-computer solution that serves an unlimited number of listeners. Backbone products are based on international streaming standards and are playable on Windows and Mac computers with free QuickTime software.

New: Backbone Radio Pro is the radio station software for commercial-level stations. Serve an unlimited number of listeners with scheduled live and automated content.

BAF COMMUNICATIONS CORP.

316 Northstar Ct.
Sanford, FL 32771
Mitch Farris, Sales & Mktg. Mgr.
407-324-8250 800-633-8223 Fax: 407-328-0513
E-mail: mitchbaf@aol.com
Web Site: www.bafcom.com

Products/Services: Manufacture and integration of communications and other specialty vehicles. All varieties of satellite trucks, microwave, production trailers, radio, cellular, flyaway units, digital, HDTV, video streaming, command center, disaster recovery, medical, banking, police emergency, surveillance and other applications.

New: Patented JB Chainway, digital microwave units, HDTV production trailers, cellular communications vehicles.

BALSYS TECHNOLOGY GROUP INC.

7141 Tallowtree Ln.
Orlando, FL 32835
Larry Lamoray, VP/GM
407-822-7055 Fax: 407-296-2587
E-mail: lamoray@balsys.com
Web Site: www.balsys.com

Products/Services: Technical and logistics expertise required for broadcast facilities to accomplish new facility construction or upgrades, technology enhancements and improvements in operational efficiency that directly affect bottom-line performance.

BAY COUNTRY BROADCAST EQUIPMENT

PO Box 523
Chase, MD 21027
Steve Scarborough
410-335-3136 877-722-1031 Fax: 786-513-0812
E-mail: info@baycountry.com
Web Site: www.baycountry.com
Products/Services: Quality used broadcast equipment.

BBC TECHNOLOGY

3rd Fl. Broc House
19 Langham St.
London W1A 1AA
UNITED KINGDOM
Sales
011-44-20-77-65-4758 1-888-BBC-3820
E-mail: bbctechnology-sales@bbc.co.uk
Web Site: www.bbctechnology.com

Products/Services: Eight decades of expertise as a working broadcaster, BBC Technology can deliver the solution that meets your business and operational needs. We have developed and successfully implemented one of the largest digital play-out systems in the world. Solutions for large or small operations.

BEHRINGER

190 W. Dayton Ave. Ste. 201
Edmonds, WA 98020
Doug White, Pres.
425-672-0816 Fax: 425-673-7647
E-mail: support@behinger.com
Web Site: www.behinger.com

Products/Services: Professional audio products for musicians and sound engineers including mixing consoles, analog and dig-

ital signal processors, guitar amplifiers, studio reference monitors, microphones and public address enclosures.

New: V-Amp Virtual Digital Amp Modeler; Ultraroc GX110 Guitar Combo; Ultraroc GX112 Guitar Combo; Eurorack MXB1002 10-channel mixer with optional battery operation; Ultra-Voice PROV2000 Mic Preamp/Voice Processor; Cable Tester CT100.

BELAR ELECTRONICS LABORATORY INC.

119 Lancaster Ave. PO Box 76
Devon, PA 19333
Arno Meyer, Pres.
610-687-5550 Fax: 610-687-2686
E-mail: sales@belar.com
Web Site: www.belar.com

Products/Services: FM, FM stereo, RDS/RBDS, TV, TV stereo, AM and shortwave monitors. Related equipment includes spectrum analyzers, AM loop antennas, AM distribution amplifiers, FM re-broadcast receivers, digital stereo decoders that convert analog composite to digital AES/EBU stereo plus L, R, L+R, L-R.
New: AMMA-2 Digital AM monitor designed for adaptive carrier control. AM detection is completely digital and software controlled. Distortion is less than 0.1 percent at 99 percent modulation.

BELDEN ELECTRONICS DIVISION

PO Box 1980
2200 US Hwy 27 South
Richmond, IN 47374
Frank Stone
765-983-5200 800-235-3361 Fax: 765-983-5294
E-mail: info@belden.com

BENCHMARK MEDIA SYSTEMS INC.

5925 Court Street Rd.
Syracuse, NY 13206-1707
Rory Rail, Sales Mgr.
315-437-6300 800-262-4675 Fax: 315-437-8119
E-mail: info@benchmarkmedia.com
Web Site: www.benchmarkmedia.com

Products/Services: State-of-the-art digital and analog audio equipment featuring no-compromise 24-bit digital conversion. A/D & D/A converters, analog and digital distribution amplifiers, mic preamps, meter systems and interface amplifiers.

New: DAC-104 4-channel 24-bit D/A audio converter module for System 1000 card frame. System 1000 and Microframe Series card frames now available with WECO or EDAC 3-pin connectorization.

BEXT INC.

1045 10th Ave.
San Diego, CA 92101
Anders Madsen, VP Sales/ Mktg.
619-239-8462 Fax: 619-239-8474
E-mail: sales@bext.com
Web Site: www.bext.com

Products/Services: Transmitters, STLs, exciters, amplifiers, translators, antennas, coax and accessories for FM radio and VHF/UHF television.

New: The XL 1000 is a 1 kW FM exciter in three rack spaces, weighing 66 pounds. It uses a transformerless power supply for cooler running and can be field-configured with optional modules.

BEYERDYNAMIC INC.

56 Central Ave.
Farmingdale, NY 11735
Bob Lowig
631-293-3200 800-293-4463 Fax: 631-293-3288
E-mail: sales@beyerdynamic.com
Web site: www.beyerdynamic.com

BIA FINANCIAL NETWORK

15120 Enterprise Ct. Ste. 100
Chantilly, VA 20151
Cary A. Gray, Dir. Mktg. and Comm.
703-818-2425 Fax: 703-803-3299
E-mail: info@bia.com
Web Site: www.bia.com

Products/Services: Merchant banking and financial and strategic advisory services for the media, telecommunications and related industries. Assists clients in increasing value by providing a range of services related to acquisitions, mergers, divestitures, operations, integration, growth and changes in strategic direction.

New: Media Access Pro is a powerful database now licensed by Arbitron with expanded ratings data by demographics for clients. MPro offers more than 700 fields of data on the 13,000+ radio stations or nearly 2,000 TV stations in the United States. Information is updated daily via the Internet.

BIA INC. (BERKLEY INTEGRATED AUDIO SOFTWARE)

1370 Industrial Ave. Suite A
Petaluma, CA 94952
Christine Berkley, VP Mktg.

707-782-1866 800-775-BIAS Fax: 707-782-1874

E-mail: chris@bias-inc.com

Web Site: www.bias-inc.com

Products/Services: Developer of audio software technology for the Macintosh. Products include Peak LE 3.0 entry-level stereo recording, editing and mastering software; Peak VST 3.0 stereo digital audio editing and recording program; Deck LE3.5 entry-level multitrack DAW with CD-quality recording, mixing, editing and signal processing; Deck VST 3.5 for audio recording and mixing; Vbox 1.0 virtual effects box; BIAS Studio LE package for multitrack recording and editing, mastering and burning a finished audio CD; BIAS Studio complete recording, editing, processing, mastering and delivery package; BIAS PowerBook bundles including the Digigram VX Pocket 24-bit PCMCA audio card that turns your G3 or G4 PowerBook into a mobile recording studio.

BIG "D" BROADCAST EXCHANGE

2225 Airport Rd.
Centerville, IN 47330
Darrin Warner, Owner
765-935-2443 Fax: 765-939-3299

E-mail: darrin@bigdmc.com

Web Site: www.bigdmc.com

Products/Services: Repair of and replacement parts for RCA ribbon microphones. Also microphone replicas of the 77DX and 77B for awards, display and props. The company also buys and sells used and new radio broadcast equipment.

BIRD ELECTRONIC CORP.

30303 Aurora Rd.
Solon, OH 44139-2794
Sales: 440-248-1200 Fax: 440-248-5426
E-mail: sales@bird-electronic.com
Web site: www.bird-electronic.com

BLENDEDTONE PREMIER STUDIO SUITES

PO Box 62021
Phoenix, AZ 85082
Peter Palagonia, Pres.
800-775-3660 Fax: 480-704-6149

E-mail: blendedtone@qwest.net

Web Site: blendedtone.com

Products/Services: Studio furnishings. Lineup: Airshow, Crystal series and Custom series.

BOLAND COMMUNICATIONS

PO Box 4728
Mission Viejo, CA 92604
Marty Lash, Mgr., Sales and Mktg.
949-367-9911 800-918-9090
E-mail: martylash@boland.com

Web Site: www.boland.com

Products/Services: Video, computer and multi-mode LCD monitors designed for demanding commercial applications. Monitors range from 8.8" to 20" and offer features such as HiBrite, transfective screens and scan reverse. VESA, rack-mount, pedestal and flush- and rear-mount implementations are available.

New: Cost-effective 8.4" and 10.4" twin rackmounts for the broadcast industry and additional models of HiBrite, transfective and scan reverse monitors, a mainstay of major avionics, medical and teleprompting industry customers are planned.

BRADLEY BROADCAST & PRO AUDIO

7313-G Grove Rd.
Frederick, MD 21704
Joellen Reed, Mktg. Mgr.
301-682-8700 800-732-7665 Fax: 301-682-8377
E-mail: jreed@bradleybroadcast.com

Web Site: www.bradleybroadcast.com

Products/Services: Dealer of broadcast, professional audio, RF and audio-for-video products. Bradley represents more than 250 manufacturers. Products and services enable radio, TV, network, government, educational and religious organizations that employ audio equipment to do their jobs more effectively.

BRAINSTORM ELECTRONICS

1155 N. La Brea Avenue
W. Hollywood, CA 90038
Jim Schaller, Distributor Sales
323-845-1155 Fax: 323-845-1170
E-mail: dtd@aidinc.com

Web Site: www.brainstormtime.com

Products/Services: Intelligent solutions for time code regeneration, reshaping, distribution and analysis.

New: Multi-Machine Remote Controller can control up to eight machines. Features include 99 memories, 10 "F" keys, programmable offset, auto punch, loop (repeat), rehearse, ADR beeps, two large displays.

BROADCAST CONNECTION

PO Box 129 6301 Jackpine Dr.
Bellvue, CO 80512
John Shideler

970-482-9254 Fax: 970-482-6123

E-mail: sales@broadcastconnection.com

Web Site: www.broadcastconnection.com

Products/Services: One-stop broadcast equipment supplier with more than 150 lines offering the best service in the industry. Economical turnkey packages for new stations or rebuilds. We are more than just sales people; we are experienced broadcast engineers.



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equipment solutions

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radio stations love us.

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Fax 970 482 6123
www.BroadcastConnection.com


BROADCAST DATA CONSULTANTS

51 S. Main Ave. Ste. 312
Clearwater, FL 33765
Neil Edwards, Pres.
727-442-5566 800-275-6204 Fax: 727-442-3809

E-mail: bdc@broadcastdata.com

Web Site: www.broadcastdata.com

Products/Services: The Traffic C.O.P. for Windows was introduced in 1996 and has several hundred users in 48 states, Canada and the Caribbean. Almost anyone with a good working knowledge of Windows and a background in radio traffic can easily learn the program on their own. The software is priced for buyout at under \$4,000, with generous small-market discounts. Broadcast Data also offers a quarterly payment plan with no interest.



The Traffic C.O.P. for Windows™
The Affordable Alternative in Traffic Software

Once you view our FREE CD demo, we know you will want the software

*Still the same low price
Still the generous small market discounts*

No Obligation!
See what the Traffic C.O.P. for Windows can do for you!

Call Now (800) 275-6204
www.broadcastdata.com

BROADCAST DEVICES INC.

5 Crestview Ave.
Cortlandt Manor, NY 10567
Bob Tarsio
914-737-5032 Fax: 914-736-6916

E-mail: broadcastdevices@worldnet.att.net

Web Site: www.broadcast-devices.com

Products/Services: Composite distribution and switching

products including the CDS-200 Composite Audio DA/Switcher and AES-200 AES-Compatible Digital Audio Switcher/DA.

New: UTA-200 Utility Amplifier System with analog or AES digital input. Distribution systems can be configured with digital-to-analog conversion at the front end for analog distribution or complete analog audio distribution configurations.

BROADCAST ELECTRONICS INC.

4100 N. 24th St.
Quincy, IL 62305
Ray Miklius
217-224-9600 Fax: 217-224-9607

E-mail: bdcast@bdcast.com

Web Site: www.bdcast.com

Products/Services: Digital audio management and RF signal delivery systems for the professional broadcast industry. Skillful integration of innovative technologies and rigorous engineering and quality standards.

New: SonixStream turnkey streaming package.

BROADCAST EQUIPMENT SURPLUS INC.

PO Box 1300
Raymond, MS 39154
Jeff Corkren, Owner
601-857-8573 Fax: 601-857-2346

E-mail: jcorkren@ucmail.com

Web Site: www.broadcastequipment.com

Products/Services: New & used radio/TV broadcast equipment and parts supplier. We refurbish, repair and supply parts for all brands and models of broadcast, recording and sound-related equipment. Extensive inventory of new and used parts for most electronic equipment.

BROADCAST MICROWAVE SERVICES

P.O. Box 84630
San Diego, CA 92138-4630
Graham Bunney, Pres./ GM
858-669-9667 800-669-9667 Fax: 858-391-3049

E-mail: sales@bms-inc.com

Web Site: www.bms-inc.com

Products/Services: Compact COFDM microwave products, analog and digital portable and fixed transmitters, receivers and accessories from 1.4 to 15 GHz. Systems include autotracking air-to-ground video & data links, point-to-point & data links, autotracking ground antenna systems, relay systems and portable microwave links. Applications include unmanned vehicle command and control, surveillance video, telemetry, television broadcast and real-time video communications.

New: The BMS Carry-coder enables microwave transmission of video in non line-of-site even inside buildings. B.M.S. has demonstrated this technology between floors in buildings and from inside to outside of buildings.

BROADCAST PARTNERS

Axelsstraat 58
NL-4537 AL Terneuzen,
THE NETHERLANDS
Bart van der Velden, Sales Mgr.

011-31-115-68-3555 Fax: 011-31-115-63-1285

E-mail: info@broadcastpartners.nl

Web Site: www.broadcastpartners.nl

Products/Services: FM transmitters, transmitter links, reporter transmitters, antenna sites and computer-based radio systems, such as the hard-disk-based PC-Radio 4.0, which also automates external audio sources and offers live assist, playlisting, commercial planning and networking capabilities. Specializes in HF consultancy and turnkey projects for radio stations, including automation, mixing consoles, monitors, mics, furniture, FM transmitters, antennas, towers, cables, ISDN and audio processors.

New: Analog FM single frequency for larger area coverage improvement. Development of a special affordable GPS unit for this purpose. PC-Radio 4.10 radio automation with advanced new database structure and scheduler.

BROADCAST RICHARDSON

40W267 Keslinger Rd. PO Box 393
La Fox, IL 60147
John Donarski, Mktg. & Sales Dir.
630-208-2200 800-348-5580 Fax: 630-208-2550

E-mail: broadcast@rell.com

Web Site: www.broadcast-richardson.com

Products/Services: Products from 200 manufacturers. Expertise covers transmission, antenna, studio, microwave, satellite, CATV, video and Webcasting requirements.

New: RFcast line of AM/FM transmitters; Linear TV transmitters and links; Syntax Media NLE video editing; SWE-DISH satellite systems; BCC audio automation/Webcasting.

BROADCAST SOFTWARE INTERNATIONAL - BSI

1925 Bailey Hill Rd. Suite A
Eugene, OR 97405
Ron Burley, Pres.
541-338-8588 888-BSI-USA1 Fax: 541-338-8656

E-mail: info@bsiusa.com
Web Site: www.bsiusa.com

Products/Services: Advanced digital audio products, specialists in small- and medium-market broadcasting. Products include digital automation and other software, hardware accessories and turnkey systems.

New: Simian is the next generation of digital audio automation software. TimeShift provides continuous record with time-delay or random-access playback, making satellite useful in any time zone. Skimmer provides audio logging.

BROADCAST SOLUTIONS ELECTRONICS (PTY) LTD

P.O. Box 446 Bergvliet
Cape Town 7864
SOUTH AFRICA
Peter Bacon, Managing Dir.
011-27-21-705-5092 Fax: 011-27-21-705-5093
E-mail: sales@bselec.com
Web Site: www.bselec.com

Products/Services: Solid-state FM transmitters from 25 watts to 5 kW. Also provides broadcasting solutions with coverage predictions, studios and transmitters.

BROADCAST SUPPLY WORLDWIDE (BSW)

7012 27th St. W.
Tacoma, WA 98466
Tim Schwieger
253-565-2301 800-426-8434 Fax: 253-565-8114
E-mail: tims@bswusa.com
Web Site: www.bswusa.com

Products/Services: Professional audio products suitable for the recording and broadcast industries. From the newest digital audio editing equipment to the finest wireless microphone systems, you'll find it at BSW at a great low price. Serving audio professionals for more than 28 years.

BROADCAST TECHNOLOGY CO.

PO Box 2581 210 N. 7th St.
Garden City, KS 67846
Chuck Springer, Sales Eng.
719-688-1439 Fax: 620-271-7493
E-mail: sales@broadcasttech.com
Web Site: broadcasttech.com

Products/Services: New and used FM transmitters, AM & FM audio processors, microphone processors and studio processors.

BROADCAST TELEPHONE SYSTEMS

100 Kal Lake Rd. #22
Vernon, BC V1T 9G1
CANADA
Donna Le Pape
250-260-3243 888-890-7624 Fax: 250-260-2871
E-mail: bts@broadcast-telephones.com
Web Site: www.broadcast-telephones.com

Products/Services: Broadcast telephones. The MITS offers flexible PBX integration, trunk/studio sharing, 250 trunk max, 30 studio max, talk show and control-room software with graphic LCD messaging and an intuitive user interface, audio quality from a six-way conference bridge and hybrid. The PD-1 Analog Telephone Hybrid is an analog hybrid with opto-isolated telephone line connection, balanced line drivers and receivers, three-input selector for mix audio with level controls and muting.

New: PROtalk4 is a four-line system designed to handle and conference four callers with independent digital hybrids providing audio quality in the studio and between callers.

BROADCAST TOOLS INC.

639 Sunset Park Dr. Suite 101
Sedro-Woolley, WA 98284-1540
Connie Miller, VP Admin.
360-854-9559 Fax: 360-854-9479
E-mail: connie@broadcasttools.com
Web Site: broadcasttools.com

Products/Services: Audio switchers, satellite receiver controllers, remote controls, intercom systems, digital audio switchers, console accessories, DTMF encoders/decoders, audio interfaces, GPS systems, programmable scheduler.

New: PSC-II, 16x1, 16x2, Time Sync-II, AVR-8.

BROADCASTERS GENERAL STORE

2480 S.E. 52nd St.
Ocala, FL 34480
David Kerstin, Pres.
352-622-7700 Fax: 352-629-7000
E-mail: dave@broadcastdealer.com
Web Site: www.broadcastdealer.com

Products/Services: Professional equipment dealership serving the broadcast industry since 1979. Its knowledgeable sales staff has a broad history of audio, video and RF experience.

New: The Ariane from Translancech offers intelligent L-R processing without the artifacts. The RX400mkII is a 4-ch. rebroadcast/RPU/STL receiver from sbs systems, UK.

BROADCASTPORT.COM

1555 Dublin Ave. Unit 1
Winnipeg, MB R3E 3M8
CANADA
Ron Paley, VP Broadcast
204-786-3994 888-665-0501 Fax: 204-783-5805
E-mail: rpaley@omt.net
Web Site: www.broadcastport.com
Products/Services: See our ad this page.



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888-665-0501

BURK TECHNOLOGY

7 Beaver Brook Road
Littleton, MA 01460
Anita Russell, GM
978-486-0086 800-255-8090 Fax: 978-486-0086
E-mail: sales@burk.com
Web Site: www.burk.com

Products/Services: Broadcast facility control systems since 1985. Total station control and operation, efficient solutions for consolidated broadcasters. Manufactured to the highest standards in an ISO-9001 certified facility. Worldwide distribution is through major broadcast distributors.

New: APWIN 2.0. AutoPilot for Windows 2.0 software has a new streamlined interface providing an updated look and feel, offers easier navigation and quick access to features. ARCPlus: The ARCPlus transmitter remote control system provides fast response, more sites and an enhanced feature set. It's 60 times faster for instantaneous updates while still providing the ability to connect more sites.

BURLE INDUSTRIES INC.

1000 New Holland Ave.
Lancaster, PA 17601
Robert Rutherford
717-295-6025 800-366-2675 Fax: 717-295-6096
E-mail: burlesls@burle.com
Web Site: www.burle.com

Products/Services: Manufacturer of tubes and cavities for UHF, VHF and FM.

BUYSELLBID.COM

921 14th Avenue, Longview, WA 98632
360-425-5000 Fax: 360-425-6200
E-mail: info@buysellbid.com
Web site: www.buysellbid.com

CCA

See Commercial Communication Associates

C. CRANE CO.

1001 Main St.
Fortuna, CA 95540
Jessica Gillett, Sales & Mktg.
707-725-9000 800-522-8863 Fax: 707-725-9060
E-mail: ccraneco@aol.com
Web Site: www.ccrane.com

Products/Services: Innovator in the consumer electronics industry, its catalog contains unique products, many of which they designed or co-designed.

New: Justice AM antenna with twin coil ferrite; CCRadio Plus, ideal for long-range AM reception; VersaCorder tape recorder,

records up to 4 hours.

C4-AUDIO-SYSTEME GMBH

Elmring 11
D-38154 Königslutter
GERMANY
Wolfgang Schneider, GM
011-49-53-53-94-1000 Fax: 011-49-53-53-941-0088
E-mail: webmaster@c4audio.de
Web Site: www.c4audio.de

Products/Services: Interface for digital audio: 110/75 ohm transformers, passive splitters, active converters.

CAKEWALK MUSIC SOFTWARE

51 Melcher Street
Boston, MA 02210
617-423-9004 888-CAKEWALK Fax 617-423-9007
E-mail: sales@cakewalk.com
Web site: www.cakewalk.com

CALREC AUDIO LTD.

Nutclough Mill
Hebden Bridge
West Yorkshire, HX7 8EZ
UNITED KINGDOM
Jim Wilmer, Regional Sales Mgr. US
011-44-1422-842-159 Fax: 011-44-1422-845-244
E-mail: jimw@calrec.com
Web Site: www.calrec.com

Products/Services: Production and live-to-air analog and digital audio mixing consoles for broadcast.

New: Extended M3 analog mixer, available in three chassis sizes up to 42 channels. Also V1.9 software for the Alpha 100 digital console enabling 5.1 Surround on all main outputs.

CANARE CORPORATION OF AMERICA

531 5th Street Unit A
San Fernando, CA 91340
Tony Jimenez, Mktg. Rep.
818-365-2446 Fax: 818-365-0479
E-mail: ajimenez@canare.com
Web Site: www.canare.com

Products/Services: Digital interconnects for professional broadcast/headend global markets, including high-quality audio and video cable, 75-ohm BNC & F connectors, precision terminations, GHz patchbays, star quad microphone cable, cable reels, patch-cords, snake systems, crimp tools and cable strippers.

CANFORD AUDIO PLC

Crowther Rd.
Washington
Tyne & Wear NE38 0BW
UNITED KINGDOM
Barry Revels
011-44-191-418-1000 Fax: 011-44-191-418-1001
E-mail: info@canford.co.uk
Web Site: www.canford.co.uk

Products/Services: Pro audio, video and broadcast products for the broadcast, theatre, education and other markets.

CAP AUDIO PROFESSIONAL

1060 Cephas Dr. Weaver Park
Clearwater, FL 33765
Norbert Heuser, CEO
727-447-9656 Fax: 727-447-9715
E-mail: info@cap-audio.com
Web Site: www.cap-audio.com

Products/Services: Studio reference monitors in digital and analog, designed and handmade in Germany by KS Digital. Nearfield and midfield models available. Self-powered. Check Web site for details on patented FIRTEC technology. The only phase linear speaker systems on the market.

New: ADM 4: The newest smallest studio reference monitor types by KS Digital Germany. These speakers run in analog or digital and have the widest and cleanest spectrum of any speaker in the market in that size.

CAPCENTRA COMMERCIAL FUNDING

P.O. Box 8975
Ames, IA 50014
Craig J. Pringle, Pres.
515-432-5780 Fax: 630-604-6493
E-mail: cjp2001@excite.com
Web Site: www.CapCentra.com

Products/Services: Specializes in funding business expansions, consolidations, start-ups, mergers and acquisitions. Also represents business buyers and sellers, especially broadcast ventures. Assistance with acquiring growth capital through venture capital, equity investment and commercial lending/leasing. No up-front fees.

CAREER CONNECTION

8306 Wilshire Blvd Ste. 7013
Beverly Hills, CA 90211

Jimi Petulla, Owner 800-755-7597
E-mail: petulla@earthlink.net

Web Site: www.careerconnection2000.com

Products/Services: An entertainment industry school with 5,000 students who train on-site at major film studios, video production companies, radio and TV stations, recording studios and record labels.

CARTGUYS

3420 N. Dodge
Tucson, AZ 85716
Jim Martin, Owner
520-327-4466 Fax: 520-694-1545
E-mail: jim@cartguys.com

Web Site: www.cartguys.com

Products/Services: Fidelipac/Dynamax and ITC cart machines, factory parts and service. New # 140, 380 and 3000 carts. Cart rewinding/rebuilding.

New: Factory parts and service for the ITC line of cart machines. Cart rewinding/rebuilding.

CARTWORKS/DBM SYSTEMS

398 Hwy. 51 N. Ste. 80 #172
Ridgeland, MS 39157
George Thomas, Pres.
601-856-9080 800-795-7234 Fax: 601-853-9976

E-mail: sales@cartworks.com

Web Site: www.cartworks.com

Products/Services: Live assist, satellite automation, and music-on-hard-drive digital audio systems. Designed to be user-friendly, yet powerful enough to handle the most demanding tasks. WAV/MPEG compatibility, easy operation, powerful features, unsurpassed tech support and affordable pricing.

CENTRAL TOWER INC.

2855 Hwy. 261
Newburgh, IN 47630
Tim Ryan, Dir. Mktg.
812-853-0595 800-664-8222 Fax: 812-853-6652
E-mail: tim.ryan@dielectric.sp.com

Web Site: www.centrtower.com

Products/Services: Guyed and self-supporting towers. Engineering analysis. Turnkey installation services.

CHAINCAST NETWORKS, INC.

100 Century Center Ct. Ste. 800
San Jose, CA 95112
Frances Murray, Mktg. Dir.
408-467-4040 Fax: 408-467-0448

E-mail: info@chaincast.com

Web Site: www.chaincast.com

Products/Services: Carrier-class streaming media delivery solutions. The Virtual Multicast Routing (VMR) solution is available for traditional broadcasters, new media companies and Internet infrastructure companies.

New: Content Delivery Platform; Total Managed Service; Platform Managed Service.

CHILTON LTD.

Platts Eyot Lower Sunbury Rd.
Hampton
Middlesex TW12 2HF
UNITED KINGDOM
Paul Repe
011-44-20-8941-5214 Fax: 011-44-20-8941-6335
E-mail: chiltonuk@aol.com

Web Site: www.chiltonuk.com

Products/Services: C200 on-air broadcast desk, telephone hybrids, VC-controlled headphone amplifiers, studio-to-transmitter switching units (up to eight studios) and distribution amplifiers electronically and transformer-balanced.

CIRCUIT RESEARCH LABS

2522 W. Geneva Dr.
Tempe, AZ 85282
Sabrina Dodaj, Mktg. Dir.
602-438-0888 510-351-3500 Fax: 602-438-8227

E-mail: sdodaj@orban.com

Web Site: www.orban.com

Products/Services: Analog and digital audio processing. Circuit Research Labs markets quality audio processors under the CRL Systems and Orban labels. Both have processors for use in the radio and television broadcast markets

New: Amigo Talk and Amigo HF; Orban Opticodec line of codecs.

CIRCUITWERKES

2805 NW 6th St.
Gainesville, FL 32609
Ken Skok, Dir. of Ops
352-335-6555 Fax: 352-380-0230

E-mail: kskok@circuitwerkes.com

Web Site: www.circuitwerkes.com

Products/Services: Telephone autocouplers, including the AC-12 coupler bay for multi-line IFB or network distribution, DTMF

controllers, subaudible tone encoders & decoders, multi-station EAS controller, microphone/headphone amps and dial-up remote controllers with audio interface.

New: The mic-2 is a battery- or line-operated portable mic and headphone amp in a compact belt-clippable package. Features: two mic inputs, two headphone outputs with IFB in, XLR connectors.

CLARK WIRE & CABLE

1355 Armour Blvd.
Mundelein, IL 60060
Susan Clark, Pres.
847-949-9944 800-CABLE-IT Fax: 847-949-9595

E-mail: sales@clarkwc.com

Web Site: www.clarkwc.com

Products/Services: Audio, video, camera cable, connectors, patch bays, racks, portable reels and tools. Analog or digital products are available in bulk or as custom assembled harnesses.

New: Digital ribbon stereo cable available in four color combinations; custom panel design program; XLR-BNC baluns; digital multicables.

CLEAR-COM INTERCOM SYSTEMS

4065 Hollis St.
Emeryville, CA 94608
Rick LeBlanc, Pres.
510-496-6666 Fax: 510-496-6699

E-mail: sales@clearcom.com

Web Site: www.clearcom.com

Products/Services: Intercommunications solutions for broadcast and event production: Matrix Plus digital intercom systems; 2- to 12-channel party-line intercoms; 2- and 4-wire interfaces; wireless intercom; wired and wireless IFB/cue systems; headsets; and speaker stations.

New: New modular i-series display and non-display stations for Matrix Plus; the RCS-2000 programmable remote-controlled source-assignment panel for party-line intercom installations; Q700 frequency-agile, programmable two-channel wireless intercom.

CMBE INC.

560 Lake Street
Bridport, VT 05734
Chip Morgan
802-758-5000 800-700-4196 Fax: 802-758-7000

E-mail: sales@cmbe.com

Web Site: www.cmbe.com

Products/Services: Consultation, integration and troubleshooting for studio and RF systems.

New: MaxNet high-performance audio processing for source-level automatic quality assurance. REALcoverage.com predicated and measured signal maps for AM and FM radio stations. StreamMaster audio and video streaming systems for radio.

COAXIAL DYNAMICS

15210 Industrial Pkwy.
Cleveland, OH 44135
Joe Kluha, Sales
216-267-2233 800-COAXIAL Fax: 216-267-3142

E-mail: coaxial@apk.net

Web Site: www.coaxial.com

Products/Services: RF test and measurement equipment used in coaxial transmission lines and transmitters. Featuring RF wattmeters and transmitter protection devices, filters and terminating loads for both analog and digital applications.

CO.EL. COMPLEMENTI ELETTRONICI SPA

Via Gramsci, 23
I-20084 Lacciarella - MI
ITALY
Marco Castellani, Managing Director
011-39-02-900-7272 Fax: 011-39-02-900-8242

E-mail: info@coel.com

Web site: www.coel.com

Product Lines and/or Services: Professional broadcasting antennas for HF, VHF, FM, UHF and mobile telephones, as well as all the necessary components. Consulting services and custom-designed solutions.

COMEX WORLDWIDE CORP.

PO Box 8
Aldie, VA 20105-0008
Jack Rickel, CEO
703-327-1520 800-303-9602 Fax: 703-327-1540

E-mail: CWCmmds@hotmail.com

Web Site: www.comexworldwide.com

Products/Services: Design, furnish and install Pay Television systems anywhere in the world. This is our 26th year in the business.

COMMERCIAL COMMUNICATION ASSOCIATES - CCA

360 Bohannon Road
Fairburn, GA 30213
Steve Miller

770-964-3530 Fax: 770-964-2222

E-mail: info@cca.ws

Web Site: www.cca.ws

Products/Services: Broadcast transmitter manufacturer: FM, AM, medium-wave, shortwave. Design, manufacture, installation and marketing of broadcast transmitters, domestic and internationally. Parts, service and tech support.

COMMUNICATION GRAPHICS

1765 N. Juniper
Broken Arrow, OK 74012
Louann Buhlinger
918-258-6502 800-331-4438 Fax: 918-251-8223

E-mail: info@cglilink.com

Web Site: www.cglilink.com

Products/Services: Custom screen-printed and flexographic decals, product labels, signage, static and related design services. Provides radio stations with complimentary promotion consultation from The Matrix Group, experts in promotional decals.

New: Push/Pull decals. MouseStik low-tack adhesive, thin mousepads. PostCal mailable decal sheets for station promotions, ID and coupons.

COMMUNICATION TECHNOLOGIES INC.

PO Box 1130
Marlton, NJ 08053
Clarence M. Beverage, Pres.
856-985-0077 Fax: 856-985-8124

E-mail: cbeverage@commtechrf.com

Web Site: www.commtchrf.com

Products/Services: A radio frequency and broadcast engineering consulting firm. Services include RF systems design and preparation of the engineering portion of FCC applications for new and upgraded facilities and station license.

COMMUNICATIONS EQUIPMENT SALES INC.

10050 Regency Circle Ste 525
Omaha, NE 68114
William E. Seidler, Jr.
402-343-1308 Fax: 402-397-3869

E-mail: info@comm-equip-sales.com

Web Site: www.comm-equip-sales.com

Products/Services: Distributor of selected lines of broadcast equipment.

COMMUNITY PROFESSIONAL LOUDSPEAKERS

333 E. 5th St.
Chester, PA 19013-4511
Sales Dept.
610-876-3400 Fax: 610-874-0190

E-mail: info@loudspeakers.net

Web Site: www.loudspeakers.net

Products/Services: Loudspeaker design and manufacturing for a variety of sound reinforcement applications, backed by a five-year warranty.

COMPROMPTER NEWS AND AUTOMATION

1707 Main St. Ste. 113
La Crosse, WI 54601
Ralph King, Pres.
608-785-7766 800-785-7765 Fax: 608-784-5013

E-mail: ralph@comprompter.com

Web Site: www.comprompter.com

Products/Services: ENR Newsroom - Radio news and on-air audio playback based on script-based automation. VoteMaster - Election result-gathering using wires, Internet or Secretary of State computers for collection. Output can be to screen, paper or Internet.

New: NewsKing News Automation - NT/2000/SQL/Word-based newsroom that provides powerful preparation, presentation, automation and archiving in an integrated package.

COMPUTER CONCEPTS CORP.

13375 Stemmons Freeway #400
Dallas, TX 75234
Dave Scott
972-620-2211 888-GET-SCOTT Fax: 972-620-8811

E-mail: info@scottstudios.com

Web Site: www.computerconceptscorp.com

Products/Services: Digital audio systems for air studios, news and production. Touchscreens for live, systems for satellite, local or distant-city voice tracking. Industrial backplane hardware.

New: Epicenter switcher/router. Internet and substitution units.

COMREX CORPORATION

65 Nonset Path
Acton, MA 01720
Kris Bobo, VP Dev.
978-263-1800 800-237-1776 Fax: 978-635-0401

E-mail: info@comrex.com

Web Site: www.comrex.com

Products/Services: Codecs for moving high-quality audio from

one place to another. They work on POTS, ISON and wireless services and are used by networks, radio stations, talk show hosts, sports announcers and reporters worldwide.

New: The Matrix, a flexible codec that combines POTS, ISON and wireless capabilities into one easy-to-use box.

COMTECH ANTENNA SYSTEMS INC.

3100 Communications Rd.
St. Cloud, FL 34769-5998
Bill Parker, Director Marketing
407-892-6111 Fax: 407-892-0994
E-mail: sales@comtechantenna.com
Web Site: www.comtechantenna.com

Products/Services: Satellite antennas from 1.2-meter Quick Deploy to 7.3-meter dual axis. The Comtech 3.8 meter and 5.0 meter is in use by all major broadcasters. C and Ku-Band feeds available.

CONEX ELECTRO-SYSTEMS

PO Box 67
Bellingham, WA 98227
John Plattner
360-734-4323 800-645-1061 Fax: 360-676-4822
E-mail: conex@conex-electro.com
Web Site: www.conex-electro.com

Products/Services: Broadcast equipment including audio switchers, tone and OTM sensors and generators, telephone remote control and weather instruments.

New: FJ-10 Portable Cell Phone Interface for remote broadcasting. LLA Land-line Adapter for FlipJack and CellJacks.

CONTINENTAL ELECTRONICS CORP.

4212 S. Buckner Blvd.
Oallas, TX 75227
Bret Brewer, Broadcast Mktg. Mgr.
214-381-7161 800-733-5011 Fax: 214-381-4949
E-mail: bbrewer@contelec.com
Web Site: www.contelec.com

Products/Services: Radio frequency (RF) broadcast transmission equipment, providing the highest-power products for broadcasting, military and scientific applications. CE specializes in the design, development and manufacture of digital and analog transmitter systems. Continental's products include FM, MW, SW, LF and VLF transmitters.

New: 816R FM transmitters ranging from 11 kW through 70 kW. FM transmission systems ranging from 0.5 kW to 70 kW including exciters, analog and digital, and tube transmitters.

CONTINENTAL MICROWAVE LTD.

1 Crawley Green Rd.
Luton, Bedfordshire LU1 3LB
UNITED KINGDOM
Paul Brett
011-44-1582-424233 Fax: 011-44-1582-455273
E-mail: sales@continental-microwave.co.uk
Web Site: www.continental-microwave.co.uk

Products/Services: Solutions for the broadcast and telecommunications industries. Systems are offered in three areas for analog and digital applications. Microwave links for portable news-gathering and fixed link/network applications; satellite systems for flyaway, vehicle and fixed earth station/VSAT applications; transmitters/translators.

New: Portable, COFDM/MPEG digital microwave link for unsurpassed ENG performance. Ultra compact, rugged, integrated digital Ku band flyaway, with Intelsat type-approved carbon fiber antenna system.

CONTROL CONCEPTS CORP.

328 Water St.
Binghamton, NY 13901
Sarah Beadle, Dir. of Mktg.
607-724-2484 800-288-6169 Fax: 607-722-8713
E-mail: info@control-concepts.com
Web Site: www.control-concepts.com

Products/Services: Power deviations caused by spikes or transients can disrupt or damage computer-dependent equipment, resulting in downtime for production and broadcast operations. Islatron Plus product line preserves and filters your power supply to keep your digital equipment running smoothly.

COOPER SOUND SYSTEMS INC.

1411 Marsh St. 105
San Luis Obispo, CA 93401
Janet Cooper
805-782-9750 Fax: 805-782-9752
E-mail: coopersound@worldnet.att.net
Web Site: www.coopersound.com

Products/Services: Portable audio mixers. The CS 104 ENG mixer has four input channels that can be linked for stereo applications. The CS 208 mixer has eight inputs and four main plus two aux outputs. It includes comprehensive communications features. Cooper mixers are designed for ease of operation, reliability and superior audio quality.

New: 12 V power supply designed for use with the CS 104 ENG mixer.

CORTANA CORP.

PO Box 2548 5412 Hwy 64
Farmington, NM 87401
Henry Bond, VP
505-326-2337 505-325-5336 Fax: 505-326-2337
E-mail: cortana@cyberport.com

Products/Services: Lightning deterrent systems for communication and radio towers. The Stati-Cat Lightning Prevention System operates on the principle of charge dissipation, providing a continuous low-resistance discharge path for static electric charge found on all tall structures. It reduces the high voltage gradient between cloud and tower that leads to the sudden, massive discharge known as lightning.

CPI CANADA INC., COMMUNICATIONS & POWER INDUSTRIES

45 River Or.
Georgetown, ON L7G 2J4
CANADA
Brian Steer, Product Mgr.
905-877-0161 Fax: 905-877-5327
E-mail: marketing@cmp.cpii.com
Web Site: www.cpii.com/cmp

Products/Services: Klystrons for satellite communications uplink amplifiers in the C, Ku, Ka and V Bands; high-power amplifiers (TWT and Klystron) for satellite communications, C, Ku and Ka Bands; broadband TWT instrumentation amplifiers for EMS, EMI testing, L to Ka Band.

CPI, EIMAC DIV.

301 Industrial Rd.
San Carlos, CA 94070
Sales
650-592-1221 800-414-8823 Fax: 650-592-9988
E-mail: powergrid@eimac.cpii.com
Web Site: www.eimac.com

Products/Services: Triodes, tetrodes, pentodes, IOTs and sockets, made in USA at the company's ISO 9001-certified facility. Eimac power tubes are used in FM, shortwave, medium-wave and television broadcast transmitters.

CRANE SONG LTD.

2117 E. 5th St.
Superior, WI 54880
Scott A. Lillo
715-398-3627 888-345-9005 Fax: 715-398-3279
E-mail: staff@cranesong.com
Web Site: www.cranesong.com

Products/Services: High-end pro audio and broadcast equipment manufacturer.

New: Spider eight-channel Class A mtc preamplifier, mixer and A/D converter with DSP process to provide tape emulation. Interfaces are upgradeable.

CREAMWARE US INC.

6879 Russell Ave.
Burnaby, BC V5J 4R8
CANADA
604-435-0540 800-899-1939 Fax: 604-435-9937

CREATIVE ANIMAL

2211 Norfolk Ste. 795
Houston, TX 77098
Ooug Harris, Noise Maker
713-522-4273 Fax: 713-526-4805
E-mail: dough@creativeanimal.com
Web Site: www.creativeanimal.com

Products/Services: Resource for broadcast marketing and mayhem, an alliance of artists, writers and dreamers under the direction of Doug Harris, creator of hundreds of promotional campaigns, consultant, trainer, idea generator and all-purpose creative animal.

CROSSED FIELD ANTENNAS, LTD.

48 Mountain Rd.
Farmington, CT 06032-2341
Robert E. Richer, President
860-676-0051 Fax: 860-677-9639
E-mail: cfaricher@snet.net

Products/Services: The Crossed Field Antenna is a small, efficient transmitting antenna for use in MW and LW radio. It requires no ground mat and produces minimal near-field radiation.

CROUSE-KIMZEY CO.

1320 Post & Paddock Rd Ste 200
Grand Prairie, TX 75050
Wray W. Reed
972-343-9231 800-433-2105 Fax: 972-623-2800
E-mail: sales@proaudio.com
Web Site: www.proaudio.com

Products/Services: Distributor of professional audio and broadcast equipment serving customers since 1971. Four locations within the United States and an international department ready to serve you.

New: Audion VoxPro PC digital audio editor; Omnia-6 FM digital processor; Crown Broadcast CardCast FM transmitter for your PC; Orban Opticodec 7000, 7400 audio codecs.

CROUSE-KIMZEY OF ANNAPOLIS

PO Box 6300
Annapolis, MD 21401-0300
Kathleen Karas, Branch Mgr.
410-754-7700 800-955-6800 Fax: 410-754-9999
E-mail: kkanapolis@worldnet.att.net
Web Site: www.proaudio.com

Products/Services: Access to more than 300 lines of broadcast equipment including RF components from transmitter to antenna, studio and remote gear, telephone codecs, acoustic materials. Serving broadcasters for more than 25 years.

CROWN AUDIO

1718 W. Mishawaka Rd.
Elkhart, IN 46517
Brandi Roberts, Customer Service
219-294-8200 800-342-6939 Fax: 219-294-8329
E-mail: audioinfo@crowntel.com
Web Site: www.crownaudio.com

Products/Services: Crown Audio, a Harman International company, manufactures amplifiers, microphones and systems control products for professional audio markets, with corporate headquarters located in Elkhart, Ind.

New: Power-Tech 1 Series and XLS Series amplifier lines; USP2 Adapter card; IQ for Windows version 5.0; IQ-INT 3 Interface; IQ-RPT 3 Repeater; USP2-CN CobraNet module.

CROWN BROADCAST/IREC

25166 Leer Dr.
Elkhart, IN 46515-2000
Bob Herrold, Sales Mgr.
219-262-8900 866-262-8919 Fax: 219-262-5399
E-mail: fmsales@irec1.com
Web Site: www.crownbroadcast.com

Products/Services: FM transmitters, translators and exciters in a power range of 30 to 2,000 watts; transmitters are frequency-agile, known for excellent audio and long-term reliability.

New: FMX Transmitters with digital monitoring and pass-word-protected control; RSM Remote System Management option for remote monitoring and control of transmitters and translators; Cardcast PC-based digital transmitter for nearcast applications; RTC Redundant Transmitter Control for automatic transmitter backup.

CROWN CASTLE INTERNATIONAL

PO Box 98
Warwick CV34 6TN
UNITED KINGDOM
Mark Whitley, Head of Bus. Dev.
011-44-1926-41-6000 Fax: 011-44-1926-41-6600
E-mail: marketing@k@crowncastle.com
Web Site: www.crowncastle.com

Products/Services: Deploys, owns and operates technologically advanced, shared wireless infrastructure. Offers broadcast coverage in the U.K. and wireless communications coverage to U.S., U.K. and Australian markets. Owns, operates and manages more than 15,000 wireless communication towers internationally. Development rights to 4,000 fibre exchange sites in the U.K.

CSA WIRELESS

1500 Prodelin Dr. PO Box 8
Newton, NC 28658
Jim Hartman, VP - North American Ops.
828-466-0412 Fax: 828-466-0413
E-mail: csa.sales@tripointglobal.com
Web Site: www.csa-wireless.com

Products/Services: Base-station antennas for cellular and PCS application and planar products for repeater and point-to-point applications. Offers 1- and 2-foot planar array antennas in 2.4, 3.5 and 5.7 GHz along with the Mark Antenna line of grid and solid antennas.

New: Zoning-friendly base-station antenna solutions Trio and Unicell; dual-band antennas at 800/1900 Mhz.

CSS MUSIC/DAWN MUSIC/SHOWPOPPERS

1948 Riverside Dr.
Los Angeles, CA 90039
Mike Fuller
323-666-7968 800-468-6874
E-mail: mfuller@cssmusic.com
Web Site: www.cssmusic.com

Products/Services: CSS Music has 236 CDs of royalty-free music and sound effects available (CD audio & WAV file CD ROM). Producers can download in CD quality from Digital Audio

Worldwide Network. More than 9,000 tracks available. Review streamed samples and download at 44.1 or 22 k with a credit card. Toll-free touch-tone phone review available.

New: Twenty titles with updates to Super Themes and Digital Ditties by film composer David Wurst.

CTE INTERNATIONAL SRL

Via Sevardi, 7
I-42010 Reggio Emilia - RE
ITALY
Yuri Casi, Sales Eng.
011-39-0522-50-9450 Fax: 011-39-0522-50-9448
E-mail: broad.com@cte.it
Web Site: www.cte.it

CUBE TECHNOLOGIES GMBH

34 Nelson St.
Oakville, ON L6L 3H6
CANADA
Curt Smith, Co M.D.
905-469-8080 Fax: 905-469-1129
E-mail: info@cube-tec.com
Web Site: www.cube-tec.com
Products/Services: AudioCube 5 is a multi-channel, 24-bit/96-kHz (dual-wire 192 kHz) audio workstation for CD mastering, DVD-Audio authoring, audio analysis & restoration, audio archival, and audio editing. The platform offers a comprehensive selection of professional audio production tools in an integrated platform.
New: Quadriga is an automated capturing station for quality-controlled analog-to-digital conversion of sound archives to digital interim data storage systems (DAT, CDR) and/or digital mass storage systems.

D&C ELECTRONICS

3089 Deltona Blvd
Spring Hill, FL 34606
Dick Gross, GM
352-688-2374 800-881-2374 Fax: 352-683-9595
Web Site: www.dandcelectronics.com
Products/Services: World distributor of broadcast and industrial tubes and equipment, from brands such as Eimac, EEV, Pro-Tek, Motorola, Andrew, Svetlana and many others.
New: FM transmitters 5 kW and 10 kW; automation systems.

D&R ELECTRONICA WEEPS B.V.

Rijnkade 15B
NL-1382 GS Weesp
THE NETHERLANDS
Jan Leerschool
011-31-294-418-014 Fax: 011-31-294-416-987
E-mail: j.leerschool@chello.nl
Web Site: www.d-r.nl
Products/Services: Mixing consoles for the pub, club, recording, post-production, live and broadcast industries.
New: Sirius and Scorpius mixers suitable for digital broadcast.

D.A.V.I.D. GMBH

Landsberger Straße 87
D-80339, München
GERMANY
Hans Rinckenbach, Head of Mktg. Comm.
011-49-89-54-0139 Fax: 011-49-89-54-01-3950
E-mail: office@david.gmbh.de
Web Site: www.digasystem.com
Products/Services: DigaSystem, the operating system in mediacasting, is an open system for content exchange. Digital editing systems to project-related and customized solutions; client/server solutions for recording, storage, editing, exchange, archive, transmission and broadcasting of audio and test news or format elements.
New: Broadcast Server with its scheduling client DigaArrange and its OnAir client DigaROC; DigaWebSystem for content management in Internet and intranets; the recording tool MultiCoder; AutoPlayer for automated playback of predefined playlists.

DALET DIGITAL MEDIA SYSTEMS

50 Broadway Ste. 1500
New York, NY 11215
Ginza Zdanowicz, Sales Asst.
212-825-3322 800-201-4229 Fax: 212-825-0182
E-mail: gzdanowicz@us.dalet.com
Web Site: www.dalet.com
Products/Services: Content management solutions for broadcasters. Content production and delivery platform facilitates multimedia content acquisition, storage, production, scheduling and delivery of news and music programming over radio, TV and the Internet. Scalable, powerful and effective solutions.
New: Dalet Plus broadcast automation solution incorporates advanced technologies (phonetic searching, cross media support, advanced scheduling techniques, workflow management) into the broadcast studio and newsroom.

DAN DUGAN SOUND DESIGN

290 Napoleon St. Studio E
San Francisco, CA 94124
Dan Dugan, Proprietor
415-821-9776
E-mail: dan@dandugan.com
Web Site: www.dandugan.com
Products/Services: Inventor of the automatic microphone mixer. Current products make Dugan's patented functions available with mixing consoles. Dugan also licenses his technology to manufacturers, services and sells AEA products, Coles mikes, Cooper mixers, Denecke timecode gear and Nagra recorders.
New: Model D-2 Automatic Mixing Controller replaces the flagship model D; a separate ergonomic control panel connects with a single cable. The system maintains constant natural ambience even with multichannel panning.

DARTECH INC.

7400 Metro Blvd. Suite 350
Edina, MN 55439-2323
Andy Smith, Sales & Support Specialist
952-844-0217 800-799-1692 Fax: 952-844-9025
E-mail: info@dartec.com
Web Site: www.dartec.com
Products/Services: DART digital audio recording and restoration software products. DARTech features Advanced Digital Audio Restoration Technology for digital re-mastering and saving music.
New: DART CD-Recorder 4 (4.1): Software for creating music CDs from a variety of popular music sources including MP3 files and audio CDs; DART Karaoke: Audio and graphics program to create custom Karaoke on home computers; DART Karaoke CD+G: Make your own Karaoke CD+G CDs for Karaoke machines.

DAS AUDIO OF AMERICA INC.

1 Enterprize Dr.
Old Lyme, CT 06420
Karl Winkler
860-434-9190 Fax: 860-434-9022
E-mail: info@sennheiserusa.com
Web Site: www.dasaudio.com
Products/Services: Sound reinforcement systems. Company makes loudspeaker components and systems with the D.A.S. label and supplies OEM products to other companies. Power amplifiers, electronic signal processors and accessories.
New: Compact 1 powered speaker system, Sub 118A powered subwoofer.

DATASTAR INC.

PO Box 67277
Lincoln, NE 68506
Sidney Hubbard, Sales Rep.
402-492-8882 800-696-2545 Fax: 402-420-9804
E-mail: traffic@starcaster.com
Web Site: www.starcaster.com
Products/Services: Software stability with eight-station capacity, network-ready. Many digital audio interfaces included. Includes sales projections, billing history and credit history reports. All reports viewable on-screen and optionally printed. Custom log face scheduler for sports and other events. View old invoices on-screen.

DATAWORLD

PO Box 30730 4833 Rugby Ave., Ste. 300
Bethesda, MD 20824
Dave Doherty, Pres.
301-652-8822 800-368-5754 Fax: 301-656-5341
E-mail: dave@dataworld.com
Web Site: www.dataworld.com
Products/Services: DataXpert comprehensive broadcast program for U.S. AM, FM TV, LPTV, translators & ITFS/MDS/MMDS records, contact & audience information, mapping & reporting capabilities available on the Internet; full-color broadcast mapbooks; worldwide terrain database; 2000 population data; custom full-color mapping; GIS-ready coverage data; engineering studies.
New: The DataXpert program, previously supplied on CD, has migrated to the Internet. Information is updated daily. Wireless cable information (ITFS/MDS/MMDS) has been added to the service selection. Mapping and data available on a subscription basis using a Dataworld Internet account.

DAVE DWORKIN'S GHOSTWRITERS

2412 Unity Ave. N. Dept. RWS
Minneapolis, MN 55422-3450
Dave Dworkin
763-522-6256 Fax: 763-522-6256
E-mail: medi@mail@aol.com
Web Site: www.radio-mail.com
Products/Services: Sound effects, production music, production effects, hit music libraries. More than 100 products. Online demos at www.radio-mail.com.
New: Hit music on hard drive. We can load up to 4,300 songs on your drive, or obtain the drive for you.

DAWNING TECHNOLOGIES INC.

409 Mason Rd.
Fairport, NY 14450
Rob Ewanow, Mktg. Mgr.
716-223-6006 800-332-0499 Fax: 716-223-8615
E-mail: sales@dawning.com
Web Site: www.dawning.com
Products/Services: Solutions that automate the collection and review of EAS activity logs from remote broadcast sites. Connect serial output devices directly to your network or Web server without additional hardware.
New: Secure Network Interface: Automatically collects and transmits EAS log information to a Web server for review via a standard Web browser.

DAYTON INDUSTRIAL CORP.

2237 Industrial Blvd.
Sarasota, FL 34234-3119
Donald Roettele, Mgr.
941-351-4454 Fax: 941-351-6081
E-mail: sales@daytonindustrial.com
Web Site: www.daytonindustrial.com
Products/Services: Radio receivers: FM, FM/SCA, weather, AM and public-service band. Broadcast station engineers and managers use them for EAS or other professional monitoring.
New: Three-receiver 19-inch rackmount chassis, applied in EAS monitoring for three-station receivers. Professional weather-band monitor receiver.

DB ELETRONICA TELECOMUNICAZIONI SPA

Via Lisbona, 38
I-35127 Padova - PD
ITALY
Luciano Ditadi, Export Sales Manager
011-39-049-870-0588
011-39-049-870-0747
E-mail: sales@dbbroadcast.com
Web Site: www.dbbroadcast.com
Product Lines and/or Services: Tube-based FM transmitters and translators up to 40 kW and solid-state FM transmitters and translators up to 12 kW. Radio links from 48 MHz to 24 GHz, transmitting antennas, radio link antennas, combiners, power dividers and accessories.

dB TECHNOLOGIES

1155 N. La Brea Ave.
W. Hollywood, CA 90038
Jim Schaller, Distributor Sales
323-845-1155 Fax: 323-845-1170
E-mail: dtd@aidinc.com
Web Site: www.dbtechno.com
Products/Services: Multi Machine Remote Controller can control up to eight machines. Features include 99 memories, 10 'F' keys, programmable offset, auto punch, loop (repeat), rehearse, ADR beeps, two large displays.
New: The dB44096 Multi-Channel Conversion System offers 44.1, 48, 88.2, 96 kHz sampling frequencies and a choice of two, four, six or eight channels. The expandable frame may be ordered with plug-in modules: the MoDA824, a two-channel D/A module; MoAD824 A/D module; MoDD1-2 and MoDD2-1 single/dual-speed AES translators.

DBX PROFESSIONAL PRODUCTS

8760 S. Sandy Pkwy.
Sandy, UT 84070
Jason Kunz
801-568-7660 Fax: 801-568-7662
E-mail: customer@dbxpro.com
Web Site: www.dbxpro.com

DELCO WIRE & CABLE LTD.

1 Saramia Crescent
Concord, ON L4K 3S6
CANADA
Geoff Smith, VP Sales and Mktg.
905-669-2476 800-667-8014 Fax: 905-669-2476
E-mail: sales@delcowire.com
Web Site: www.delcowire.com
Products/Services: Electronic/communications/data, multi-conductor and pairs, shielded and un-shielded, coaxial, PVC and plenum. Custom cables from 1,000 feet, PVC, PE, PU, Teflon. Broadcast 110-ohm audio, SDI/HDTV video cables. ADC Broadcast products.

DELTA ELECTRONICS INC.

5730 General Washington Dr. PO Box 11268
Alexandria, VA 22312
Joseph S. Novak, VP Mktg.
703-354-3350 800-833-5828 Fax: 703-354-0216
E-mail: jsnovak@deltaelectronics.com
Web Site: www.deltaelectronics.com
Products/Services: RF ammeters, digital RF ammeters, operating impedance bridges, meter jacks, receiver/generators, stereo noise generators, splatter monitors, coaxial

transfer switches, AM stereo exciters and monitors and toroidal current transformers.

Denon Electronics Pro

19 Chapin Rd., Bldg. C
Pine Brook, NJ 07058
Wayne Dolnick, Dir. of Sales and Mktg. Denon Pro
973-396-7469 Fax: 973-396-7459
E-mail: w_dolnick@denonnj.com
Web Site: www.denon.com

Products/Services: Denon has celebrated its 90th year in the pro audio business. Products cater to studio and broadcast professionals, including cart-style CD players and field eng. Compact Flash portable recorder/player.

New: Dual-play, dual-zone, professional-grade, CD-R/RW player-recorder with defeatable SCMS and balanced XLR inputs. The unit allows recording to CD-R data discs or RW discs internally from drive No. 1 or from an external source digitally from the S/PDIF input or with the Toslink or unbalanced or balanced analog jacks. \$850 MSRP.

Dialight Corporation

1501 Route 34 S.
Farmingdale, NJ 07727
Sharon Geyser, Mktg. Comm. Coord.
732-919-3119 Fax: 732-751-5778
E-mail: info@dialight.com

Web Site: www.dialight.com

Products/Services: Innovative applications in LED technology, supplying energy-efficient and low-maintenance LED lights for traffic signals, transit vehicles, rail, airports and aviation obstruction lights. LED products for the electronics industry have given engineers better ways to indicate status on all kinds of equipment.

New: The industry's first and only supplier of LED fixtures certified by ETL to be compliant with FAA standards. Obstruction products include red flashing beacons (L864) and steady-burning tower side lights (L810).

DIALOG4 System Engineering GmbH

Monreposstraße 55
D-71634 Ludwigsburg
GERMANY
Peter Lee, Dir. of International Sales
011-49-714-12-2660 Fax: 011-49-714-12-2667
E-mail: pj@dialog4.com

Web Site: www.dialog4.com

Products/Services: Sountainer real-time portable MP3 recorder; CTAXI portable digital recorder/editor/live ISDN audio codec for sports events and breaking news; MusicTaxi Net ISDN and X.21 codec for audio over TCP/UDP/IP; Net Control Windows-based remote control for MusicTaxi NET.

Dick Brescia Associates

164 Garfield St.
Haworth, NJ 07641
David P. West
201-385-6566
E-mail: dbasynicators@prodigy.net

Web Site: www.icbx.com/dba

Products/Services: Classic radio shows - "When Radio Was," "Radio Super Heroes" and "Radio Movie Classics." Radio shows from the 1940s and '50s. Jack Benny, Fibber McGee & Molly, Superman and Green Hornet. Feature programs: "Leonard Maltin's Video Views" and "This Is Bob Harris." Short-form feature programs.

DIELECTRIC COMMUNICATIONS

PO Box 949
Raymond, ME 04071
Matt Leland, Sales
207-655-4555 800-341-9678 Fax: 207-655-7120
E-mail: dcsales@dielectric.spx.com

Web Site: www.dielectric.com

Products/Services: FM broadcast antennas and equipment with numerous antenna designs. Dielectric will tailor an antenna to fill specific needs. Transmission line, towers, filters, combiners, switches, directional couplers, full- or reduced-scale pattern testing, installation services.

New: FM Vee, DCR-Q and DCBR master FM antennas. IB0C combiner and Opto-SXFM switchless combiner.

DigiDesign, Div. of Avid Technology

2001 Junipero Serra Blvd.
Daly City, CA 94014-3886
Heather Gore
650-731-6300 Fax: 650-731-6399
E-mail: prodinfo@digidesign.com

Web Site: www.digidesign.com

Diaphragm Inc.

2101 Wilson Blvd. Ste. 1004
Arlington, VA 22201
Neil Glassman, Pres.

703-875-9100 Fax: 703-875-9161

E-mail: input@digigram.com

Web Site: www.digigram.com

Products/Services: Networking solutions for digital and remote management are key to the success of media, communications and industrial companies. Innovations are implemented on computer sound cards, multimedia devices, audio production applications, test and monitoring devices and other platforms installed in thousands of facilities.

New: MiXart8 multi-channel sound card combining onboard processing with comprehensive audio mixing; Aztec FMTEL5 radio monitoring and control system is an intelligent dual FM tuner with RDS receiver featuring IP2 remote control.

Digital Audio Labs

3650 Annapolis Ln. Ste. 110
Plymouth, MN 55447
Gregory Lowery, VP Sales
763-559-9098 888-765-7543 Fax: 763-559-0124
E-mail: glowery@digitalaudio.com

Web Site: www.digitalaudio.com

Products/Services: Sound cards for audio fidelity in the recording and broadcast industries. CardDeluxe delivers award-winning fidelity with a PCI interface and 24/96-balanced analog and S/PDIF digital on a single card. High-end audio performance within reach of almost any budget.

Digitronics Screener

951 Laguna Dr.
Coppell, TX 75019
Gary Wachter, Pres.
972-745-7155 Fax: 972-745-6835
E-mail: sales@screener.com

Web Site: www.screener.com

Products/Services: Software for telephone caller screening. Interfaces with most popular on-air telephone systems. Display information and messages from up to 12 calls. Place calls on-air from remote locations. Free full 30-day trial.

New: Windows version supports button console at remote site for ease of use by air talent.

Dog Star Music

PO Box 1490
Bobcaygeon, ON K0M 1A0
CANADA
Rick Ivanoff, Pres.
970-292-2220 Fax: 309-412-7477
E-mail: music@dogstarmusic.com

Web Site: www.dogstarmusic.com

Products/Services: Web site features free industry contacts and info for the indie artist and songwriter. Interested in independent Contemporary Christian music for our syndicated Indie Christian radio program.

Dorrough Electronics Inc.

5221 Collier Pl.
Woodland Hills, CA 91364
Kay Dorrough, Partner
818-998-2824 818-998-4886 Fax: 818-998-1507
E-mail: dorrough@aol.com

Web Site: www.dorrough.com

Products/Services: Audio Loudness Meters featuring the trademark of peak and average for a highly accurate reading. These analog and digital meters are used in transmission, recording, post-production, mastering, sound reinforcement and surround sound.

New: RW-100 Remote Control for analog and digital meters; TG-10A Analog/Digital Audio Test Generator; SDI-10 Serial Digital Interface unit.

Doty-Moore Tower Services

1570 W. Beltline Rd.
Cedar Hill, TX 75104
Patrick Moore
972-293-1200 800-345-7191 Fax: 972-293-1255

Dove Lighting Systems Inc.

3563 Sueldo St. Ste. E
San Luis Obispo, CA 93401
Gary Dove, Owner
805-541-8292 Fax: 805-541-8293
E-mail: dove@dovesystems.com

DPA Microphones A/S

Gydevang 42-44
DK-3450 Allerød
DENMARK
Maria Stoffer
011-45-48-14-2828 Fax: 011-45-48-14-2700
E-mail: info@dpamicrophones.com

Web Site: www.dpamicrophones.com

Products/Services: State-of-the-art microphones. Represented in 40 countries by distributors and dealers from the pro audio industry.

New: 4066 Adjustable Miniature Microphone Headband; 3532-S Large Diaphragm A-B Stereo kit, Solid State. 3532-T Large Diaphragm A-B Stereo kit, Tube; MHS6001 Miniature Holder for Strings; CX04000 Compact XY and ORTF holder.

DPA Microphones/TGI North America Inc.

335 Gage Ave. Ste. 1
Kitchener, ON N2M 5E1
CANADA
Marc Bertrand, Sales Director
519-745-1158 Fax: 519-745-2364

E-mail: mbertrand@tgina.com

Web Site: www.dpamicrophones.com

Products/Services: Microphones for live and recorded sound environments. Handheld, lavalier and lightweight headset designs.

New: The 4006 exhibits impressively linear frequency response and wide dynamic range characteristics. Suitable for recording studio, location recording or the broadcasting studio.

Drawmer

Charlotte St. Bus. Centre Charlotte St.
Wakefield
West Yorkshire WF1 1UH
UNITED KINGDOM
Luke Giles, Mktg. Mgr.
011-44-1924-37-8669 Fax: 011-44-1924-29-0460
E-mail: luke.giles@drawmer.com

Web Site: www.drawmer.com

Products/Services: Professional audio equipment specializing in analog and digital dynamic signal processing technology and DAW third-party software for Mackie and Digidesign.

New: Drawmer Six-Pack; DS501 Power Gate.

Earthworks Audio Products

PO Box 517
Wilton, NH 03086
Eric Blackmer
603-654-6427 Fax: 603-654-6107
E-mail: eric@earthworksaudio.com

Web Site: www.earthworksaudio.com

Products/Services: Microphones, preamps and loudspeakers, accurate in frequency and time. Accurate, life-like omnis; directional microphones acclaimed for open pick-up and uncolored off-axis rejection. Preamps are accurate, wideband and quiet.

New: FM series 20 kHz gooseneck cardioids. Zero Distortion Technology preamps. Sigma 6.2 reference monitors.

Econco Inc.

1318 Commerce Ave.
Woodland, CA 95776
Debbie Baker, Sales
530-662-7553 800-532-6626 Fax: 530-666-7760
E-mail: tubesale@econco.com

Web Site: www.econco.com

Products/Services: Quality new and rebuilt power vacuum tubes for radio transmitters.

EDX Division, CWT, Inc.

PO Box 1547
Eugene, OR 97440-1547
Jennifer Duncan, Customer Relations Mgr.
541-345-0019 Fax: 541-345-8145
E-mail: info@edx.com

Web Site: www.edx.com

Products/Services: Design tools for LMDS/MMDS, WLL, PCS/cellular, paging, LMR/SMR, broadcast and other wireless communication systems. These tools use advanced propagation models to perform coverage and interference studies as well as detailed multipoint and link analyses. Specialized modules are available for advanced system network design and 3D microcell ray-tracing.

New: EDX SignalPro v.4.0; Fixed Broadband Module; and v.7.0 of SIGNAL, MSITE and TPATH.

Elcor

c/o TDP PO Box 1
B-2310 Rijkkevoersel
BELGIUM
Ludo Maes, Managing Dir.
011-32-3-314-7800 Fax: 011-32-3-314-1212
E-mail: info@elcor.org

Web Site: www.elcor.org

Products/Services: FM, medium-wave and shortwave broadcast transmitters.

Electro Impulse Inc.

1805 Rt. 33
Neptune, NJ 07754-0278
Tom McNicholas, Broadcast Sales Mgr.
732-776-5800 Fax: 732-776-6793
E-mail: tmcn@electroimpulse.com

Web Site: www.electroimpulse.com

Products/Services: ISO-9001 certified manufacturer supplies

dry and forced-air AM/FM RF terminations (dummy loads) for the broadcast industry with power ratings from 1,500 watts to 75 kW. Also a supplier of calorimeters which provide highly accurate RF power.

ELECTRONIC ASSOCIATES INC.

1790 N. Lee Trevino Dr. Ste. 306
El Paso, TX 79936
Mike McGill, Pres.
915-595-3103 Fax: 915-590-6637
E-mail: info@eleccasoc.com
Web Site: www.eleccasoc.com

Products/Services: Broadcast transmitter remote control systems; may be field-updated as requirements change.
New: RF-Host Multi-Site Controllers now include two- and four-site systems as well as the previous eight-site controller.

ELECTRO-VOICE

12000 Portland Ave. S.
Burnsville, MN 55337
James Edlund
952-884-4051 800-392-3497 Fax: 952-884-5588
E-mail: james.edlund@telex.com
Web Site: www.electrovoice.com

Products/Services: Electro-Voice is a professional audio brand of Telex Communications Inc., manufacturer of audio, wireless, multimedia, broadcast and communications equipment for commercial, professional and industrial customers. Telex Communications markets products under the brands EV, Telex, RTS, AudioCom, RadioCom, Dynacord, Midas, Klark Teknik, University Sound and others.

New: Cobalt Co9 for live performance, with a slight bass roll-off and accentuated midrange; QRX-212/75 two-way loudspeaker system incorporating two 12-inch woofers and a 3-inch voice coil compression driver on an asymmetrical 75-degree by 50-degree rotatable constant-directivity horn; Eliminator i Series 15-inch, two-way loudspeaker with 50 to 20,000 Hz frequency response and 350 watts continuous power handling, 60-degree x 40-degree coverage, Ring Mode Decoupling and 1/4-inch inputs; EVID 6.2 dual 6-inch LF drivers and a 1-inch TI/waveguide, has the capability to fill large areas with sound.

ELENOS SRL

Via G. Amendola #9
I-44028 Poggio Renatico - FE
ITALY
Leonardo Busi, Pres.
011-39-0532-829965 Fax: 011-39-0532-829177
E-mail: intl-sales@elenos.com
Web Site: www.elenos.com

Products/Services: ETG1000: "The world's smallest FM power transmitter," suitable as a backup in an N+1 transmission system or the main transmitter in a medium-power system; compact dimensions and low weight make it easy to transport.

New: ETG300-500 FM integrated exciter, 300/500W out, solid-state technology housed in a 3 RU rack, RDS/Stereo coder options; ETG1000 FM integrated exciter 1000W out, solid-state technology, switching, power supply, telemetry included, housed in a 3 RU rack, easy to carry, RDS/Stereo coder options; E2000 FM solid-state transmitter 2000W out, both three-phase transformer and switching power supply, telemetry included, housed in a 7 RU rack.

ELETRONIKA SRL

SS 96 Km 113 Z.I.
I-70027 Palo Del Colle - BA
ITALY
Gianluca Lattanzio, Advertising
011-39-080-62-6755 Fax: 011-39-080-62-9262
E-mail: eletronnika@eletronnika.it
Web Site: www.eletronnika.it

Products/Services: Radio and TV broadcasting equipment and microwave links. Technical service with laboratories for installation and after-sale assistance.

New: UHF TV amplifier AUTV/1000-DVB; 850W TV UHF transmitter TXUP900E; 3.2 kW TV UHF transmitter TXUP3500E; N+1 System to manage multiple systems; remote control system.

ENCO SYSTEMS INC.

29444 Northwestern Hwy.
Southfield, MI 48034
Don Backus, Dir. of Sales & Mktg.
248-827-4440 800-362-6797 Fax: 248-827-4441
E-mail: sales@enco.com
Web Site: www.enco.com

Products/Services: Digital audio delivery and storage systems. DADPro32 is a scalable system in use by small-, medium- and large-market broadcasters as well as national radio networks. Also, Webcasting tools and other broadcast-oriented software products, including the NewsBoss newsroom management system and SADIe digital audio workstation.

New: Qed is a fast, easy-to-use, two-track digital editor designed for the on-air studio. Also new is ENChiver, a multi-stream digital logger.

ENCODA SYSTEMS, INC.

1999 Broadway Suite 4000
Denver, CO 80202
David Netz, Mktg. Mgr.
303-390-8278 Fax: 303-237-0085
E-mail: dnetz@encodasystems.com
Web Site: www.encodasystems.com

Products/Services: Technology solutions for electronic media markets including broadcast television, radio, cable, DBS, streaming media, advertising agencies, media buyers and national sales reps. Business systems and automated delivery systems and services. Offices in Colorado, New York, New Jersey, Tennessee, Michigan, Canada, the United Kingdom and Australia. Company is privately held with funding from a group including LiveWire, Thomas H. Lee Co., the Blackstone Group and Evercore Partners.

New: Columbine JDS 1000. Columbine Finance. Sales Analysis Plus. Spotdata. Paradigm Traffix. Program Control. DAL Channel Manager D-Series.

ENG GADGETS, INC.

120 S. Howard Ave.
Tampa, FL 33606
Dee Ann Boone, VP Sales
800-747-0686
E-mail: sales@enggadgets.com
Web Site: www.enggadgets.com

Products/Services: ENG/EFP support gear.
New: Boom Master; Gadget Bag; ReTrac Cable System.

EQUI=TECH CORP.

P.O. Box 249, 18258 Redwood Hwy.
Selma, OR 97538
Ralph Henry
541-597-4448 Fax: 541-597-4099
E-mail: rfh@equitech.com
Web site: www.equitech.com

EQUIPTO ELECTRONICS CORP.

351 Woodlawn Ave.
Aurora, IL 60506-9988
Equipto Sales
630-897-4691 Fax: 630-897-5314
E-mail: sales@equiptoelec.com
Web site: www.equiptoelec.com

ERI-ELECTRONICS RESEARCH

7777 Gardner Road
Chandler, IN 47610
David Davies, Engineer/Mktg.
812-925-6000 Fax: 812-925-4030
E-mail: dave@ERInc.com
Web Site: www.ERInc.com

Products/Services: Antennas and support structures, lightning protection and grounding systems and engineering services to telecommunication and broadcast industries. Its centrally located 120,000-square-foot fabrication facility and 70-acre antenna testing range are in Chandler, Ind.

New: Axiom Antenna incorporates a novel, high-power branching feed system to complement its inherit broad-band elements. Use groups ranging over 15 MHz have formed station consortiums and jointly operated from Axiom stand-by antennas. Also, IBOC Combiners with advanced coupling and transforming methods to deliver superior performance necessary to exceed IBOC transmission requirements.

ESE

142 Sierra St.
El Segundo, CA 90245
Brian Way, VP
310-322-2136 Fax: 310-322-8127
E-mail: ese@ese-web.com
Web Site: www.ese-web.com

Products/Services: Accurate and cost-effective time and video products including master clock systems; clocks and timers; SMPTE/EBU timecode generators, readers and inserters; video and distribution amplifiers; audio level indicators/impedance interfaces.

New: ES-229 Color Bar Generator; ES-267 LTC to VTC Converter; ES-269 VTC to LTC Converter; ES-491 & ES-496 VTC Time Code Readers.

ESTEMAC ELECTRONIC GmbH

Alter Teichweg 67
D-22049 Hamburg
GERMANY
Dagmar Castro
011-49-40-61-0609 Fax: 011-4940-61-0660
E-mail: sales@estemac.de
Web Site: www.estemac.de

Products/Services: Standalone duplication units for recordable CD as well as tower versions for DVD duplication. CD-R media. High-end print and duplication solutions for the CD-R media industry.
New: Diamond CD-R 80 min., printable business card 30 and

52 MB, colored dye and IMAC colored CD-R media.

EUPHONIX INC.

220 Portage Ave.
Palo Alto, CA 94402
Theresa M. Grant, Mktg. Mgr.
650-846-1142 Fax: 650-855-0410
E-mail: tgrant@euphonix.com
Web Site: www.euphonix.com

Products/Services: Audio mixing, recording and converter products for the professional audio industry including music recording and mixing, audio film and post production, broadcast, sound reinforcement and multimedia. Headquarters and R&D facilities are in Silicon Valley, Calif., where the company was founded in 1988. Direct sales and service offices in Los Angeles, New York, London & Tokyo. Euphonix is a publicly traded company under the symbol EUPH (OTC). It makes two professional audio mixing systems, the System 5 digital console and the CS3000, a digitally controlled analog system. The R-1 is a digital multi-track recorder offering the benefits of digital recording with the familiar controls and interface of a traditional reel-to-reel machine.
New: HDCD Processor converts analog signals to digital with unprecedented accuracy. HDCD decoding integrated circuits (ICs) greatly improve D/A conversion in consumer playback equipment.

EVANS ASSOCIATES

210 S. Main St.
Thiensville, WI 53092-1905
B. Benjamin Evans, Professional Eng.
262-242-6000 Fax: 262-242-6045
E-mail: ben@evansassoc.com
Web Site: www.evansassoc.com

Products/Services: Broadcast consultant since 1968. Economical, creative facility designs and FCC applications support. Experts in RF radiation, tower detuning, field engineering, frequency availability searches, feasibility studies, antenna and line testing, antenna performance proofs, license, CP and assignment applications, DTV transition. Registered Professional Engineers on staff.

EVENT ELECTRONICS

P.O. Box 4189
Santa Barbara, CA 93140-4189
Michael Marans
805-566-7777
E-mail: mmo@event1.com
Web Site: www.event1.com

Products/Services: Audio equipment for the project and professional studio markets. Passive and bi-amplified direct field monitoring systems, surround sound subwoofers with bass management.

New: EZbus Computer Audio Recording Interface / Software Control Surface / Stand-Alone Digital Mixer; 20/20/12 System Subwoofer.

EVENTIDE INC.

One Alsan Way
Little Ferry, NJ 07643
CJ Scioscia
201-641-1200 Fax: 201-641-1640
E-mail: audio@eventide.com
Web Site: www.eventide.com

Products/Services: Orville Harmonizer, Eclipse Harmonizer, 7000 series Ultra-Harmonizer Brand Effects Processor lines; the BD500 and BD960 Broadcast Delay lines; and the VR204, VR208HF, VR240 and VR320 Digital Loggers.
New: Eclipse Harmonizer. BD960 Delay.

EXCALIBUR ELECTRONICS, INC.

4604 Sand Rock Ln.
Chantilly, VA 20151
Products/Services: Uni- and bi-directional IHF-to-PRO interface amplifiers; audio and composite distribution amplifiers; handset port telephone coupler. Contact your favorite audio dealer for information.

E-Z UP INTERNATIONAL INC.

1601 Iowa Ave.
Riverside, CA 92507
Sales: 909-781-0843 800-625-3607 Fax: 909-781-0586
E-mail: info@ezup.com
Web Site: www.ezup.com

Products/Services: E-Z Up Instant Shelters are portable and set up in seconds, no assembly required. They keep you cool on remote locations, attract attention and promote station identity with state-of-the-art custom graphics. Various sizes, colors and accessories available.
New: Eclipse II featuring increased headroom.

FACTUM ELECTRONICS AB

Teknikringen 1H
S-583 30 Linköping
SWEDEN

Roger Johansson
011-46-13-36-8600 Fax: 011-46-13-36-8601
E-mail: info@factum.se
Web Site: www.factum.se
Products/Services: Specialists in digital radio, IP over DAB and NICAM digital stereo sound for TV.
New: The Factum IPx-DAB transforms any DAB network from digital audio radio to a powerful IP multicast platform for mobile data service.

FAIRLIGHT ON AIR
Simon Stevinweg 27
NL-6827 BS Arnhem Gelderland
THE NETHERLANDS
Saskia Bouman, CEO
011-31-26-368-4925 Fax: 011-31-26-368-4927
E-mail: info@fairlightonair.com
Web Site: www.fairlightonair.com
Products/Services: Systems for radio and Internet organizations. Products include CoSTAR radio automation and digital storage system for broadcasting or streaming of audio, news and multimedia.

FAMILYNET
6350 W. Freeway
Fort Worth, TX 76116
Lisa Bratton, Radio Mktg and Distribution
817-570-1400 800-266-1837 Fax: 817-737-7853
E-mail: fradio@namb.net
Web Site: www.FamilyNet.org
Products/Services: Produces/syndicates five weekly public service radio programs: "MasterControl," a magazine format program; "Powerline" AC hits mix; "Country Crossroads" country hits/artist interviews; "On Track," contemporary Christian music/artist interviews; and "The Baptist Hour," Christian music with teaching. FamilyNet also produces ten :60 spots each month called "At a Glance" on a variety of topics.
New: "Fit for a King" with trainer King Hoover, a one-minute weekly spot including quick tips on exercise, health and strength training.

FANFARE ELECTRONICS LTD.
PO Box 455
Buffalo, NY 14225
Marv Southcott, Pres.
716-683-5451 800-268-8637 Fax: 716-683-5421
E-mail: proinfo@fanfare.com
Web Site: www.fanfare.com
Products/Services: FM and AM tuners and monitors for audio reference listening, for in-station monitoring and as a translator/repeater demod receiver and a rugged monitor for remote broadcast reception.
New: FTA-100 AM/FM/AM Stereo tuner monitor which may be used in the station or on location as a monitor for remote or as a translator demodulator.

FAST CHANNEL NETWORK, INC.
911 Western Ave. Ste. 412
Seattle, WA 98104
Jared Nieuwenhuis, Mktg. Dir.
206-753-3926 206-903-3400 Fax: 206-903-6400
E-mail: jnieuwenhuis@fastchannel.com
Web Site: www.fastchannel.com
Products/Services: Distribution tools for the print and radio advertising market through a proprietary Internet network. Single-vendor solution allows customers to manage the distribution of print and radio advertising campaigns online, via a user-friendly system. Combines the adDIRECT and SpotTaxi online network of 14,000 ad agencies, production studios, broadcasters and publishers in North America, providing speed, workflow efficiency, cost savings and user error-reduction through a direct and simplified management system.

FIRST FLASH LINE
6528 Constitution Dr.
Ft. Wayne, IN 46804
Customer Service
260-432-2768 800-213-5274 Fax: 260-436-6739
E-mail: contact@firstflash.com
Web Site: www.firstflash.com
Products/Services: Custom printed promotional material including EventTape roll banners, bags, stickers and ponchos as well as popular specialty items. The company caters to the broadcast industry's promotional needs.

FIRST MEDIAWORKS
1060 Calle Cordillera Ste. 101
San Clemente, CA 92673
Larry A. Austin, Exec. VP
949-369-5900 877-691-8888 Fax: 949-369-5909
E-mail: vp@firstmediaworks.com
Web Site: www.firstmediaworks.com
Products/Services: Integrated Internet marketing products, training and consulting serving 1,500 broadcast properties. FMWUniversity is an Internet-focused educational resource for

broadcasters. Some 1,000 salespeople, managers, programmers and promotion from all formats and sizes have participated in FMWUniversity programs.
New: eListenerSuite is a loyalty marketing, database and content management system. RevenueSuite is a family of turnkey products to drive non-spot revenue. AgileSite is a custom, station-branded Web site that can be live in 72 hours.

FIRSTCOM MUSIC
1325 Capital Pkwy. Ste. 109
Carrollton, TX 75006
Sharon Baer, Regional Mgr.
972-446-8742 800-858-8880 Fax: 972-242-6520
E-mail: info@firstcom.com
Web Site: www.firstcom.com
Products/Services: Personal Production Library consists of 13 music libraries, 27,000 compositions designed to strengthen your hold in the competitive radio arena.

FLASH TECHNOLOGY CORP.
PO Box 681509
Franklin, TN 37068
Doug Jones, Dir. of Sales
615-261-2000 Fax: 615-261-2600
E-mail: info@flashtech.com
Web Site: www flashtech.com
Products/Services: Obstruction lighting systems. At 25,000 sites in 40 countries, its systems serve as visual warning for airspace obstructions. Single-tube design, Eagle remote monitoring system and training programs. Lighting for the domestic and Canadian aviation lighting market, wind turbines and aquatic life guidance. Flash has designed lead-in lights at JFK, Washington National and Newark airports to assist in noise abatement compliance, and strobe lighting systems for NASA used for space shuttle approaches.

FLEX-CORE
6625 McVey Blvd.
Columbus, OH 43235
Don Morlan
614-889-6152 614-876-8308 Fax: 614-876-8538
E-mail: flexcore@e-mail.msn.com
Web Site: www.flex-core.com
Products/Services: Current transformers, potential transformers, electrical transducers and accessories.

FLUKE CORP.
PO Box 9090
Everett, WA 98206-9090
Sales & Applications
425-347-6100 800-44-FLUKE Fax: 425-446-5116
E-mail: fluke-info@fluke.com
Web Site: www.fluke.com
Products/Services: Compact, professional electronic test tools used by technicians and engineers in service, installation, maintenance, manufacturing test and quality functions. Founded in 1948, Fluke has 2,400 employees and distributes products in more than 100 countries. Headquarters are in Everett, Wash., with European sales and service headquarters in Eindhoven, The Netherlands.
New: 5000A-RH-t Data Logger; 39A Single Waveform Generator; 525A Temperature/Pressure Calibrator; 9500B Oscilloscope Calibrator; 433B Power Quality Analyzer; 330 Series Clamp Meters; 707 Loop Calibrator.

FM BROADCASTERS LLC
12626 87th Place N.E.
Kirkland, WA 98034
Michael Brooks
206-229-7997 Fax: 425-820-3847
E-mail: sales@fmbroadcasters.com
Web Site: www.fmbroadcasters.com
Products/Services: Circular and vertically polarized antennas for translators, boosters and low-power FM broadcasters. Suitable for emergency use. Rush orders welcome.

FORECAST CONSOLES INC.
367-C Bay Shore Rd.
Deer Park, NY 11729
Bill Haberman
631-253-9000 800-735-2070 Fax: 631-253-0277
E-mail: billh@forecast-consoles.com
Web Site: www.forecast-consoles.com
Products/Services: Technical furniture for more than 23 years. Whether a project requires a simple pre-engineered unit or a full custom studio.

FOSTEX AMERICA
15431 Blackburn Ave.
Norwalk, CA 90650
Sales
562-921-1112 Fax: 562-802-1964
E-mail: budd@fostex.com
Web Site: www.fostex.com

Products/Services: Digital recorders/editors/mixers and performance products for creative musicians and producers, as well for personal and professional studios.
New: RM-1 is a powered rack-mount monitor in a single rack space. Two stereo inputs with XLR and 1/4-inch TRS connectors, multi-function mode selector, unique speaker array for big sound, shielded chassis make the unit ideal for use in tight industrial environments. \$599 MSRP.

FREELAND PRODUCTS INC.
75412 Hwy. 25
Covington, LA 70435
J.H. Freeland, Pres.
985-893-1243 800-624-7626 Fax: 985-892-7323
E-mail: freeland-inc.com@freeland-inc.com
Web Site: www.freeland-inc.com
Products/Services: Power vacuum tube rebuilders since 1940.

FRIEND CHIP AMERICA
407 Story Point Rd.
Santa Rosa, CA 95401
Martin Ucik, Pres.
707-360-3351 800-317-8743 Fax: 707-360-3357
E-mail: info@ucik.com
Web Site: www.friend-chip.de
Products/Services: Modular, programmable digital patchbays for S/PDIF, ADAT, AES/EBU and TDIF, format converters, sample rate converters and word clock distributors.
New: MQ Modules convert between ADAT, AES/EBU and TDIF. ADAT streams can be detangled.

FUJI PHOTO FILM USA INC.
555 Taxter Rd.
Elmsford, NY 10523
Tom Daly, Dir. of Mktg.
914-789-8100 800-755-FUJI Fax: 914-789-8490
E-mail: tom_daly@fujifilm.com
Web Site: www.fujifilm.com
Products/Services: Professional audio and video recording media. Formats offered include DVCPRO, DVCPRO 50, DVCPRO HD, Betacam, D2, D3, D5, D9, M-II, DCT, S-VHS, VHS, Hi-8, U-Matic, HiCAM, MPEG IMX, DAT MiniDisc, ADAT and DTRS.
New: Fujifilm MX321 videocassettes for MPEG IMX VTR for digital video recording.

FULL COMPASS SYSTEMS
8001 Terrace Ave.
Middleton, WI 53562
John Vitale
608-831-7330 800-356-5844 Fax: 608-831-6330
E-mail: webmaster@fullcompass.com
Web site: www.fullcompass.com

GEFEN INC.
6265 Variel Ave.
Woodland Hills, CA 91367
Hagai Gefen, Pres.
818-884-6294 800-545-6900 Fax: 818-884-3108
E-mail: gsinfo@gefen.com
Web Site: www.gefen.com
Products/Services: Computer peripheral manufacturer and software developer that specializes in the audio post-production and recording industries. Products include DVI, USB and KVM extenders, switchers, hubs, adapters and converters, as well as sound effects locator and auditioning software SFX NET. Gefen also distributes sound effects libraries from The Hollywood Edge, Digifffects, BBC, Sound Ideas, Network, Omni, Sonic Science, Big Fish Audio, Canford, DeWolfe.
New: DVI Repeater, Switcher, Hub; DVI-to-ADC Conversion Box; DVI-to-VGA Conversion Box; VGA-to-DVI Conversion Box; USB 400; CAT5-4000 Matrix; USB100; DVImate; ADC-to-DVI Adapter.

GELEGO ELECTRONICS LIMITED
2 Thorncliffe Park Drive Unit 28
Toronto, ON M4H 1H2
CANADA
Gerald Lee, Pres. Sales
416-421-5631 Fax: 416-421-3880
Products/Services: Pre-owned AM transmitters. RF capacitors. Mica capacitors.

GENE MICHAEL PRODUCTIONS
441 Post Rd.
Buchanan, MI 49107
Gene Ort, Owner
616-695-4000 800-955-0619 Fax: 616-695-4005
E-mail: info@gmpmusic.com
Web Site: www.gmpmusic.com
Products/Services: 140+ CDs of production music in a variety of styles including rock, jazz, adult contemporary, commercial and more. The library is formatted for film, TV, radio and A/V. The terms of sale are buy-out and lease. Online audition at Web site.
New: Grooves Techno Rock & Pop, AOSHOP IV: Broadcast Variety, TV Land: 60s orchestral, New Way: Power Folk.

GENELEC OY

Olivite 5
FIN-74100 Iisalmi
FINLAND
Lars-Olof Janflod
011-358-178-3881 Fax: 011-358-17-81-2267
E-mail: genelec@genelec.com
Web Site: www.genelec.com
Products/Services: Active monitoring systems.

GENTNER COMMUNICATIONS

1825 Research Way
Salt Lake City, UT 84119
Gary Crowder, Broadcast Sales Mgr.
800-945-7730 Fax: 801-977-0087
E-mail: gcrowder@gentner.com
Web Site: www.gentner.com
Products/Services: Broadcast and professional audio telephone interface products for radio, television, talk shows, distance learning, audio conferencing; video codecs for teleconferencing.

GEORG NEUMANN GMBH BERLIN

Ollenhauer Str. 98
D-13403 Berlin
GERMANY
Wolfgang Fraissinet, Pres.
011-49-30-41-7724 Fax: 011-49-30-41-7724 - 15
E-mail: headoffice@neumann.com
Web Site: www.neumann.com
Products/Services: Professional microphones for studio and stage.
New: Digital Microphone System Solution-D

GEPCO INTERNATIONAL INC.

1770 Birchwood Ave.
Des Plaines, IL 60018
Ken Bernd
847-795-9555 800-966-0069 Fax: 847-795-8770
E-mail: gepco@gepco.com
Web Site: www.gepco.com
Products/Services: Audio cable, video cable, audio and video cable assemblies, connectors and specialty cable products. Audio cables include single-pair, dual-pair/multi-pair, microphone, speaker, guitar/instrument and digital audio. All cable is cut to customer length requirements. Cable can be terminated to user requirements.
New: 5596 series of 110-ohm, 96 kHz AES/EBU digital audio cables. V37 series of DT12 connectors. New Gep-Flex jacketing compound elevating UL listing to a riser-rated type CMR.

GHIELMETTI AG

Industriestrasse 6
CH-4562 Biberist
SWITZERLAND
Hans Peter Schwaninger, Managing Dir.
011-41-32-671-1313 Fax: 011-41-32-671-1314
E-mail: schwaninger@ghielmetti.ch
Web Site: www.ghielmetti.ch
Products/Services: Professional cable connections in audio, video and data networks.
New: Audio and video matrix systems; audio and video patch panels; electronic audio/video router; digital distribution amplifier; cabling equipment; AES/EBU signal distribution; audio monitoring systems.

GHOSTWRITERS/RADIO MALL

2412 Unit Ave. N. Dept. RWS
Minneapolis, MN 55422-3450
Dave Dworkin, Owner
763-522-6256 Fax: 763-522-6256
E-mail: mediamall@aol.com
Web Site: www.radio-mall.com
Products/Services: Sound effects, buy-out commercial production music and products effects. Approximately 100 products with track listings and/or online demos. Also a complete database of U.S. radio stations.
New: Halland music on hard drive. Approx. 4,300 songs pre-loaded to your hard drive. For radio broadcast only.

GLOBAL DIGITAL DATACOM SERVICES, INC.

400 West Main St. Ste. 330
Babylon, NY 11702
Angela DePascale, Digital Technology Specialist
631-661-5700 Fax: 631-661-5677
E-mail: adepascale@gdds.net
Web Site: gdds.net
Products/Services: One-stop source of digital services from telephone companies nationwide. T3, T1, Frame Relay, ISDN, DSL. Turnkey services, codecs, DSU/CSU, routers, terminal adaptors and NT-1s. Installation, maintenance and project management. Order placement with telcos, verification of installs.
New: Free telco cost analysis service with recommendations.

GMI MEDIA, LLC

2211 5th Ave.
Seattle, WA 98121
Stan Lander, VP Sales & Marketing
206-374-8889 888-485-4487 Fax: 206-374-2150
E-mail: info@gmimedia.com
Web Site: www.gmimedia.com
Products/Services: Jingles for radio, TV and the Web; commercial jingles for advertisers; syndicated commercials for local radio and cable TV ad sales clients.
New: ID jingle packages for country, oldies and AC formats. New advertising jingles for "resale" to local radio and cable ad clients.

GMPCS PERSONAL COMMUNICATIONS INC.

1923 NW 40th Ct.
Pompano Beach, FL 33064
Gino Jenson, Dir. of Tech Services
954-973-3100 888-664-6727 Fax: 954-973-4800
E-mail: info@gmpcs-us.com
Web Site: www.gmpcs-us.com
Products/Services: Turnkey mobile satellite solutions.
New: Thrane & Thrane Mobile Messenger: 64 kbps ISDN satellite transmission with vehicular mobility.

GOLTERMAN AND SABO INC.

3555 Scarlet Oak Blvd.
St. Louis, MO 63122
Cathy Czerniejewski
800-737-0307 Fax: 636-225-2966
E-mail: cathy@golterman.com
Web Site: www.golterman.com
Products/Services: Sound absorbing, sound diffusing and sound reflective products. Fabric- and vinyl-covered wall panels, specialty ceiling products and ceiling tiles. Barrel-shaped and pyramidal sound diffusers.
New: Resolute Panel - a fiberglass core covered with an impact-resistant 1/8" thick co-polymer for high-abuse areas. Fabric finish is available.

GOODRICH ENTERPRISES INC.

11435 Manderson St.
Omaha, NE 68164
Charles Goodrich
402-493-1886 Fax: 402-493-6821
E-mail: dm44@webtv.net
Products/Services: Goodrich services McMartin products, recalibrates AM & FM modulation monitors. Supplies most transmitter parts, including overnight rebuilding of plate blocking capacitors, and Rotron blowers. Manufacturer of new transmitters; buys and sells used refurbished transmitters. Rebuild tubes from Econco. New tubes from Eimac, Svetlana and Burle.
New: Complement of studio and transmitter site equipment.

GORMAN-REDLICH MFG. CO.

257 W. Union St.
Athens, OH 45701
Jim Gorman, Owner
740-593-3150 Fax: 740-592-3898
E-mail: jim@gorman-redlich.com
Web Site: www.gorman-redlich.com
Products/Services: Emergency Alert system (EAS) encoder-decoders. An optional DTMF telephone interface is available so that messages can be originated and sent from remote locations via telephone. Model CRW NOAA weather radio with any three weather service frequencies. Digital antenna monitors for AM directional arrays.
New: Emergency Alert system (EAS) encoder-decoder with built-in character generator will do everything required to comply with FCC rules. Capability to crawl station ID on the hour for 24 hours.

GOTHAM AUDIO SWITZERLAND

Althardstrasse 238 PO Box 158
CH-8105 Regensdorf
SWITZERLAND
Franz R. Ammann
011-41-18-40-0144 Fax: 011-41-18-43-1050
E-mail: info@gotham.ch
Web Site: www.gotham.ch
Products/Services: Gotham Audio Cables, double shielded audio cables for analog and digital signals. Swiss office is a distributor for professional audio products like Lexicon, HBB, Hafler, Sonifex, Z-sys, DK-Audio, DPA, CAD, Brauner, Switchcraft, Telex, Deltron.
New: Dual-application audio cables for AES/EBU digital signals as well as analog audio. First fully compatible analog/digital audio cables as single line and as multipair cables. Also new: DMX-Data signal cables.

GRACE BROADCAST SALES

225 SW Skyline Dr.
Pullman, WA 99163-2938
Rod Schwartz, Pres.
509-332-8423 888-GRACE-88 Fax: 509-334-1552
E-mail: rod@gracebroadcast.com

Web Site: www.gracebroadcast.com
Products/Services: Short (30 to 60 seconds) syndicated radio features for holidays and special events. Listeners enjoy the content, advertisers buy the positioning, stations like the easy money. Also advertising consulting, copywriting and distinctive voiceover for radio stations and advertisers worldwide.
New: "Shop Your Hometown Merchants" campaigns are helping stations in small and medium markets to attract advertisers in a sustained drive to keep local dollars working in and for their communities. Visit the Web site for information on new Sales Booster campaigns.

GRAHAM BROCK INC.

10 Sylvan Dr. #26 PO Box 24466
St. Simons Island, GA 31522
R. Stuart Graham, Pres.
912-638-8028 Fax: 912-638-7722
E-mail: stu@grahambrock.com
Web Site: www.grahambrock.com
Products/Services: Consulting firm providing technical expertise to the broadcast industry. AM, FM, TV, LPTV and auxiliary services. From the allocation process to preparation of applications to putting the station into operation, Graham Brock assists owners.

GRAHAM-PATTEN, A DIVISION OF KLOTZ DIGITAL AMERICA

13366 Grass Valley Ave.
Grass Valley, CA 95945
Keith Knudsen
530-273-8412 800-422-6662 Fax: 530-273-7458
E-mail: kknudsen@gpsys.com
Web Site: www.grahampatten.com
Products/Services: Digital audio products for the professional video market. Products include the Emmy-award-winning D/ESAM audio mixers and SoundPals digital audio building blocks for format conversion, signal processing, distribution and test. In 2001, Graham-Patten was acquired by Klotz Digital America, a subsidiary of German company Klotz Digital AG, which produces hard and software components in the field of digital audio/media equipment.
New: D/ESAM 8000, an audio mixer for edit suites. Eight mixing busses and features that will help make the transition to the new surround sound formats supported by DVD, DTV and other digital delivery systems.

GROOVE ADDICTS

2048 Armacost Ave.
Los Angeles, CA 90025
Debra Grobman/Alana Shapiro
310-442-1444 800-400-6767 Fax: 310-442-1448
E-mail: info@grooveaddicts.com
Web Site: www.groovejingles.com
Products/Services: Who Did That Music catalog of 12 music and sfx libraries. Highly original libraries serving all media. Also Groove Addicts radio IDs. Clients include KLSX(FM) and KIIS(FM) in Los Angeles, WBMX(FM) in Boston, Rick Dees, Virgin Radio and Capital FM in London, ESPN Radio.

GROUP ONE LTD.

200 Sea Lane
Farmingdale, NY 11735
Sales
631-249-1399 Fax: 631-753-1020
E-mail: sales@g1ltd.com
Web Site: www.g1ltd.com
Products/Services: Exclusive U.S. distributor for audio and lighting products including SPL, Celestion, Blue Sky, XTA Electronics, Milab, Clay Paky, Elektraite, Pulsar and Fragrance Systems.
New: Blue Sky System One 2.1 or 5.1 monitoring system, XTA SDD Seriously Intelligent Digital Dynamics processor.

HAFLER

2055 E 5th St.
Tempe, AZ 85281
Laura Poulsen, Sales Asst.
480-517-3157 888-423-5371 Fax: 480-894-1528
E-mail: poulsela@hafler.com
Web Site: www.hafler.com
Products/Services: Amplifiers and passive powered monitor speakers for the broadcast, studio, post production, live sound mobile/fix install and audiophile markets.

HALLAND BROADCAST SERVICES

2412 Unit Ave N. Dept RWS
Minneapolis, MN 55422-3450
Dave Dworkin
800-HALLAND Fax: 763-522-6256
E-mail: info@h-b-s.com
Web Site: www.h-b-s.com
Products/Services: Hit music on hard drive. We can load up to 4,300 songs on your drive, or obtain the drive for you.

HALLIKAINEN AND FRIENDS INC.

PO Box 4737
San Luis Obispo, 93403-4737

Harold Hallikainen, Pres.
805-541-0201 Fax: 805-541-0201
E-mail: harold@hallikainen.com

Web Site: www.hallikainen.com/FccRules

Products/Services: Free online version of the FCC rules. Includes links to all cited rules, links to regulatory history through Federal Register, and links to all documents on FCC Web site that cite a particular rule. Site includes search engine that searches FCC rules and FCC site.

HANNAY REELS INC.

553 State Route 143
Westerlo, NY 12193
Dave Guilzon, Sales Mgr.
518-797-3791 877-60-REELS Fax: 800-REELING
E-mail: sales@hannay.com
Web Site: www.hannay.com

Products/Services: Audio/video and storage cable reels and industrial hose. Efficient payout, take-up, storage and transport of production cables. Custom designs available.

HARDIGG CASES

147 N. Main St.
South Deerfield, MA 01373
Sylvia Sepulveda, Video Products Mgr.
413-665-2163 800-542-7344 Fax: 413-665-8330
E-mail: cases@hardigg.com
Web Site: www.hardigg.com

Products/Services: Cushioning technology, reusable shipping case design, testing and manufacturing; 270,000 square feet of computerized manufacturing facilities and 350 standard sizes. Fast delivery.

HARRIS CORP. BROADCAST COMMUNICATIONS DIV.

4393 Digital Way
Cincinnati, OH 45040
Virginia Lee Williams, Dir., Radio Sales & Systems
513-459-3400 Fax: 513-701-5315
E-mail: broadcast@harris.com
Web Site: www.harris.com

Products/Services: Products and end-to-end systems for the digital delivery, automation and management of radio broadcasting. Setting the pace in the transition from analog to digital technology, Harris offers a range of studio, program transport and transmission products and systems.

New: Legacy Digital Console is a modular digital console with Harris quality and performance, featuring hot-swappable, optional modules for maximum customization at a value-sensitive price point.

HARRIS CORP., INTRAPLEX PRODUCTS

59 Porter Rd.
Littleton, MA 01460
Bill Gould
978-486-9000 Fax: 978-486-0660
E-mail: bgould@harris.com
Web Site: www.intraplex.com

Products/Services: Harris Intraplex digital transport products provide one-way or bi-directional transmission of program audio, voice and data. Content transport solutions, from single-station studio-to-transmitter link and TSL backhaul, to a group linking multiple studios, transmitters and offices to consolidate programming, talent and administration.

New: IntraLink-IP 10/100BASE-T (Ethernet) audio multiplexer. Leverage LAN/WAN, ATM and Frame Relay services and the Internet to create a low-cost flexible professional audio transport medium.

HATFIELD AND DAWSON CONSULTING ENGINEERS

9500 Greenwood Ave N.
Seattle, WA 98103
Benjamin F. Dawson
206-783-9151 Fax: 206-789-9834
E-mail: hatdaw@hatdaw.com
Web Site: www.hatdaw.com

Products/Services: Telecommunications engineering firm in operation since 1973. Engineers perform RF systems design and analysis, regulatory agency and license application engineering, preparation of specifications, construction supervision, propagation analysis, measurements and testing. The firm also provides RF exposure studies, wireless communications and two-way communications systems design, communications and radio systems for FM and AM broadcast-in-building wireless distributive antenna systems, closed circuit video and data, microwave, UHF and VHF television systems and electromagnetic engineering and analysis.

HENRY ENGINEERING

503 Key Vista Dr.
Sierra Madre, CA 91024
Hank Landsberg, Pres.
626-355-3656 Fax: 626-355-0077
E-mail: henryeng@aol.com
Web Site: www.henryeng.com

Products/Services: Problem-solving "blue boxes." Level & impedance converters Matchbox & TwinMatch; audio DAs & mixers USDA, MicroMixer, StereoMixer; audio switchers StereoSwitch & MonoSwitch; digital audio storage DigiStor II; telephone information systems Audio OnLine & DigiStor II; and control interfaces SuperRelay & LogiConverter.

New: MonoSwitch specialized audio switcher eliminates the "DJ headphone echo" caused by digital audio processing equipment. Automatically switches the DJ headphones from "air" to "local" when mic is on.

HERB KRAVITZ BROADCAST ENGINEERING

18 N. Montgomery Ave.
Atlantic City, NJ 08401
Herb Kravitz, Owner
609-347-4821 Fax: 609-347-6397
E-mail: hkradio@msn.com

Products/Services: Contractors/consultants providing cost-effective technical support from source through antenna system. Seasoned, accountable broadcast engineers.

HHB COMMUNICATIONS USA LLC

1410 Centinela Blvd.
Los Angeles, CA 90025-2501
Sales
310-319-1111 Fax: 310-319-1311
E-mail: sales@hhbusa.com
Web Site: www.hhbusa.com

Products/Services: Pro audio distributor/manufacturer supplying broadcast radio and TV companies.

New: Reporter's Kit contains an HHB PortaDisc MDP500 MiniDisc recorder, Sennheiser MD46 mic w/cable, charger/adaptor and accessories in a Pelican case; TLA M-3 Tubetracker 8/2 Valve Mixer, TLA-C1 Dual Valve Compressor, TLA-EQ1 Valve Equalizer, TLA-EQ2 Dual Parametric Valve Equalizer, TLA-PA1 Dual Pentode Valve Preamp, TLA VP1 Mono Valve Processor.

HOLIDAY INDUSTRIES INC.

14825 Martin Drive
Eden Prairie, MN 55344
(952) 934-4920 877-HOLIDAY Fax:(952) 934-3604
E-mail: info@holadayinc.com
Web site: www.holadayinc.com

HOLLYANNE CORP.

207 W. O'Connor Ave.
Greeley, NE 68842
Dave Halperin
308-428-4705 888-4EASINFO Fax: 308-428-5585
Web site: www.EAS-HollyAnne.com

HOLLYWOOD EDGE

7080 Hollywood Blvd. Ste. 519
Hollywood, CA 90028
John Moran, Managing Dir.
323-603-3252 800-292-3755 Fax: 323-603-3298
E-mail: jmoran@soundelux.com
Web Site: www.hollywoodedge.com

Products/Services: A division of Todd/Soundelux. Publishers and distributors of sound effects, production music and specialty audio hardware. With 70 multiple-disc collections, which include hard-to-find sound effects and special field recordings. Collection produced and compiled by award-winning sound designers and editors from Soundelux.

New: American Zoetrope's Sentinel Vault Archives, The Eerie Edition, The Edge Edition II, The "Off-Stage Set" Sound Designer's Tool Kit, Hi-Tech and Top Secret, Premiere Edition Volume IV, Best of The Hollywood Edge Music Library.

HONEYWELL INTERNATIONAL

2162 Union Pl.
Simi Valley, CA 93065
Greg Miller, Product Mktg. Mgr.
602-436-2021 805-581-5591 Fax: 805-581-5032
E-mail: oblighting@honeywell.com
Web Site: www.oblighting.com

Products/Services: Obstruction lighting for low-, medium- and high-intensity tower lighting applications. StrobeGuard High-Intensity System for tall tower lighting.

New: LEDGuard LED-based L-864 FAA-approved red lighting system. LEDGuard can equip an entire tower with an LED-based lighting system that lasts 90 percent longer than an incandescent and comes with a five-year warranty. LEDGuard lighting kits are available for towers up to 2,100 feet.

HORITA

PO Box 3993
Mission Viejo, CA 92690
Jeff Wasserman, Sales Mgr.
949-489-0240 Fax: 949-489-0242
E-mail: horita@horita.com
Web Site: www.horita.com

Products/Services: SMPTE/EBU LTC and VITC time-code products; blackburst, sync, color bar and test signal generators; video overlay products; a GPS-based line that includes master time code, sync generators and SMPTE/EBU time-code products for GPS/video position logging.

New: SVS-50 Standby Video System; VLS-50 Video Loss Switcher; PTR Portable Time Code Reader (multi-format LTC reader, palm-sized, 9V-battery-operated, LCD display); ETD-100 Elapsed Time Display, 0.8" LED display.

HOSA TECHNOLOGY INC.

6920 Hermosa Circle
Buena Park, CA 90620-1151
Rob Manning, National Sales Mgr.
714-736-9270 800-255-7527 Fax: 800-522-4542
E-mail: sales@hosatech.com
Web Site: www.hosatech.com

Products/Services: Multi-channel audio, MIDI, digital and video solutions to the broadcast, recording and PA industries. Audio: microphone, instrument, interconnects, patch bays and connectors in most configurations. Digital: TDiF, SCSi, Light Pipe & patch bays, AES/EBU, S/PDIF, fiber-optic cables & links. Video: BNC, RGB, VGA, VSA, S-Video, Coax, VRA.

New: Model OGC-361 long-distance Light-Pipe uplink/downlink system breaks the 30-foot barrier, up to 500 feet. Model MFO-363 Light-Pipe patch bay, allows easy routing for DAW, sound cards, etc.

IBIQUITY DIGITAL CORPORATION

8865 Stanford Blvd. Ste. 202
Columbia, MD 21045
Dave Salemi, VP, Mktg.
410-872-1530 Fax: 410-872-1531
E-mail: info@ibiquity.com
Web Site: www.ibiquity.com

Products/Services: Sole developer and licensor of in-band, on-channel (IBOC) digital AM and FM broadcast technology in the United States, which will transform today's analog radio to digital, enabling radically upgraded sound and new wireless data services. The company's investors include 14 of the nation's top radio broadcasters.

IBM CORPORATION

Laajalahdentie 23
Helsinki 00330
FINLAND
Mr. Kari Sirelius, Global Exec., Radio Solutions
358-9-459-2942 Fax: 358-9-459-5160
E-mail: karis@ibm.com
Web Site: ibm.com/solutions/media & www.radioman.fi

Products/Services: Aids media and entertainment companies with business opportunities related to digital technology. Portfolio of solutions, networking, consultancy and service offerings for the creative and business processes of media and entertainment companies.

New: RadioMan Version 4.4

I-BUS/PHOENIX, INC.

8888 Balboa Ave.
San Diego, CA 92123
Andy Conway
858-503-3000 888-307-7892 Fax: 858-503-3005
E-mail: info@ibus.com
Web Site: www.ibus.com

Products/Services: ISO-9001 quality-certified applied solution provider of power and applied computer systems to the telecommunications, Internet and industrial markets. Customized services focused on the needs of OEMs including purchasing partnerships, stable sourcing control, configuration and revision control, power and computer system integration and test services.

New: IBP-1 & IBP-2 1U and 2U, high-density application platforms, IBP Rack UPS Line with free power management software.

ICE KRACKERS INC.

273 Circle Dr.
Springfield, IL 62703
Jim Newbanks, Pres.
217-529-8921 800-747-8921
E-mail: jnewbanks@springnet1.com

Products/Services: The original patented guy wire anchor hardware and dampener protector. Ice Krackers are galvanized for rust protection and are installed just above the anchoring hardware to be protected. Sizes are available for all guy wire diameters. The average 400-foot tower can be protected for approximately \$400. The best insurance available to prevent a major catastrophe.

IDT - IMPACT DEVELOPEMENT

5 Allee Moulin Berger Technoparc
F-69130 Ecully
FRANCE
Olivier Guillet

011-33-472-18-1920 Fax: 011-33-472-18-1921

E-mail: mail@idt-fr.com

Web Site: www.idt-fr.com

Products/Services: Broadcast sound processing. IDT introduced FFT Processing at the NAB2000 show and won a Radio World "Cool Stuff" award (DVP). This method suppresses bands to process simultaneously the whole spectrum.

New: Virtual Voice Processor, Digital Encoder Plus, Digital Band Processor, Digital Band Processor in DVP and plug-ins for Stereo Boost, MPX-Guard and RDS.

ILLBRUCK/SONEX

3800 Washington Ave. N.

Minneapolis, MN 55412

Eric Johnson

612-520-3620 800-662-0032 Fax: 612-521-5639

E-mail: sales@illbruck-sonex.com

Web Site: www.illbruck-sonex.com

Products/Services: Manufacturer of Sonex acoustical products, including Sonex Classic and Sonex Pyramid panels. Products help reduce excessive reverberation, standing waves and slap echoes. Also barrier products to reduce sound transmission through walls.

New: Fabritec Wall Panels offer a new look with acoustical control. These wall panels are fabric-wrapped and are available in standard sizes to give a stylish alternative.

IMAS PUBLISHING

PO Box 1214

Falls Church, VA 22041

703-998-7600 Fax: 703-998-2966

Simone Fewell, Sales

E-mail: smullins@imaspub.com

Web site: www.imaspub.com

Products/Services: The industry's leading supplier of specialized publications for the radio, TV, pro audio and pro video marketplaces, celebrating its 26th year. Publisher of Radio World, TV Technology, Pro Audio Review, AudioMedia, Broadcast & Production, many others.

INDEPENDENT AUDIO

43 Deerfield Rd.

Portland, ME 04101-1805

Fraser Jones, Pres.

207-223-2424 Fax: 207-773-2422

E-mail: info@independentaudio.com

Web Site: www.independentaudio.com

Products/Services: Distributor of European broadcast products, including Coles 4104b Noise Canceling microphone, DACS Headlite headphone amplifier, Sonifex Courier portable hard-disk recorder with USB interface and Redbox Range of 16 studio interconnection boxes including SD1 Silence Detect Unit, CEDAR Audio real-time restoration products, Pearl Lab stereo mics and OKM stereo headset microphones.

New: Audio Developments AD161 and AD162 ENG Mixers, Pearl MSH20 Stereo microphone, Sonifex Courier with USB interface, Sonifex Redboxes RB-UL1, UL2, UL4 unbalanced-to-balanced converters, RB-ADDA converter, RB-SP1 Digital Splitter, Sonifex Net-Log 01 four-channel audio logger.

INDUSTRIAL LOGIC CORP.

15 Piedmont Center Ste. 700

Atlanta, GA 30305

Dana Ellison

404-504-7400 Fax: 404-504-7401

E-mail: info@indlogic.com

Web Site: www.indlogic.com

Products/Services: Network management systems for the communications industry. Its MaxView Plus, a network service management system, allows network operators to monitor health and control network equipment configurations for large networks via computer graphical interfaces.

New: CrystalVision network management system designed to help broadcasters sort through the complexity of managing large analog and digital networks.

INFLATABLE IMAGES

2880 Interstate Pkwy.

Brunswick, OH 44212

Lenny Freed

330-273-3200 800-783-5717 Fax: 330-273-3212

E-mail: l.freed@scherba.com

Web Site: www.inflatableimages.com

Products/Services: Giant promotional cold-air inflatable characters, logos, etc. Many stock items are available. Specialty is creating unique inflatables that are designed to meet the specifications of clients.

INNOVASON

1 Enterprise Dr.

Old Lyme, CT 06420

Karl Winkler

860-434-9190 Fax: 860-434-9022

E-mail: info@sennheiserusa.com

Web Site: www.innovason.com

Products/Services: Mixers and consoles for specialized applications. Distributed in the United States by Sennheiser USA.

New: Compact Live small-scale console with 32 mic/line and eight line inputs, 16 matrix outputs, 12 group/aux mix busses.

INNOVATIVE QUALITY SOFTWARE (IQS)

3088 Emerson Avenue

Las Vegas, NV 89121

Sales

702-435-9077 800-844-1554 Fax: 702-435-9106

E-mail: info@iqsoft.com

Web Site: www.iqsoft.com

INOVONICS INC.

1305 Fair Ave.

Santa Cruz, CA 95060

Jim Wood, Pres./Chief Eng.

831-458-0552 800-733-0552 Fax: 831-458-0554

E-mail: info@inovon.com

Web Site: www.inovon.com

Products/Services: Analog and digital audio processors for AM and FM; AM and FM modulation monitors; an off-air FM rebroadcast receiver; RDS/RBDS encoders and decoders, including interface with station automation for transmitting song titles and advertising.

New: Omega_FM is an all-digital FM airchain. It includes AGC, parametric EQ, four-band leveling, four-band compression and split-band peak control; low latency for off-air monitoring.

INTEGRATED MICROWAVE CORPORATION

11353 Sorrento Valley Rd.

San Diego, CA 92121

Sales

858-259-2600 Fax: 858-755-8679

E-mail: filters@imcsd.com

Web Site: www.imcsd.com

Products/Services: Designer and manufacturer of precision IF, RF and microwave filters and integrated multifunction modules for the aerospace, defense, test equipment and communications industries.

INTELLIGENT BROADCASTING SYSTEMS, INC.

1501 Woodfield Rd. Suite 408 South

Schaumburg, IL 60173-5415

Daniel Tapie, CEO

847-413-1920 Fax: 847-330-0656

E-mail: ibs@softonmedia.com

Web Site: http://www.softonmedia.com/radio.html

Products/Services: Computer software for the TV and radio broadcasting industry.

New: OnTheAir Studio flagship product is designed to replace outdated cartridge machines.

INTERNATIONAL DATACASTING

2680 Queensview Dr.

Ottawa, ON K2B 8H6

CANADA

Diana Cantu, Dir. Mktg. Comm.

613-596-4120 Fax: 613-596-4863

E-mail: info@intldata.ca

Web Site: www.intldata.ca

Products/Services: Systems and services for broadband wireless infrastructure networks used to distribute multimedia data in applications ranging from Internet infrastructure, enterprise networks and distance learning, to multimedia content distribution.

INTERNATIONAL ELECTRO-MAGNETICS

350 N. Eric Dr. Unit B

Palatine, IL 60067

Tony Pretto, Pres.

847-358-4622 800-227-4323 Fax: 847-358-4623

E-mail: mail@iemmag.com

Web Site: www.iemmag.com

Products/Services: Repair and replacement of magnetic recording heads and motors for analog tape recorders.

INTERNATIONAL MEDIA CONSULTING

48 Mountain Road

Farmington, CT 06032-2341

Robert E. Richer

860-677-9688 Fax: 860-677-9639

E-mail: robert.richer@snet.net

Products/Services: Brokering of broadcast properties, primarily outside of the United States. Works with discretion to bring buyers and sellers of media properties together.

IRT ELECTRONICS PTY. LTD.

26 Hotham Parade

Artarmon, NSW 2560

AUSTRALIA

John Dinnie, Mgr-Sales and Mktg.

011-61-2-9439-3744 Fax: 011-61-2-9439-7439

E-mail: sales@irtelectronics.com

Web Site: www.irtelectronics.com

Products/Services: MPEG2 transmission interface conversion, distribution amplifiers both digital and analog, fiber interfacing, HDTV distribution, QPSK modulator for ASI DVB distribution capability.

ISDNAUDIO.COM

3 Barnsley Road Edgbaston

Birmingham B15 1QS

UNITED KINGDOM

Mo Dutta

011-44-121-256-0200 Fax: 011-44-121-256-5109

E-mail: sales@isdnaudio.com

Web Site: www.isdnaudio.com

Products/Services: Online discount sales of ISDN audio codecs including CCS/Musicam USA, Glensound and Audio TX Communicator. Online advice and discussion forums.

New: AudioTX Communicator PC software-only ISDN and IP Network Codec.

ITELCO USA

1224 Forest Pkwy. Ste. 140

West Deptford, NJ 08066

Tom Newman, Dir., Sales and Mktg.

856-423-0010 Fax: 856-423-7002

E-mail: tnewman@itelco-usa.com

Web Site: www.itelco-usa.com

Products/Services: FM transmitters from 30 watts to 30 kilowatts using solid-state and tetrode tube technology. Experts in large automated network systems.

J AND I AUDIO VIDEO

20899 Kelvin Pl.

Woodland Hills, CA 91367

Kris Elliot, Sales

818-992-4288 800-992-1711 Fax: 818-992-4961

E-mail: jlav@gte.net

Web Site: www.parthe.net/jandi/

Products/Services: Wholesaler of broadcast-quality audio and video tapes and media including DAT, MD, CD-R, Zip and JAZ.

JAMES LOUPAS ASSOCIATES INC.

PO Box 2509

Coppell, TX 75019

James Loupas

972-304-0455 Fax: 972-304-0550

Products/Services: Designers of radio studios and transmission systems, specializing in engineering management, ergonomics and psychoacoustic adjustments of radio transmission systems.

JAMPRO ANTENNAS/RF SYSTEMS INC.

6340 Sky Creek Dr.

Sacramento, CA 95828

Sonia Del Castillo, Sales & Mktg. Administrator

916-383-1177 Fax: 916-383-1182

E-mail: jampro@jampro.com

Web Site: www.jampro.com

Products/Services: U.S. antenna manufacturer that designs, tests and manufactures all RF equipment after the transmitter. Products include FM, UHF and VHF broadcast antennas, combiners, filters, hybrids, patch panels and rigid coax and related components.

JBL PROFESSIONAL

8500 Balboa Blvd.

Northridge, CA 91329

Peter Chaikin

800-852-5776 Fax: 818-830-1220

E-mail: info@jblpro.com

Web site: www.jblpro.com

JK AUDIO INC.

2701 N. 45th Rd.

Sandwich, IL 60548

Joe Klinger, Pres.

815-786-2929 800-552-8346 Fax: 815-786-8502

E-mail: info@jkaudio.com

Web Site: www.jkaudio.com

Products/Services: Products for audio over a phone line or a wireless phone. JK Audio combines a mic mixer, phone hybrid and headphone amp into a compact tool for your next remote broadcast. An assortment of tools for news and sports broadcasting.

New: Daptor One wireless telephone interface to JK Audio remote mixers. Voice Path telephone-to-PC sound card interface.

JLCOOPER ELECTRONICS

142 Arena St.

El Segundo, CA 90245

Chuck Thompson, VP/GM

310-322-9990 Fax: 310-335-0110

E-mail: sales@jlcooper.com

Web Site: www.jlcooper.com

Products/Services: Control station technology is used in television and audio broadcast, recording, video post and multimedia production. Mixing console automation systems, synchronizers, MIDI and computer peripherals for the professional audio, video and multimedia markets.

New: MCS Clipshot tactile switch palette. MCS ViewPoint LCD display. eBOX quad serial interface converter. ES450 universal job remote. FaderMaster 4/60 controller with 60mm faders. FaderMaster 4/100 controller with 100mm faders. 9PIN/MMC machine control interface.

JOHN BAYLISS BROADCAST FOUNDATION

PO Box 51126
Pacific Grove, CA 93950
Kit Hunter Franke, Exec. Dir.
831-655-5229 Fax: 831-655-5228
E-mail: khfranke@baylissfoundation.org
Web Site: www.baylissfoundation.org

Products/Services: Its 16th year of investing in radio's future. The scholarship program underwrites a portion of the educational expenses of college students preparing for a career in radio. Proceeds from the annual Bayliss Radio Roast benefit the scholarship fund. Donations are tax-deductible.

JONES RADIO NETWORK

8200 S. Akron St., Ste. 103
Englewood, CO 80112
Patrick Crocker
303-784-8700 Fax: 303-784-8612
E-mail: pcrocker@jonesradio.com
Web site: www.jonesradio.com

JRT Music LLC

648 Broadway Ste. 911
New York, NY 10012
Catherine Harkess, GM
212-253-8908 888-578-6874 Fax: 212-353-9317
E-mail: jrtrmusic@earthlink.net
Web Site: www.jrtmusic.com

Products/Services: 160 CDs of music in all styles. For use in film, TV, radio, corporate and Internet productions. Blanket and Per-Cue licensing available. Call toll-free for a free demo.
New: Jingle Mania Vol. 2, Tunes for Toons, New Rn'B, Nu Beat, Electro Guitars, Big Beat Fusion 2, French Touch 2 and Groovy Pop.

J-SQUARED TECHNICAL SERVICE

2198 Hubbard Ln.
Grants Pass, OR 97527
Jim Jones, Pres.
541-471-2262 Fax: 541-471-3007
E-mail: jsquared@cdsnet.net

Products/Services: Equipment repair and free over-the-phone technical support. Service and support by experienced technicians to complement that of the manufacturer. Servicing STLS, RPU's, TSLs, excitors, modulation monitors, Optimods and more.

JT COMMUNICATIONS

579 NE 44th Ave.
Ocala, FL 34470-1421
Jim Trapani
352-236-0744 Fax: 352-236-5130
E-mail: jtcomm@atlantic.net
Web Site: www.atlantic.net/~jtcomm

Products/Services: Manufacturer and service provider of FM broadcast transmitters and replacement excitors from 100 mW to 1 kW, stereo generators, automation software and accessory items. RF support, installation, contract engineering services. LPPM consulting services. EAS accessory software.
New: FMT30 FM transmitter/exciter, FMT100 transmitter, FMT300 transmitter, FMT1K FM Transmitter, FMT6K Transmitter, Automatrxn automation software.

JTM Audio bv

Kerkpad NZ No. 43
NL-3764 AH Soest
THE NETHERLANDS
Jules Stevenhagen, Owner
011-31-35-623-3448 Fax: 011-31-35-624-7649
E-mail: info@jtmaudio.nl
Web Site: www.jtmaudio.nl

Products/Services: DCP hard-disk cart systems, Digibox digital audio problem solvers, HPM high-power headphone monitor systems, JETSER stereo limiter/compressor processor.
New: HPM-Lite, a 19-inch, four-stereo-input monitor unit with bass/treble controls and 2x stereo separate high-power headphone outputs. Optional TB facilities.

JÜNGER AUDIO STUDIOTECHNIK GmbH/G PRIME

Justus-von-Liebig-Straße 7
D-12489 Berlin
GERMANY

Peter Pörs

011-49-30-6777-210 Fax: 011-49-30-6777-2146
E-mail: sales@junger-audio.com
Web Site: www.junger-audio.com

Products/Services: Dynamic range and audio signal processing in the digital domain. Compressors and limiters for transmission signal conditioning and voice processors for mic signal processing.

New: v08 digital desktop mixer with integrated voice processor; v05 digital voice processor; C8000 digital audio modular processing system.

JUTEL

Teknologiantie 11
FIN-90570 Oulu
FINLAND
Antti Nevalainen
011-358-8-5514805 Fax: 011-358-8-5514810
E-mail: sales@radioman.fi
Web Site: www.radioman.fi

Products/Services: Software house designing solutions for digital media. Jutel teams its RadioMan software with powerful partnerships, such as IBM, to create solutions for broadcast content management.

New: RadioMan v4.4; RadioMan Web Publisher; RadioMan Archive Manager; RadioMan Quick Edit Pro v 3.3; RadioMan CD Extractor v 1.4.3.

KAISON STUDIOTECHNIK

Drosselstraße 11A
D-63322 Rödermark
GERMANY
Manfred Schulze, Owner
011-49-60-74-922671 Fax: 011-49-60-74-922672
E-mail: manfred@kaison.de
Web Site: www.kaison.de

Products/Services: K800, a crash-proof, decentralized, low-cost intercom system without a central matrix. The active, intelligent keypanel stations are connected by a passive, cascaded patch panel. Various keypanel station sizes. No limitation to the number of keypanel stations. A total system crash is impossible. Cable length up to 5 km. Interfaces for wireless, IFB, PTT, ISDN.
New: K800I Intercom works with LCD-buttons and is compatible to K800. K900 Intercom is a new digital system, based on netnode technique, flexible and expandable.

KAPELL AND KOSTOW ARCHITECTS

560 Broadway (at Prince St.)
New York, NY 10012
Janet Checkman
212-334-0116 Fax: 212-226-2443
E-mail: janet@kapellandkostow.com
Web Site: www.kapellandkostow.com

Products/Services: Design of radio and broadcast facilities and educational facilities, generally focusing on media facilities. Keys to its success are knowledge and understanding of the industry, its trends and special needs. This is a collaborative process between owner, architect and a team of professionals.

KATHREIN INC., SCALA DIV.

PO Box 4580
Medford, OR 97501
Michael Wm. Bach
541-779-6500 Fax: 541-779-6575
E-mail: mbach@kathrein.com
Web Site: www.kathrein-scala.com

Products/Services: Antennas for full-power digital and analog television, LPTV, translator, FM broadcast auxiliary and wireless cable applications. Our specialty is custom patterns and broadband panel arrays for a range of channel combinations and power levels.

KD CANOPY INC.

3755 W. 69th Pl.
Westminster, CO 80030
Scott Rodin, Dir. of Mktg.
303-650-1310 800-432-4435 Fax: 303-650-5093
E-mail: askme@kdkanopy.com
Web Site: www.kdkanopy.com

Products/Services: Multi-purpose portable canopies, tents and signage products.
New: Hexagon Canopies. Hexagon 81. Hexagon 260.

KEN R. INC.

6640 Salisbury Ste. 310
Maumee, OH 43537
Ken R.
419-866-5300 Fax: 419-867-1088
E-mail: ken@kenr.com
Web Site: www.kenr.com

Products/Services: We bake squeaky tapes, remove hiss, hum and background noise and remaster old airchecks, jingles or production onto CD at reasonable rates. We can bring your old reels and cassettes back to life.

KEYWEST TECHNOLOGY INC.

14563 W 96th Terr.
Lenexa, KS 66215
Paul Seiden, Mktg. Dir.
913-492-4666 800-331-2019 Fax: 913-895-7496
E-mail: sales@keywesttechnology.com
Web Site: www.keywesttechnology.com

Products/Services: Audio and video processing products including a family of picture products, time-base correctors, A-D and D-A converters as well as editing routers. A recent merger with Video Data Systems has added a line of character generators and logo inserters. Current products include Big VooDoo, videoGIZMO and LogoStar.

KINTRONIC LABS INC.

144 Pleasant Grove Rd.
Bluff City, TN 37618
Tom F. King, Pres.
423-878-3141 Fax: 423-878-4224
E-mail: ktl@kintronic.com
Web Site: www.kintronic.com

Products/Services: AM/medium-wave radio broadcast antenna systems for 1 to 1,000 kW, fixed or mobile applications and capable of wideband performance for DRM or IBOC digital audio broadcasting. Products include omni or directional antenna systems, multiplexed systems, dummy loads, transmitter combiners, folded monopole kits, isocouplers, equipment racks, pre-fabricated buildings, rack-mountable transmitter and pattern selection control systems, fixed and variable inductors, bulk-head ground panels, tower lighting chokes.

New: Model FMC-1.9G-PCS isocoupler to permit digital cellular telephone service on hot AM broadcast towers. Model FMC-2.4G-SS isocoupler to permit wireless Internet operation on a hot AM broadcast tower.

KLOTZ DIGITAL AMERICA INC.

5875 Peachtree Industrial Blvd. Bldg. 340
Norcross, GA 30092
Jim Armstrong, Sales Eng.
678-966-9900 Fax: 678-966-9903
E-mail: j.armstrong@klotzdigital.com
Web Site: www.klotzdigital.com

Products/Services: VADIS audio/media platform: VADIS D.C. II and Paradigm digital audio consoles. Developer of DIAN fiber optic network for audio; manufacturer fully integrated multiple control room, digital audio consoles/platform systems. Broadcast-quality products for production and on-air radio broadcasting.

New: VADIS D.C. II production console offers module construction, available in four-to-24 fader mainframes sizes with 20 module types, parametric equalizers, limiters, gates, EQ, compressors and expanders. MIDI interface to Pro Tools.

KNIGHT'S COMMUNICATIONS INC.

2219 W. Broadway
Fort Worth, TX 76102
Bruce Odum, Sales Mgr.
817-877-3037 800-880-5061 Fax: 817-877-3039
E-mail: sales@kci-dfw.com
Web Site: www.kci-dfw.com

Products/Services: Systems integrator that specializes in providing fiber-optic interface equipment for audio, video, data and Ethernet as well as cable, connectors, patch panels, routers and installation.

New: Fibox and IMS systems provide combinations of audio, data and video interface to fiber.

KOOL MUSIC

10 Royal Orchard Blvd. #53141
Thornhill, ON L3T 7R9
CANADA

Ted Johnson, Sales Mgr.
416-533-3520 Fax: 416-588-6751
E-mail: host@koolmusic.com
Web Site: www.koolmusic.com

Products/Services: Production music library features real instruments and is sold on a royalty-free, buy-out basis. Music is designed for radio commercials, television production, film and all other media industries.

New: Latin CD featuring 20 tracks in Latin styles including salsa, merengue, bulgalo, bolero, flamenco, latin, disco, folk and pop. Corporate/Pop CD features 19 tracks in all tempos including corporate brass, pop, rock, funk and easy listening.

KRAMER ELECTRONICS

33 Rupell Rd.
Hampton, NJ 08827
Clint Hoffman, VP of Bus. Dev. & Mktg.
908-735-0018 888-275-6311 Fax: 908-735-0515
E-mail: choffman@kramerus.com
Web Site: www.kramerelectronics.com

Products/Services: Video, audio and computer signal processing, switching and routing accessories including distribution amplifiers, switchers, matrix switchers, encoders, decoders,

949-574-5800 800-860-4560 Fax: 949-574-5855
 E-mail: tom@mrsmedia.com
 Web Site: www.mrsmedia.com
Products/Services: Distributor of CD-R & DVD-R media and duplication equipment.

MAYAH COMMUNICATIONS GMBH
 Am Söldnermoos 17
 D85399 Hallbergmoos
 GERMANY
 Dettlef Wiese, Pres.
 011-49-811-5517-0 Fax: 011-49-811-5517-55
 E-mail: info@mayah.com
 Web Site: www.mayah.com
New: Centauri: audio-transmission over IP, ISDN up to 512 kbps, X21/V35 with MPEG, L2, L3, AAC, low delay linear. Webserver: unicast/multicast, more than 1,000 streams, MP3, MP3pro. Flashman: professional digital MPEG/linear audio recorder/player, interfaces mic, digital in/out, linear in/out, RS-232. DRM-Encoder: audio encoding in AAC, AAC+SBR. Sendit, EditPro, AAC-Recorder/ Converter.

McCURDY RADIO INDUSTRIES LTD.
 30 Kelfield St.
 Toronto, ON M9W 5A2
 CANADA
 416-248-6155 800-267-8800 Fax: 416-248-6755
 E-mail: sales@mcradio.com
 Web site: www.mcradio.com

MCL INC.
 501 S. Woodcreek Rd.
 Bolingbrook, IL 60440-4999
 Frank P. Morgan
 630-759-9500 Fax: 630-759-5018
 E-mail: sales@mcl.com
 Web Site: www.mcl.com
Products/Services: Klystron and traveling-wave tube amplifiers and redundant systems for satellite uplink and microwave applications. Amplifiers are offered in S, C, X, Ku, DBS and Ka bands with RF power output levels from 100 to 3,000 watts.
New: The MT4000 TWTA is designed for fixed or transportable applications. This rack-mount dual depressed collector TWTA is available for C- or Ku-band applications to 750 watts, and DBS-band applications to 500 watts.

MCPHERSON RADIO CORP.
 27 Grant Dr.
 Laurel Springs, NJ 08021
 Bob Brown, Pres.
 856-232-1625 Fax: 856-232-1625
 E-mail: rjbeme@aol.com
Products/Services: Specializing in pre-owned QEI FM transmitter products. Equipment is tuned and tested on your frequency. A six-month warranty is included. MRC has a repair facility to meet your broadcast needs for repair and overhaul of QEI exciters and low-power transmitters.

MEASURECAST INC.
 921 SW Washington St. Ste. 800
 Portland, OR 97205
 Steve Newman, EVP Sales
 503-241-1469 877-840-6800 Fax: 503-241-0243
 E-mail: info@measurecast.com
 Web Site: www.measurecast.com
Products/Services: Provides Internet broadcasters, advertisers and media buyers with next-day reports on streaming audience size and demographics - information critical to evaluating and placing streaming media advertising.

MEDEA CORP.
 5701 Lindero Canyon Rd. Bldg. 3-100
 Westlake Village, CA 91362
 Laura Arnold, Marcom Mgr.
 818-597-7645 888-296-3332 Fax: 818-597-7643
 E-mail: larnold@medeacorp.com
 Web Site: www.medeacorp.com
Products/Services: Disk arrays for digital content creation.
New: AudioRack LP is optimized for professional DAWs with up to 480 GB of storage in a 1RU enclosure. Record and play back up to 64 tracks to/from a single AudioRack LP and eliminate the need to juggle between multiple storage devices.

MEDIA ENGINEERING
 Badenerstrasse 41 Postfach 95
 CH-8104 Weiningen
 SWITZERLAND
 Markus Stocker, Pres.
 011-41-17-50-6688 Fax: 011-41-17-50-6691
 E-mail: mail@mediaengineering.com
 Web Site: www.mediaengineering.com
Products/Services: A system house for radio studios and OB

vans, it manufactures the programmable broadcasting mixer Memix, the modular studio furniture Mefur, the intercom system METB; distributes NTP, MTG, Prody, Sabra-Som, Dorrough and Larsen products.

MEDIAFORM INC.
 400 Eagleview Blvd.
 Exton, PA 19341
 Kristin DeLoach, Mktg. Project Mgr.
 610-458-9200 800-221-1215 Fax: 610-458-9554
 E-mail: info@mediaform.com
 Web Site: www.mediaform.com
Products/Services: Duplication equipment. Its stand-alone, auto-loading and network-enabled CD-R/DVD-R duplicators and publishing systems are used in the A/V, graphic arts and data/enterprise communities. Standalone towers (5000 Series), standalone automated systems (3000 Series) and the Director series of network-based publishing systems.
New: Scribe series desktop duplication system, available as a CD-R duplicator, DVD-R duplicator, Print Station or any combination of the three.

MEDIATOUCH
 1555 Dublin Unit 1
 Winnipeg, MB R3E 3M8
 CANADA
 Ron Paley, VP Broadcast
 204-786-3994 888-665-0501 Fax: 204-783-5805
 E-mail: rpaley@omt.net
 Web Site: www.imediatouch.com

iMediaLogger

NAB 2000 Radio World "Cool Stuff" Award Winner

- Logger
- Time Shift Recorder
- Mic Skimmer
- Compatible with most digital systems
- Muti-Format Recorder in MP2, MP3, PCM, ADPCM, WMA

software from **\$695**

iMediaTouch

- Automation
- Internet Streaming
- Content Substitution
- Voice Tracking
- Log Tools

http://www.imediatouch.com
888-665-0501 software from **\$995**

MEDIATRON-DIGITAL AUDIO SYSTEMS
 Postbox 430712
 D-80737 München
 GERMANY
 Markus Stein, Managing Dir.
 011-49-8131-8305-0 Fax: 011-49-8131-8305-25
 E-mail: info@mediatron.com
 Web Site: www.mediatron.com
Products/Services: Live-assist automation, cart replacement, multitrack production, music and traffic scheduling, news editing, transportable recording and editing with communication, archiving and flexible radio group solutions. Approximately 20 Plug-In modules for the extension of the digital radio system.
New: MediaStation live assist and radio automation for smaller budgets. AirTracker multichannel program logging. Radio-On-Demand and IEAS Intelligent Emergency Alert System. NewsEdit NT Content Management digital audio recording and editing with content management system for journalists and field reporters.

MERGING TECHNOLOGIES
 Le Verney, E.
 CH-1070 Puidoux
 SWITZERLAND
 Claude Cellier, Pres.
 011-41-21-946-0444 Fax: 011-41-21-946-0445
 E-mail: info@merging.com
 Web Site: www.merging.com

MGE UPS SYSTEMS INC.
 1660 Scenic Ave.
 Costa Mesa, CA 92626
 Jonna Quintana
 714-557-9788 800-523-0142 Fax: 714-557-9788
 E-mail: info@mgeups.com
 Web Site: www.mgeups.com
Products/Services: Power protection equipment. Uninterruptible power supplies (UPS), power conditioners, power distribution units and inverters for applications requiring critical power protection.

MICRO COMMUNICATIONS INC.
 PO Box 4365
 Manchester, NH 03108-4365
 Sam Matthews, Sales and Mktg. Mgr.
 603-624-4351 800-545-0608 Fax: 603-624-4822
 E-mail: sam.matthews@microbroadcast.com
 Web Site: www.microbroadcast.com
Products/Services: RF capabilities for the digital station. Products include power combiners, mask filters, channel combiners, switching systems and antennas. Coax switches, integrated RF and antenna systems.

MICROBOARDS TECHNOLOGY INC.
 8150 Mallory CT
 Chanhassen, MN 55317
 Aaron Pratt
 952-556-1600 800-646-8881 Fax: 952-556-1620
 E-mail: sales@microboards.com
 Web Site: www.microboards.com
Products/Services: CD and DVD recording and duplication products. Tower and automated duplication systems; digital audio hardware for on-the-fly editing, recording and duplication.
New: Dsr Pro Series, Orbit II, Orbit DVD standalone CD and DVD copiers.

MIDWEST DIGITAL SERVICES INC
 12859 S. Harlem Ave.
 Palos Hts., IL 60463
 Brian Falatovich, Owner
 708-448-7539 Fax: 708-448-7678
 E-mail: midwestdigital@compuserve.com
 Web Site: www.midwestdigitalservices.com
Products/Services: Service of Sony, Panasonic, Tascam and Fostex professional audio. Sales of Sony, Tascam and Nagra. Expertise in DAT, DA88, CD, analog broadcast, video cameras, Betacam, D-2, V-Matic, DVcam, DVCPRO.

MIKE FORMAN ELECTRON TUBES
 1472 MacArthur Blvd.
 Oakland, CA 94602
 Mike Forman, Owner
 510-530-8840 Fax: 510-530-0858
 E-mail: mftubes@webtv.net
Products/Services: We buy, sell and rebuild all types of transmitting tubes and sockets.

MILLHOUSE CONSTRUCTION UTAH TOWER INC.
 PO Box E 95 E. 360 N.
 Goshen, UT 84633
 June Kemper, Sales Mgr.
 801-667-3490 Fax: 801-667-2103
 E-mail: jkmcuti@cut.net
 Web Site: www.utahtowerinc.com
Products/Services: Turnkey site development, tower erection, maintenance, antenna assembly and installation. Company services wireless, digital, PCS, AM, FM, microwave, TV, satellite, antennas and cabling. Tower inspections and maintenance for towers, including plumb and tension, lighting repairs, replacement and change-outs.

MINNETONKA AUDIO SOFTWARE
 17113 Minnetonka Blvd. Ste. 300
 Minnetonka, MN 55345
 Jeff Wilson, Sales Coor.
 952-449-6481 Fax: 952-449-0318
 E-mail: info@minnetonkaaudio.com
 Web Site: www.minnetonkaaudio.com
Products/Services: Fast Edit is a stereo editor with a simple and intuitive interface for radio and production. Mxtrax Native and MX51 Native are multitrack recording software in stereo or surround. Surcode encoding software comes in DTS and Dolby Digital versions.
New: A-Plus DVD-A burning software.

MIRANDA TECHNOLOGIES INC.
 3499 Douglas-B. Floreani
 Montréal, PQ H4S 2C6
 CANADA
 Deborah D. Lovegrove, Mktg. Dir.
 514-333-1772 800-224-7882 Fax: 514-333-6914

E-mail: dovegro@miranda.com

Web Site: www.miranda.com

Products/Services: Digital video/audio interfaces, DTV and HDTV converters and professional AV products.

MMI SERVICES

14505 Berry Rd
Accokeek, MD 20607
301-203-1617

Web Site: www.x-plosivefilter.com

Products/Services: X-Plosive Filter to solve vocal plosives and obstructed sight lines.

MODULATION SCIENCES INC.

12A World's Fair Dr.
Somerset, NJ 08873
Judy Mueller, Pres.
732-302-3090 800-826-2603 Fax: 732-302-0206
E-mail: sales@modsci.com
Web Site: www.modsci.com

Products/Services: FM and television audio equipment including a composite clipper, STL, distribution amplifiers, StereoMaxx spatial image enlarger, modulation monitors, SCA & data SCA equipment, television stereo generators, stereo reference decoder, SAP and PRO generators, pro channel receivers, NTSC precision video demodulators.

MONROE ELECTRONICS INC.

100 Housel Ave. PO Box 535
Lyndonville, NY 14098
Jim Heminway, GM, VP Mktg.
585-765-2254 800-821-6001 Fax: 585-765-9330
E-mail: tone_switching@monroe-electronics.com
Web Site: www.monroe-electronics.com

Products/Services: Products for the CATV industry. Rack-mounted or cased units include EAS systems, programmable timers, cue tone encoders/decoders, A/V and IF switches, telephone couplers, encoder sensors, timer software, cue tone remote controls and matrix switches.
New: EAS product line including baseband switching system for the small cable operator.

MOODY BROADCASTING NETWORK

820 North LaSalle Blvd.
Chicago, IL 60610-3284
David Woodworth, Administrator Tech. Dev.
312-329-4433 800-621-7031 Fax: 312-329-4339
E-mail: mbn@moody.edu
Web Site: www.mbn.org

Products/Services: Religious radio programming via GE-3, Tr. 17 with music, talk, teaching & news with 33 O&Os, 329 affiliates in North America. Satellite downlink, low-power transmitters & related equipment. Back-up Unity 4000 receiver rental available to affiliates.
New: Crown Broadcast transmitter remote dial-up add-on packages to FM 30, 100, 250, 500, 1-kW and 2-kW transmitters.

MOSELEY ASSOCIATES INC.

111 Castilian Dr.
Santa Barbara, CA 93117-3093
David Chancey
805-968-9621 Fax: 805-685-9638
E-mail: chance@moseleysb.com
Web Site: www.moseleysb.com

Products/Services: Analog and digital aural STLs to the broadcast industry.
New: Optional Starlink Z-Mux allows user to run DSP-6000 or other codecs over Starlink 950 MHz and T1 systems. Starlink T1 and 950 MHz in an integrated package. ARIES Digital Data Link for sub rate T1 applications.

MIC - MBHO US

495 Lorimer St.
Brooklyn, NY 11211
Marcus Demuth
718-963-2777 Fax: 718-302-4890
Web Site: www.mbho.de

Products/Services: Quality microphones, 95 percent hand-made, limited lifetime guarantee.
New: MBNM-150 E-N Electret Condenser mic in miniature design mounted on gooseneck; MBM-648 PZM; MBNM-608 "Lollipop" large-diaphragm condenser; MBNM-622 stereo PZM based on the Jecklin Disc. MBP-603 A-ST Boom Stand Soloist "Three Tenors" mic.

MULLANEY ENGINEERING

9049 Shady Grove Ct.
Gaithersburg, MD 20877
John J. Mullaney
301-921-0115 Fax: 301-590-9757
E-mail: mulleng@aol.com

Products/Services: Engineering services including AM, FM, TV, DTV, LPTV, LPFM & environmental radiation analysis.

MULTIPOINT COMMUNICATIONS LTD.

Eastways Industrial Park Satellite House
Witham
Essex CM8 3YQ
UNITED KINGDOM
David Cope, Mktg. Mgr.
011-44-1376-510881 Fax: 011-44-1376-510626
E-mail: sales@multipoint.co.uk
Web Site: www.multipoint.co.uk

Products/Services: Fixed and containerized earth stations covering up-linking and reception of MPEG 2 digital and analog television, radio and business data. Multipoint can meet satellite telecommunications/broadcast requirements from components to turnkey projects, including IBS/IDR/VSAT networks, TV links and monitoring and control systems.

MUNN-REESE INC.

PO Box 220
Coldwater, MI 49036
Wayne S. Reese, Pres.
517-278-7339 Fax: 517-278-6973
E-mail: wayne@munn-reese.com
Web Site: www.munn-reese.com

Products/Services: Broadcast engineering consultants with emphasis on AM, FM, FM translators, LPFM, TV, LPTV, STL, RPV and ICR. Custom-designed frequency searches, applications or solutions to allocation problems, followed by appropriate support of construction and FCC licensing. Online filing of applications and tower registrations.

MURPHY STUDIO FURNITURE

4153 N. Bonita St.
Spring Valley, CA 91977
619-698-4658 Fax: 619-698-1268
E-mail: dennismurphy@home.com
Web site: www.murphystudiofurniture.com

MURRAY-WALSH RADIO PROGRAMMING INC.

37 Thayer Road
Monson, MA 01057
Michael Murray, VP
413-596-0077 Fax: 413-599-4970
E-mail: michael@murraywalshradio.com
Web Site: www.murraywalshradio.com

Products/Services: Radio syndication company. Programs in all formats, long- or short-form.
New: "Radio Paparazzi" Hollywood report. Sixty-second feature is fast-paced and works well in many formats.

MUSIC BAKERY

7522 Campbell Rd. Ste. 113-2
Dallas, TX 75248
Sales
615-790-9897 800-229-0313 Fax: 972-414-3160
E-mail: kelly@musicbakery.com
Web Site: www.musicbakery.com

Products/Services: Delicious production music of the highest quality featuring live instruments, real musicians and award-winning compositions for radio & TV spots, video and multimedia productions. Subscribers receive a lifetime license for a one-time, buy-out price. 30+ SFX and all cuts are MP3 enabled. See Web site to audition music via RealAudio or call for a free demo.
New: Cuts are MP3 enabled and can be downloaded immediately via secure Web site. All necessary lengths (i.e., 3-6 min, 60 sec, 30 sec and tag versions).

MUSICAM USA

670 N. Beers St. #4
Holmdel, NJ 07733
Jill Fitzpatrick
732-739-5600 Fax: 732-739-1818
E-mail: info@musicamusa.com
Web Site: www.musicamusa.com

Products/Services: Audio transmission products for ISDN, satellite, T1/E1 and POTS/PSDN, Audio & Data Gateway, the SuperLink, CDQPrima Stereo Codecs, Prima LT and Prima LT Plus, RoadRunner and the TEAM.
New: Voyager, a POTS codec ideal for voice and music applications. Features include extremely low delay, 15 kHz audio at connect rates down to 24 kbps, ancillary data, fast line renegotiation with no line disconnect.

MUSICMATCH

16935 West Bernardo Dr.
San Diego, CA 92127
Steve Clark, Program Dir.
858-485-4300 Fax: 858-485-4301
E-mail: sclark@musicmatch.com
Web Site: www.musicmatch.com

Products/Services: Jukebox and Radio MX leverage patent-pending personalization technology, which measures correlations between the listening preferences of its millions of users to deliver relevant music recommendations and personalized

streams. The digital music provider leverages the listening preferences of millions of music lovers and returns this information to consumers through a personalized streaming experience. More than 2 billion play events uploaded by its user community to date, resulting in a massive database of listening behavior.

MYAT INC.

380 Chesnut St. PO Box 425
Norwood, NJ 07648-0425
Beatriz Porta, Sales Asst.
201-767-5380 Fax: 201-767-4147
E-mail: bporta@myat.com
Web Site: www.myat.com

Products/Services: Rigid coaxial transmission line systems, components from 7/8-inch through 9-3/16-inch and accessories. Digital filter components for IBOC radio; filters, hybrids and other passive components.
New: Line of filters for digital radio.

NADY SYSTEMS INC.

6701 Shellmound St.
Emeryville, CA 94608
Toby Garten, COO
510-652-2411 Fax: 510-652-5075
E-mail: tnady@nadywireless.com
Web Site: www.nadywireless.com

Products/Services: Audio gear including wireless microphone systems, personal ear monitors, assistive listening devices and radio communicators. The Nady Audio line includes power amplifiers, crossovers, equalizers, mixers, speakers, headphones and hard-wired vocal and studio mics.
New: TCM-1050 studio condenser microphone. SCM-950 studio condenser microphone. SPC-10, SPC-20 vocal condenser microphones. SPA-850, SPA-1400 and SPA-2400 professional stereo power amps. SPM-835 mini powered mixer.

NAGRA USA INC.

240 Great Circle Rd. Ste. 326
Nashville, TN 37228
Dan O'Grady, Sales & Product Specialist
615-726-5191 800-813-1663 Fax: 615-726-5189
E-mail: mail@nagra.com
Web Site: www.nagra.com

Products/Services: Nagra Series C recorder/editor: linear, ATA Flash & CompactFlash recording media; G7.11, G7.22 & MPEG II (Digigram) compression; ISDN codec option; built-in editor; rapid file transfer to PC/laptop; conversion to linear PCM. Also ARES-P/RXC 220 Series C-compatible, handheld solid-state recorders: optional mono & stereo electret microphone, ALC & LFA; USB port and Xtrac digital editor by Digigram (RCX 220).

NATIONAL ASSOCIATION OF BROADCASTERS

1771 N Street, NW
Washington, DC 20036
202-429-5300 Fax: 202-775-3520
E-mail: nab@nab.org
Web Site: www.nab.org

NAUTEL MAINE INC.

201 Target Industrial Circle
Bangor, ME 04401
Gary Manteuffel
207-947-8200 Fax: 207-947-3693
E-mail: info@nautel.com
Web Site: www.nautel.com

Products/Services: Solid-state radio transmitters, offering AM transmitters from 1 kW to 300 kW and higher; FM transmitters from 3.5 kW to 40 kW, all including digital FM exciter. More than 5,000 Nautel solid-state radio transmitters are operating in 160 countries.
New: Q20/20, 40,000-watt solid-state FM transmitter features duplication of critical low-level circuits. This 44,000 watt-capable system consists of two 20 kW units combined.

NEMAL ELECTRONICS INTERNATIONAL INC.

12240 NE 14th Ave.
N. Miami, FL 33161
Robert Larish
305-899-0900 800-522-2253 Fax: 305-895-8178
E-mail: info@nemal.com
Web Site: www.nemal.com

Products/Services: Cable, connectors, assemblies and patch panels for HDTV, fiber, broadcast, audio, video and RF/microwave applications. Designs and installs SMPTE-standard HDTV composite fiber-optic cable systems. Stock items and custom manufacturing. Offices in Miami and Sao Paulo, Brazil.

NETIA

Halle industrielle de Farjou
F-34270 Claret
FRANCE
Elisabeth Menet, Press & Comm. Mgr.

011-33-467-59-0807 Fax: 011-33-467-59-0820

E-mail: e.menet@netia.net

Web Site: www.netia.net

Products/Services: Publisher of professional software and solutions for Internet in the radio and TV broadcast sector. Distributed in more than 40 countries.

New: Creates professional software to manage the tasks required for a radio station to run smoothly (recording, editing, broadcasting). Radio-Assist 7 is enhanced with a set of new-generation tools integrating in particular the notion of media management, Webcasting, radio-on-demand and metadata. It also supplies television channels with software for digital video document exchange. Both products can extend into the Internet/intranet domain.

NETWORK MUSIC

15150 Ave. of Science

San Diego, CA 92128

Brad Iverson, Sales Mgr.

858-451-6400 800-854-2075 Fax: 858-451-6409

E-mail: sales@networkmusic.com

Web Site: www.networkmusic.com

Products/Services: Production music, sound effects and production elements including the Network Production Music Library (235+ CDs), Classical Library (15 CDs), Sound Effects Library (120+ CDs), and five production elements packages including Spank, AfterShock, Spike & Glide, Brainstorm and ShockWave (34 CDs combined).

New: Spank 8212 production elements package with 381 "cruel and unusual" cuts on four CDs.

NEUMANN/USA

1 Enterprise Drive

Old Lyme, CT 06371

Dawn Birr, Product Mgr.

860-434-5220 Fax: 860-434-3148

E-mail: info@neumannusa.com

Web Site: www.neumannusa.com

Products/Services: Quality microphones since 1928. In 1999, Neumann was awarded the prestigious Technical Grammy for its 70 years of innovation in microphone design and its contribution to the music industry.

New: Solution-D digital microphone system designed around the AES 42-2001 digital microphone interface standard, featuring remote control of critical mic functions. Proprietary A/D conversion allows for a dynamic range of 130 dB.



The ETHERCON series of ruggedized RJ45 receptacles and cable carriers are designed to provide solutions for data transfer in harsh and demanding environments. The male cable end offers a diecast metal shell as a carrier for pre-assembled RJ45 cables. Female receptacles feature a choice of horizontal PCB or IDC terminations

NEUTRIK
CONNECTING THE WORLD

732-901-9488

info@neutrikusa.com

NEUTRIK USA INC.

195 Lehigh Ave.

Lakewood, NJ 08701

Kathi Evans

732-901-9488 Fax: 732-901-9608

E-mail: info@neutrikusa.com

Web Site: www.neutrikusa.com

Products/Services: Solder- and IDC-terminated analog & digital XLR connectors, 1/4" jacks and plugs; Easy Patch TT & TB patch panels and cords; PatchLink SP-L 1/4" balanced patch panels; circular DIN and RCA connectors, 3.5 mm plugs, BNC connectors, ruggedized RJ45 products and accessories. Featuring Speakon, Powercon, ProFi, Minirator and Minilyzer brands. Rean product line includes plastic knobs, sliders, buttons, TT and TB patch panels and quad cords, 1/4" jacks and RPM patch panels. Ethercon

series of ruggedized RJ45 receptacles and cable carriers provide solutions for data transfer in harsh and demanding environments. The male cable end offers a diecast metal shell as a carrier for pre-assembled RJ45 cables. Female receptacles feature a choice of horizontal PCB or IDC terminations.

NICOM LLC

2626 Southport Way Ste. B

National City, CA 91950

Franco Piagentini, Mktg. Dir.

619-477-6298 Fax: 619-477-6296

E-mail: info@nicomusa.com

Web Site: www.nicomusa.com

Products/Services: Antennas, low-power FM transmitters, STLs, translators, audio equipment and reconditioned test equipment.

New: NT 30 LCD, NT 150 LCD and NT250 LCD are 30-, 150-, and 250-watt exciters. NLS 910/NLR 900 LCD is a 10-watt STL System. NLR FM1 is an FM composite receiver/monitor. Jupiter is a digital signal processor; Neptune 27 and 39 are 18- and 26-module broadcast consoles with master output.

NON-STOP PRODUCTIONS

915 West 100 S.

Salt Lake City, UT 84104

Douglas Brady, Pres.

801-531-0060 800-554-6462 Fax: 801-531-0346

E-mail: doug@nonstopmusic.com

Web Site: www.nonstopmusic.com

Products/Services: Music library for radio stations to use in commercial production and station promotional areas. The library helps stations to incorporate high-quality music into client advertisements and create professional station imaging and promotion. It covers styles from news and sports to contemporary and jazz.

New: Approximately 18 update disks are supplied to the client station. The Our library is updated regularly to incorporate the latest in musical genres and styles.

NORSAT INTERNATIONAL

11-1329 Niakwa Rd. E.

Winnipeg, MB R2J 3T4

CANADA

Marieke Wijtkamp, Dir. Corp. Branding

204-255-9818 Fax: 204-989-5352

E-mail: info@norsat.com

Web Site: www.norsat.com

Products/Services: Designs and engineers satellite infrastructure products including receivers and transmitters, and delivers DVB systems for high-speed data transmission.

New: Block Up-Converters, designed for satellite network applications such as retail point-of-sale, information/data distribution, tele-education and DVB network return paths.

NORTHROP GRUMMAN ELECTRONIC SYSTEMS

1035 Westminster Dr.

Williamsport, PA 17701

Buzz Miklos, Dir. Sales/Mktg.

570-326-3561 800-861-1843 Fax: 570-326-2903

E-mail: wpt.customer.service@littonedd.com

Web Site: www.littonedd.com

Products/Services: UHF IOTs, CEAs and Crowbar Thyratrons for use in broadcast transmitters.

New: The Northrop Grumman CEA or Constant Efficiency Amplifier will provide substantial savings on energy consumption when used for the amplification of DTV signals.

NORTHROP GRUMMAN LIFE SUPPORT

2734 Hickory Grove Rd. PO Box 4508

Davenport, IA 52804

Bob Demidowicz, New Bus. Mgr.

563-383-6000 Fax: 563-383-6125

E-mail: rdemidowicz@littonls.com

Web Site: www.littonls.com

Products/Services: The DSN2 direct-supply nitrogen pressurization system provides a reliable source of concentrated nitrogen gas to transmission line. It concentrates nitrogen out of the ambient air, eliminating the cost, labor and safety concerns of handling high-pressure nitrogen cylinders. Small enough to be rack mounted.

NOTT LTD.

4001 La Plata Hwy.

Farmington, NM 87401

Judy Nott

505-327-5646 800-443-0966 Fax: 505-325-1142

E-mail: judyn@nottltd.com

Web Site: www.nottltd.com

NPR SATELLITE SERVICES

635 Massachusetts Ave.

Washington, DC 20001

George Gimourginas, Bus. Activities Dir.

202-513-2600 Fax: 202-513-3035

E-mail: linkup@npr.org

Web Site: www.nprss.org

Products/Services: Comprehensive satellite solutions to broadcasters and networks, including space segment, equipment, network design, engineering support and customer services. We offer a prime orbital location and a footprint that covers 50 states, Mexico and much of the Caribbean. We delivery quality affordable audio, data and compressed video to your entire network.

NPR WORLDWIDE

635 Massachusetts Ave., NW

Washington, DC 20001-3753

Franklin Adams

202-513-2026 Fax: 202-515-3019

E-mail: fadams@npr.org

Web Site: www.npr.org/worldwide

Products/Services: NPR Worldwide distributes National Public Radio's news programs around the world, including "All Things Considered," "Morning Edition," "Talk of the Nation," "Fresh Air," "Car Talk" and more. All are available via radio, shortwave, satellite and cable broadcasts.

NTI AG

Im alten Riet 102

FL-9494 Schaan

LIECHTENSTEIN

Isabelle Michalek, Mktg Mgr.

011-423-239-6060 Fax: 011-423-239-6089

E-mail: info@nt-instruments.com

Web Site: www.nt-instruments.com

Products/Services: Analog and digital test equipment for the professional audio industry, telecommunication and broadcast markets.

New: MiniSPL measuring microphone. Digilyzer DL1 Digital Audio Analyzer.

O.C. WHITE

715 Chelsea

Richmond, IN 47374

Dave Burns, Factory Representative

765-935-3893 Fax: 765-935-3893

E-mail: dbocw@aol.com

Web Site: www.ocwhite.com/html/microphone_arms.html

Products/Services: Microphone support arms/angle poise mic support booms in great varieties. Accessories permit numerous mounting configurations. Arms support most modern microphone models.

OLYMPUS FLAG & BANNER

9000 W. Heather Ave.

Milwaukee, WI 53224

Dawn Rollison, Dir. of Mktg.

414-355-2010 800-588-9620 Fax: 414-355-1931

Web Site: www.olympus-flag.com

Products/Services: Custom manufacturer/printer of banners, flags and mascots. Products are suitable for promotional and special events. Mascots gain attention for promotional settings/remotes/community gatherings. Custom banners (street banners, in-store signage, outdoor banners) are great for themed events.

OMB

3100 NW 72nd Ave. Unit 112

Miami, FL 33122

Rafael Arreaza

305-477-0973 Fax: 305-477-0611

E-mail: ombradio@atv@aol.com

Web Site: www.omb.com

Products/Services: FM transmitters (20 W up to 15 kW), TV transmitters (2 W up to 10 kW), STL systems, antenna systems (low and medium power) and related accessories. The company provides technical support from its offices in Spain and Miami, Florida.

New: 1 kW, 2 kW and 4 kW FM transmitters, solid-state MosFet technology. Compact size with transient suppressor built in.

OMNIA, A TELOS COMPANY

2101 Superior Ave.

Cleveland, OH 44114

Marty Sacks, National Sales Dir.

216-241-7225 Fax: 216-241-4103

E-mail: info@omniaaudio.com

Web Site: www.omniaaudio.com

Products/Services: Innovative digital audio signal processing for FM, AM, TV, DAB, Internet and broadcast audio production.

New: Omnia-6fm digital audio processor: 96 kHz sampling and 24-bit resolution, five bands of AGC and six bands of limiting, adjustable crossover network, remote control via modem, RS-232 or TCP/IP. The Omnia-6fm is DAB-ready and ITU BS-412-compliant.

OMNIMUSIC

52 Main St.
Port Washington, NY 11050
Barbara Ring, Mktg. Dir.
516-883-0121 800-828-6664 Fax: 516-883-0271
E-mail: omni@omnimusic.com
Web Site: www.omnimusic.com
Products/Services: Omnimusic libraries provide 150+ discs of high-impact media music covering a spectrum of styles. Web site auditioning and downloading, CD-ROM search, Omnitrax SFX Library and custom music.
New: Omni Blue Dot music library for professional broadcast and Internet producers. A variety of music in .60, .30, .15 and tag versions.

ON AIR ORBITAL GmbH

Bulowstraße 66 / D3
D-10783 Berlin
GERMANY
Rainer Eichhorn
011-49-30-859-55-90 Fax: 011-49-30-859-55-99
E-mail: info@onair.de
Web Site: www.onair.de
Products/Services: European broadcast consulting companies and European distributor for the music scheduling software MusicMaster, owned by A-Ware USA. OAD is working as consultants on music formatting, DJ training, management and marketing consulting for radio and TV stations.

OPNS, S.A.

Rue Theodore Verhaegen 196-202
B-1060 Brussels
BELGIUM
Marc Boitel, Managing Dir.
011-32-2-542-8787
E-mail: info@opns.be
Web Site: www.opns.be
Products/Services: A developer team and a technical team jointly solving any radio-related (audio, network, database) issue.
New: Audiospy multi-purpose audio logger. HD, CD, tape support, remote player in TCP/IP or Web-based and silence monitoring

OPTIMUM PRODUCTIONS

121 Lakeshore Rd. E. Ste. 204
Mississauga, ON L5G 1E5
CANADA
Louis Hurtubise, Pres.
905-278-2125 800-461-4979 Fax: 905-271-8687
E-mail: optimum@optimumprod.com
Web Site: www.optimumprod.com
Products/Services: Specializes in the lip-syncing of television series, feature films and corporate videos in more than 40 languages using the Rhythmoband technique. This involves detecting lip movement, adapting the targeted language to those lip movements, recording the new dialogue and re-mixing with music and effects.

ORBAN

1525 Alvarado Street
San Leandro, CA 94577
Sabrina Dodaj, Mktg. Mgr.
510-351-3500 Fax: 510-351-0500
E-mail: sdodaj@orban.com
Web Site: www.orban.com
Products/Services: Electronic audio processing, transmission encoding and noise-reduction equipment for the radio, television, Internet and professional audio markets.
New: 8200 Signature Series updates the Optimod-FM 8200 including standard sample-rate converting, digital I/O and eight hot new presets. Opticodec is Orban's new family of audio codecs providing high-quality coding and decoding technology for digital audio links.

OTARI CORP.

8236 Remmet Ave.
Canoga Park, CA 91304
800-877-0577 Fax: 800-300-3055
E-mail: sales@otari.com
Web site: www.otari.com

OWL ENGINEERING & EMC TEST LAB

8899 Hastings St.
Minneapolis, MN 55449
Garrett Lysiak, Pres.
763-785-4115 Fax: 763-785-4631
E-mail: GGL@owleng.com
Web Site: www.owleng.com
Products/Services: Engineering consulting services for AM, AM directional antennas, FMI and TV. Applications, field measurements, FAA studies, FCC & EU product testing.

PACIFIC RADIO ELECTRONICS

969 N. La Brea Ave.
Los Angeles, CA 90038

Alex Suarez, VP
323-969-2035 800-634-9476 Fax: 323-969-2053
E-mail: info@pacrad.com
Web Site: www.pacrad.com
Products/Services: Distributor of products for use in the audio, video, broadcast and post-production industries. Racks, rack accessories, cable, connectors, adaptors, patchbays, patch cables, tools, expendables and custom wire harnesses.
New: RUI rack accessories, Belden Hi-Definition video and camera cable, Belden composite video cable.

PATRIOT/SATELLITE EXPORT & ENGINEERING INC.

702 N. Clark St.
Albion, MI 49224
Sales
517-629-5990 800-470-3510 Fax: 517-629-6690
E-mail: info@sepatriot.com
Web Site: www.sepatriot.com
Products/Services: Prime focus, cost-efficient VSAT transmit/receive antennas ranging in size from 45 cm to 7.6 m. Auxiliary components available from industry leaders such as California Amplifier, Chaparral, ClearSat, Superior Satellite, Research Concepts; integrate with all Patriot Antennas.

PENNY & GILES CONTROLS, INC.

919 N. Plum Grove Rd., Ste. A & B
Schaumburg, IL 60173
847-995-0840 Fax:
E-mail: us.sales@pgcontrols.com
Web site: www.pgcontrols.com

PENTA LABORATORIES

9740 CozyCrest Ave.
Chatsworth, CA 91311
Carlo Ventitelli
818-882-3872 800-421-4219 Fax: 818-882-3968
E-mail: sales@pentatabs.com
Web site: www.pentalaboratories.com

PM OF AMERICA

1687 Shelby Oaks Dr. Ste. 8
Memphis, TN 38134
Sales
901-388-2424 Fax: 901-388-2405
E-mail: svetlanat1@attglobal.net
Web Site: www.svetlanausa.com

PMI AUDIO GROUP

23775 Madison St.
Torrance, CA 90505
Alan Hyatt, Pres.
310-373-9129 877-563-6335 Fax: 310-373-4714
E-mail: info@pmiaudio.com
Web Site: www.pmiaudio.com
Products/Services: Manufacturer and distributor for professional audio products. Global distribution, servicing and marketing.

New: Studio Projects Microphone line with the C1, C3, T3 and VT-1 mic preamplifier. The Studio Projects C1 condenser mic is a large-diaphragm cardioid mic in a pressure-gradient transducer, with high-quality transformerless design and low noise.

PM-SYSTEMS (PROFESSIONAL MANAGEMENT SYSTEMS INC.)

124 Edinburgh Court Ste. 101
Greenville, SC 29607-2542
William B. (Beau) Sanders, GM
864-235-3355 Fax: 864-235-3455
E-mail: sales@pm-systems.com
Web Site: www.pm-systems.com
Products/Services: Computer consulting firm specializing in systems, networks, hardware, software, installation and training. Trained A+ Certified Computer Technicians and a Microsoft Certified Systems Engineer on staff. A+ Authorized Service Center. Sales, service, installation and training in the eastern United States and Caribbean for Pristine RapidFire digital audio products. Specializes in custom-configured computers, servers and networks. An authorized Microsoft OEM System Builder. Technicians are certified specialists in Microsoft Windows NT networks.

PORTER CASE INC.

3718 W. Western Ave.
South Bend, IN 46619
Gary E. Pond, Pres.
219-289-2616 800-356-8348 Fax: 219-289-2747
E-mail: garypond@portercase.com
Web Site: www.portercase.com
Products/Services: Airline-size hard-side wheeled carry on cases with built-in cart that carries 200 pounds on top. Transport, protect and organize delicate valuables. Roll on-board your best, and check the rest. Two sizes with 12 interiors for most travel needs. Great for notebooks, projectors, cameras.
New: "Under the seat" Porter Case Elite comes in six models for

items that must roll on with you.

POSTHORN RECORDINGS

142 W. 26th St.
New York, NY 10001
Jerry Bruck
212-242-3737 Fax: 212-924-1243
E-mail: jbruck@ziac.net
Web Site: www.posthorn.com
Products/Services: Microphones from Schoeps, including the KFM 360 Surround and PolarFlex systems. Microphone preamps and mixers from AETA, Sonotrim lavalliers, Troisi Digital Converters and Stabilant 22 Contact Enhancer are stocked. Other specialty audio products from AEA, Audio Ltd., Denecke, K-Tek, K&M, Lectrosonics, Rowi, Rycote, Sabra, Sonosax and Sound Devices.
New: AETA MIX 2000 Field Mixer. AETA PSP3 Preamp/Matrix. Schoeps PolarFlex system. Schoeps VMS 5 U Preamp/Matrix. Schoeps New Supercardioids. Rowi Desk Stands and Clamps. Stabilant 22 Contact Enhancer.

POTOMAC INSTRUMENTS INC.

932 Philadelphia Ave.
Silver Spring, MD 20910
David Harry
301-589-2662 Fax: 301-589-2665
E-mail: plusa@erols.com
Web site: www.pi-usa.com

PRACTICAL RADIO COMMUNICATIONS

3505 Daniel Dr.
Arlington, TX 76014
George Whitaker, Owner
817-468-2586
E-mail: mikeflags@home.com
Web Site: www.mikeflags.com
Products/Services: Triangular or square mike flags. Inks penetrate the plastic for superb scratch resistance. PRC has books to teach radio engineering in a simple, practical manner.



PRIME IMAGE

With Cash™, radio broadcasters can create additional commercial time, which creates additional revenue. Cash doesn't reduce program content. It allows broadcasters to add 60 seconds of commercial time or more every ten minutes. Without audio artifacts. Without affecting pitch or creating "chimplunk effect." And it works in real time.

Prime Image®

408-867-6519

PRIME IMAGE INC.

662 Giguere Ct. Ste. C
San Jose, CA 95133
Jim Aldrich, VP Ops.
408-867-6519 Fax: 408-926-7294
E-mail: primeimagein@earthlink.net
Web Site: www.primeimageinc.com
Products/Services: With Cash, radio broadcasters can create additional commercial time, which creates additional revenue. Cash doesn't reduce program content. It allows broadcasters to add 60 seconds of commercial time or more every 10 minutes. Without audio artifacts. Without affecting pitch or creating a "chimplunk effect." And it works in real time.

PRIME LED

9836 Hwy 80 W.
Fort Worth, TX 76116
Richard Dozier, VP Mktg.
817-560-1114 877-774-6533 Fax: 817-244-3732
E-mail: info@primeled.com
Web Site: www.primeled.com
Products/Services: LED bargraph displays for audio level metering and other instrumentation. The highest-resolution

bargraphs in the world with three-color capability for each segment. Hardware and software for analog and digital audio signals and bargraph driver circuitry. Bargraphs: *hi-resolution: 26 and 53 segments *high visibility: 5mm / 0.2" 10-segment.
New: Medium-resolution bargraphs: 2.5mm / 0.1" standard pitch 25 tri-color segment bargraphs. End-stack for 50, 75 or 100 segments.

PRISM MEDIA PRODUCTS INC.

21 Pine St.
 Rockaway, NJ 07866
 Janice Norton
 973-983-9577 Fax: 973-983-9588
 E-mail: sales@prismmpi.com
 Web Site: www.prismsound.com

Products/Services: Prism Media is the U.S. distributor for Prism Sound. Products include A/D & D/A converters, EQs, compressors, mic pre-amps and test & measurement equipment.
New: dScope Series III precision test system with two-channel analog/digital signal analyzer/generator; single- or dual-trace display with scope, FFT and sweep capabilities; two-channel continuous time analyzer (CTA); sweep analysis; optional road case.

PRISTINE SYSTEMS INC.

1901 N. Gaffey St. Suite A
 San Pedro, CA 90731
 Kevin Loper, Pres.
 310-831-2234 Fax: 310-831-6287
 E-mail: sales@pristinesys.com
 Web Site: www.pristinesys.com

Products/Services: RapidFire digital automation system allows the user to playback live or in "auto" mode music, liners, commercials, etc. previously recorded in the hard drive. We also offer "MusicPlus" music scheduler, along with Voice Traxx, Time Warp! and Audio Commander - all production softwares/utilities that are compatible with RapidFire.

PRO DIGITAL INC.

700-B Parkway Blvd.
 Broomall, PA 19008
 Paul Plotnick, Pres.
 610-353-2400 Fax: 610-359-0937
 E-mail: sales@prodigitalinc.com
 Web Site: www.prodigitalinc.com

Products/Services: Repair services for products used in broadcast and recording studio applications. This includes DAT recorders, multi-track digital recorders and CD and MD players and recorders by Denon, Sony, Tascam and others.

PROFESSIONAL AUDIO SYSTEMS (PAS)

2270 Cosmos Ct.
 Carlsbad, CA 92009
 Larry Doran, CEO
 760-431-9924 Fax: 760-431-9496
 E-mail: info@pas-toc.com
 Web Site: www.pas-toc.com

Products/Services: High-end speaker systems, speaker components and electronics for professional audio and sound contracting markets.
New: Integrated FOH, monitor and corporate sound packages. These scalable systems include speakers, amplifiers, electronics and a pre-wired I/O panel as well as cables.

PROGRESSIVE CONCEPTS

305 S. Bartlett Rd. PO Box 586
 Streamwood, IL 60107
 Eric Hoppe, Owner
 630-736-9822 Fax: 630-736-0353
 E-mail: pconcepts@compuserve.com
 Web Site: www.progressive-concepts.com

Products/Services: Source for quality broadcast equipment.

PROMUSIC INC. (EAST COAST)

941-A Clint Moore Rd.
 Boca Raton, FL 33487
 Mike Spitz
 561-995-0331 800-322-7879 Fax: 561-995-8434
 E-mail: twray@promusic-inc.com
 Web Site: www.promusic-inc.com

Products/Services: See listing under West Coast office.

PROMUSIC INC. (WEST COAST)

11846 Ventura Blvd. Ste. 304
 Studio City, CA 91604
 Dana Ferandelli
 818-506-1588 888-600-8988 Fax: 818-506-8580
 E-mail: twray@promusic-inc.com
 Web Site: www.promusic-inc.com

Products/Services: With a collection of 2,000 CDs, Promusic offers production music from cutting-edge styles to hard-to-find specialty genres and classical masterpieces.

PRO-OUTSOURCE

3309 Royal Oak Ct.
 Ellicott City, MD 21043

Donna Detweiler, Pres.
 410-203-1871 Fax: 410-203-1871
 E-mail: donna@pro-outrsource.com
 Web Site: www.pro-outrsource.com

Products/Services: Off-site business support. Services include literature request / lead fulfillment, direct mail and database management, data processing, administrative & secretarial services, press releases, association & organization management, special projects. Provides the assistance you need without the commitment to permanent in-house resources.

PROPAGATION SYSTEMS INC. (PSI)

PO Box 113 719 Pensacola Rd.
 Ebensburg, PA 15931
 Douglas A. Ross, Pres.
 814-472-5540 Fax: 814-472-5676
 E-mail: sales@psibroadcast.com
 Web Site: www.psibroadcast.com

Products/Services: UHF/VHF and FM broadcast antennas, services and equipment. FM antenna designs including FMR - Rototiller, FM-Stanted "V" Panel and Cavity Back Radiator. Power inputs from 500 W to 120 kW. Supplier of transmission line, combiners, diplexers, components and related services.

New: FML Series Low-Power Transmit Antenna. Available in circular or vertical polarization and in multi-element arrays of up to six elements. Elements are rated at 750 W to a maximum of 3 kW.

PROPHET SYSTEMS INNOVATIONS

214 North Spruce
 Ogallala, NE 69153
 Stan Schneider
 308-284-3007 877-774-1010 Fax: 308-284-4181
 E-mail: sales@prophetsys.com
 Web Site: www.prophetsys.com

Products/Services: NexGen Digital Broadcast to meet the complex needs of today's broadcasters, engineered to anticipate future growth, offers redundancy, connectivity and database fault-tolerance capabilities.

New: NexGen Digital Broadcast, Version 2.1: Export data on currently playing events via four TCP/IP exports, serial commands and optional 3-D Control room, record events without station intervention and receive e-mail notification of system status. NexGen Digital NS: For under \$20,000, stations that don't need all the features of a fully-loaded NexGen Digital Broadcast system can purchase the NS system and still take advantage of the technology. SS621: Dedicated Hot Spares for Audio Server allows an audio server to be standing by; upon failure the system will switch to the standby and pick up where the failed audio server left off.

PTEK

1814 Schooldale Dr.
 San Jose, CA 95124
 Peter Forth
 408-448-3342 Fax: 408-549-9991
 E-mail: sales@ptekpower.com
 Web Site: www.ptekpower.com

Products/Services: FM broadcast transmitters.
New: FM100E 100W self-contained FM transmitter. ASG-3 stereo encoder. Low-power circularly polarized antennas.

QEI CORP.

One Airport Dr. PO Box 805
 Williamstown, NJ 08094
 Edwin Eltschman, VP
 856-728-2020 800-334-9154 Fax: 856-629-1751
 E-mail: qeisaes@qei-broadcast.com
 Web Site: www.qei-broadcast.com

Products/Services: FM transmitters both tube-type and solid-state models from 20 watts to 30 kW. Also FM modulation monitors and the CAT-Link Digital T-1 STL System.

QSC AUDIO PRODUCTS INC.

1665 MacArthur Blvd.
 Costa Mesa, CA 90241
 Roger Maycock
 714-754-6175 800-854-4079 Fax: 714-754-6174
 E-mail: roger_maycock@qscaudio.com
 Web Site: www.qscaudio.com

Products/Services: Power amplifiers, professional loudspeakers, signal processing, digital signal transport and computer control systems for professional audio markets. It recently expanded its manufacturing capability with a new 81,000-sq.-ft., state-of-the-art production facility. The factory, expected to triple its production capacity, is located next to QSC's headquarters in Costa Mesa, Calif. Manufacturing, warehousing, corporate offices, engineering, technical services and sales are housed in both buildings.

New: RAVE/s-24, an enhanced version of its digital audio transport system. Provides 24-bit/48-kHz A/D converters, Variable Persistence (non-volatile memory) and parallel output capability.

R. MORGAN BURROW, P.E. & ASSOCIATES, P.C.

1841 Highland Ridge Rd.
 Berkeley Springs, WV 25411-3663
 R. Morgan Burrow, Jr., P.E., Pres./Owner
 304-258-7921 Fax: 304-258-7927
 E-mail: 104035.1226@compuserve.com

Products/Services: General telecommunications practice for broadcast, commercial, government and military clients. Services include applications and allocation work, directional antennas, measurements and field work. Office specialties are LF & MF antenna and measurement work (e.g., AM directional proofs and 302 applications). Also electroacoustic measurements and design.

RADIO ACTIVE PRODUCTIONS

PO Box 2523
 Marathon Shores, FL 33050
 John Bartus
 305-743-4248 888-93-RADIO Fax: 305-743-8365
 E-mail: johnbartus@aol.com
 Web Site: www.radioactivedigital.com

Products/Services: Creative radio production. Jingles, spot production, copywriting, commercial music composition, voice talent. Services come with a "no worries" money-back guarantee.
New: We pay you a 20 percent commission on jingle packages you sell to your clients.

RADIO APPLICATIONS UNLIMITED

91 Great Rd.
 Shirley, MA 01464
 Dan Rau, Sales
 978-425-2470 Fax: 978-425-2479
 E-mail: danrau@compuserve.com

Products/Services: Northeast representative for Electronics Research Inc. and other broadcast products including the Audemat MC-4 with Goldeneagle and the new Goldeneagle monitor.

RADIO COMPUTING SERVICES

See RCS

RADIO CONNECTION

8306 Wilshire Blvd. #7013
 Beverly Hills, CA 90211
 Jimi Petulla
 800-755-7497
 E-mail: petulla@earthlink.net
 Web Site: www.radioconnection.com

Products/Services: An entertainment industry school with 5,000 students worldwide who train on-site at major film studios, video production companies, radio and TV stations, recording studios and record labels.

RADIO EXPRESS INC.

1415 West Magnolia Blvd.
 Burbank, CA 91506
 Jackson Cervantes
 818-295-5800 866-807-4653 Fax: 818-295-5801
 E-mail: info@radioexpress.com
 Web Site: www.radioexpress.com

Products/Services: Distributor of programming and products for advertisers and radio stations targeting young consumers. Weekly shows: "World Chart," Casey Kasem, Bob Kingsley and "Superadio Dance Mixxes." Seven weekly Radioplay music services, online and on CD. '80s, '90s libraries. Power Gold scheduling, jingles, sound FX and production libraries.
New: "Bigg Snoop Dogg Radio," "ABC Powerplay Production Library" (market exclusive), "American Top 40 Flashback with Casey Kasem" ('80's format), '90s Euro Library & '90s Country Library.

RADIO MALL

2412 Unity Ave N. Dept. RWS
 Minneapolis, MN 55422-3450
 Dave Dworkin
 800-759-4561 Fax: 763-522-6256

Products/Services: Databases of radio stations in the United States and Canada with address, phone, Fax, format, ratings and more. Group mailing to program directors, general managers and chief engineers.
New: Hit music on hard drive. We can load up to 4,300 songs on your drive, or obtain the drive for you.

RADIO SYSTEMS

601 Heron Dr.
 Bridgeport, NJ 08014
 Daniel J. Braveman
 856-467-8000 Fax: 856-467-3044
 E-mail: sales@radiosystems.com
 Web Site: www.radiosystems.com

Products/Services: Line of broadcast equipment, ranging from the Millennium consoles to the CT-6 master clock system; StudioHub system of plug-and-play CAT-5 studio wiring.
New: Silence Sensor; DI-2000 digital hybrid; A/D and D/A multi-sample rate converter.

RADIO TECHNIQUES ENGINEERING CORP.

402 Tenth Ave.
Haddon Heights, NJ 08035
Edward Schober, Pres.
856-546-8008 Fax: 856-546-1841
E-mail: ted@radiotechniques.com

Products/Services: Consulting engineers specializing in AM, FM, TV and FCC applications. Directional antennas, fieldwork, transmitter plant designs, acoustics and sound.

RADIO SOFT

109 W. Knapp Ave.
Edgewater, FL 32132
Dale Tahner
386-426-2521 888-723-4695 Fax: 386-423-0821
E-mail: ddtman@mttower.com
Web Site: www.radiosoftware.com

Products/Services: ComStudy 2.2, radio engineering software for the prediction of coverage, interference studies, allocations for AM, FM and TV. These programs are complete and meet all FCC rules and regulatory demands. RadioForms is available for the completion of FCC form 601, Schedule I.
New: RadioForms for FCC Form 601 filing and Frequency Finder for the location of potential new frequencies.

RADIO WORLD

PO Box 1214
Falls Church, VA 22041
703-998-7600 Fax: 703-998-2966
Paul McLane, Editor
E-mail: radioworld@imaspub.com
Web site: www.rwonline.com

Products/Services: The Newspaper for Radio Managers & Engineers, providing comprehensive coverage of the U.S. broadcast radio industry with leading columnists like John Bisset, Cris Alexander, Barry Umansky and many others. Part of the IMAS Publishing family.

RAM BROADCAST SYSTEMS

PO Box 277
Wauconda, IL 60084
Ron Mitchell, Pres.
847-487-7575 800-779-7575 Fax: 847-487-2440
E-mail: ron@ramsys.com.com
Web Site: www.ramsys.com.com

Products/Services: RAM Broadcast Systems specializes in the design and manufacture of custom cabinetry and systems integration for radio and television on-air and production studios, as well as manufacturing switchers and monitoring systems. RAM also stocks more than 150 brands of professional broadcast equipment for resale.
New: Complete line of metering systems. Complete line of radio turret modules.

LEADER IN SYSTEMS INTEGRATION



RAM BROADCAST SYSTEMS, INC.
www.ramsys.com.com

RAMSEY ELECTRONICS

793 Canning Pkwy.
Victor, NY 14411
Bruce Sidari, Sales Mgr.
716-924-4560 Fax: 716-924-4555
E-mail: sales@ramseyelectronics.com
Web Site: www.ramseyelectronics.com

Products/Services: FM stereo broadcast transmitters in the 35- to 500-watt range. Ramsey's focus is the LPFM and low-

power commercial broadcast industry.
New: PX-250 and the PX-500, 250 and 500 watts respectively.

RANE CORP.

10802 47th Ave. W.
Mukitico, WA 98275-5098
Ellen Allhands, Dir. of Customer Service
425-355-6000 Fax: 425-347-7757
E-mail: info@rane.com
Web Site: www.rane.com

Products/Services: Crossovers, delays, acoustic preamps, commercial music and paging processors, compressors, mic preamps, equalizers, mic/line mixers, DJ mixers, splitter/router/mixers, software-controlled DSP devices and vocal processors. Rane is a CobraNet licensee, network preamps allowing multiple channel distribution on the network, and multiple channel monitoring off the network.
New: MP 2 DJ Mixer is perfect for remote radio broadcasting, remix, mobile, mastering and DJ rigs. Single rack-space fits into restricted rack designs.

RCI CUSTOM PRODUCTS

5616 Fishers Ln.
Rockville, MD 20852
Nancy Cox, Mgr. of Admin.
301-984-2202 800-546-4724 Fax: 301-984-9473
E-mail: nancyc@rcicustom.com
Web Site: www.rcicustom.com

Products/Services: Audio and video control and connection plates, rack and truck panels, custom devices for the A/V industry.
New: BM-16D Active Media Broadcast Mult Box; two-input, 16 isolated outputs, mic/line switchable, Jensen transformers.

RCS - RADIO COMPUTING SERVICES

12 Water St.
White Plains, NY 10601
Richard Darr, VP Sales
914-428-4600 Fax: 914-428-5922
E-mail: rdarr@rcsworks.com
Web Site: www.rcsworks.com

Products/Services: Broadcast software. Selector music scheduling is used at more than 85 percent of radio, TV, cable and Internet music stations worldwide. Selector and Linker music and promo scheduling software; Master Control on-air digital automation system.
New: iSelector branded Internet player; TalkBack talk show call screening and caller database management.

RDA SYSTEMS INC.

112 Weldon Pkwy.
Maryland Heights, MO 63043
Brian Heimerl
314-872-8222 888-616-7980 Fax: 314-872-3009
E-mail: bheimerl@rdasystems.com
Web Site: www.rdasystems.com

Products/Services: Studio installation services to the radio industry including turnkey installation, consulting, design, project management and project assistance. RDA Systems works with all major brands of equipment. Technicians are factory-qualified by Wheatstone, SAS and Klotz Digital.
New: For companies doing projects in-house, RDA can pre-wire console and studio harnesses and provide everything needed for studio projects through the online store www.systemsstore.com.

RDL, RADIO DESIGN LABS

PO Box 1286
Carpinteria, CA 93014
Jerry Clements, Dir. of Mktg.
805-684-5415 800-281-2683 Fax: 805-684-9316
E-mail: sales@rdlnet.com
Web Site: www.rdlnet.com

Products/Services: Audio, video and digital products under the trade names Stick-On, Rack-Up, TX Series and Flat-Pak Series.
New: S/PDIF repeater; balanced-to-unbalanced converter; microphone preamplifier; microphone phantom adapter; four-input mic/line mixer; two-channel mic/line mixer; automatic level control, mono; automatic level control, stereo; three-band parametric EQ; digitally controlled attenuator (mono); digitally controlled attenuator (stereo); voltage controlled amplifier.

REAL BROADCAST NETWORK

Seattle, WA
800-444-8011
Web site: www.realnetworks.com/products/rbn/

RED AUDIO PRO

Chemin de la Bergerie 27
CH-1806 St.-Legier
SWITZERLAND
R.E. Delapraz, Managing Dir.
011-41-21-944-6394 Fax: 011-41-21-944-6394
E-mail: renaud.delapraz@span.ch
Web Site: www.redaudiopro.com

Products/Services: Audemat RDS coders, FM, AM, TV monitoring systems; Gentner telephone hybrids; Aumix AM & FM transmitters, 1.5 GHz link; ATDI FM propagation predictive software; Pass ENG MD-report recorders, A-T microphones, consulting for turnkey broadcast FM studios.
New: Audemat Goldeneagle FM, AM, TV, monitoring system; Aumix portable phone interface for on-location reporting.

REDCO AUDIO INC.

1730 Commerce Dr.
Bridgeport, CT 06605
Dave Berliner
203-384-0834 800-572-7280 Fax: 203-384-1239
E-mail: sales@redco.com
Web Site: www.redco.com

Products/Services: Custom cables and panels for audio dealers, recording/broadcast studios and schools. Custom patchbays and cabling ready for installation to customer spec. Company works closely with installers. Installation accessories. Master dealer for Neutrik, Mogami, Canare and Mid-Atlantic.
New: Little Red Cue Box, DP identification plates for Neutrik, Redco TGS multi-pair audio cable.

REGISTER DATA SYSTEMS

1691 Forsyth St.
Macon, GA 31201-1407
Art White, Sales Mgr.
478-745-5500 800-521-5222 Fax: 478-745-0500
E-mail: sales@registerdata.com
Web Site: www.registerdata.com

Products/Services: Digital automation systems, traffic & billing software, digital long-form recording & playback.

RF SPECIALTIES OF CALIFORNIA - CONCORD

4425-C Treat Blvd # 238
Concord, CA 94521-2745
Bill Newbrough
925-687-9990 888-737-7321 Fax: 925-687-9991
E-mail: newbro@ix.netcom.com
Web Site: www.rfspec.com

Products/Services: Suppliers of more than 250 vendors of equipment in the broadcast industry. Everything from the microphone to the antenna. Other regional offices listed below.

RF SPECIALTIES OF CALIFORNIA - SANTA BARBARA

3463 State St. 229
Santa Barbara, CA 93105
Sam Lane
805-682-9429 800-346-6434 Fax: 805-682-9429
E-mail: rfscsa@aol.com

RF SPECIALTIES OF DALLAS/Ft. WORTH

7001-A E. Lancaster Ave.
Ft. Worth, TX 76112
Paul Strickland
817-654-1001 888-839-7373 Fax: 817-654-3003
E-mail: rfsdfw@earthlink.net

RF SPECIALTIES OF FLORIDA INC.

33 John Sims Pkwy.
Valparaiso, FL 32580
William K. Hoisington, Pres.
850-678-8943 800-476-8943 Fax: 850-729-2744
E-mail: rtofl@aol.com
New: Continental Electronics FM transmitters and excitors.

RF SPECIALTIES OF MISSOURI

22406 NE 159th Street
Kearney, MO 64060
Chris Kreger or John Sims
800-467-7373 Fax: 816-628-4508
E-mail: rfmo@sky.net

RF SPECIALTIES OF PENNSYLVANIA - WEST

795-20 Pine Valley Dr.
Pittsburgh, PA 15239
Dave Edmiston
724-733-1994 866-736-3736 Fax: 724-327-9336
E-mail: rfofpa@nb.net

RF SPECIALTIES OF PENNSYLVANIA - EAST

Box 477
Southampton, PA 18966
Harry Larkin
215-322-2410 888-260-9298 Fax: 215-322-4585
E-mail: harrylarkin@compuserve.com

RF SPECIALTIES OF TEXAS

804 S. Rusk
Amarillo, TX 79106
Don Jones, Pres.
806-372-4518 800-537-1801 Fax: 806-373-8036
E-mail: rfsstx@swbell.net

RF SPECIALTIES OF WASHINGTON INC.

9131 California Ave. S.W. Ste. 5
Seattle, WA 98136
Sales
206-937-8575 800-735-7051 Fax: 206-937-8544

RF TECHNOLOGY INC.

16 Testa Place
Norwalk, CT 06854
Kevin Dennis
203-866-4283 800-762-4369 Fax: 203-853-3513
E-mail: kdennis@rfttechnology.com
Web Site: www.rfttechnology.com

Products/Services: Video/audio/data microwave and satellite transmission systems for use by the broadcast industry. Applications include analog/digital STL, ICR, airborne video downlinks, ENG and remote-control receive systems. Flyaway and fixed Earth station satellite systems for broadcast and data transmission.

New: ACL Series dedicated ATSC Digital microwave fixed link for use as STL or ICR. UCL Series integrated MPEG-2 Encoder, COFDM Modulator, RF SHF output portable microwave system for ENG applications.

RFENGINEERS.COM INC.

2805 NW 6th St.
Gainesville, FL 32609
Jennifer Hickman, Dir. of Bus. Dev.
352-336-7223 352-367-1700 Fax: 352-367-1725
E-mail: info@rfengineers.com
Web Site: www.rfdetective.com

Products/Services: Designs and constructs communications systems for companies and governments. Produces radio system design and mapping software. Has designed cellular, PCS, wireless Internet systems and commercial broadcast facilities.

New: rDetective software for FM channel spacing studies; rDetective-Pro uses FCC online information; rInvestigator radio propagation software for FM channel spacing and contour studies.

RFS BROADCAST

59 Dodge Ave.
North Haven, CT 06473
Anthony Magris, VP and GM
203-239-3311 Fax: 203-239-9260
E-mail: info@rfsbroadcast.com
Web Site: www.rfsworld.com

Products/Services: Transmission line products, antenna systems, filtering and combining systems. ISO-9001 certified.

RICHARDSON ELECTRONICS LTD.

40W267 Keslinger Rd. PO Box 393
LaFox, IL 60147
Erika Engers, Dir. of Bus. Dev.
630-208-2200 Fax: 630-208-2550
E-mail: rwc@rell.com
Web Site: www.rfpowernet.com

RIZ TRANSMITTERS CO.

Bozidarevicewa 13 PO Box 654
HR-10000 Zagreb
CROATIA
Zora Barac, Mrs.
011-385-1-2355-222 Fax: 011-385-1-233-1-410
E-mail: riz@riz.hr
Web Site: www.riz.hr

Products/Services: Solid-state MW transmitters 5 kW to 1,000 MW; SW transmitters with solid-state modulator, up to 500 kW; FM transmitters up to 30 kW output power. Experienced with high-power mobile radio broadcasting stations, radio turkey systems.

New: Solid-state MW transmitters, mobile version.

ROHN INDUSTRIES INC.

PO Box 2000
Peoria, IL 61656
Jim Cote, V.P. Sales and Mktg.
309-697-4400 Fax: 309-697-5612
E-mail: mail@rohnnet.com
Web Site: www.rohnnet.com

Products/Services: Solid and tubular guyed and self-supporting towers; tall towers up to 2,000 ft; tapered, external and internal flanged poles; equipment enclosures and concrete building systems; telecom accessories. Turnkey services are available.

ROLAND CORPORATION

5100 S. Eastern Ave.
Los Angeles, CA 90040
Sales
323-890-3700 Fax: 323-890-3701
Web Site: www.rolandus.com

Products/Services: Workstations and electrical musical instruments, including keyboards and synthesizers, guitar products,

electronic percussion kits, digital recording equipment, amplifiers and audio processing devices.

New: The Fantom 76-note synthesizer keyboard; V-club set electronic drum system; CDX-1 workstation; D2 Groovebox; RD-700 expandable keyboard; F-90 Digital piano; BR-532 digital studio; GT-6 guitar processor.

ROLLS CORPORATION

5968 S. 350 West
Salt Lake City, UT 84107
Eric Mangum, Mktg.
801-263-9053 Fax: 801-263-9068
E-mail: info@rolls.com
Web Site: www.rolls.com

Products/Services: Audio electronics manufacturer specializing in mixers, signal processors, AM/FM tuners, amplifiers, interface and testing accessories.

New: PM350 personal monitor mixer, mixes a stereo or mono monitor signal with a microphone input and instrument input to a headphone or earphone output. RS79b AM/FM tuner retains presets when power is off, has a large LCD digital display, features auto search up and down, includes 24 presets, 16 FM and 8 AM, headphone and XLR outputs.

RTNDA (RADIO-TELEVISION NEWS DIRECTORS ASSOCIATION)

1600 K. St., NW Ste. 700
Washington, DC 20006-2838
202-659-6510 800-80-RTNDA Fax: 202-223-4007
E-mail: rtda@rtda.org
Web Site: www.rtda.org

RTW RADIO-TECHNISCHE WERKSTATTEN GMBH & CO KG

Elbeallee 19
D-50765 Köln
GERMANY
C. Haase, International Sales Eng.
011-49-221-709-1333 Fax: 011-49-221-709-1332
E-mail: rtw@rtw.de
Web Site: www.rtw.de

Products/Services: Peak program meters, multichannel and surround audio vectorscopes, phase correlation meters, studio stopwatches, DAT remote control units and AES/EBU distribution and converter systems. Exclusive distributor for Audio Precision audio test equipment in Germany.

RULES SERVICE CO.

7615 Standish Pl.
Rockville, MD 20855
Barbara Vaszil, Editor
301-424-9402 Fax: 301-762-7853
E-mail: ruleone@starpower.net
Web Site: www.ruleserv.com
Products/Services: Legal publishers of FCC Rules and Regulations. FCC Rules on CD ROM purchased separately of in packages.

RÜSS BASSETT-MEDIA STORAGE SOLUTIONS

8189 Byron Rd.
Whittier, CA 90606
Ava Rabago, Mktg. Services
562-945-2445 800-350-2445 Fax: 562-698-8972
E-mail: marketing@russbassett.com
Web Site: www.russbassett.com

Products/Services: Storage systems for tape and disk media (CD/DVD and many other media formats). Professional and space-efficient solutions for all size collections are available. Cabinet and rack products are constructed of welded steel and have a 10-year, no-nonsense warranty.

New: New tape and disk transportation unit, GoCart conveys media from location to location conveniently. GoCart features Euro-style dual-wheel swivel casters, two with brakes, padded steering bar and corner-bumpers.

SBS TECHNOLOGIES INC.

1284 Corporate Center Dr.
St. Paul, MN 55121
651-905-4700 Fax: 651-905-4701
Web site: www.sbs.com

S.C.M.S. INC.

10201 Rodney Blvd.
Pineville, NC 28134
Bob Cauthen, Pres.
704-889-4508 800-438-6040 Fax: 704-889-4540
E-mail: sales@scmsinc.com
Web Site: www.scmsinc.com

Products/Services: Broadcast equipment distributor of RF, audio and digital products to radio and TV. Service includes turnkey integration, computer service and repair, an extensive rental fleet and a large used equipment department.

S.W.R., INC.

619 Industrial Park Rd.
Ebensburg, PA 15931
David Edmiston

814-472-5436 Fax: 814-472-5552

E-mail: david@swr-rf.com
Web Site: www.swr-rf.com

SABINE INC.

13301 NW US Highway 441
Alachua, FL 32615
Hank Osborne
386-418-2000 800-626-7394 Fax: 386-418-2001
E-mail: sabine@sabine.com
Web Site: www.sabine.com

Products/Services: Professional audio equipment including True Mobility 2.4 GHz spread-spectrum wireless microphones; True Mobility UHF and VHF wireless microphones; Graphi-Q, a 31-band digital equalizer with analog interface, FBX, compressor/limiter and delay; and Power-Q, combining nine digital pro audio products into one 2RU box.

New: True Mobility SWM-5000 Wireless Microphones; 2.4 GHz spread-spectrum technology allows 50 units in one location. Includes Sabine's digital processing: FBX Feedback Extreminator, compressor/limiter, de-esser and user-selectable Mic SuperModeling.

SADIE, INC.

2218 Metro Center Blvd.
Nashville, TN 37228
Jeff Giedt, VP Sales and Support
613-327-1140 Fax: 615-327-1699
E-mail: info@sadieus.com
Web Site: www.sadie.com

Products/Services: Professional digital audio and video equipment for the broadcast, film and CD mastering industries. Designer of the SADIE Disk Editor, the PORTIA Random Access Video System and SADIEnet ATM network, the company has offices in the United Kingdom, Nashville USA (SADIE Inc) and Germany (SADIE GmbH).

New: SADIE RADIA Digital Audio Workstation for serious editing applications, aimed at the broadcast market; it is optimized for SADIE V4 software, also new, which is designed to run faster and use a familiar interface. Also SADIEnet ATM Realtime Networking, a real-time multichannel audio networking using ATM technology; it allows audio files and projects to be shared among multiple SADIE workstations without the need to transfer audio drives physically. Also the SADIE CDR tower, a multiple CD burner for the SADIE range of DAWs that increases the potential of the systems.

SAMSON TECHNOLOGIES CORP.

P.O. Box 9031
Syosset, NY 11791-9031
516-364-2244
516-364-3888
E-mail: sales@samsontech.com
Web site: www.samsontech.com

SANKEN

1155 N. La Brea Ave.
W. Hollywood, CA 90038
Jim Schaller, Distributor Sales
323-845-1155 Fax: 323-845-1170
E-mail: dtd@aldinc.com

Web Site: www.sanken-mic.com
Products/Services: Studio, field and shotgun microphones.
New: The sound from Sanken's small Boundary microphone is comparable with larger microphones. The CUB-01's square-shaped cardioid capsule design enlarges the effective area of the diaphragm, resulting in a natural, rich sound and high sensitivity.

SCHOEPS GMBH

Spitalstraße 20
D-76227 Karlsruhe
GERMANY
Sales
011-49-721-943-200 Fax: 011-49-721-495-750
E-mail: mailbox@schoeps.de
Web Site: www.schoeps.de

Products/Services: Exclusively manufactures classical condenser microphones (no electrets) and offers a comprehensive modular microphone system. A second product line is the compact condenser series CCM. Schoeps offers a surround microphone, a microphone preamplifier and three stereo microphones, among which is a compact X/Y microphone.

SCHOEPS/REDDING AUDIO INC.

97 S. Main St., Unit 10
Newtown, CT 06470
Scott Boland, Product Mgr.
203-270-1808 Fax: 203-270-2934
E-mail: reddingaudio@aol.com
Web Site: www.reddingaudio.com

Products/Services: Schoeps microphones are handmade in

Karlsruhe, Germany. Products include the popular modular Colette System, the CCM compact mic series, M222 Tube microphone, KFM 360 Surround Microphone, the Polarflex system and unique stereo microphones.

New: The FMS 5U is a portable stereo mic preamp with M/S matrix, phantom power and headphone monitor output. The AF 1 is a convenient podium mounted suspension for 20 mm diameter microphones.

SCOTT STUDIOS CORP.

13375 Stemmons Freeway Ste. 400
Dallas, TX 75234

Dave Scott
972-620-2211 800-GET-SCOTT Fax: 972-620-8811

E-mail: info@scottstudios.com

Web Site: www.scottstudios.com

Products/Services: Digital audio systems for air studios, news and production. Touchscreens for live, systems for satellite, local or distant city voice tracking. Industrial backplane hardware.

New: Internet ad substitution units. Scott hard-disk video for TV, LPTV and cable systems.

SEALEVEL SYSTEMS INC.

155 Technology Place PO Box 830
Liberty, SC 29657

Brad Boughman
864-843-4343 Fax: 864-843-3067

E-mail: bradb@sealevel.com

Web Site: www.sealevel.com

Products/Services: Serial communications and I/O products for the automation industry. Products include USB, PCI, PCM-CIA, PC104, CompactPCI and ISA RS-232/422/485 serial cards in addition to digital I/O boards.

New: PCI Digital I/O. USB to serial converters. RS-232 to RS-422/485 isolated converters. USB to Digital I/O (48 and 96 channels).

SEK'D AMERICA

407 Stony Point Rd.
Santa Rosa, CA 95401

Martin Ucik, Pres.
707-360-3311 800-330-7753 Fax: 707-360-3307

E-mail: info@sekd.com

Web Site: www.sekd.com

Products/Services: Professional software for mastering, radio and post-production, sound cards and digital converters.

New: Sequoia mastering software, Audiocaster, IngleCaster, PRODIG 88 eight-channel AES/EBU sound card, EDL Convert, Sonoscope.

SENNHEISER U.S.A.

1 Enterprise Dr.
Old Lyme, CT 06420

Karl Winkler
860-434-9190 Fax: 860-434-9022

E-mail: info@sennheiserusa.com

Web Site: www.sennheiserusa.com

Products/Services: Microphone manufacturing. RF-wireless and infrared sound transmission, headphone transducer technology, active noise-compensation.

New: RS 65 wireless headphones, SKP 30 plug-on wireless transmitter, HD280 headphones, HD280Pro boomset, HD281 single-earcup boomset.

SERATEL TECHNOLOGY S.A.L.

Avda. Castilla, 2. Edificio Atenas Parque Empresarial
E-28830 San Fernando de Henares, Madrid

SPAIN
Jose Luis de la Rosa Llorente, Sales Mgr.
011-34-91-656-7565 Fax: 011-34-91-656-6807

E-mail: delarosa@seratel.com

Web Site: www.seratel.com

Products/Services: Spanish supplier of FM transmitter and auxiliary products.

New: Digital Exciter, Radiolink (200 MHz - 1.6 GHz), Handymitter portable 1 kW FM transmitter.

SHIVELY LABS

PO Box 389
Bridgton, ME 04009

David Allen
207-647-3327 888-744-8359 Fax: 207-647-8273

E-mail: sales@shively.com

Web Site: www.shively.com

Products/Services: FM and UHF broadcast antennas. Accurate pattern studies that ensure the best coverage possible. Shively Labs is an employee-owned company and is ISO-9001-certified.

New: The standard Shively IBOC filter designed for a 3 kW digital signal weighs approx. 110 lbs. and requires no AC power for operation of the filter or injector.

SHURE INC.

222 Hartrey Ave.
Evanston, IL 60202

Cory Lorentz
847-866-2200 800-25-SHURE Fax: 847-866-2279

E-mail: info@shure.com

Web Site: www.shure.com

Products/Services: Microphones and audio electronics. Consumer and professional audio products from microphones, phonograph cartridges and problem-solving mixers, to wireless systems, digital signal processors and personal monitors.

SIERRA AUTOMATED SYSTEMS

2625 N. San Fernando Blvd.
Burbank, CA 91504

Mike Uhl
818-840-6749 Fax: 818-840-6751

E-mail: mike@sasaudio.com

Web Site: www.sasaudio.com

Products/Services: Digital and analog audio-routing switchers and communications systems, large and small in scale. Systems feature a variety of remote-control options and interfaces including rack- and console-mount, PC, LAN, WAN and TCP/IP. Applications include routing and distribution, air-chain switching, mix-minus and IFB, intercom and console input selectors.

New: The 32KD Digital Audio network performs routing, mixing, sound processing, IFB, other operations. Fiber optic interfaces allow linear expansion to 4,096 channels, digital and analog I/O.

SIGMA ELECTRONICS INC.

PO Box 448 1184 Enterprise Rd.
East Petersburg, PA 17520-0448

Mike Piper
717-569-2681 866-569-2681 Fax: 717-569-4056

E-mail: sales@sigmaelectronics.com

Web Site: www.sigmaelectronics.com

Products/Services: System solution products for the broadcast, post-production, industrial and tele-production markets. Analog and digital audio routing switchers, distribution amplifiers.

New: ADA-26S Stand-alone audio DA, stereo, dual 1x3, balanced. ADA-21S modular audio DA, stereo, dual 1x3, balanced. Power supply.

SILICON VALLEY POWER AMPLIFIER CORP.

115 Phelan Avenue Unit 10
San Jose, CA 95112

Roy Mollard
408-986-9700 800-986-9700 Fax: 408-986-1438

E-mail: sales@svpa.com

Web Site: www.svpa.com

Products/Services: Solid-state FM broadcast power amplifiers from 150 watts to over 3 kW, built using modules we supply to Harris Broadcast and Continental Electronics. Rack-mount amplifiers include harmonic filters and VSWR foldback and are broadband so no tuning is required.

SILVER LAKE AUDIO

90 S. Long Beach Rd.
Rockville Centre, NY 11570

Peggy Kirsch, Office Mgr.
516-763-1776 Fax: 516-763-1750

E-mail: info@silverlakeaudio.com

Web Site: www.silverlakeaudio.com

Products/Services: Rental of radio remote broadcast equipment including ISDN and POTS codecs, mixers, mics, headphones, and shortcuts.

SINE SYSTEMS INC.

972 Main St.
Nashville, TN 37206-3614

Sales
615-228-3500 Fax: 615-227-2367

E-mail: sales@sinesys.com

Web Site: www.sinesys.com

Products/Services: Transmitter remote-control and monitoring equipment, computer-controlled audio switching devices and broadcast-related studio accessories.

SIRIUS SATELLITE RADIO

1221 Avenue of the Americas
New York, NY 10020

Mindy Kramer
212-584-5100 Fax: 212-584-5200

E-mail: mkramer@siriusradio.com

Web site: www.siriusradio.com

SITESAFE

200 N. Glebe Rd. Ste. 1000
Arlington, VA 22203

Andrew Woessner, VP of Sales and Mktg.
703-276-1100 Fax: 703-276-1169

E-mail: andrew@sitesafe.com

Web Site: www.sitesafe.com

Products/Services: RF compliance and engineering solutions, offering a portfolio of products and services in RF safety train-

ing, RF engineering, regulatory compliance and frequency coordination. Solutions to assist clients in ensuring compliance with FCC and OSHA regulations.

SMARTS BROADCAST SYSTEMS

PO Box 284
Emmetsburg, IA 50536

John Schad
800-747-6278 Fax: 800-398-8149

E-mail: info@smartsbroadcast.com

Web Site: www.smartsbroadcast.com

Products/Services: Digital audio and automation systems, traffic and billing and music selection systems for the broadcast industry.

New: Voice Tracking to allow announcers to voice-track long programs in a few minutes; Linux audio servers for ultra reliability.

SOCIETY OF BROADCAST ENGINEERS

9247 N. Meridian St. Ste 305
Indianapolis, IN 46260

Angel D. Bates, Membership Services Coord.
317-846-9000 Fax: 317-846-9120

E-mail: abates@sbe.org

Web Site: www.sbe.org

Products/Services: SBE, a non-profit organization serving the interests of broadcast engineers, is known in the industry for its professional certification program, government representation, commitment to education and frequency coordination efforts. Other programs and services for members include local chapters and regional conventions, contract engineering services, JobsOnline and a discount book store.

SOFTWRIGHT LLC

1010 S. Joliet St. Ste. 204
Aurora, CO 80012

Curt Alway, Pres.
303-344-5486 Fax: 303-344-2811

E-mail: sales@softwright.com

Web Site: www.softwright.com

Products/Services: Terrain Analysis Package TAP for Windows 9.x/W2K/NT 4.0 PC-based software to perform evaluation of existing or proposed radio transmitter sites; radio coverage predictions; TV and FM broadcasting; IFTS, PCS, SCADA, WLL, microwave, cellular, paging and two-way radio system design.

New: Terrain Analysis Package Version 4.4.

SOLID ELECTRONICS LABORATORIES

630 Greene Countrie Dr.
Newtown Square, PA 19073

Steve Hemphill, Owner
610-353-9449 Fax: 610-356-8449

E-mail: shemp949@aol.com

Products/Services: The SEL Model DCP-1A FM Composite Signal Processor performs the functions of instantaneous peak limiting and over-shoot-compensated low-pass filtering of the composite signal in a single structure. The unit provides protection of SCA subcarrier signals while allowing the maximum program loudness obtained with instantaneous peak limiting.

SOLID STATE LOGIC

Spring Hill Road
Begbroke, Oxford OX5 1RU

UNITED KINGDOM
S. DeMarais, Sales
011-44-18-65-84-2300 Fax: 011-44-18-65-84-2118

E-mail: sales@solid-state-logic.com

Web Site: www.solid-state-logic.com

Products/Services: Analog and digital audio consoles for music, film, post and broadcast facilities.

New: Advanced specifications for its digital console family, creating A Plus versions of the A Series digital consoles Axiom MT, Avant and Aysis Air; also a new broadcast product, the MT Production.

SOMMER CABLE AMERICA

407 Stony Point Rd.
Santa Rosa, CA 95401

Martin Ucik, Pres.
707-360-3361 800-799-1073 Fax: 707-360-3367

E-mail: infousa@sommmercable.com

Web Site: www.sommmercable.com

Products/Services: German-designed audio and video cables including special hybrid cables for broadcast.

New: Multicom 343 combines video, audio and power in one cable.

SONIC DESKTOP SOFTWARE

9836 White Oak Ave. Ste. 209
Northridge, CA 91325

Sharon Morgan
818-718-9999 800-454-1900 Fax: 818-718-9990

E-mail: info@sonicdesktop.com

Web Site: www.sonicdesktop.com

Products/Services: SmartSound soundtrack creation software makes professional soundtracks for any project, accurate to a tenth of a second, with a simple user interface.
New: Sonicfire Pro professional product with new features including support for DV audio and automatic editing of your own music.

SONIC FOUNDRY INC.

1617 Sherman Ave.
 Madison, WI 53704-5930
 Customer Service
 608-204-7703 800-57-SONIC Fax: 608-250-1745
 E-mail: customerservice@sonicfoundry.com
 Web Site: www.sonicfoundry.com

Products/Services: Sound Forge is a two-track digital audio editor that includes powerful audio processes, tools and effects for manipulating audio. Suitable for audio editing, audio recording, effects processing and media encoding. New features in Sound Forge 5.0 include 24-bit/192-kHz file support, CD burning/ripping, 18 DirectX audio plug-ins, Acoustic Mirror effects modeler, Wave Hammer compressor/volume maximizer, enhanced audio Plug-In chain.

New: Sound Forge 5.0, Noise Reduction 2.0, Vegas Audio 2.0, Vegas Video 2.0, Acid Pro 3.0, Acid Music 3.0, Acid DJ 3.0, Acid Techno 3.0, VideoFactory 2.0.

SONIC SENSE, INC.

2755 S. Gilpin St.
 Denver, CO 81210
 Marc Nutter, Pres.
 303-753-0201 877-324-4463 Fax: 303-753-0817
 E-mail: nutter@sonicsense.com
 Web Site: www.sonicsense.com

Products/Services: Field and remote recording equipment with an emphasis on high-resolution, computer-based portable recording systems. Rental and sales departments offer a range of microphones, pre-amps, analog-to-digital converters and accessories for remote applications.

New: Benchmark Sonic AD2K+ co-designed between Sonic Sense and Benchmark Media. The AD2K+ is a DC-powered, 24-bit/96 kHz analog-to-digital converter.

SONIC SOLUTIONS

101 Rowland Way
 Novato, CA 94945
 415-893-8000 Fax: 415-893-8008
 E-mail: info@sonic.com
 Web site: www.sonic.com

SONIFEX LTD

61 Station Rd.
 Irthlingborough Northants NN9 5QE
 UNITED KINGDOM
 Marcus Brooke, Managing Dir.
 011-44-1933-650-700 Fax: 011-44-1933-650-726
 E-mail: sales@sonifex.co.uk
 Web Site: www.sonifex.co.uk

Products/Services: Professional audio equipment including Courier portable hard-disk recorder with ISDN and USB connections, Redbox range of digital and analog interfaces, Net-Log hard-disk multi-channel logger for streaming audio across a TCP/IP network, telephone hybrids, studio consoles, codecs and ISDN control system. Also design projects for clients.

New: New interfaces in Redbox range: Matching amplifiers, converters, digital splitter/combiner, A/D & D/A converter. Courier enhanced with USB connection. Net-Log hard-disk audio logger for streaming audio across a network.

SONY ELECTRONICS

1 Sony Dr.
 Park Ridge, NJ 07656
 Paul Foschino, Mktg. Pro Audio
 201-930-1000 800-686-7669 Fax: 201-358-4907
 Web Site: www.sony.com/proaudio

Products/Services: Professional audio products for a range of applications. Products specific to the radio and broadcast market include CD players, CD-Recorders, DAT recorders, MiniDisc portable and studio recorders, digital mixers, digital signal processors, mics (wired and wireless), headphones and accessories.

New: Powered mixer that includes A/V switching and two slots for wireless plug-in receivers for boardrooms, schools and offices. Wireless components for ENG applications. Version 2 software upgrades for the DMX-R100 digital audio mixer.

SOUND BROADCAST SERVICES LTD.

3 Burgess Rd. Ivyhouse Ln. Hastings
 East Sussex TN35 4NR
 UNITED KINGDOM
 Marcus Bekker, Mgr. Dir.
 011-44-1424-445588 Fax: 011-44-1424-443388
 E-mail: sales@sbsfm.com
 Web Site: www.sbsfm.com
Products/Services: FM transmission and STL/RPU radio links.

Available in the United States through Broadcasters General Store, the range includes audio problem-solving boxes.

New: FlexRack features a 1RU chassis and power supply and space for up to four further modules, including Dual Silence Selector, six-channel gain block/DA/mono'ing unit, A/D and D/A converters.

SOUND DEVICES LLC

300 Wengel Dr.
 Reedsburg, WI 53959
 Jon Tatoes, Managing Dir.
 608-524-0625 Fax: 608-524-0655
 E-mail: info@sounddevices.com
 Web Site: www.sounddevices.com

Products/Services: Portable audio electronics for radio, television, film and music production.

New: USBPre 1.5 audio interface for computer-based production, 442 portable field mixer, MM-1 microphone preamplifier with headphone monitoring.

SOUND EFFECTS LIBRARY LTD.

Tape Gallery House 28 Lexington St.
 London HA6 3QN
 UNITED KINGDOM
 Lloyd Billing, Managing Dir.
 011-44-20-7439-3325 Fax: 011-44-20-7734-0631
 E-mail: info@sound-effects-library.com
 Web Site: www.sound-effects-library.com

Products/Services: Online database of more than 180,000 sound effects, music samples and music tracks. Listen for free and purchase by credit card or subscription. Cinesound library contains 4 million original sound effects from five decades of motion pictures.

New: Prepaid bundles entitle you to free extra bonuses; the more you spend, the greater the percentage of free credit.

SOUND IDEAS

105 W. Beaver Creek Rd. Ste. 4
 Richmond Hill, ON L4B 1C6
 CANADA
 Brian Nimmes, Pres.
 905-886-5000 800-387-3030 Fax: 905-886-6800
 E-mail: info@sound-ideas.com
 Web Site: www.sound-ideas.com

Products/Services: Professional sound effects, imaging elements and royalty-free music to the audio industry

New: Crash and Burn - natural and man-made disasters; Thunder Series - storm, thunder and rain effects; Mix VIII - imaging elements; Mix IX - alternate tracks; Ear Candy 5 - dynamite imaging elements.

SOUNDCRAFT USA

1449 Donelson Pike
 Nashville, TN 37217
 Jennifer Schanhals
 615-360-0471 Fax: 615-360-0273
 E-mail: soundcraft-usa@harman.com
 Web Site: www.soundcraft.com

Products/Services: High-end mixing consoles serving live, broadcast, theatre and recording markets, distributed in the U.S. by Harman Pro North America, a subsidiary of Harman International.

New: Spirit M4 (four mono channels), M8 (eight) and M12 (twelve) are each equipped with four stereo inputs, stereo returns and auxiliary sends, plus 100 mm faders and a S/PDIF digital output. The mono input mic preamp design comes from Soundcraft's Ghost, while the three-band EQ embodies the classic 'British' sound.

SOUND-EFFECTS-LIBRARY.COM

Tape Gallery House 28 Lexington St.
 London HA6 3QN
 UNITED KINGDOM
 Lloyd Billing
 011-44-207-439-3325 Fax: 011-44-207-734-0631
 E-mail: ruth@Sound-Effects-Library.com
 Web Site: www.sound-effects-library.com

Products/Services: Online database of over 180,000 sound effects, music samples and music tracks, listen for free and then purchase by credit card or subscription. Contact us and gain access to the Cinesound library, which contains 4 million original sound effects from 5 decades of motion picture i.e. The James Bond Movies, Apocalypse Now, Platoon, Memphis Belle etc.

New: Pre-paid bundles entitling you to free extra bonuses; the more you spend, the greater the percentage of free credit we give you, to use as and when you choose.

SOUNDS LOGICAL

Postbus 2316
 NL-2301 CH Leiden
 THE NETHERLANDS
 Yusuf Jafry, Dir.
 011-31-65-322-9096 Fax: 011-31-71-514-5833

E-mail: info@soundlogical.com
 Web Site: www.soundlogical.com

Products/Services: Flagship product WaveWarp is a modular audio signal-processing software system for the Windows platform, used by engineers, researchers, educators, musicians and sound designers. An optional real-time interface with the MATLAB technical computing environment provides flexibility in signal processing and analysis.

SPACECOM SYSTEMS

7140 S. Lewis
 Tulsa, OK 74136
 Jonathan Johnsen
 918-488-4858 800-950-6690 Fax: 918-488-4848
 E-mail: jonathanjohnsen@spacecom.com
 Web Site: www.spacecom.com

Products/Services: One- and two-way broadband commercial satellite communication services with the highest inbound data rate - ideal for establishing connectivity virtually anytime, anywhere in North America. Applications include back-up for businesses where a VPN or Internet connection is critical, bypass of local communication infrastructure and establishing high-speed connectivity for remote sites.

SPACEWISE BROADCAST FURNITURE INC.

PO Box 62021
 Phoenix, AZ 85082
 Sales 800-775-3660 Fax: 480-704-6149
 E-mail: sales@spacewise.com
 Web Site: www.spacewise.com

Products/Services: Studio furniture systems and accessories for every budget. Systems include the Delux Radial line, the Pro Studio and the All-Talk Studio.

SPINNER GMBH

Erzgiessereistr. 33
 D-80335 München
 GERMANY
 Lothar Urmann, Sr. Sales Mgr. Broadcast
 011-49-89-1-2601-0 Fax: 011-49-89-1-2601-249
 E-mail: sales@spinner.de
 Web Site: www.spinner.de

Products/Services: Accessories for broadcasting and television corporations and industry including filters for analog, DAB and DVB applications, audio-video combiners, direct access units, RF switches, loads, connectors and rigid line systems. Spinner develops and produces changeover systems, multi-transmitter combiners and matrix systems.

New: 6- and 8-cavity VHF DAB filter, tuneable within 170-240 MHz, for critical mask and adjacent block requirements, temperature compensated, patented technology.

SPL ELECTRONICS GMBH

Sohlweg 55
 D-41372 Niederkruchten
 GERMANY
 Hermann Gier
 011-49-2163-98340 Fax: 011-49-2163-9834-20
 E-mail: info@soundperformancelab.com
 Web Site: www.soundperformancelab.com

Products/Services: Audio processing tools for recording, mixing and mastering.

New: SPL PQ: Parametric High Gain Equalizer, 122 V operating voltage, 150 dB dynamic range. SPL Track One: Mono channel strip for studio, broadcast and live applications. SPL Kulture: Stereo compressor, manual and adaptive automatic compression, tube output stage.

SPRY GROUP

5114 Princeton-Glendale Rd.
 Hamilton, OH 45011
 William Spry, Owner
 513-887-0714 Fax: 513-887-0714
 E-mail: raduga@raduga.net
 Web Site: www.raduga.net

Products/Services: Radio station automation software for on-air programming using MP3, WAV or WMA audio files. Schedule spots, live-assist or full-blown. Logging, silence detection, use Direct-X plug-ins.

New: Version 3.5.

STACO ENERGY PRODUCTS CO.

301 Gaddis Blvd.
 Dayton, OH 45403
 Paul Heiligenberg, Broadcast Sales Mgr.
 937-253-1191 866-261-1191 Fax: 937-253-1723
 E-mail: sales@stacoenergy.com
 Web Site: www.stacoenergy.com

Products/Services: Staco Energy Products Co. offers intelligent power solutions to the broadcast industry designed for maximum safety, ease of installation and efficiency. Voltage regulators and power conditioners, one- or three-phase UPS models, Troigard power conditioning system.

New: TreStar SX series of three-phase UPS. From 12 through

250 kVA, it offers blackout protection and power conditioning.

STAGE ACCOMPANY/STAGE ACCOMPANY USA

8917 Shore Court
Bay Ridge, NY 11209
Marcel Vantuyn, Pres.
800-955-7474 Fax: 800-955-9564
E-mail: USA@stageaccompany.com
Web Site: www.stageaccompany.com

Products/Services: Professional sound systems featuring the Ribbon Compact Driver. SA serves applications such as studio, install, touring and cinema.

STARDATE/UNIVERSO RADIO PRODUCTIONS

2609 University Ave. #3-118
Austin, TX 78712
Vincent Perez III
512-471-5285 Fax: 512-471-5060
E-mail: perez@stardate.org
Web Site: www.stardate.org

Products/Services: "StarDate" (and the Spanish language version "Universo") tells listeners what to look for in the night sky and explains the life cycle of stars and distant galaxies. It recounts tales of ancient skylore and alerts listeners to future space missions that increase our knowledge of the universe.

STARDRIVE SOLUTIONS INC.

28720 Roadside Dr. Ste. 301
Agoura Hills, CA 91301
Sales & Mktg., Mgr/Dir.
818-879-0000 Fax: 818-865-1421
E-mail: sales@stardrivesolutions.com
Web Site: www.stardrivesolutions.com

Products/Services: Offers radio and television broadcasters the ability to produce, distribute and protect their content worldwide. Through its proprietary Stardrive Suite of products, offers broadcasters the ability to dynamically manage digital video production as well as support metadata collection and query. This solution enables secure distribution of video to be simultaneously transferred and edited with on-the-fly conversion from analog formats to digital formats. Newsroom computer and asset management systems.

STORMIN PROTECTION PRODUCTS INC.

10749 63rd Way N
Pinellas Park, FL 33782
John E. Pecore
727-548-5418 888-471-1038 Fax: 727-548-0867
E-mail: jpecore@earthlink.net
Web Site: www.storminprotection.com

Products/Services: Optilator fiber optic modem telephone line protection for Burk, Gentner or any phone-line modems. Four inches of fiber optics between two PC boards that prevents a direct strike by lightning to go through.
New: AC and DC surge suppression for main panels and low-voltage data loops.

STUDER PROFESSIONAL AUDIO AG

Althardstrasse 30
CH-8105 Regensdorf-Zürich
SWITZERLAND
Nicholas Böhmer
011-41-1-870-75-11 Fax: 011-41-1-870-71-34
E-mail: marketing@studer.ch
Web Site: www.studer.ch

Products/Services: Proprietary products including digital and analog mixing consoles, digital routing systems, radio automation systems, recorders and active studio speakers, as well as turnkey studios and system solutions, developed and manufactured at Studer headquarters in Switzerland.

New: Studer On-Air 2000M2 digital mixer with integrated input router, for production and on-air applications in radio stations. Studer On-Air 1000, new version with input router.

STUDIO JULES BV

Orchideestraat 19 a
NL-1214 BG Hilversum
THE NETHERLANDS
Stef van der Berg, Mgr.
011-31-35-6211920 Fax: 011-31-35-6247649
E-mail: stjules@cistron.nl
Web Site: www.studiojules.nl

Products/Services: Production of CD masters and radio and TV commercials. With apt-X codecs the studio can connect around the world. The E-commercial department can fulfill internet assignments.

New: Surround audio.

STUDIO PROJECTS

23775 Madison St.
Torrance, CA 90505
Alan Hyatt, Pres.
310-373-9129 877-563-6335 Fax: 310-373-4714
E-mail: info@studioprojectusa.com

Web Site: www.studioprojectusa.com

Products/Services: C1, C3 and T3 microphones for broadcast and studio applications.

New: The Studio Projects VT-1 is a full-featured mic preamplifier with impedance matching and an exclusive "Tube Drive" that offers tube warmth without affecting gain.

STUDIO TECHNOLOGIES INC.

5520 W. Touhy Ave.
Skokie, IL 60077
Sales
847-676-9177 Fax: 847-982-0747
E-mail: sales@studio-tech.com
Web Site: www.studio-tech.com

Products/Services: Professional audio products for television and radio stations, recording studios, and film and production companies. Product lines include StudioComm Series, a set of products that bring monitoring and communications functions to digital audio workstations; the Studio Tools series of digital audio workstation accessories; distribution amplifiers; stereo simulators; and microphone preamplifiers. Broadcast line includes the IFB Plus Series of mobile talent cueing systems and a series of audio mixers designed for ENG, SNG and small production vehicles.

STUDIO TECHNOLOGY

32 Pennsylvania Ave.
Malvern, PA 19355
Vince Fiola
610-640-1229 Fax 610-296-3402
E-mail: sales@studiotechology.com
Web site: www.studiotechology.com

SUMATRONIC AG

Rainstrasse 35
CH-6314 Unterägeri
SWITZERLAND
Peter H. Matter, Dipl. Ing. HTL.
011-41-41-752-0808 Fax: 011-41-41-752-0802
E-mail: info@sumatronic.ch
Web Site: www.sumatronic.ch

Products/Services: Turnkey service and product line all technical equipment and infrastructure for radio stations. Studios, transmission, transmitters including engineering and concept and design. International projects on request.

SUNDANCE SYSTEMS INC. FIBOX PRODUCTS DIV.

4925 N. O'Conner Blvd. Ste. 101
Irving, TX 75063
Hamilton Johnson, Sr. VP
972-717-7441 Fax: 972-893-0380
E-mail: info@sundancesys.com
Web Site: www.sundancesys.com

Products/Services: Digital audio, video and data products used in pro broadcast audio and video, concert sound reinforcement, commercial sound installations, film production and security applications.

SUPERIOR BROADCAST PRODUCTS

17194 Preston Rd. Ste. 123-297
Dallas, TX 75248
Jimmie Joynt, National Sales
972-473-2577 800-279-3326 Fax: 800-644-5958
E-mail: jhjsr@msn.com
Web Site: www.superiorbroadcast.com

Products/Services: Sales and installation of television and FM transmitters, antennas and transmission line for digital and analog. Studio transmitter links for TV and FM.

New: HDTV transmitters to 30 kW. Analog transmitters to 120 kW.

SUPERIOR ELECTRIC

383 Middle St.
Bristol, CT 06010
Mike Miga, Mktg. Comm Mgr.
860-545-4500 800-787-3532 Fax: 860-582-3784
E-mail: mike.miga@superiorelectric.com
Web Site: www.superiorelectric.com

Products/Services: Powerstat variable transformers; Stabiline voltage regulators, power conditioners, uninterruptible power supplies, transient voltage suppressors/RFI filters; Supercon electrical connectors; Luxtrol incandescent lighting controls; 5-Way binding posts.

New: TVSS Series Stabiline transient voltage surge suppressors.

SUPERSCOPE TECHNOLOGIES INC.

2640 White Oak Cir. Ste. A
Aurora, IL 60504
David Pratt
630-820-4800 Fax: 630-820-8103
E-mail: dpratt@superscopetechnologies.com
Web Site: www.superscope-marantzpro.com

Products/Services: Professional audio and video equipment

under the Marantz Professional and Superscope brands for the recording and music industries, sound contracting, broadcast, government, audio/visual, education, security and related fields.

New: The PMD690 is a portable Compact Flash recorder that records stereo or mono digital audio as MP2, WAV and Broadcast WAV files. It accepts PC Cards, Compact Flash and IBM microdrives. No real-time download delays to get sound into a computer.

SURCOM ASSOCIATES INC.

2215 Faraday Ave. Ste. A
Carlsbad, CA 92008
A.J. Link, Pres.
760-438-4420 Fax: 760-438-4759
E-mail: link@surcom.com
Web Site: www.surcom.com

Products/Services: Surcom is a stocking distributor of high-power RF vacuum variable and vacuum fixed capacitors and vacuum relays manufactured by Jennings Technology Co.; RF ceramic transmitting capacitors manufactured by High Energy Corp.; and mica transmitting capacitors manufactured by Cornell Dubilier. We specialize in the same-day shipment of parts.

Cornell-Dubilier Mica Capacitors

Jennings High Powered RF Vacuum Variable/Fixed Capacitors & Relays

High Energy Corp RF Ceramic Capacitors

Specializing in same day shipment!

SURCOM ASSOCIATES

760-438-4420

SWISSONIC AMERICA

407 Stony Point Rd.
Santa Rosa, CA 95401
Martin Ucik, Pres.
707-360-3321 800-613-2187 Fax: 707-360-3327
E-mail: infousa@swissonic.com
Web Site: www.swissonic.com

Products/Services: Multi-channel analog-to-digital and digital-to-analog converters as well as a rack mixer with USB interface and a word clock generator/distributor.

New: AD8 eight-channel mic preamp and 24/96 converter to ADAT, AES/EBU, TDIF or mLAN.

SWITCHCRAFT INC.

5555 N. Elston Ave.
Chicago, IL 60630
773-792-2700 Fax: 773-792-2129
E-mail: sales@switchcraft.com
Web site: www.switchcraft.com

SWR-SYSTEMS WITH RELIABILITY INC.

619 Industrial Park Rd. PO Box 856
Ebensburg, PA 15931
David Edmiston Sr.
814-472-5436 800-762-7743 Fax: 814-472-5552
E-mail: davide@swr-rf.com
Web Site: www.swr-rf.com

Products/Services: FM and television antennas, transmission line and accessories to support the domestic and international broadcast industry. Online catalog.

SYMETRIX INC.

14926 - 35th Ave. W.
Lynnwood, WA 98037
Jim Latimer, Sales Dir.
425-787-3222 800-288-8855 Fax: 425-787-3211
E-mail: Sales@symetrixaudio.com
Web Site: www.symetrixaudio.com

Products/Services: An engineering-driven company of signal

processing experts.

New: AirTools 6100 Broadcast Audio Delay; Symetrix 506E Headphone Amplifier.

SYNCAST, LLC

2 Corporate Park Ste. 201
Irvine, CA 92606
Ezra Davidson, VP of Bus. Dev.
949-417-2300 Fax: 888-927-3329
E-mail: ezra@synccast.com
Web Site: <http://www.synccast.com>

Products/Services: Provider of streaming services including music licensing, compliance reporting and assistance with the removal of music licensing liabilities due to streaming. The company is licensed by the RIAA's digital rights organization, Sound Exchange. SyncCast is an Exodus Alliance partner and a Windows Media Service Provider Partner.

New: DMCA-compliant streaming; performance rights compliance reporting; Web site loyalty and streaming programs; streaming advertising, ad blocking, ad insertion.

SYNTRILLIUM

P.O. Box 62244
Phoenix, AZ 85082
Jennifer Karl, Sales Mgr.
480-941-4327 888-941-7100 Fax: 480-941-8170
E-mail: sales@syntrillium.com
Web Site: www.syntrillium.com

Products/Services: Cool Edit Pro and Cool Edit 2000 digital audio recording and editing software. Cool Edit Pro is a complete digital audio editing solution, with 40 effects and 64 tracks. Cool Edit 2000 provides a mix-and-match solution. Both are popular among broadcasters for their quick interface, editing power and nearly flat learning curve.

SYSTEMBASE LTD.

Minchens Court, Minchens Lane
Bramley, Tadley
Hampshire RG26 5BH
UNITED KINGDOM
011-44-1256-88-2797 Fax: 011-44-1256-88-2813
E-mail: sales@systembase.com
Web site: www.systembase.com

SYSTEM ONE COMMUNICATIONS

9901 Easthaven Blvd.
Houston, TX 77075
Rick Jones, Pres.
713-946-5526 888-625-5649 Fax: 713-910-1793
E-mail: skyjack@worldnet.att.net
Web Site: www.system-one.net

Products/Services: Tower and construction company that provides tower erection/construction, tower maintenance, site maintenance, antenna services and other services related to the broadcast industry. Construction of AM directional sites is a specialty. Turnkey construction of new sites, including land clearing, road building and excavation are done in-house.

SWISS WIRELESS LTD.

465 Herndon Pkwy.
Herndon, VA 20170
Bill Sien, VP
703-471-7887 800-542-3332 Fax: 703-437-1107
E-mail: bsien@swi.com
Web Site: www.swi.com

Products/Services: Sales, rental and service of wireless microphones, wireless intercom, wireless IFB, wireless video and cabled intercom systems. Products represented include Clear-Com, DTC, HME, Lectrosonics, RTS/Telex, Sennheiser, Shure, Sony, Telos and Vega.

New: Proprietary TBD-101 Talent ISO System that allows on-air talent to initiate talkback using their wireless microphone in conjunction with their wired or wireless IFB for two-way communication. Also available is the MAS-101 Multiple Antenna Management System for multiple-zone receive antennas that distribute to multiple receivers. New frequency-agile multiple-channel UHF wireless intercom systems are available and in stock for rent or purchase.

SYSTEMSSTORE.COM

112 Weldon Pkwy.
Maryland Heights, MO 63043
Brian Heimerl
314-872-8222 888-616-7980 Fax: 314-872-3009
E-mail: bheimerl@systemsstore.com
Web Site: www.systemsstore.com

Products/Services: SystemsStore.com is a Web site designed by radio engineers for radio engineers. Everything you need for station projects, day-to-day supplies and maintenance. Popular brands like Geppo, Belden, Neutrik, Switchcraft, Krone, Middle Atlantic, Siemens and SurgeX are featured.

New: Pre-wire console cable harnesses for major console

brands. Call or e-mail for a quote on your next studio project.

T AND T MEASUREMENTS

630 Copano Cove Rd.
Rockport, TX 78382
Larry Taft, Professional Engineer
361-729-5421 800-687-9161 Fax: 361-729-5421
E-mail: ltaft@2fords.net
Web Site: www.tandttmeasurements.com

Products/Services: We make the annual NRSC measurements for AM stations across the USA. Proofs for AM and FM stations. Broadcast engineering, maintenance and repair.

T.Z. SAWYER TECHNICAL CONSULTANTS

5272 River Rd. Ste. 460
Bethesda, MD 20816
T.Z. Sawyer, Owner
301-913-9287 800-255-2632 Fax: 301-913-5799
E-mail: tzsawyer@sawyer.com
Web Site: www.sawyer.com

Products/Services: Technical consulting services to AM, FM and TV stations worldwide. Services include frequency allocation studies, site selection criteria, preparation of FCC Forms and engineering exhibits, including auxiliary broadcast applications.

TAI AUDIO

4403 Vineland Rd. Ste. B-3
Orlando, FL 32811
Joe Guzzi
407-649-6444 800-486-6444 Fax: 407-648-1352
E-mail: taiaudio@aol.com
Web Site: www.taiaudio.com

Products/Services: Rental, sales and service of professional audio for film, video and television production. Wired and wireless microphones and intercom systems, lavaliers, walkie talkies, IFB, telephone interfaces, digital DAT recorders, time-code slates, mixing panels, playback, soundcars, boompoles, windscreens, shockmounts, cables and accessories. 24-hour service, 365 days a year.

TALK AMERICA RADIO NETWORKS

1455 E. Tropicana Ave. Suite 700
Las Vegas, NV 89119
Paul Lyle, Pres.
702-795-8255 Fax: 702-795-4740
E-mail: info@talkamerica.com
Web Site: www.talkamerica.com

Products/Services: Talk America syndicates 24 hours of talk radio to 400 affiliate stations throughout the United States and Canada.

TANNOY/TGI NORTH AMERICA INC.

335 Gage Ave. Ste. 1
Kitchener, ON N2M 5E1
CANADA
Marc Bertrand, Sales Dir.
519-745-1158 Fax: 519-745-2364
E-mail: mbertrand@tgina.com
Web Site: www.tannoy.com

Products/Services: Monitor loudspeakers for the professional audio market.

New: PS350B subwoofer with true bass management. Allows referencing between two-channel and surround monitoring systems at the flick of a switch.

TASCAM

7733 Telegraph Rd.
Montebello, CA 90640
Phil Sanchez
323-726-0303 Fax: 323-727-7635
E-mail: tascamweb@tascam.com
Web Site: www.tascam.com

Products/Services: Audio recorders, mixers, DJ products and related equipment for the pro audio industry. Products encompass hard-disk technology, CD recording, analog tape and more.

New: SX-1 Digital Production Environment. MX-2424SE Hard-Disk Recorder. CC-222 Rewriteable CD Recorder/Cassette Deck Combo. CD-RW402 Dual-Tray CD Player/CD-Recorder/Duplicator. CD-RW4U Rewriteable CD Recorder/Player. MD-350 MiniDisc Recorder/Player. CD-A630 Cassette/Triple CD Deck. 322 Dual-Well Cassette Deck.

TAYLOR BROADCASTING CORP.

PO Box 212
Franklin Park, NJ 08823
Robert B. Taylor, Pres.
732-398-3655 866-810-7330 Fax: 702-554-2585
E-mail: rob@taylorbroadcasting.com
Web Site: www.magicofthe80s.com

Products/Services: Produces national radio programs, including "The Magic of the 80s" hosted by Tom Furci of WHYD, New York. Also production, mastering and re-mastering services for

the radio and recording industries.

New: "The Magic of the 80s" is designed for AC radio stations, and features music and memories from 1980-1989. This weekly two-hour program is available to stations on a 100-percent barter basis.

TC ELECTRONIC USA

742-A Hampshire Rd.
Westlake Village, CA 91361
Ed Simeone, Managing Dir.
805-373-1828 Fax: 805-379-2648
E-mail: eds@tcelectronic.com
Web Site: www.tcelectronic.com

Products/Services: TC Electronic produces digital signal processors, including reverbs, delays, multi-effects processor, equalizers for stereo and multi-channel applications.

New: M-One XL multi-effects processor, System 6000 multi-channel processor, D-Two digital delay, D22 digital broadcast delay, db8 digital HDTV broadcast maximizer, loudness control and AGC.

TDP

PO Box 1
B-2310 Rijkvorseel
BELGIUM
Ludo Maes
011-32-33-147800 Fax: 011-32-33-141212
E-mail: info@transmitter.org
Web Site: www.broadcast.be

Products/Services: Manufacturer of radio broadcast transmitters for FM, AM and SW under the Ecor brand name.

TECHNET SYSTEMS GROUP

PO Box 422
Auburn, NH 03032
Steve Vanni, Pres.
603-483-5365 888-832-4638 Fax: 603-483-0512
E-mail: svanni@technetsystems.com
Web Site: www.technetsystems.com

Products/Services: Broadcast equipment supplier and distributor for radio and television specializing in turnkey packages including planning, design, equipment, installation, towers and FCC licensing.

TELECAST FIBER SYSTEMS INC.

102 Grove St.
Worcester, MA 01605
Richard Cerny, Pres.
508-754-4858 Fax: 508-752-1520
E-mail: rcerny@telecast-fiber.com
Web Site: www.telecast-fiber.com

Products/Services: Portable and fixed fiber-optic systems for television broadcast production. Its video, audio and communications systems are used by TV networks, teleproduction companies, telecommunications providers and private and government institutions and facilities.

New: The Adder 161 multiplexes and transmits 16 audio, two data signals and two switch closures over one optical fiber or a 75-ohm coaxial cable. Signals remain clean, distances increase, and costs and labor decrease. Fiber cable electrically isolates, and eliminates problems of ground faults and lightning. Fiber cable also eliminates electromagnetic and radio frequency interference. No clicks; no pops; no crosstalk; no hum.

TELECAST GROUP AS

NTP Elektronik AS Knapholm 7
DK-2730 Herlev
DENMARK
Caryn Borstad, Mktg.
011-45-44-53-11-88 Fax: 011-45-44-53-11-70
E-mail: caryn.boerstad@telecast.dk
Web Site: www.telecast.no

Products/Services: The audio division of TeleCast Group As, based in Copenhagen, specializes in delivering integrated audio solutions for radio studios. It supplies digital routing systems based on the NTP625 system with management control using the NTP660 visual matrix control.

New: NTP625 MK II audio routing system.

TELEX COMMUNICATIONS INC.

12000 Portland Ave. S.
Burnsville, MN 55337
James Edlund
952-884-4051 800-392-3497 Fax: 952-884-0043
E-mail: james.edlund@telex.com
Web Site: www.telex.com

Products/Services: Audio, wireless, multimedia, aircraft, broadcast and communications equipment for commercial, professional and industrial customers. Telex Communications markets products in more than 80 countries under the brands EV, Telex, RTS, Dynacord, Midas, Klark, Teknik, University and others.

New: FMR-10 UHF wireless microphone system designed for sound contractors, A/V rental facilities, vocalists or other

users; includes ClearScan Auto Channel Select and 10-channel frequency agility. Also the UT-102 plug-on transmitter for the ENG-100 portable UHF receiver. The crystal-controlled, frequency-agile plug-on transmitter lets sound engineers and live broadcast engineers convert standard wired dynamic microphones into wireless-capable transducers. Also the BTR-800, a two-channel UHF intercom system designed for applications in which two distinct channels of intercom need to be accessed by one or more wireless extension to the intercom system.

TELOS SYSTEMS

2101 Superior Ave.
Cleveland, OH 44114
Marty Sacks, National Sales Dir.
216-241-7225 Fax: 216-241-4103
E-mail: info@telos-systems.com
Web Site: www.telos-systems.com

Products/Services: ISDN, digital network and telephone interface products for talk-show programming, call-in radio segments, teleconferencing, audio production, remote broadcasts and intercom applications.

New: SmartSurface, an intelligent studio controller that works with today's routing switchers that have mixing and processing capabilities. Helps you reduce studio cost and complexity by providing centralized control of audio servers, mixing/routing engines and peripherals. Also the Zephyr Xstream family of ISDN codecs, designed to transmit high-quality audio over single ISDN circuits. MPEG-2 AAC (Advanced Audio Coding) and AAC-LD (low-delay variant) allow greater transmission fidelity at lower bit rates. Includes 10-Base Ethernet for remote control and streaming of MP3 coded audio.

TENTEL CORP.

4475 Golden Foothill Pkwy.
El Dorado Hills, CA 95762
Wayne Graham, Sales Mgr.
916-939-4005 800-538-6894 Fax: 916-939-4114
E-mail: info@tentel.com
Web Site: www.tentel.com

Products/Services: Manufacturer of the Tentelometer tape tension gauge and other mechanical test equipment for magnetic tape transports.

TERACOM COMPONENTS

298 Roosevelt Trail PO Box 830
South Casco, ME 04077
Larry Boone, Pres.
207-627-7474 Fax: 207-627-7473
E-mail: larry.boone@teracom-c.com
Web Site: www.teracom-c.com

Products/Services: RF design and development for the telecom and broadcasting industries. Manufactures RF systems for FM, TV and DTV. Components including filters, combiners, antennas, connectors, rigid line and engineering software.

New: FLEX series range of broadband tunable coaxial filters for digital transmitters from 1 to 5 kW. The filters feature contactless tuners, temperature stabilization, cross coupling for improved rejection and welded aluminum construction.

TFT INC.

2243 Ringwood Ave.
San Jose, CA 95131-1737
408-727-7272 Fax: 408-727-5942
E-mail: info@tftinc.com
Web site: www.tftinc.com

THOMPSON CREATIVE

4631 Insurance Ln.
Dallas, TX 75205
Larry Thompson, CEO
214-559-4000 800 RADIO-ID Fax: 214-521-8578
E-mail: larry@thompsoncreative.com
Web Site: www.thompsoncreative.com

Products/Services: Custom and syndicated radio jingles for all formats. Thompson Creative uses a variety of singers, composers, arrangers and engineers to provide cutting-edge musical imaging and promo music.

New: New custom packages for KS-95/Minneapolis, KIKK/Houston, WMHK/Greenville, S.C., Star 93-7/Boston & Y100/San Antonio. Check out samples at www.thompsoncreative.com.

THUM + MAHR GMBH

Heinrich-Hertz-Str. 1-3
D-40789 Monheim
GERMANY
Jörg Eudenbach, PR Mgr.
011-49-2173-96730 Fax: 011-49-2173-967400
E-mail: jeudenbach@thummahr.de
Web Site: www.thummahr.de

Products/Services: European system integrators for broadcast

customers in private and public radio and TV, and a consultant for IT solutions and technical planning. German dealer for Telos Systems, Cutting Edge, KS digital, Dalet, Dateq, 360 Systems, Yellowtec and Maycom.

New: From the Yellowtec Product Range, VIP/digital voice processor. Intellimix digital desktop mixer.

TIELINE AMERICA

5555 N. Tacoma Ave., Suite 101
Indianapolis, IN 46220
Kevin Webb, GM
317-259-8000 888-211-6989 317-259-8040
E-mail: sales@tieline.com
Web site: www.tieline.com

Products/Services: Tieline codecs and ProSolutions AV products. Tieline POTS and POTS/ISDN codecs feature Express, Commander, Pursuit and the new I-Mix. All deliver 15-kHz FM-quality two-way audio and STL-grade connections. ProSolutions provide low-cost broadcast audio and video products.

New: Tieline i-Mix, broadcast mixer with POTS, optional ISDN codec. Five mic/line inputs, 15-kHz two-way audio, stable STL-grade connection. IP and G3 cellular capable. 15 kHz ISDN plus G.722.



Tieline America

Tieline POTS and POTS/ISDN codecs feature Express, Commander, Pursuit and the new I-Mix. All deliver 15-kHz FM-quality two-way audio and STL-grade connections. ProSolutions provide low-cost broadcast audio and video products.

888-211-6989

www.tieline.com

TIELINE
DIGITAL AUDIO CODEC

TOBY ARNOLD & ASSOCIATES INC./ TA&A

3234 Commander Dr.
Carrollton, TX 75006
Dolly Arnold, VP/COO
972-661-8200 800-527-5335 Fax: 972-250-6014
E-mail: toby@taamusic.com
Web Site: www.taamusic.com

Products/Services: Specializes in high-intensity station imaging, promos, sweepers, ID staggers and promo, commercial libraries for radio formats and TV. Product is available for cash or on barter in selected markets.

New: Station Imaging: Deep Impact, Rock Impact, Power Control, Mage Control, AC Plus III, Image AC, Stampede, Urban Street Beats; Commercial Libraries: Lifestyles III, Lifestyles IV.

TOP ECHELON NETWORK

PO Box 21390
Canton, OH 44701-1390
Andrew Hammer, Mktg. Mgr.
330-455-1433 Fax: 330-455-8813
E-mail: marketing@TopEchelon.com
Web Site: www.OccupationStation.net

New: Occupation Station is a career center that can be added to your station Web site. Top Echelon Network powers this tool, allowing you to capture non-traditional employment classifieds revenue from your site. Brand your station and generate revenue typically left to newspapers with the free Web site add-on.

TRANSCOM CORP.

2655 Philmont Ave. Ste. 200
Huntingdon Valley, PA 19006
Martin Cooper, Pres.
215-938-7304 800-441-8454 Fax: 215-938-7361
E-mail: transcom@fmamtv.com
Web Site: www.fmamtv.com

Products/Services: We sell used AM and FM transmitters as well as new TV transmitters, antennas, cable and studio equipment.

New: TV transmitters and translators up to 1 kW.

TRANSLANTECH SOUND LLC

2480 SE 52nd St.
Ocala, FL 32671
Broadcasters General Store
352-622-7700 Fax: 352-629-7000
E-mail: Sales@translantech.com
Web Site: www.translantech.com

Products/Services: Helps broadcasters sound better with the award-winning Ariane Stereo Audio Leveler and professional audio processing consulting services. The Ariane is distributed through Broadcasters General Store, Ocala, FL.

New: The Ariane Stereo Audio Leveler was introduced at the 2001 Las Vegas NAB, where it won Radio World's prestigious "Cool Stuff" Award.

TRF PRODUCTION MUSIC LIBRARIES

747 Chestnut Ridge Rd.
Chestnut Ridge, NY 10977
Eric Nurko
845-356-0800 800-899-MUSIC Fax: 845-356-0895
E-mail: eric@trfmusic.com
Web Site: www.trfmusic.com

Products/Services: Production music for radio broadcast. More than 50,000 selections (4,000 discs). Twelve libraries include Pyramid, Cobra, Dennis, MP 2000, Musictrack, PowerSound, Spain Is Music, Stock, Supraphon and the PAN library of authentic international ethnic music. Complete Classical library. Sound Effects library. Special Annual Blanket Program allows broadcasters to design their own library at an economical rate. New releases recorded monthly. Free catalogs and music sampler upon request.

New: The Kool Kat Production Music Library with 30 compact discs of contemporary and retro/traditional recordings with a selection ranging from cutting-edge Electronica, Hip-Hop, Techno, Rock, Extreme Sports and Action to old-school Funk, Country/Folk and Ragtime. An additional 20 CDs to be released in 2002.

TRUE SYSTEMS/NEUMANN USA

1 Enterprise Drive
Old Lyme, CT 06420
Karl Winkler
860-434-5220 Fax: 860-434-3148
E-mail: info@neumannusa.com
Web Site: www.neumannusa.com

Products/Services: True Systems is a product line of Sunrise Engineering and Design Inc., which is involved with consulting, design and manufacture of electronic equipment used in professional audio production, including recording and broadcast studios, concert halls, remote recording and live sound reinforcement.

New: P2 Analog microphone preamplifier, P2 Digital microphone preamplifier with 24/96 conversion.

TWR LIGHTING DIVISION, O2WIRELESS SOLUTIONS INC.

1630 Elmving Drive
Houston, TX 77080
Sandra Prewitt
713-973-6905 Fax: 713-973-6652
E-mail: sprewitt@o2wireless.com
Web Site: www.o2wireless-twr.com

Products/Services: ETL-certified and FAA-approved manufacturer of aviation obstruction lighting, providing medium-intensity strobe systems, dual, white and red. Also manufacture red incandescent aviation lighting. Light kits available. 24/7 technical assistance. Tower monitoring services from NOC Center.

Transec Corporation
Studio Equipment

**Supplying used AM & FM transmitters to
broadcasters for over 24 years. We now
feature New TV Transmitters up to 1 KW
from TECHNOLOGIX.**



**Call us for pricing on new TV,
studio and RF equipment.**

800-441-8454

U.S. COMMERCE EQUIPMENT FINANCE LLC

1985 Bluestone Dr.
St. Charles, MO 63303
Harrison Bohn, VP 800-788-3838 Fax: 800-758-5327
E-mail: hbohn@us-commerce.com

Web Site: www.us-commerce.com

Products/Services: Lease purchase financing for companies seeking to acquire broadcast equipment. All companies, religious organizations and municipalities are eligible.

UNIMAR INC.

PO Box 543
Liverpool, NY 13088
Michael A. Marley, Pres./Tech. Advisor.
315-622-5745 800-739-9169 Fax: 315-622-5746

E-mail: unimar@unimar.com

Web Site: www.unimar.com

Products/Services: Standard & custom aviation obstruction lighting control systems for communication towers and other tall structures. Supplier of obstruction lighting control accessories: beacons, side lights, alarms, photo-controls, lightning arrestors, auto-dialers.

New: The ALTR alternates between each light in a double obstruction light assembly each time the tower lights are energized by the photo-control, ensuring equal usage of the lights over the life of the lamps.

VALCOM LIMITED

5614 Hollins Rd.
Roanoke, VA 24019
540-563-2000 Fax: 540-362-9800

E-mail: info@valcom.com

Web site: www.valcom.com

VALENTINO MUSIC AND SOUND EFFECTS LIBRARY

500 Executive Blvd.
Elmsford, NY 10523
Thomas Valentino
800-223-6278 Fax: 914-347-4764

E-mail: info@tvmusic.com

Web Site: www.tvmusic.com

Products/Services: Production music and sound effects libraries for use by filmmakers, TV and radio stations. Three flagship libraries are the Evergreen music library (113 CDs), the Valentino Music Library (97 CDs) and the Valentino Sound Effects Library (50 CDs).

New: New products for 2001 include the Millennium Music Library (20 CDs) and the Action Sound Effects Library (5 CDs).

VCS ENGINEERING

Borgmannstr. 2
D-44894 Bochum
GERMANY
Klaus Bruns, Head of Mktg and Sales
011-49-234-9258-0 Fax: 011-49-234-9258-190

E-mail: kbr@vcs.de

Web Site: www.dira.de

Products/Services: Systems for computer-aided radio broadcasting range from standard products to customer-specific solutions. Products support the workflow within radio stations: editors' workplaces, on-air area, program exchange, recording, transfer, integration of existing systems (e.g., rotations, commercial systems, etc.) as well as Web radio and digital long-term archive systems.

New: Software modules: dira!EventLogger cuts audio directly from incoming lines, for on-the-spot accounts; dira!EasyDoc and dira!EasyDoc/Plus legal recording and digital aircheck system for varied programs for analysis of the contents.

VIDEOQUIP RESEARCH LTD.

4-595 Middlefield Rd.
Toronto, ON M1V 3S2
CANADA
Joseph Costa, VP Engineering
416-293-1042 888-293-1071 Fax: 416-297-4757

E-mail: vrl@videoquip.com

Web Site: www.videoquip.com

Products/Services: Digital and analog broadcast and professional audio/video products, including routers, level matching systems, signal converters, distribution/duplication amplifiers, monitoring and metering devices, pro audio products and machine control devices.

New: DSG-1 portable digital/analog audio signal generator, SRC-1 digital audio sample rate converter, MDA-8 modular audio/video distribution system, S-101DAV digital audio/video 10x1 router.

V-SOFT COMMUNICATIONS

1600 Picturesque Dr.
Cedar Falls, IA 50613
Jake Byers
319-266-8402 800-743-3684 Fax: 319-266-9212

E-mail: jbyers@v-soft.com

Web Site: www.v-soft.com

Products/Services: Professional-quality broadcast engineering software for the PC as well as technical consulting. Programs and services include propagation prediction, AM/FM/TV frequency searches, radio path analysis, RF hazard compliance, coverage and interference maps, DTV interference analysis, application preparation.

New: AM-Pro produces coverage and allocations for AM daytime and nighttime. Also online DTV analysis using the same Sun Sparc computer and program as the FCC.

WALTERS-STORYK DESIGN GROUP INC.

262 Martin Ave.
Highland, NY 12528
Patti TeNyenhuis
845-691-9300 Fax: 845-691-9361

E-mail: info@wsdg.com

Web Site: www.wsdg.com

Walters-Storyk Design Group

WSDG has provided world-class architectural and acoustic design for professional audio and video facilities for 30 years. Principals Beth Walters, John Storyk, Sam Berkow and Scott Yates are leaders in the design field. John Storyk is a frequent contributor to professional periodicals. Sam Berkow is the creator of acoustical testing software, SMAART.

Recent projects: 5.1 mixing studios WNET, NYC; multi-studios for WETA, an NPR station in Washington D.C.; home of Jim Kramer's Real Money Talk Show, NYC; Interlochen Public Radio's ground-up facility, Michigan and 1,200 studios, post-production and video conferencing rooms.



www.wsdg.com

WARD-BECK SALES INC.

408 S.W. 2nd Avenue Ste. 314
Portland, OR 97204
Michael Jordan
503-222-9621 866-771-2556 Fax: 503-222-9651

E-mail: michael@ward-beck.com

Web Site: www.ward-beck.com

Products/Services: U.S. dealer for Ward-Beck Systems Ltd.

WARD-BECK SYSTEMS LTD.

455 Milner Ave. Ste.10
Toronto, ON M1B 2K4
CANADA
Eugene Johnson, Managing Dir.
416-335-5999 800-771-2556 Fax: 416-335-5202

E-mail: eugene@ward-beck.com

Web Site: www.ward-beck.com

Products/Services: Terminal gear to interconnect, monitor, distribute and convert analog audio, AES digital audio, analog video and SDI digital video signals.

New: Serialbox, a fresh connectivity concept. Rack-mount frame containing 10 cards for digital and analog audio and video signal routing, distribution, conversion and monitoring. Also, XTM4 Extended Range Meter/Monitor now available with SDI option; AMS4 Audio Monitor System now available with SDI option.

WAVE:SPACE INC.

26741 Portola Pkwy. 1E
Foothill Ranch, CA 92610
Carl J. Yanchar, Pres.
949-770-6601 Fax: 949-770-6575

E-mail: carl@wave-space.com

Web Site: www.wave-space.com

Products/Services: Acoustical design and engineering firm specializing in recording, video, motion picture and broadcast facilities.

WAVES LTD

306 W Depot Ste. 100
Knoxville, TN 37917
Mick Olesh, VP Sales
865-546-6115 Fax: 865-546-8445

E-mail: maxxstreaminfo@waves.com

Web Site: www.maxxstream.com

Products/Services: MaxxStream is a tool for online broadcast

of radio streaming. It integrates capture, processing and encoding on one workstation. It performs real-time streaming with full-spectrum sound at any sample/bit rate and format. Includes Waves processors that render CD-quality music without overly compressed sound.

New: MaxxStream LX is an entry-level version with reduced features, at \$1,000 MSRP. Benefits are broadband sound from narrowband transmission, multiple encoding resolutions, simple integrated solution and customizable tuning.

WEATHER METRICS INC.

14645 W. 95th St.
Lenexa, KS 66215
Peter Levy, Pres.
913-438-7666 800-869-6629 Fax: 913-438-2666

E-mail: peter@weathermetrics.com

Web Site: www.weathermetrics.com

Products/Services: The City Weather system is a live, local weather tool that reaches into the community and provides on-air dynamic real-time, weather information from your audience's backyards. The radio station strategically places weather stations throughout the DMA to attract new audience. Critical weather data is sent from all of the weather sites simultaneously, live and real-time.

WEATHER RESEARCH CENTER

3227 Audley
Houston, TX 77098
Jill Hasling
713-529-3076 Fax: 713-528-3538

E-mail: wrc@wxresearch.com

Web Site: www.wxresearch.com

Products/Services: A non-profit weather forecast, research and education facility formed in 1987 to promote the need for weather education and safety. Fees for forecast services are used for operating expenses and all profits and donations are used for education programs including Weather Camp, The Weather Museum and tours and talks for groups of all ages.

WEISS ENGINEERING LTD.

Florastrasse 42
CH-8610 Uster
SWITZERLAND
Daniel Weiss, Pres.
011-41-1940-2006 Fax: 011-41-1940-2214

E-mail: weiss@weiss.ch

Web Site: www.weiss.ch

Products/Services: Digital audio products like A/Ds, D/As, equalizers, dynamics, de-essers, sampling rate converters, more.

New: Two-channel 24-bit/96-kHz D/A converter.

WENGER CORP.

555 Park Dr.
Owatonna, MN 55060
Chris Mislinksi, Area Sales Mgr.
800-326-8373 Fax: 507-446-0349

E-mail: chris.mislinksi@wengercorp.com

Web Site: www.wengercorp.com

Products/Services: Architectural acoustical products including relocatable sound isolating rooms, absorber & diffuser panels, acoustical clouds, sound isolating doors and orchestra shell enclosures. Staging platforms, as well as furniture for musicians and production facilities.

New: STC 51 Acoustical Door, featuring innovative design for ease of installation. Upper Deck Tiered Audience Seating Platforms feature simple setup & storage. Portable Audience Chair is a padded & upholstered folding chair with armrests and lumbar support.

WHEATSTONE CORP.

600 Industrial Dr.
New Bern, NC 28562
Jim Peck
252-638-7000 Fax: 252-635-4857

E-mail: sales@wheatstone.com

Web Site: www.wheatstone.com

Products/Services: Audio mixing consoles for the broadcast industry. Professional broadcast audio equipment under the Wheatstone, Audioarts Engineering and Audiotronics brand names. The company also markets a digital audio network router and several lines of studio furniture, as well as a unique studio interface wiring system.

New: The A-2000 is a streamlined, modular, compact and versatile console for multi-station buildouts. The Bridge 2001 Digital Audio Network Router is a practical solution for growing studios with mixed audio standards. Wiremax Panels are "plug-and-play" studio interface modules. The company also offers Preference, Techline and Eclipse studio furniture to accommodate a range of decor and budget.

WHIRLWIND

99 Ling Rd.
Rochester, NY 14612
Al Keltz

716-663-8820 800-733-9473 Fax: 716-865-8930

E-mail: sales@whirlwindusa.com

Web Site: www.whirlwindusa.com

Products/Services: Digital audio networks, bulk cable and connectors, custom multichannel systems, DIs, splitters, testers, black boxes, medusa snakes & multitrack systems, panels, plates, boxes, floor boxes, patchbays, MASS punch panels, pre-wired cables, transformers, mixers, press boxes, amplifiers. U.S. Audio division of specialty products. Distributor for ADC, Neutrik, Belden.

New: DCS88 CobraNet digital network audio transceivers with remote power capability; cDI dual stereo direct box (DI); Split six-way line-level splitter.

WhisperRoom Inc.

116 S. Sugar Hollow Rd.

Morristown, TN 37813

Sales: 423-585-5827 800-200-8168 Fax: 423-585-5831

E-mail: whisper@lcs.net

Web Site: www.whisperroom.com

Products/Services: Portable/modular Sound Isolation Enclosures. Seventeen sizes and two levels of isolation for immediate shipment. Sizes from 2.5'x3.5' to 8.5'x15.5'. Standard features: door window, ventilation system(s) and cable passages. Optional features: wall window, caster plate, ventilation silencing system and SoundWave Deflection System.

New: SoundWave Deflection System is designed to convert parallel walls to non-parallel. Reflection and standing waves are controlled by the easy attachment of deflector panels. (SE 2000 Models only).

Who Did That Music? Libraries

2040 Armacost Ave.

Los Angeles, CA 90025

Debra Grobman/Alana Shapiro

310-442-1440 800-400-6767 Fax: 310-442-1448

E-mail: info@thatmusic.com

Web Site: www.whodidthatmusic.com

Products/Services: Music libraries serving all media. Twelve music and sound effects libraries including Who Did That Music?, Gravity, Ignite, Revolucion, MindBenders, Unity, Tuff, BPM-Bosworth, Fontana, Fontana sound effects, Sound-Pol and Sound-Pol Classical Collection.

WICKS BROADCAST SOLUTIONS

The Global Voice in Radio Software Solutions, Wicks develops, sells and supports the most popular traffic and billing products in the world. Almost 8,000 client stations in 19 countries allows Wicks the ability to improve and expand its services and support already offered while providing a greater menu of traffic and billing software solutions to future clients.

DeltaFlex™ and Visual Traffic™ traffic and billing systems are joined by Control Tower™ data warehousing software, RateMinder™ yield maximization software, SalesMinder™ sales force automation software and Invoice Express™ electronic invoicing software.

**800-547-3930 or
800-932-1533**



Wicks Broadcast Solutions

PO Box 3078 508 S. 7th St.

Opelika, AL 36803

Bill Price, Sales Mgr.

334-749-5641 800-932-1533 Fax: 334-749-5666

E-mail: sales@wicksbroadcastsolutions.com

Web Site: www.wicksbroadcastsolutions.com

Products/Services: Wicks Broadcast Solutions provides the most popular radio broadcast management software products in the world. With almost 8,000 client stations in 19 countries (approx. 65 percent of U.S. commercial stations), the blending of DBSI DeltaFlex, Datacount and Visual Traffic system allows Wicks the ability to improve and expand the services and support already offered existing clients while providing a greater menu of traffic and billing software solutions to future clients.

New: DeltaFlex Broadcast Management Systems are designed as the most comprehensive traffic and billing to meet the needs of duopolies and the most demanding

stations. Visual Traffic: designed to work with Microsoft Windows operating systems, provides easy operation from order entry through invoicing. Control Tower: provides data warehousing capabilities to Wicks' systems. RateMinder: sales proposal tool creates more attractive packages while maximizing yield. SalesMider: sales force automation tool and Invoice Express electronic invoicing component provide additional functions in each of our traffic systems.

Will-Burt Co.

169 S. Main St. P.O. BOX 900

Orrville, OH 44667

Steven Pinkley

330-682-7015 Fax: 330-684-1190

E-mail: contact_us@willburt.com

Web Site: www.willburt.com

Products/Services: Pneumatic telescoping masts for use in the radio market. Products include vertical masts, standard-duty masts, Hurry Up masts and accessories.

Winemiller Communications Inc.

99 Garden Pkwy.

Carlisle, PA 17013

Jan Winemiller, Pres.

717-241-4400 888-486-3031 Fax: 717-241-9207

E-mail: jan@winemiller.com

Web Site: www.winemiller.com

Products/Services: Remanufactured broadcast vehicle sales, rentals and rebuilding of your current trucks. WCI offers engineering services, including microwave system design and installation, and new/used equipment sales and rentals.

New: Cost-effective rebuild services for broadcast vehicles. Wheels-to-Mast package includes two-year mechanical warranty, new generator, carpet, seats, nycoil, paint, rebuilt mast, meticulous detailing. Custom quotes on request.

WireReady NSI

56 Hudson St.

Northboro, MA 01532

Jeff Lonberger, Pres.

508-393-0200 800-833-4459 Fax: 508-393-0255

E-mail: sales@wireready.com

Web Site: www.wireready.com

Products/Services: Sales and software for event-driven ad sales, newsroom software system with direct Web publishing capabilities, production software, wire and audio capture, automated telephone storm closing and poll-taking software, music-on-hard-drive, automation, technical support 24/7 800, turnkey systems available.

New: QuickRecorder Windows-based screen for easy audio recording with Internet send capabilities for remote production, customizable compression, and multi-track editor. WAV compatible.

Wireworks Corp.

380 Hillside Ave.

Hillside, NJ 07205

Gerald Krulwicz, Pres.

908-686-7400 800-642-9473 Fax: 908-686-0483

E-mail: sales@wireworks.com

Web Site: www.wireworks.com

Products/Services: Audio and video cabling systems including multipin-based disconnectable cabling components, transformer-isolated microphone splitters, audio/video multipin cabling systems, and microphone, coaxial, speaker and control cable assemblies. Perfect Custom Panels, TE-3+, TEN-4 and TEC256 cable testers.

New: WireLUX premium quality audio cables.

Wohler Technologies Inc.

713 Grandview Dr.

South San Francisco, CA 94080

Chris Shaw, Sales Dir.

650-589-5676 888-5-WOHLER Fax: 650-589-1355

E-mail: sales@wohler.com

Web Site: www.wohler.com

Products/Services: In-rack audio and video monitoring; self-powered speaker systems and level meters for analog and digital environments.

New: AMP-2L8 Series Multichannel audio monitors; MON2-3; MON2-3W; VAMP AC-3 Video Monitors.

Woodline Furniture, Inc.

397 54th St. SW

Wyoming, MI 49548

Rob Smit, Pres.

616-261-9600

E-mail: woodline@usxchange.net

Web Site: www.woodlinefurniture.com

Products/Services: Furniture for the broadcast industry. Consultation and design services available.

New: Recessed computer monitor broadcast desk.

XM Satellite Radio

1500 Eckington Pl. NE

Washington, DC 20002

Jennifer Markham

202-380-4000 Fax: 202-380-4500

E-mail: jennifer.markham@smradio.com

Web site: www.xmradio.com

Xytech Systems Corp.

3500 N. San Fernando Blvd.

Burbank, CA 91505

Hugh Heinssohn, GM

818-767-7400 Fax: 818-767-7430

E-mail: hheinssohn@xytechsystems.com

Web Site: www.xytechsystems.com

Products/Services: Xytech Systems helps media organizations maximize the utility and profitability of their media assets, human resources and physical plants by providing integrated software solutions, customer support, training and consulting services. Staff includes veterans with experience in the studio, post-production and broadcasting environments.

New: Enterprise Rental is a collection of programs, reports and utilities that provide control and automation of the rental tracking process; designed for individual rental facilities and large companies.

Yamaha Corporation of America, Commercial Audio Division

6600 Orangethorpe Ave.

Buena Park, CA 90620-6600

Larry Italia, Nat'l Sales & Mktg. Mgr.

714-522-9011 Fax: 714-522-9522

E-mail: info@yamaha.com

Web Site: www.yamaha.com/proaudio

Products/Services: Professional audio products for the commercial recording, production, broadcast, radio, project studio, live sound and sound reinforcement markets.

New: AW2816 is a digital audio workstation modeled after the AW4416. This compact system records up to 16 tracks of 24-bit digital audio and includes motorized faders, DSP features, automation/snapshot capability and MIDI remote.

Zack Electronics

1070 Hamilton Rd.

Duarte, CA 91010

Dennis J. Awad, Pres.

626-303-0655 Fax: 626-303-8694

E-mail: info@zackinc.com

Web Site: www.zackinc.com

Products/Services: Wholesale distributor of audio, video, broadcast products servicing the radio industry with products from Switchcraft, Neutrik, Kings Electronics, Belden, Commscope, Canari, other manufacturers.

Zaolla

6920 Hermosa Cir.

Buena Park, CA 90620-1151

Rob Manning, National Sales Mgr.

714-736-9270 800-255-7527 Fax: 800-522-4542

E-mail: sales@zaolla.com

Web Site: www.zaolla.com

Products/Services: Silverline high-grade wiring solutions to audio, broadcast, pre and post and the MI industry. Solid silver core precision annealed conductors deliver pristine signal at 1/7th the resistance of even the most expensive copper wire. Multiple shield layers isolate RF so critical signal paths remain absolutely quiet.

New: DCR (S/PDIF), ICR / ICP /ICPR (Audio interconnect) G (Instrument) & M (Microphone) & BNCR (Word clock)-Series: Solid silver core, triple shielded, multiple dielectric insulation, PVC jacket.

Z-Systems Audio Engineering

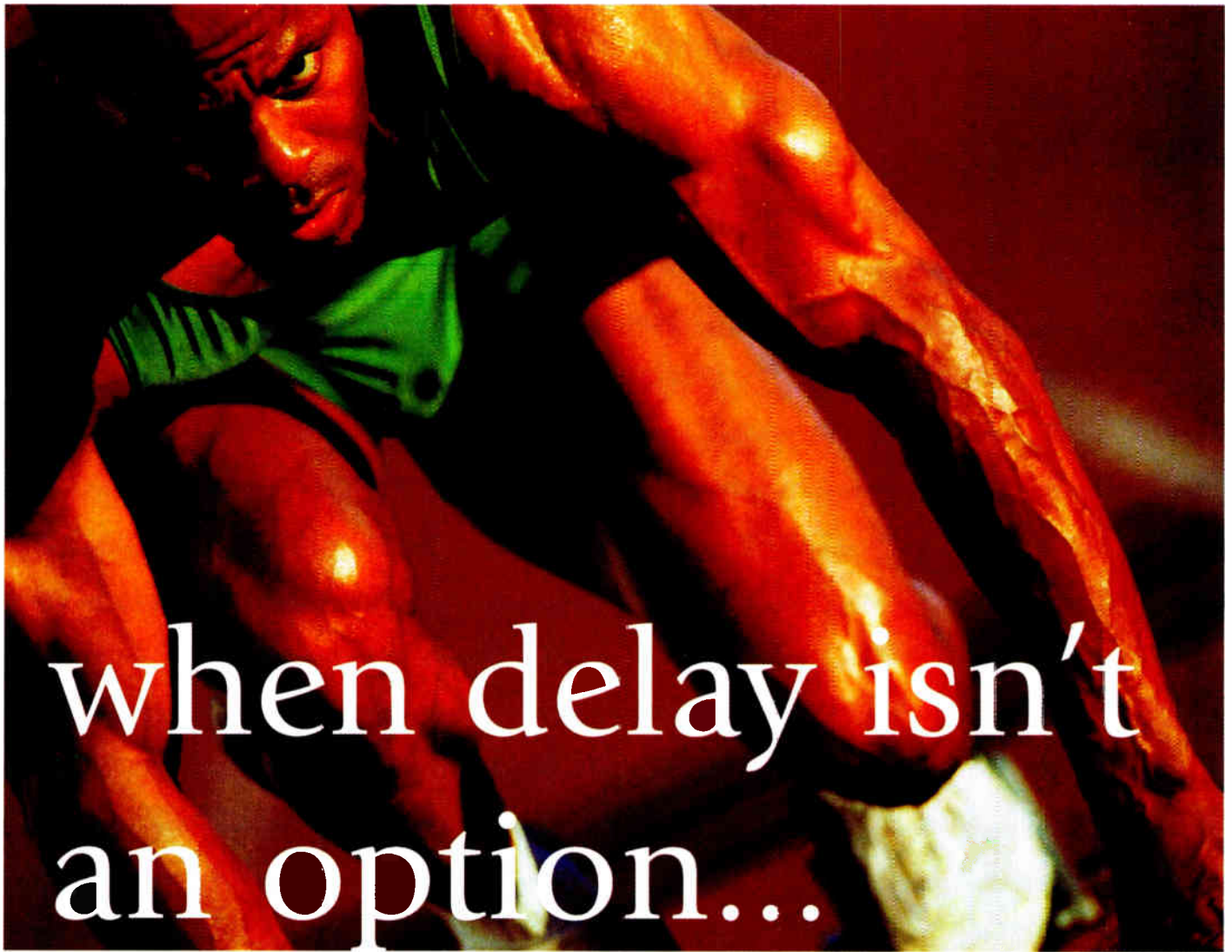
4641-F NW 6th St.

Gainesville, FL 32609

352-371-0990 Fax: 352-371-0093

E-mail: z-sys@z-sys.com

Web site: www.z-sys.com



when delay isn't an option...



Introducing the WorldNet Milano
from Audio Processing Technology

In the broadcast studio as much as on the running track, there are times when delay just isn't an option.

WorldNet Milano guarantees negligible coding delay, resilience to multiple coding along with increased dynamic range by offering 16, 20 and 24-bit Enhanced apt-X™.

It is a full duplex, multi-channel ISDN audio codec with optional SMPTE timecode.

For inter-studio networking, temporary broadcasts and STL applications with ISDN backup, WorldNet Milano leaves the competition standing.



Audio Processing Technology Ltd Tel: +44 28 9037 1110 Fax: +44 28 9037 1137
Audio Processing Technology Inc Tel: +1 323 463 2963 Fax: +1 323 463 8878
Audio Processing Technology KK Tel: +81 3 3520 1020 Fax: +81 3 3520 1022

aptmarketing@aptx.com

www.aptx.com

ENCO and WOR, Perfect Together

by Thomas R. Ray III, CSRE
Corporate Director of Engineering
Buckley Broadcasting/WOR (AM)

NEW YORK Around the end of 2000, it became obvious that WOR(AM) would need to replace the digital audio system it was using. First, the system was five years old, a millennium in computer years. Next, we simply had outgrown the features the system offered.

WOR is a 50-kW flamethrower in the No. 1 market in the country, with a signal that can be heard from Maine to Florida and as far west as Indiana. We have a proud history to maintain, having originated such shows as "The Cisco Kid" and "The Shadow" during radio's heyday.

We produce live programming on WOR for at least 12 hours each day. In addition, we also operate The WOR Radio Network, and carry our own network during the other 12 hours of the day. The network is 24/7.

In 2000, we added Network #2, which primarily refeeds programming from Network #1, all placing a load on the digital system. And we were talking about adding a third network.

I had been familiar with ENCO DADpro32, having installed and programmed several systems with my stint as installation services manager for the now-defunct Northeast Broadcast Lab.

I started looking around at the systems available in the event I found something better that could meet my specifications. When we wanted to start experimenting with our third network, I decided to purchase a single ENCO DADpro32 workstation to see what it could do.

We were impressed, particularly the management of WOR; and we purchased a full ENCO DADpro32 system in January.

Our specifications included, but were not limited to:

1. The ability to place software flags in the audio cuts to trigger external relays to send cues to the satellite uplink. We had been tying up the right channel with touch-tones, and wanted to go stereo.

2. The ability to edit audio files, includ-



Tom Ray, left, and Kerry Richards pose with the ENCO servers.

ing the ability to edit the software flags.

3. The ability to run multiple logs on one computer, giving us the ability to refeed both networks off of one computer.

4. The ability to tell the computer to do exactly what we needed it to do.

5. Storage on a Novell or Windows-2000 server, with mirrored, spanned and duplexed hard drives.

6. Support, support, support.

As with any digital system, the DAD has good points and bad points.

The major good point is that the system comes out of the box with no preconceived notions about how your station should operate. It is powerful and you can program it to do just about anything your station needs, except paint the tower.

The bad point is that the system comes out of the box with no preconceived no-

tions. DAD has so many features, you just don't know where to start.

The system arrived and was promptly installed in the racks in Master Control.

We then held a meeting with WOR's 15 operators. I introduced DAD to our operators on my laptop in the conference room. Talk about impressing the masses.

The operators took to the DAD fairly quickly with its intuitive interfaces. DADpro32 has many different "machines" or modules, available to run your format.

We insisted that the network logs be run in a playback, or laundry list, machine. This would keep the timing proper for the network breaks. For everything else, the ops are on their own. Some operators use the on-screen "cart machines." Others use the playback decks. Others use the one-button wonder arrays.

There have been no complaints and mistakes have been reduced to practically zero.

To run two networks plus an on-air station in the largest market in the country,

Continued on p. 87

All-in-One Matrix Goes to Mexico

by Allen J. Singer
Assistant Engineer
WRRM(FM)/WMOJ(FM)

Combo Product From Comrex Circumvents Most Trouble While Retaining Ease of Use

CINCINNATI Today's radio engineer works in a fast-paced environment. The engineer must keep the stations on the air and the equipment working at its peak performance. He or she might have to double as the network administrator and must coordinate remote equipment with the promotions department.

When multiple stations are involved, and any of the stations is remote-intensive, equipment coordination can get hectic.

The arsenal

A typical station might have ISDN units and Marti RPU equipment. ISDN requires additional phone company installation and hefty fees. Marti requires a clean shot and preferably little atmospheric interference. Sometimes heavy moisture in the air can ruin a good shot.

In typical cases the RPU will provide good, mostly clean audio. ISDN, of course, is usually excellent.

easier for the promotions department and engineers — especially the engineers.

The HotLine has been around for a few years and provides good POTS codec audio. At WRRM(FM) "Warm 98" and WMOJ(FM) "Mojo" in Cincinnati, we have both the HotLine and the new Matrix.

The Matrix uses the same codec as the HotLine and Vector, but has added flexibility for future expansion and changes in technology.

The Matrix is a strong addition to our remote broadcast equipment arsenal. Warm 98 does a fair amount of live remotes, but Mojo — a jammin' oldies station — requires live broadcasts and constant live appearances.

Even if a remote consists of three breaks an hour, we need equipment flexibility. That is why we use both the HotLine and Matrix, sometimes simultaneously.

The HotLine is basic: one input, mic or line — a POTS codec. If that's all you need, it's perfect.

The system has the ability to become a portable ISDN unit or a wireless phone codec.

The engineer does not work in a perfect environment. The engineer must deal with multiple simultaneous remotes on a given weekend.

Also, how many times has he or she heard a promotions person say on a Tuesday, "We're doing the afternoon guy's show live this Friday across town. You knew, didn't you?"

What to do? No time for ISDN, and the Marti is tied up that afternoon and wouldn't work at that location anyway.

Comrex has stepped in to make remotes

The Matrix contains a two-channel, mic/line mixer, a POTS codec, an optional eight-hour battery backup and a slot to add expansion modules. Currently, Comrex offers a module adapter for a GSM wireless phone and an ISDN module. Thus the system has the ability to become a portable ISDN unit or a wireless phone codec.

Live from ...

The unit also can connect to our studio HotLine and, if we bought the ISDN module, we could connect it to the Telos Zephyr.

USER REPORT

Reprinted from February 14, 2001



Warm 98's 'Jim and Randi in the Morning' live on remote using the Comrex Matrix

Just like the HotLine, the Matrix can be plugged into any POTS line — preferably a stand-alone line, not one that goes through a phone switch. The connection ends up staying stable and the audio is quite good. The unit also provides for talkback over the same phone line, which obviously helps a lot for jock cues.

Warm 98 and Mojo have been using the Matrix for almost three months in shopping malls, nightclubs and bars. One of the first times the Matrix was used was when we did "Mojo Mexico."

The morning show broadcast live from Cancun, Mexico, in October 2000. We had arranged for a phone line to be installed and the line worked the night before the broadcast. The morning of the broadcast, the line had been pulled.

The chief engineer, my boss, was on site in Mexico. I was at the station in Cincinnati running the show there. He ended up plugging the Matrix into a hotel phone jack — which Comrex did not recommend — and I had to call the hotel front desk using a phone plugged into the studio Matrix and ask the clerk to connect me to that extension.

I then switched the Matrix to connect when the far-end Matrix answered. After we figured



Comrex Matrix

out how to do that, the remote went fine.

Our staff likes the flexibility and portability of the Matrix. We don't need an external mixer when we use the Matrix and the promotions department can easily break down the equipment after a broadcast without engineering help.

Because the Matrix contains its own mixer, the extra equipment needed is minimal. Normally all we need is the Matrix, a couple of mics and headphones. And with this small amount of equipment and a phone line, we can do a remote practically anywhere.

For more information call (800) 237-1776, e-mail info@comrex.com or visit www.comrex.com

ENCO and WOR, Perfect Together

Continued from p. 85

you need reliable equipment that is easy to operate. You also need gear that can morph and change and grow with you.

And you need it to do what you want. The DADpro32 uses the DAD Command Language (DCL) to help you make the machine do exactly what you want.

For example, we run automated for the last hour of afternoon drive, and needed to automate our traffic reports that originate live from Metro Traffic across town. Our old automation required at least five system commands to accomplish this feat, and timing was at times a challenge.

With DADpro32, we built a Command Cut with DCL. Traffic now programs one cut number into a traffic break. This one cut fires Joan Rivers' recorded intro, fires off the traffic sounder, switches the studio switcher to the Metro input, times out the 35 seconds for the report, takes the Metro input off the air, fires the remainder of the break, and puts the network studio back on air at the appropriate time.

Unless the Metro announcer blows his timing of the report, you would never know it's automated as a normal listener.

Support

With our new network, "The Best of Everything," we run four playback machines simultaneously. One is the main program element log, two is the commercial log, three is a log containing backtime beds and four is a control log that

sends the station ID/time cues and resets the studio switcher.

The backtime beds are various lengths. We simply tell DADpro32 we want the cut to end at, say, 19:59:58, and it fires off playback 3 at a time appropriate so that the selected cut ends at 19:59:58.

Using DCL, we wrote a command that allows the backtime bed to fade in at an appropriate time during programming. It runs like clockwork. And it quickly became obvious that "The Best of Everything" was running on the best system available.

Odd hours calls from operators have been simplified, as well. DAD responds well to PCAnywhere, and my Chief Engineer Kerry Richards or I can easily get into the system and make changes or simply walk an operator through a task while watching what he is watching.

And support. I judge an organization's support people by an after hours call.

Overnight support

We have had one for a somewhat silly problem. We called at 1 a.m. on a weekend. Our call was returned within 10 minutes. The tech who called had not seen this particular problem before, and said he would call back within 5 minutes, as he wanted to call someone more familiar with the issue. Right.

Five minutes later, he was back on the phone with the simple solution to the silly problem and everyone went back to bed.

Am I impressed? You bet.

Another point is that, with ENCO, you aren't just buying a product, you are buying a team of dedicated people, and those people feed off of the suggestions and comments of its customers. If you have a question or suggestion, you can e-mail the company's president, Gene Novacek, and you get an answer from him in a timely fashion.

The only complaint our operators had was that the time displayed on DAD is real time, and we usually operate in delay. A note to Gene resulted in a new addition to DCL where you could adjust the displayed time to your operational needs. The DADpro32 constantly is evolving; never getting stale.

Finally, it was nice to deal directly with the manufacturer rather than going through a dealer. Vice President of Sales and Marketing Don Backus and East Coast Sales Director Joe Myers know the product. System configuration and price negotiation were straightforward and to the point. There were no surprises, making the "oops" factor in the budget not necessary.

WOR is happy with our ENCO DADpro32 installation. If it's time for an upgrade of your digital system, ENCO DADpro32 needs your serious consideration. What it can't do, you don't need.

The author is corporate director of engineering for Buckley Broadcasting/WOR, New York.

For information contact ENCO in Michigan at (248) 476-5711 or visit www.enco.com.

ATI Multiplies Digital Audio

by Andy Butler

Director of Engineering

PBS National Operations Center

ALEXANDRIA, Va. When I have a prejudice, I try to admit it up front. In this case I have to admit to a great fondness for ATI.

For more years than many of us care to remember, the company has been building straightforward, no-frills devices that work. The simple limited warranty it issues on each piece is a good example of the company's philosophy.

ATI warrants that:

- Your MicroAmp will work when you take it out of the box. (It did.)
- Your MicroAmp will do what our published specs say it will do. (It did even better.)
- Your MicroAmp will continue to do the above for at least one year. (I don't know about this yet.)

Most manufacturers offer similar coverage, but you may spend a week digging through a stack of legalese before you understand the terms.

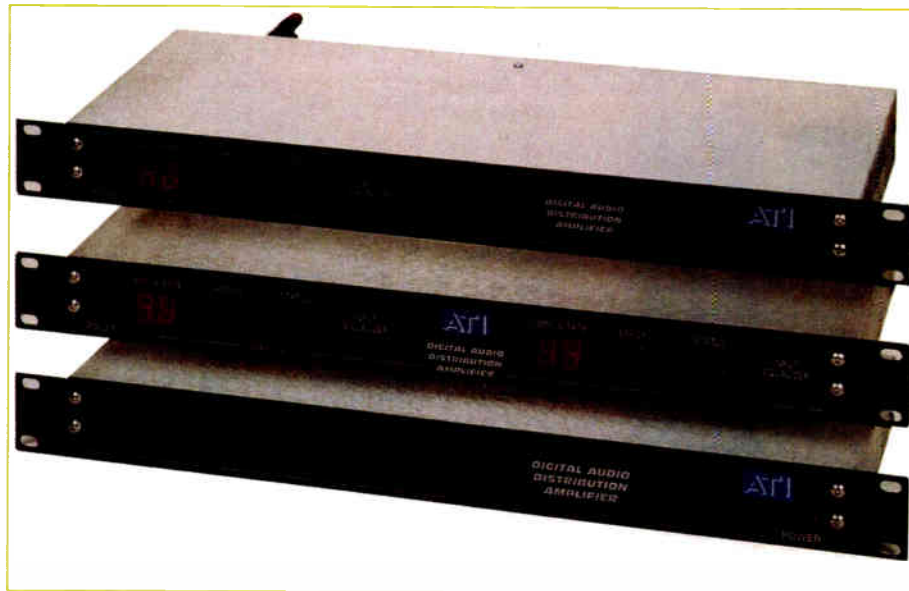
The DDA series is designed to regenerate, isolate and distribute AES/EBU digital audio (conforming to AES3-1992 and IEC 958 standards).

The group includes single-channel (one input to six outputs) and dual-channel (two inputs to 12 outputs) units. The DDAXXX-XLR models operate from and drive 110-ohm balanced twisted-pair

lines per AES3-1992. The DDAXXX-BNC models operate from and drive single-ended 75-ohm coaxial systems per AES-3id-1995.

The BNC units can also be used with S/PDIF (consumer)-formatted audio with the appropriate cable adapters. All the units are in a 1 RU enclosure with integrated power supply.

All the units accept sample rates from 27 to 96 kHz. A front-panel rate display shows



the first two digits of standard sample rates 32, 44.1, 48, 88.2 and 96 kHz. Other front-panel displays include status and error LEDs for clock lock and data validity.

The DDA series is designed to regenerate, isolate and distribute AES/EBU digital audio.

A trim pot on the front panel adjusts the input equalization to compensate for extremely long cable runs.

The data is reclocked and regenerated in the unit to reduce jitter. Inputs are transformer-isolated with a loop-through and switchable termination.

The 110-ohm models offer six balanced, transformer-isolated outputs per channel. The 75-ohm models offer 12 unbalanced, capacitor-coupled floating outputs.

USER REPORT

Reprinted from September 26, 2001

In use

I evaluated a single-channel 110-ohm XLR unit. On the bench it exceeded the applicable specifications easily.

Installation in a small off-line workstation was straightforward.

Input cable equalization in particular was easy with the front-panel control and simple yes/no LED indicator.

As I was checking out the unit, I started noticing a strange noise. After a little head-scratching, I realized that I had violated one of the installation guidelines by mounting the unit

right next to a power amplifier with a switching power supply. A little rack shifting and a power filter on the power line solved that problem. The unit performed with no further problems.

All and all, this is a fine little unit. Out of the box it performed as advertised.

For more information contact Audio Technologies Inc. (ATI) in Pennsylvania at (215) 443-0330 or visit the company Web site at www.atiguys.com.

AKG Condenser Mic Invades Studio

by Ty Ford

BALTIMORE AKG is taking a shot at the radio broadcast mic market — a domain of industry standards like the Electro-Voice RE20 and RE27ND dynamic mics — with the C 4500B-BC condenser microphone. The model retails for \$665.

This unit is not just another mic hitting the marketplace. This is a full-court press. If you buy a 4500B-BC before the end of April, you will get a set of AKG 240M headphones for free.

AKG hopes that this offer, plus a three-year warranty on the mic, indicates that it is not kidding around. The C 4500B-BC also comes standard with its own suspension mount and a foam pop filter.

The neat innards

This model is an end-address, large capsule, transformerless electret condenser mic.

According to the specs, sensitivity is 25 mV/Pa (-32 dBV, (2 dB), frequency response is 20 Hz to 20 kHz, (the graph shows -4 dB at 25 Hz and 15 kHz). Self-noise is an impressively quiet 8 dB-A.

a small flexible shaft that isolates the capsule from its hemispherical-shaped base. A small rubber O-ring fits around the base and provides some isolation between the capsule and the metallic shell of the mic body.

The base twists bayonet-style into the top half of the body. A metallic resonance was noticeable on the pre-production version I received and sounded like there might have been some direct connection between the shell and the base. I am guessing that the resonance might have been conducted where the slots and tabs of the bayonet connect. However, this problem was absent from production model.

When attached to the H 100 suspension mount, the mic and mount weigh slightly less than 1.5 pounds; light enough not to overburden some of the smaller spring arm mic supports.

The EV RE27N/D I compared it to weighs a bit more than 1.5 pounds with just the simple, non-suspension mic clip.

The low-frequency (LF) rolloff switch provides a fairly gentle 6 dB/octave low-

PRODUCT EVALUATION

Reprinted from March 14, 2001



The AKG C 4500B-BC

pad out and readjust the input to the pre-amp to compensate for the 20 dB gain.

Get the balance right

In my studio, the 4500B-BC with pad was noticeably noisier than an RE27N/D. I switched the pad out and reduced the input trim on my GML mic preamp. As usual for me, I was running the RE27N/D with the top HF tilt switch engaged. I find if I do not roll off the top, it can result in an edginess I don't like.

When I removed the pad and readjusted the gainstage on the 4500B-BC, its combined self-noise and preamp noise was quieter than that of the RE27N/D. The frequency responses of the mics are similar, but with slight differences.

Both mics give a thick sound when worked reasonably close to each other. I was able to get right on the grille without overloading the bottom.

*This unit is not just another mic hitting the marketplace.
This is a full-court press.*

The unit's literature suggests that using 24 VDC and 12 VDC phantom supplies will result in a lower maximum SPL capability and consequently lower dynamic range than with 48 VDC phantom supply. The mic also needs a phantom supply capable of delivering 2 mA. The manual provides several circuit diagrams for building phantom circuits.

The one-inch electret capsule sits atop

frequency rolloff that begins at 120 Hz and is down 7 dB by 50 Hz. The other switch inserts a 20 dB pad in the circuit to reduce the sensitivity to that of a dynamic mic.

While this setup makes "plug-and-play" replacement with most dynamic mics a snap, it also makes the self-noise of the 4500B-BC more apparent. If the self-noise is bothersome, you can switch the

The presence peak in the RE27N/D is lower than that of 4500B-BC. You get a bit more "air" up around 6 kHz to 8 kHz with the unit, while the RE27N/D is aggressively focused a few thousand Hertz lower.

The 4500B-BC has a 2 dB dip between 1 kHz and 2 kHz that allows its bottom and top to be more accentuated. The mic also has slightly more upper bass than the RE27N/D, but the difference is so close that minor changes in proximity make the

difference negligible. Both mics are equally good at ignoring pops.

If either mic is turned sideways even a little — and is not receiving signal right down the tube — there is a slight loss in HF. The 4500B-BC has a slightly wider pattern than the RE27N/D. The AKG hears well enough from the rear that positioning two on-air talent face to face and closer than two or three feet apart could result in unwanted leakage.

If the rear of the mic is closer than several

Product Capsule:
AKG C 4500B-BC

Thumbs Up



- ✓ Unit comes with suspension mount and K240M headphones
- ✓ Three-year guarantee
- ✓ Rejects RF and computer monitor hash

Thumbs Down



- ✓ Picks up more off-axis sound than RE27N/D

For information contact AKG Acoustics in Tennessee at (615) 620-3800, fax (615) 620-3875 or visit the Web site at www.akg-acoustics.com

The Dorrrough Loudness Monitor



Two 40-A2 meters in an optional dual rack

Today's audio requires careful attention to precise level control...

Simultaneous display of Peak & Average. See the actual loudness of program content with the Dorrrough ballistics based on Time and Amplitude. Select from 6 different models including AES/EBU meters.

Features common to all models:

Peak hold functions • Sum/Difference • Alarms for audio loss and full scale
Scale selection for 14dB and 20dB of headroom
AES/EBU includes more features



Remote

A wired remote for accessing phase from the 280 analog and 280 digital reading meters. Display the functions of L/R, Sum/Diff, Phase, Overs. Display/Overs Reset, 3 sec. Peak Hold, Peak Hold Permanent, and Reference Mode. Red alarm status lights for Phase, BSC, and Full Scale.

Model RW-100



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feet from any hard surface, such as a double glass window or wall, an unwanted sound bouncing into the rear of the mic could occur.

If the studio has many hard reflective surfaces and a high ambient noise level due to computer drives, fan noises or overly loud HVAC duct noises, more of that noise will be heard with an RE27N/D.

If the studio is acoustically well-behaved, the wider pattern and more open top end of the 4500B-BC should result in a more open sound.

The AKG mic is very good at rejecting radiated noise from computer monitors, whereas the RE27N/D started buzzing once it was within a foot of my DAW monitor.

However, not all monitors are created equal and I don't know where mine currently sits on the "spew spectrum." I only know it spews less than the previous one.

As a studio consultant, I never force mics on anyone. Those choices are usually too personal and subjective. The AKG C 4500B-BC appears to be a well-thought-out mic that is obviously targeted for broadcast use.

The mic's relative imperviousness to computer monitor interference makes it a model to consider. When used in quiet studios, I'd suggest running the mic without the 20 dB pad and reducing the input sensitivity of the mic preamp. However, if you have a hot-, slappy-, nasty-sounding room, fixing the mic settings first will make any recording sound better.

Ty Ford can be reached at www.jagunet.com/~tford

Belar Makes Versatile Spectrum Analyzer

by Dennis J. Martin
Chief Engineer
KZLA(FM)

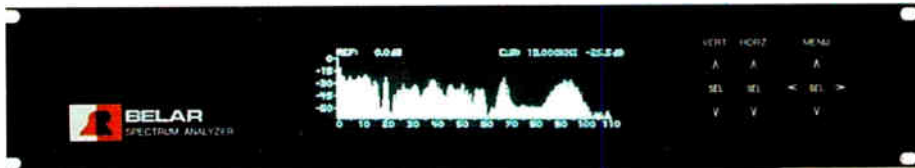
LOS ANGELES Not too many years ago, Fast Fourier Transform spectrum analyzers were rather uncommon, partly because they were prohibitively expensive. In more recent times, PCs running FFT-enabled software began to open the process up to the masses.

Today, digital signal processing combined with high-speed, high-resolution A/D converters has made the analysis power of FFT for signals up to 2 MHz available at an affordable price in a dedicated unit.

FFT display

FFT may best be described as a mathematical routine that converts digital amplitude vs. time records into a display of amplitude vs. frequency, which is more useful for many applications.

That's what the new Belar CSA-1 FFT Spectrum Analyzer does in real time — it digitally captures, calculates and displays the amplitude vs. frequency characteristics of static and dynamic signals, from 0 Hz (DC) to 2 MHz, and over a 120-dB amplitude range.



(XLR) and unbalanced (BNC) analog audio inputs that accept full-scale levels of -14 to +16 dBu, and AES/EBU (XLR) and S/PDIF (RCA) digital audio inputs.

The digital inputs are usable with sample rates from 10 to 56 kHz and all bit depths, although — as theory dictates — the unit's full 120-dB amplitude range is achievable only with 20-bit signals and above.

For extended frequency range applications, the 150-kHz input (BNC) is adjustable over a full-scale range of 350 mV to 3.5 VRMS, and the 2-MHz (BNC) input accommodates 150 mV to 2.0 VRMS signal levels.

Four modes "optimize" the display for the signal you're measuring: real-time, peak hold, average and infinite hold. Real-time, as its name implies, is a near-instantaneous display of the spectrum (the display updates

USER REPORT

Reprinted from November 21, 2001

Broadcast applications

The Belar CSA-1 is versatile, covering applications from audio through IF/RF. For FM broadcast use the 150-kHz input to directly analyze composite stereo signals at the output of the stereo generator. You can examine how much energy above 53 kHz is added as the processor/stereo generator is adjusted for more aggressive operation. At the output of an analog composite STL, check for noise and interference.

Connect the 150-kHz input to the composite output of a modulation monitor receiving the station's signal off-air. Non-synchronous modulation that increases in level with increasing frequency can be an indication of first-adjacent channel interference. Normally this condition is difficult to troubleshoot, but the CSA-1 makes it simple and reliable.

Check the injection levels of RDS and other subcarriers against a calibrated 19-kHz pilot. Also, investigate sources of interference that can reduce the demodulated signal-to-noise ratio of subcarriers.

Using the 2-MHz input, directly check the output of an AM transmitter. You can also connect a suitable antenna — like a vertical whip or shielded loop — and verify NRSC-2 compliance. FM transmitter measurements can be made using a down converter such as the Belar DC-4 or a Belar FMM-2 modified to provide a 650-kHz IF signal.

Off-air, use an RF amplifier that provides a low-frequency output; the Belar RFA-1A fixed frequency and the RFA-4 frequency-agile FM RF Amplifier both produce 650 kHz IF outputs.

In the studio, you can monitor analog and digital audio signals. Switch to dual display

Continued on p. 94

*Because of its power and versatility, it's as much at home
in the studio as it is on
the test bench and at the transmitter site.*

One of the significant advantages of FFT is its resolution. In the CSA-1 amplitude can be resolved to 0.1 dB, and frequency to 1 Hz, using the audio or digital inputs, and 10 Hz for the 150 kHz and 2 MHz inputs.

The unit is controlled using 11 front-panel buttons, and the results are viewed on a large vacuum-fluorescent display. It can be controlled remotely using supplied software, which provides the added benefit of saving and printing data.

The CSA-1 has left and right balanced

immediately after the FFT is calculated).

Peak hold shows "snapshots" of the spectrum, useful for rapidly varying signals. Average displays the "average" value of a specified number of FFT samples. Infinite hold captures and displays the highest level at each frequency.

Spectral mask, a unique function, overlays limit lines on-screen to simplify measurements. FM (IBOC) and AM NRSC-2 are preloaded, and eight user-defined masks can be stored in non-volatile EEPROM.

Nagra USB Recorder: Future Cool

by Alan R. Peterson

PRODUCT EVALUATION

Reprinted from September 12, 2001

Digital audio recorders that use solid-state digital media are a boon for professional newsgathering and field audio acquisition.

Recording to a solid block of RAM means no more jammed cassette tapes, no MiniDiscs getting knocked off-track, no DATs to rewind and search through.

A different mold

Denon and Marantz recently leapt out of the gate with offerings styled after each company's over-the-shoulder field recorders. The Denon DN-F20R and the Marantz PMD690 both emulate the under-finger familiarity and appearance of earlier analog models.

It took a collaboration between the engineering minds of Nagra and Digigram to take a different tack.

The result is the Nagra RCX220 (retail price \$2,430).

This digital recorder breaks the mold of what a field recorder should look like and how it should feel, without affecting what it is supposed to do.

The Nagra RCX220 handheld audio recorder is the cousin to the Nagra ARES-P digital recorder.

The difference lies in some of the editing features and the ability to offload digital audio files rapidly via USB port.

Both recorders share an appearance somewhere between a stainless-steel whiskey flask and a Swiss electric razor; and it flips open like a Zippo lighter to receive batteries and media.

The recorder digitizes audio with Digigram soundcard technology, records to solid-state RAM media and transfers said audio via USB connection to a host computer for editing.

The compact recorder offers versatile recording capabilities, such as capturing mono or stereo audio in MPEG 1 Layer II and downloading it at high speed directly to computer via USB. Once inside the computer, audio is edited via Xtrack LE, the fast and easy-to-use MPEG dig-

ital editor offered by Digigram.

You are, by all means, welcome to skip the USB feature altogether, remove the media and pop it into a PCMCIA card reader attached to the audio workstation computer.

The frosty, steely looking RCX220 is innovative. And the audio quality is every bit what you might expect from a Digigram/Nagra collaboration.

THD is 0.1 percent at 1 kHz, with a dynamic range of 85 dB and frequency response of 30 Hz to 20 kHz at the 48 kHz sampling rate.

Field quality

These may not sound like stunning specs if your life revolves around rackmount studio gear kept under glass, but are significant figures for a field recorder and are miles ahead of whatever may be in your shoulder bag now.

The center of attention on the brushed aluminum and steel case is the yellow-green LCD display. Here, you may view a volume meter, recording status, the time remaining and big bold graphics that shows what mode the recorder is in.

Below the display is a cluster of rubber membrane buttons that handle all menu functions. Search the cut list and write titles to each audio file contained in the RCX220; activate Tools for date, time, formatting and repair; and vary Settings, including the built-in limiter, digital compression scheme and settings, and whether or not you want the display backlight turned on.



The button quartet

A Home button is centered between four up/down/right/left cursor keys that navigate the entire menu structure. A pair of + and - keys select the ALC threshold level, input and output levels.

There is a quartet of Rewind, Stop, Play and Fast Forward buttons. A single Record button with a raised dot on the surface helps you find the correct button, even in the dark.

Simpler yet, there is a hard-start Record button drilled into the right side of the case for index-fingertip operation. Hit it and you are rolling.

Where do the memory cards and batteries go? Surprise: A flush-mounted latch on the right side of the unit unlocks the

upper part of the recorder, tipping it open sideways like a Zippo cigarette lighter.

A PCMCIA card socket is fitted in the top portion and a battery compartment in the lower half. The hinge is solid metal and looks as if it can handle extensive flipping and flopping.

A multipin microphone socket tops off the RCX220, and accommodates a Nagra mono cardioid electret mic element or a fairly elaborate M-S capsule. A blank plug is also included for you to wire your own microphone.

The Nagra microphones sound open and spacious, but look amusingly like kitchen faucet aerators and give the unit its liquor-flask silhouette.

In use

The entire RCX220 package consists of the recorder and the Windows-based software (sorry, Mac users).

The RCX220 offers 17 different bit rates and sample frequencies, from G722 and MPEG mono 64/16, all the way up to 192/48 stereo. In a quiet room, the limiter cranks everything up, so you may wish to reset it to a higher threshold so your headphones don't drive you crazy with compressor "breathing."

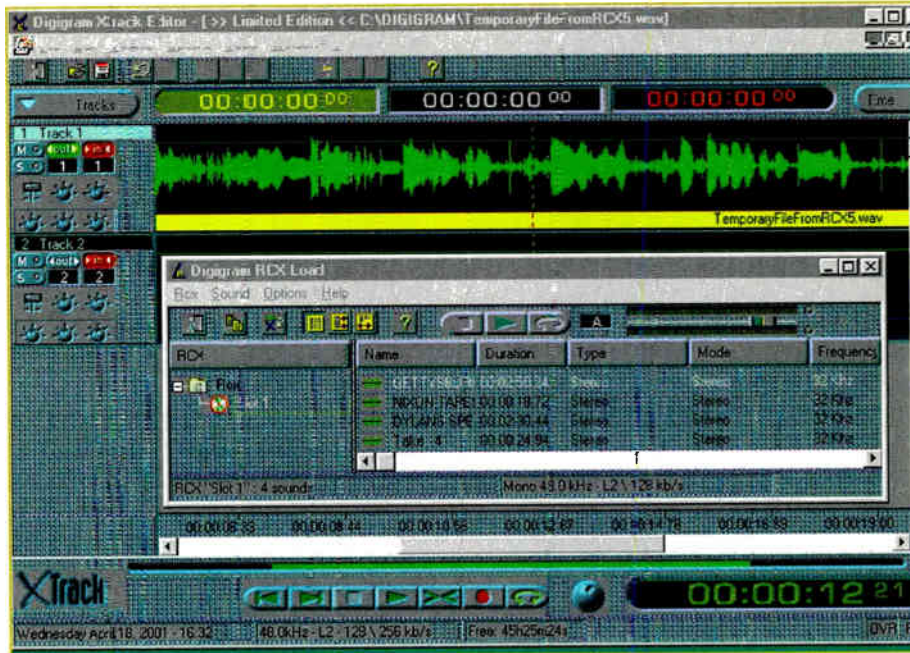
Recording time is governed by several factors: the capacity of the RAM card, the sample rate and the compression scheme. Go linear stereo at 48 kHz and expect a quick session, as 11.5 MB will be eaten every minute. On a 48 MB card, that is not much time at all.

Recording in mono, reducing the sample rate and going the MPEG route proportionally increases recording time. By experimenting with the settings, you will find a combination appropriate for your audio acquisition needs and card capacity.

Conspicuously absent from recordings made on the RCX220 — besides tape hiss — is the mechanical motor noise and commutator whine typical of recordings made on a cassette deck. If you have grown so used to this noise that it goes unnoticed, a clean recording minus the drone will surprise you.

In a tabletop situation, the recorder performs as advertised. In motion, however, as when jockeying for position in a crowd, mechanical noise is picked up by the top-mounted microphones.

Normal handling of the unit or of a head-



phone cable attached to it creates friction noise that is picked up by the front-mounted mic. During handling, the microphone can even pick up the gentle rattle of the mechanism that ejects the PCM card. At low recording levels, the sound is noticeable on playback.

You may wish to avoid the top-mounted mics entirely and wire up your own favorite ENG microphone to the matching plug. The cable will offer some isolation.

The interchangeable M-S mic capsule does exactly what an M-S capsule is supposed to do — record a nice spacious stereo spread that can be manipulated for width later in the computer. If your job requires gathering atmosphere sound for, say, an NPR-type long-form report, the M-S capsule would provide a compelling stereo image.

I have a special preference for the Digigram Xtrack program. A few years back, I supervised the production of 16 hours of original audio programming for RW Online, using an early version of Xtrack on an office 486 PC.

Installing the Digigram Xtrack editing software CD-ROM on the editing computer can be a stroll in the sun or a walk on hot coals, depending on your PC skills and your current machine.

The disc includes Xtrack and the necessary drivers for the Digigram audio interface. Note that the system runs on Windows 98 SE (Second Edition). Do an installation on Win95 or the original

Win98 and the drivers will not load.

Irresistible

You may still use the RCX220 without Xtrack by plugging into the headphone jack and offloading good old analog audio into your console or DAW, or stick the RAM card into a reader. But you lose the speed of the USB transfer.

Minimum requirements are a PII-300 with 64 MB RAM and a standard USB port to operate properly. For best performance, do

Product Capsule: Nagra RCX220 Digital Solid-State Recorder

Thumbs Up

- ✓ Small, well-engineered design
- ✓ Various compression settings
- ✓ High-speed USB file transfer
- ✓ Digigram Xtrack editor thrown in free

Thumbs Down

- ✓ Sensitive mic picks up mechanical noise
- ✓ Drivers and software require minimum Win98SE
- ✓ Despite classy design, case actually is uncomfortable to handle for long periods

For information contact Nagra USA in Nashville at (800) 813-1663, (615) 726-5191 or visit the Web site at www.nagra.com/nagraaudio.

not use an office hand-me-down. Get a dedicated audio computer.

The Nagra RCX220 is a remarkable digital recorder. The Xtrack MPEG editing software and USB compatibility make an irresistible combination. And there is that cool, metallic matte-finish Star Wars look. But that look may be one of its liabilities.

Grasping that squared-off case for long periods is uncomfortable and could lead to muscular cramping in the hand. Unless the hand strap is attached to the recorder, you don't dare release or relax your grip.

Never mind a better mousetrap; the world will beat a path to the door of the first person who invents a form-fitting, clamp-on rubber grip for the unit to properly fit the hand.

Wish-list tweaks

The RCX220 has no moving parts to break or jam, but a fall or an impact against a hard surface could seriously damage or even snap off the front-mounted microphone element. I hope Nagra engineers will address the me-

chanical noise aspect as well as the potential for damage.

Similarly, RCX drivers for Win 98 First Edition or even Windows 95 would be desirable. Some thriftier broadcast managers out there would need a real good reason to spend several grand on a single RCX200 to begin with. To be told afterward that he or she needs to purchase new versions of Windows for each PC intended to connect to the RCX220 will not go over well.

On the other hand, transferring files via USB is fast, once the computer is fine-tuned and the proper drivers are in place.

Editing in Xtrack is as easy as any other editor out there. In some ways it is even better because it edits MPEG files directly without having to decompress and then re-render them.

The best reasons to get a Nagra RCX220: It is fast and stylish, it records clean compressed audio and lets you title and index your tracks while riding back to the station. It is considerably smaller than an over-the-shoulder solid-

state IC media recorder and will fit in a jacket or vest pocket.

The second-best reason: Other reporters stuck using their old, beat-up cassette decks will see you at the press conference with your shiny new RCX200 and will be absolutely envious of you.

Alan Peterson is a technical adviser for RW. He counts WABS(AM)/WAVA(FM) Arlington, Va., the Connecticut School of Broadcasting and the syndicated "Greaseman Show" among his current active pursuits.

Contact him at alanpeterson@earthlink.net.

Belar

Continued from p. 91

mode and compare, say, the left-channel analog signal to the left-channel digital signal. Even view L+R and L-R signals side by side.

The L-R function allows you to measure the difference, however subtle, of audio devices like equalizers and limiters. Bridge the left channel of the CSA-1 across the input of the device under test and the right channel across the output of the device. Switch to L-R mode and view the difference in real time.

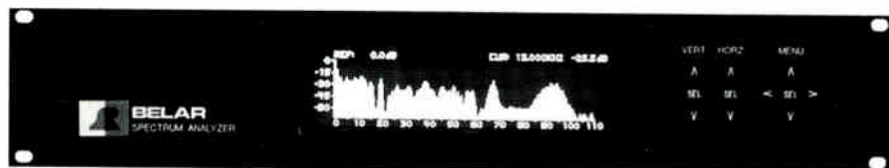
On the test bench use the CSA-1 in combination with an analog or digital test generator, a test CD and a CD player (used as a source of digital test signals) or suitable software.

Check device or system response using single tones, a swept tone or wide-band noise. Inspect harmonic distortion components and CCIF Twin-Tone intermodulation distortion. Examine the noise floor of devices, and measure channel separation and crosstalk.

Even though the name Belar normally is associated with modulation monitors, the CSA-1 FFT Spectrum Analyzer should not be limited to just modulation analysis. Because of its power and versatility, it's as much at home in the studio as it is on the test bench and at the transmitter site.

For more information contact Belar in Pennsylvania at (610) 687-5550 or visit the company Web site at www.belar.com.

BELAR 2 MHz FFT SPECTRUM ANALYZER



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Comrex Matrix Does the Job in Ohio

by Chris Lufitz
Chief Engineer
WNCI(FM)

Columbus Station Discovers Benefits of Codec With POTS, ISDN and Wireless Functions

COLUMBUS, Ohio It's one of a broadcast engineer's worst nightmares: going out on site to set up a morning-drive remote broadcast and discovering that the ISDN circuit that you were going to use isn't working.

This situation happened to us at WNCI in Columbus, Ohio, a few months ago, but the Comrex Matrix really came through for us and saved the remote. The Matrix is a codec that has ISDN, POTS and wireless capabilities.

The WNCI Morning Zoo came up with an idea for female singer/songwriters to send in tapes of their performances to the radio station in order to find an up-and-coming diva. The Diva Search contest was born. The prize was a meeting with a national record rep.

Diva search

The next several weeks, WNCI received nearly 400 tapes. After going through all of the tapes, listeners helped to choose the eight Diva finalists. The ladies then were asked to perform at a local club before a panel of judges, who would select the winner.

The first challenge with this remote was the scene. The club had an indoor stage, so engineering would be responsible for mixing the live music for the show as well as broadcasting the Morning Zoo on the air. Some of the performers sang along to accompaniment CDs, while others sang and played instruments.

Several months before the remote, we received a portable Matrix unit. It was being shared among the five stations in the market using it with the Comrex Vector on the studio end. Our new Rackmount Matrix showed up the day before the "Diva Search" remote.

I was in the middle of a couple projects that day, but decided to install it before I left that evening, as I was excited to check this new toy out.

My assistant and I worked the morning of the diva remote. Ben was at the club while I stayed

at the studio.

After setting up, Ben called to tell me that the ISDN circuit at the remote site was not working. He established an RPU link as a backup. At this point, I thought, "Why don't we try out the Matrix pair?"

The Matrix base unit delivers 15 kHz duplex audio on a single POTS phone line; it

given the thumbs-up by the Morning Zoo, the station PD and all of us in engineering. I'm really glad I stayed late the night before to get the Matrix installed.

A few weeks after the Diva Search remote, the Morning Zoo was doing an hour-long bit at an indoor shooting range about 30 minutes outside of Columbus. This gave me the opportu-



Dave, Shawn and Jimmy of the WNCI Morning Zoo join PD Jimmy Steele with the Diva Search finalists and judges.

works with the company's Vector and HotLine codecs. An optional slide-in module allows operation on ISDN using ISO-MPEG Layer III or G.722; a different module is available for audio over GSM wireless phones.

Ben was able to borrow a fax line at the club and he dialed up the studio unit. Initially we had the MaxRate setting off and the two units connected at 24 kbps. Then we reconnected with the MaxRate set to 21.6 kbps.

We were able to maintain this connect rate for the duration of the broadcast — over four hours — without the Matrix having to renegotiate the modem connection.

Everyone was thrilled with audio quality of the remote, especially given the fact that we were originating live music from the location. Our first experience with Comrex Matrix was

nity to go out in the field and try out the Matrix.

When I got to the location that morning, I established an RPU shot but wasn't pleased with the quality. The terrain was not in my favor for this one. I borrowed a fax line and the morning show bit came off perfectly. Once again, the Matrix came through for us.

On occasion we've even used the Matrix to send RPU and IFB audio feeds between our two studio facilities here in Columbus, when our ISDN units are being used for other things. It's a handy thing to have around the studio and riding around in the remote truck.

The WNCI Morning Zoo keeps engineering on its toes with a lot of remotes and some last-minute, "can we do this tomorrow?" bits. The Matrix is a great backup to our ISDN

Continued on p. 96

Mager Outfits Purdue Stations

by Michael Gay
 Manager of Engineering Services
 Purdue University

WEST LAFAYETTE, Ind. Public radio stations at major universities do not remodel often.

WBAA(AM) is the oldest radio station in the state of Indiana and represents Purdue University as the local National Public Radio affiliate. WBAA(FM) offers fine arts programming to Purdue and the surrounding community.

The studios on the Campus of Purdue University in West Lafayette, Ind., are laid out pretty much as they were built in 1940. Finally the opportunity came to rebuild the facility and expand the space. We wanted everything to be of high quality because we did not know when this opportunity would present itself again.

We knew that the studio furniture we would choose was going to have to last, and we knew we wanted something that would complement our four new studios, designed by Russ Berger Design Group.

We looked at many options for studio furniture and submitted drawings of the space to several manufacturers for ideas. Mager Systems Inc. came up with an organic design made from solid surface that added interest to a space designed with many straight lines. It provided



many options, which allowed the furniture to be tailored to our needs.

Mager worked well with Russ Berger Design Group in choosing appropriate materials and colors for our space. On site, Mager and his staff were prompt, courteous and efficient. I still find it hard to believe that a truckload of pieces arrived Thursday and I

had equipment loaded in the furniture by Sunday evening.

I just hope Mager is still building studio furniture in 60 years, when we decide to remodel again.

For information contact Mager Systems in Arizona at (623) 780-0045 or e-mail mager@magersystems.com.



gear as well as an outstanding system for those last-minute drops.

The portable Matrix unit is small and simple enough to operate; non-technical personnel can handle it in the field. The menus are easy to navigate; the well-written manual al-

most isn't needed.

The unit has a small, built-in mixer with two XLR inputs (one switchable for mic/line level) and a 1/8-inch mini jack for a portable tape or MiniDisc recorder.

The Rackmount Matrix occupies a single

rack space and functionally is identical to the portable unit. The only difference: the Rackmount version has one line-level input and output with XLR connectors.

Other interesting notes: The Matrix includes a store-forward feature so you can send 15 kHz audio cuts in non-real time. Comrex points out that this is handy when a circuit won't sustain adequate data rates. Also, you can obtain durable rubber rack "feet" that let you stack the studio version in the field more easily.

Overall, we've been pleased with our Matrix units. After six months, we have come to rely on the consistently good audio the Matrix provides.

With a creative and demanding morning show, I'm sure the Matrix will continue to be a valuable tool in WNCI's remote gear arsenal.

For information contact Comrex in Massachusetts at (978) 263-1800 or visit www.comrex.com.

Inovonics 520 Works in Texas

by Ben Downs
Bryan Broadcasting

USER REPORT

Reprinted from November 21, 2001

COLLEGE STATION-BRYAN, Texas
The construction permit for our new AM station was in hand and I was given the go-ahead to begin construction.

Like any good engineering type, I took a solemn vow not to repeat the mistakes I had seen in other installations. I promised that my new installation would be loud, clean, immune to lightning and humless, and would probably cure the common cold.

Again, like most engineering types, I had a well-developed set of prejudices about transmitters, consoles and processing. Eventually, though, it was time to choose the modulation monitor and I had no preference. Don Jones of RF Specialties suggested the Inovonics 520 monitor as an option that was reasonably priced, ran cool and worked great. So we added it to the order.

Immediate installation

The day it arrived, I was surprised at the size of the unit. One rack space somehow looks smaller on a mod monitor, but everything seemed to be there. The LED bargraph on the



The Inovonics 520 Monitor

front was large enough to give details. The inputs on the back were there. The alarm and peak lights were right up front and quite large.

Here's a quick question: what is the first thing you do when you get a new piece of equipment? You install it without reading the carefully written manual! This time it worked. So now it was time to read the manual and find out why.

Inovonics built the 520 to be a low-priced but highly accurate option for AM monitoring. The installation alternatives cover every circumstance. The 520 has two inputs on the back, a high-level BNC input for direct connection to the transmitter mod sample and a type-F connector for a random-length antenna. The high-level BNC input requires no adjustment, but if you want to monitor via RF through the air, you'll need to set the station's frequency by using the DIP-switch bank inside the cover. The 520 covers the AM (medium-wave) band in 1-kHz steps, making it suitable for U.S. 10-kHz or European 9-kHz channel spacing.

will set these high and adjust modulation so they become nightlights.

A totally cool feature is the RS-232 connection on the back. With the supplied software you can connect the 520 directly to your PC comm port to get digital monitoring of your signal, or connect it to a modem for remote access and control. You could even let the manager log in and watch.

In practice I use the 520 at two AM sites. My existing AM was using an ancient, often-calibrated mod monitor. I increased my modulation density by about 15 percent through a combination of more accurate peak indication and by watching the absolute peaks in relation to the relative peaks I had set.

At the new facility the 520 has proven to be a trouble-free little box. In fact, we're quite affectionate toward it. It was refreshing to get a new, high-tech piece of equipment that worked the first time and has ever since. The chance to use it without adjustment at two sites makes it that much more attractive.

Eighteen months ago I could have bought any modulation monitor I wanted. I bought the Inovonics 520 and I'm so pleased with the decision that I'm putting it in writing. The price point is remarkable and the ease of operation belies the complement of features.

For more information contact Inovonics in California at (800) 733-0552 or visit www.inovoh.com.

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For monitoring away from the transmitter, Inovonics sells an antenna that is phantom-powered through this jack. When operating, the 520 uses less power than a VCR that is turned off.

Warning! Warning!

The Inovonics 520 is stocked with LED warning lights. The carrier alarm indicates a carrier level too low or too high for accurate monitoring. The "loss of audio" alarm allows for an over-the-air silence sensor.

Best of all, in addition to the fixed +125-percent and -100-percent peak light alarms, you can adjust another set of peak flashers with your own settings. I assume everyone

Logitek Makes 'Virtual' a Reality

by David Lawrence

Host/Executive Producer

Online Today Inc./CNET Radio

WASHINGTON When I set out to put together my studio for my new CNET(XM) Radio morning show, I was faced with an interesting challenge: I'm in Washington and CNET's studios are in San Francisco.

In addition to feeding them the audio from my program, I also needed to have control of the on-air board during my show, which airs between 3 and 6 a.m. PST. I also do a nightly syndicated show, "Online Tonight," which is heard on 80 stations, and a syndicated countdown show, "Net Music Countdown." I needed high-quality equipment for producing those shows as well.

That's where Logitek came in. CNET's studios use Numix consoles. My original plan called for creating a duplicate of the San Francisco installation, but we discovered that we didn't have enough surface space on the Middle Atlantic furniture that would house the Numix in my studio.

I called Paul Anderson at Logitek, who confirmed my solution would work: a touchscreen computer running vMix.

He's got the touch

My setup in Washington uses a Logitek Audio Engine with the vMix virtual console on an ELO touchscreen. I'm emulating the Logitek ROC-10 board, but I can switch to a Numix layout if I want.

Every function on a physical Logitek console is available on the touchscreen, including faders, on/off, intercoms, pans, trims and busses. I don't know if everyone will be as comfortable with this setup as I am, but my show is about technology and pop culture, so this is a natural for me. I'm walking the walk.

The process in running the CNET East-Coast morning show is intense. I send a mix output from my console and control closures to San Francisco via Zephyr over ISDN lines.

For control of the remote studio we use a VPN (virtual private network) over T1 lines and Logitek's vFader program.

With a closure from iMediaTouch, I can take control of the Logitek Audio Engine in San Francisco. I see a virtual image of the Numix console and I use vFader to

console must be reliable. When you look at the other options for virtual consoles, they don't look all that exciting. (Logitek can really capitalize on this market if they do it right.)

Plus, between the Logitek digital consoles and my iMediaTouch system, everything is done in the digital domain. The only analog components are my microphone and some consumer gear.

Quick response

I have never encountered a company that has responded as quickly as Logitek in terms of upgrade suggestions or simple changes to the interface. That's testament No. 1 to the way their software is programmed.

vFader was not originally made to do exactly what we wanted, but it does so now. At my request Logitek added bus selectors to vFader, which allowed me to set up a mix-minus between San Francisco and D.C. Logitek's response time is great.

Tag Borland, Logitek's president, and Jerry Paquette, a programmer, set up their code so that it isn't difficult to make changes. This means foresight and planning on their part.

I would mention to Tag that I needed something done, and he would say, "Oh, that's just a piece of code we can cut and paste." The new version would be sent to me in a matter of hours.

There are minor glitches in the Logitek system, as with any piece of software, but as I report them, they get fixed ... and that's all you can ask.

I have the sexiest studio in the world. My show is like a top-40 morning show with a lot of elements, a lot of channels running at the same time, phone calls, actualities, etc. I'm demanding a lot from the software and it's performing.

For more information contact Logitek in Texas at (713) 664-4470 or visit the company Web site at www.logitekaudio.com.



Logitek's vMix Virtual Console on a Touchscreen

bring up my audio feed on the Numix and go from there.

Kudos also to engineers Josie Padilla at CNET in San Francisco and J.R. Richardson, my engineer here in D.C., for getting the system just right.

So I'm sitting there in D.C. with a powerful control surface in about 15 inches of touchscreen space. I control the air signal of a station in the fourth market in America, KNEW(AM), with the touch of a button. Plus, my signal is being fed at the same time to cnetradio.com and XM Radio.

At 6 a.m. PST, when Brian Cooley comes in for his shift, he brings his fader up, takes my fader down, and I'm done for the day.

Because of my isolation from CNET, my

Marantz's PMD690 Delivers

by Michael LeClair
Chief Engineer
WBUR Group

BOSTON Marantz Professional's new PMD690 flash recorder represents what I consider to be a great technological step forward in field recording.

The PMD690 has no moving parts, no whining motors, and no failing belts. It's a stereo recorder that records digital audio files to a removable compact flash memory card. You can record to standard PC cards (PCMCIA) or to compact flash and IBM Microdrives (with a PCMCIA adaptor). Using it is like recording straight into a computer, except this recorder is designed well enough to handle work in the field.

Sound-rich productions

WBUR Group purchased the PMD690 to capture stereo field sound and interviews for our new documentary program, "Inside Out." Each hour-long program involves sound-rich productions that explore interesting and timely topics. It's often necessary to gather 20 or more hours of field sound to produce one show. The reporter will often interview and record field sound at the same time.

We wanted a package that was easy to use, very reliable, and produced high-quality sound. We also bought a Shure VP-88 stereo microphone and a pair of Sony 7506 headphones to round out the kit.

The PMD690 features dual XLR input connectors that can be switched between microphone and line-level input sensitivity. It also has dual-RCA unbalanced audio outputs, a stereo headphone jack and a large dual-input level control on the front panel. It comes with an AC adapter and a removable battery carrier. A carrying case and rechargeable battery are also good options to consider.

Because the unit will deliver only two hours of recording using eight AA alkaline batteries, we purchased the optional rechargeable Nicad battery. I ran the machine in a combination of recording and playback modes, stopping periodically to change settings, and got about three hours out of the battery.

Therefore, pay attention to the blinking battery failure light (or optional audio warning) — if the deck turns off without writing the table

of contents information to the flash card, the files will not be retrievable.

The PMD690 offers a wide range of recording formats, including full stereo or mono wav and MPEG-2 compression at 384, 256, 192, 128, 96, 64, 48 and 32 kbps (the last two are mono only). Users can select among three of these formats using a switch on the top control panel. We opted to use MPEG-2 compression with stereo 384, 192 and mono 128 kbps. With a 440 MB compact flash card we got approximately three hours of recording time at the highest data rate.

My test recordings and listening tests revealed that, at the 384 kbps rate, the PMD690 makes beautiful stereo recordings. I heard an open, clean and bright sound similar to DAT recordings. I was also pleased with the sound of the internal microphone preamps in the PMD690 when used with the VP-88 microphone.

Full, deep sound

While some portable recorders suffer in the low bass response in their microphone inputs, the PMD690 delivered a full, deep sound. Stereo imaging was precise and wide. While listening on headphones it was possible to clearly position sounds coming from left and right, above and below, and even behind your ears in reproduced audio files.

The various microphone input settings on the PMD690 top panel were useful. The high pass filter does a good job of removing hand-held noise from the cable if you have to move around while recording.

The band pass filter is a good addition for gathering sound in noisy ambient conditions, though with audible loss of overall sound quality.

The product uses three automatic gain control (AGC) settings. For interview recording, I found the internal limiter setting sounded good. While it is still possible to overdrive the

USER REPORT

Reprinted from September 26, 2001



recorder with the limiter on, it provides an additional 8-10 dB of protection limiting before clipping with a smooth and relatively inaudible action.

Most of all, I was delighted with how easy it was to transfer recordings from the PMD690 into a computer for editing. A card reader connects to a computer via the USB connection. We copied 250 MB of audio files onto the local hard drive of the computer in just three minutes. Once on our computer network, sound files could be copied or moved at will between workstations.

It is impossible to equal this transfer speed with other recorders that use real time to dub analog or digitally into a computer. The reporter time saved in just this area will pay for the machine in less than one year. And all sound files are transferred without the need to undergo any digital-to-analog or analog-to-digital conversions on low-performance computer sound cards, preserving audio fidelity.

Overall, I found the recorded sound on the PMD690 to be superior to cassette decks or MDs. With a proper review of the manual it is an easy-to-use and reliable recorder.

Marantz included a good group of selectable options on the top panel to handle typical field recording situations. Finally I think that the best aspect of the PMD690 is its easy compatibility with computer audio editing.

In my opinion, the PMD690 from Marantz is truly the ultimate solution for field recording.

For information contact Marantz Professional in Illinois at (630) 820-4800 or visit www.marantz.com.

Prism Sound Goes to Top of Class

by Paul Mac

PRODUCT EVALUATION

Reprinted from June 20, 2001

The Prism Sound dScope has always been a solid performer. The latest incarnation of the box reveals itself to be another solid addition to the family.

The dScope Series III is a multifunction, two-channel, analog/digital test and measurement device based around a hardware box coupled with Windows-based software.

Signal generation is "per channel," and the system can handle sample rates up to 192 kHz. The dScope Series III contains signal generation and analysis sections.

The signal generator uses standard waveform types — such as sine, square, ramp and twin-tone — as well as customized signals like multitones, bursts, bongs, pseudo-random signals, modulated tones and special signals like the Prism Sound JTEST.

The analyzer section consists of the signal, continuous-time and FFT analyzers.

Real-time analysis

The signal analyzer provides real-time readings of RMS amplitude, frequency and interchannel phase for a stereo or two-channel input.

The continuous-time analyzer is based on a conventional distortion analyzer, of-



Shown are windows for Trace, Channel Status and Signal Generator.

The FFT analyzer supports multiple detectors or readings, which may be customized using Microsoft Virtual Basic (VB) scripting to carry out further processing of the measurement data.

FFT detectors also can employ standard

Special extras

The dScope Series III supports advanced techniques such as multitone testing by combining arbitrary waveform generator capabilities with multiple, programmable FFT detectors.

A complex signal is generated with several individual frequencies. This type of test signal enables rapid display of FFT-derived readings for various results, such as noise, distortion, crosstalk and frequency response.

These tests are based on user scripts and they may be designed to user specifications. Preset test examples also exist.

The sweep analyzer provides control of a wide range of variables and can measure up to four quantities simultaneously. Swept variables include generator frequency and amplitude, and sweeps can be controlled by data table lookup, by timer, on manual advance or autotensing audio input frequency.

The measurement can also be swept along the BP/BR frequencies. Results of

fering a selection of weighting and band-limiting filters, as well as a variable-frequency notch filter that supports band-pass and band-reject modes with tracking or fixed frequency settings.

Measurements include amplitude, distortion, noise, IMD and others are included.

or user-defined weighting filters, which can be set up from a list of measurement results that includes amplitude; balance; band-pass; band-reject; crosstalk; gain; IMD CCIF; IMD DIM-TIM; IMD SMPTE-DIN; THD; THD+N; and second-, third- and fourth-harmonic distortion.

The signal analyzer provides real-time readings of RMS amplitude, frequency and interchannel phase for a stereo or two-channel input.

the test include amplitude, frequency, phase, TD detector result (for example, THD+N), digital interface frame rate, deviation, carrier amplitude, jitter and carrier phase.

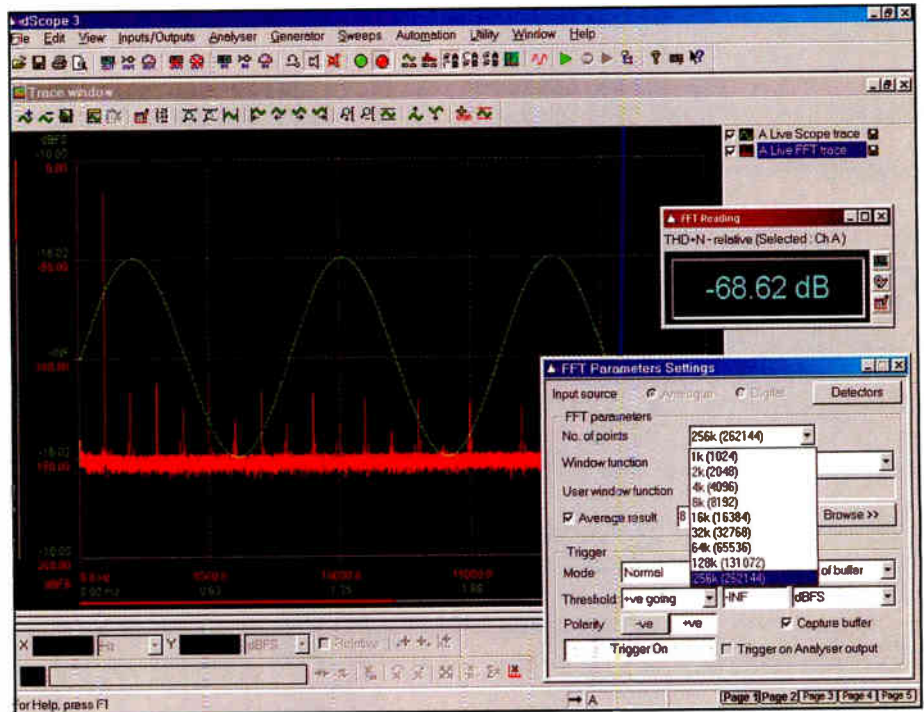
Digital interface testing is comprehensively supported.

Series III allows digital output frame rate setting up to 11,500 ppm deviation and output channel status may be completely customized.

Users can also simulate the degradation of the output carrier signal over long cables by adding source jitter, noise and common-mode interference.

For digital inputs, Series III measures frame-rate and frame-rate accuracy, fs (source) jitter, data jitter (intersymbol interference), eye-narrowing and (AES) carrier amplitude, as well as providing a view of the AES waveform itself and the eye diagram.

For many of these tests, a "trace window" is often necessary or desirable and the dScope software offers one. It includes



FFT and Scope Traces

scope and FFT traces, real-time FFT averaging, sweep displays and also the residual output of the time domain analyzer.

This test allows, for example, viewing of the distortion waveform on a computer screen alongside the FFT and waveform traces.

Trace signal

From the trace window, trace data can be printed, stored, recalled or exported. In addition, multiple markers can be placed on each trace and comments and labels may be entered.

Markers provide discrete reading of trace points, plus "limit lines" for testing within tolerance — visual "outside limit" indications can be set up for immediate indication. If an oscilloscope is still needed, dScope provides four BNC connections for a variety of monitor outputs.

While dScope has numerous variables and setup windows, its test automation enables timesaving standardization of

test procedures.

Using VB Script, dScope Series III allows a series of test workstations to run automated test procedures and to port results automatically into a networked database.

Again, examples of such scripts are provided with the product. dScope Series III also provides a snapshot store system for saving/recalling the whole or part of the instrument setup — including the desktop layout.

Several aspects of this device make it a serious contender for the standard test-set throne in the audio field.

If all its capabilities are summed up with the customizable aspects and, importantly, the price, the dScope Series III is not just in a class of its own; it has created a whole new class.

Paul Mac is editor for Audio Media Europe, a sister publication of Radio World.

Product Capsule:

**Prism Sound
dScope Series III**

Thumbs Up

- ✓ A plethora of tests
- ✓ Windows-based
- ✓ User-definable tests

Thumbs Down

- ✓ Trying to justify test equipment to station manager

The suggested list price is \$7,995.

For more information contact
Prism Media Products Inc. in
New Jersey at (973) 983-9577,
fax (973) 983-9588 or visit the Web
site at www.prismmpi.com

Sound Forge 5.0 Continues Code Line

by Carl Lindemann

PRODUCT EVALUATION

Reprinted from March 30, 2001

Sonic Foundry has revamped its product line since the last major revision of Sound Forge. When 4.5 came out, Sound Forge was far and away the company's lead product.

In the meantime, other offerings like ACID and the Vegas series of audio and video production products have stolen some of the spotlight.

On the programming level, these new 32-bit programs are significant advances over the legacy 16-bit DOS-based code at the core of Sound Forge. Version 5.0 refashions this venerable audio editor to bring it up to speed.

Aside from the infrastructure upgrade, what users will notice is a wider support of sampling and bit rates for audio files and a few amenities like track-at-once CD burning. Also, the package comes loaded with nearly the complete library of Sonic Foundry Direct-X plug-ins. There is even a "lite" version of Vegas Audio tossed in to give multitracker capabilities.

Sound Forge 5.0 is not a radical departure from the audio editor that so many of us use and love.

It's more like a gold plated, fully loaded special edition offered at a great package price.

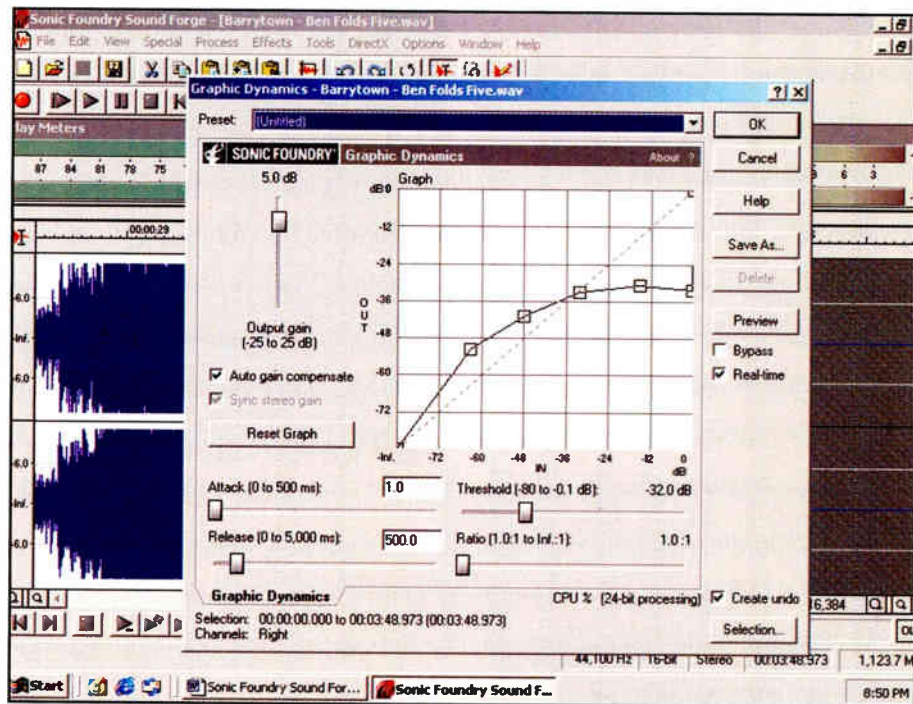
At first glance, 5.0 looks exactly like 4.x. The only apparent difference is the color scheme of the buttons and meters. But unlike 4.x, the user interface is customizable.

The meters and control buttons can be situated as needed. A few elements like the "playbar" transport controls under the waveform display are fixed. But other toolbars can be placed on top to cut the need to go into drop and drag menus for tools and effects.

Though the "standard" layout is just about hardwired into the brains of veteran Sound Forge users, the ability to adjust the controls to individual needs can save quite a few keystrokes.

The increased range of sampling rates and bit-depth support are found as options on the familiar menus. Instead of just supporting 8- and 16-bit, this goes all the way to 32-bit. Additionally, sampling rates go to a whopping 192 kHz.

Even though storage is cheap in these days



Sonic Foundry Graphic Dynamics Display

of 80 gig hard drives, the maximum settings consume a frightening amount of space — two hours of uncompressed 16/44.1 stereo recording time collapses to just a fraction of that at 32/192.

The high end is more theoretical than practical here. The CardDeluxe audio card in my system cannot support anything beyond 24/96 anyway. Besides, the utility of these ultra high-fidelity capabilities is dubious for most any radio use.

Audio formats

The same can't be said about the complement of built-in codecs, including MP3, Real 8 and Windows Media. There is precious little out there that 5.0 cannot open and manipulate.

Like the earlier version 4.5, video and AVI support is part of the Sound Forge multimedia pallet. Producers delivering content to multiple platforms on-air and online have everything needed to deliver the goods.

The addition of the complete XFX library of 18 effects — plus the Acoustic Mirror space

simulation and microphone modeling as well as the Wave Hammer compressor/volume maximizer — makes this a full-function production and mastering studio.

The 4.x version included many of the same mastering functions and effects. The biggest difference between these and the XFX Direct-X plug-ins is that these enhanced tools preview the output in real-time.

When you can listen to the end result on the fly, obtaining the right sound is much faster and easier. Otherwise, you get bogged down in having to test out various settings on a trial-and-error basis with significant processing time between attempts.

Off to Vegas

The other major add-on here is a newly designed version of Vegas Audio — Vegas Audio LE. This 8-track multitracker is really all that's needed for the quick-and-dirty, day-in day-out of radio work.

If somehow, there were a tighter integration between Sound Forge and Vegas Audio LE it would be a nicer setup.

The best solution would be to have the ability to add additional tracks within the Sound Forge workspace. But that does not seem to be in the cards. Instead, you have to run the multitracker in the background and toggle between these programs as needed.

Oh, there is also one unnecessary annoyance

The increased range of sampling rates and bit-depth support are found as options on the familiar menus.

with Vegas Audio LE. You cannot deselect the promo to "upgrade" to the full version that pops up when the program closes.

Isn't it enough that you have the full version of Sound Forge? This is especially true for radio where most of what's useful in that upgrade is already included in 5.0.

The only serious disappointment here is 5.0's

inadequate CD mastering capabilities. Basically, it can burn tracks in the workspace one at a time. This process is not very far removed from just saving to the hard drive – it is saved to a CD-R/RW instead.

The system cannot even save several files at a time to cook up a playlist. This setup only allows one option – to close the partially recorded disc so it will work on standard CD players.

Unfortunately, there are loads of programs out there that do this and much more. Worse, these programs are a dime-a-dozen and typically come bundled with CD recorders.

What's really missing here is CD Architect, Sonic Foundry's late, great disc-at-once CD mastering program. I hope it will reappear in the next incremental revision of Sound Forge with added track-at-once capabilities.

For the radio producer, many of the additions to Sound Forge 4.5 that make up 5.0 are not as exciting as they are likely to be in the Pro Audio community where 24/96 capabilities is in high demand.

What is irresistible here is the incredible price/performance value — especially if you forgo the \$450 retail box and down-

Product Capsule:

**Sonic Foundry
Sound Forge 5.0**



Thumbs Up

- ✓ Customizable interface
- ✓ Complete XFX effects library
- ✓ Terrific value



Thumbs Down

- ✓ Limited CD mastering capabilities
- ✓ Radio stations may have all that is needed with 4.5 and XFX plug-ins

For more information contact Sonic Foundry in Wisconsin at (800) 577-6642, fax (608) 250-1745 or visit the Web site at www.sonicfoundry.com

load it for \$350.

Those who already have version 4.5 loaded with the XFX enhancements may not find compelling reasons to upgrade.

But those looking to invest in a professional Windows-based audio production setup will be hard pressed to find a better bargain. 🌐

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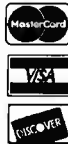
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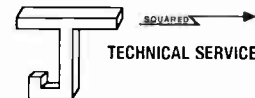
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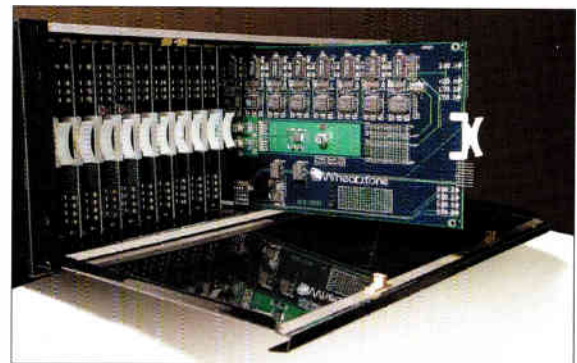
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