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next level solutions

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AUTOMATION

TRANSMISSION

From consoles to IBOC equipment, this year's *Radio* Product Source will help its readers find the best equipment to suit their needs. The Product Source helps radio industry professionals do their jobs better by offering short product descriptions as well as contact information. It is designed to make purchasing decisions easier and therefore help stations broadcast more efficiently.

Some of the products listed debuted at NAB 2002, including the *Radio* Pick Hit award winners, and some are brand new. Keep this issue conveniently located so it can be used as a quick reference tool when product-purchasing decisions arise throughout the next year.

Whatever your station's size and budget, you are sure to find something you have been looking for within this guide. And, as always, if you have any comments or suggestions on how to improve the Product Source, please e-mail them to beradio@primediabusiness.com.



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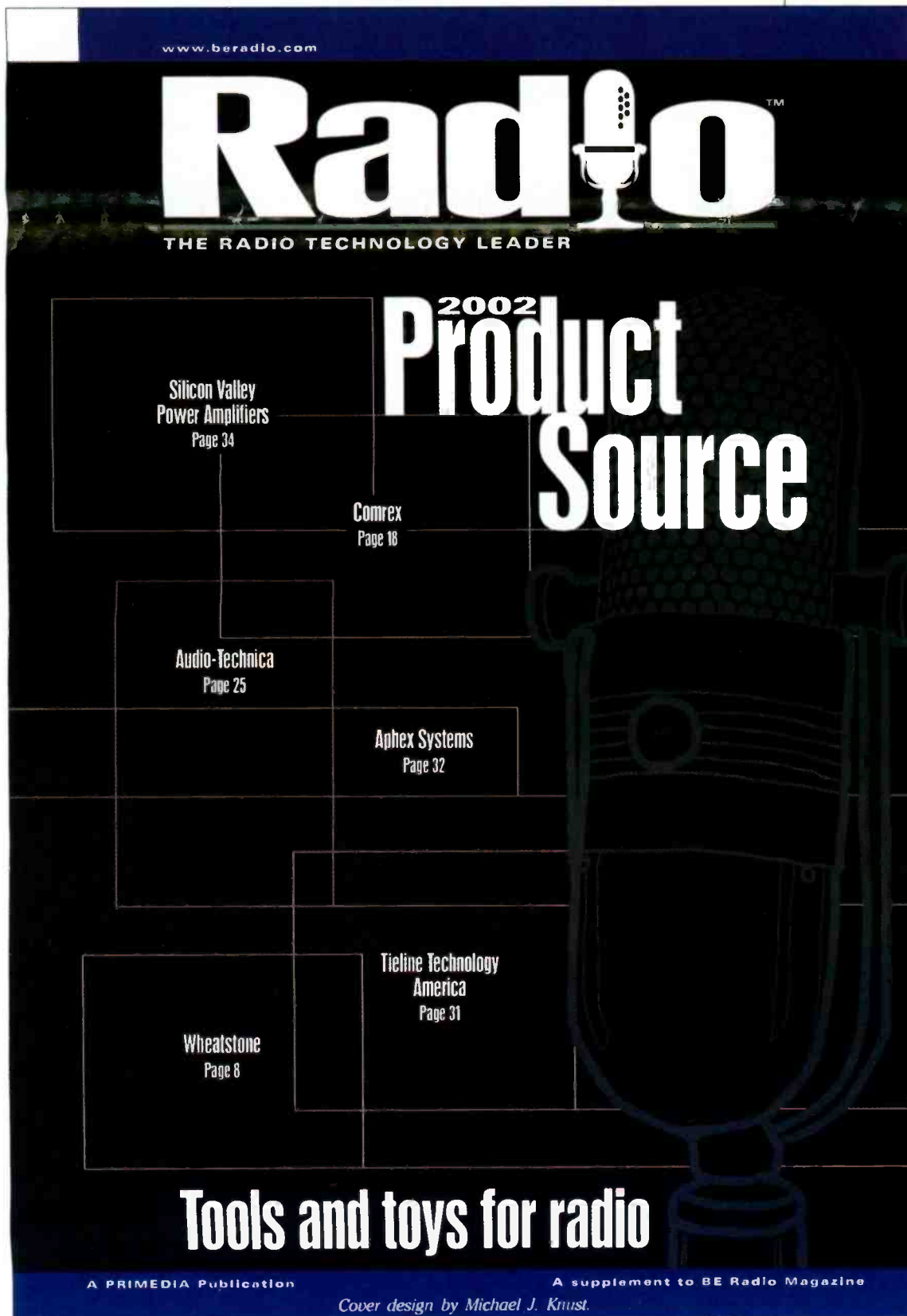
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2002 Product Source

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Tools and toys for radio

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POTS to ISDN codec Telos Systems



Zephyr Xport: This codec uses a standard analog phone line to connect with any Zephyr Xstream ISDN codec. Spectral Band Replication coding delivers reproduction of voice and music. A broadcaster can use a standard analog phone line in the field to connect with the Zephyr Xstream ISDN codec in the studio. Custom DSP-based modem extracts bit-rate from real-world lines and prevents audio loss from re-training. With its built-in mixer, this product

is useful for grab-and-go remotes. The DSP mixer section has mic and line inputs with selectable dynamics processing by Omnia, plus independent receive audio, headphone and monitor mix outputs. Operation is simple because it offers friendly menus for non-technical users. A built-in Web server and Ethernet port lets the user interact with this codec using a Web browser on a laptop.

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RF components listings RF Parts



Online catalog: A worldwide distributor for 34 years, RF Parts has released an expansion of its online catalog at www.rfparts.com. The catalog provides an efficient listing of product information, product applications and product ordering with the company's secure ordering system. The catalog lists a complete line of power tubes for broadcast, industrial and communications, including Eimac, Amperex, Taylor, Svetlana, RFP and Econco brands along with a full range of sockets through 20kW. In addition, the company stocks a large inventory of popular and hard-to-find RF transistors and power modules from Motorola, Toshiba, MA/COM, Mitsubishi and Microsemi. High-voltage doorknob capacitors and rectifiers are also available.

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AM antenna systems Nott Ltd.



Folded unipole antenna: One of the advantages claimed for the folded unipole is its broad bandwidth. Another advantage of the folded unipole is that it can provide a higher value of resistance than a conventional series-fed antenna when the antenna must be electrically short, i.e., less than one-quarter wavelength (90 degrees) in height. For antennas around 60 degrees in height, an adequate resistance can be obtained with a unipole, but the bandwidth is usually narrow. There are modifications that can be applied to broaden it, but it is normally not ideal.

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Matrix



The Matrix is the most flexible codec in the Comrex product line. The unit allows for your choice of

POTS, wireless or with an optional module, ISDN operation to handle any remote broadcast requirement. The Matrix even has a store and forward feature for sending just under 10 minutes of full bandwidth audio over any circuit in non-real time—a very useful back up tool! Two mic inputs (one is switchable to line level), one headphone output and one line level output let you plug microphones and headsets in directly or hook up to a mixer. And as new circuits become viable for live audio transmission, the Matrix, with its modular design and field upgradability has the potential to make obsolescence obsolete!

Nexus



The Nexus makes ISDN remote broadcasts simple! Using Turbo G.722 at 128kb/s this low-cost codec provides 15kHz two-way mono audio over ISDN with only a 6ms delay making it ideal for interviews, remote talk show hosts and news, weather or traffic delivery. When set to 56 or 64kb/s the Nexus will utilize the G.722 algorithm, making the unit compatible with all other manufacturers' ISDN codecs that use this industry standard coding scheme. An ancillary data channel allows for computer communications, such as call screening, during a broadcast. The Nexus can even store multiple ISDN line configurations, so if you travel to different venues with the unit you don't have to reprogram it at each location. Available in portable and rackmount versions.

BlueBox

The BlueBox is a low cost codec for high-quality POTS or wireless remote broadcasts. This portable unit weighs only 1.5lbs.



and is compatible with all other Comrex POTS codecs. One mic/line switchable input, one headphone output and one line level output complete the affordable BlueBox package. Take advantage of free product upgrades by downloading them from our website. The BlueBox makes it easy to cover late breaking news stories, interviews and sporting events!

Vector

The portable Vector has everything you need to broadcast on POTS lines, including a full featured mixer! The Vector delivers 15kHz, full duplex audio over



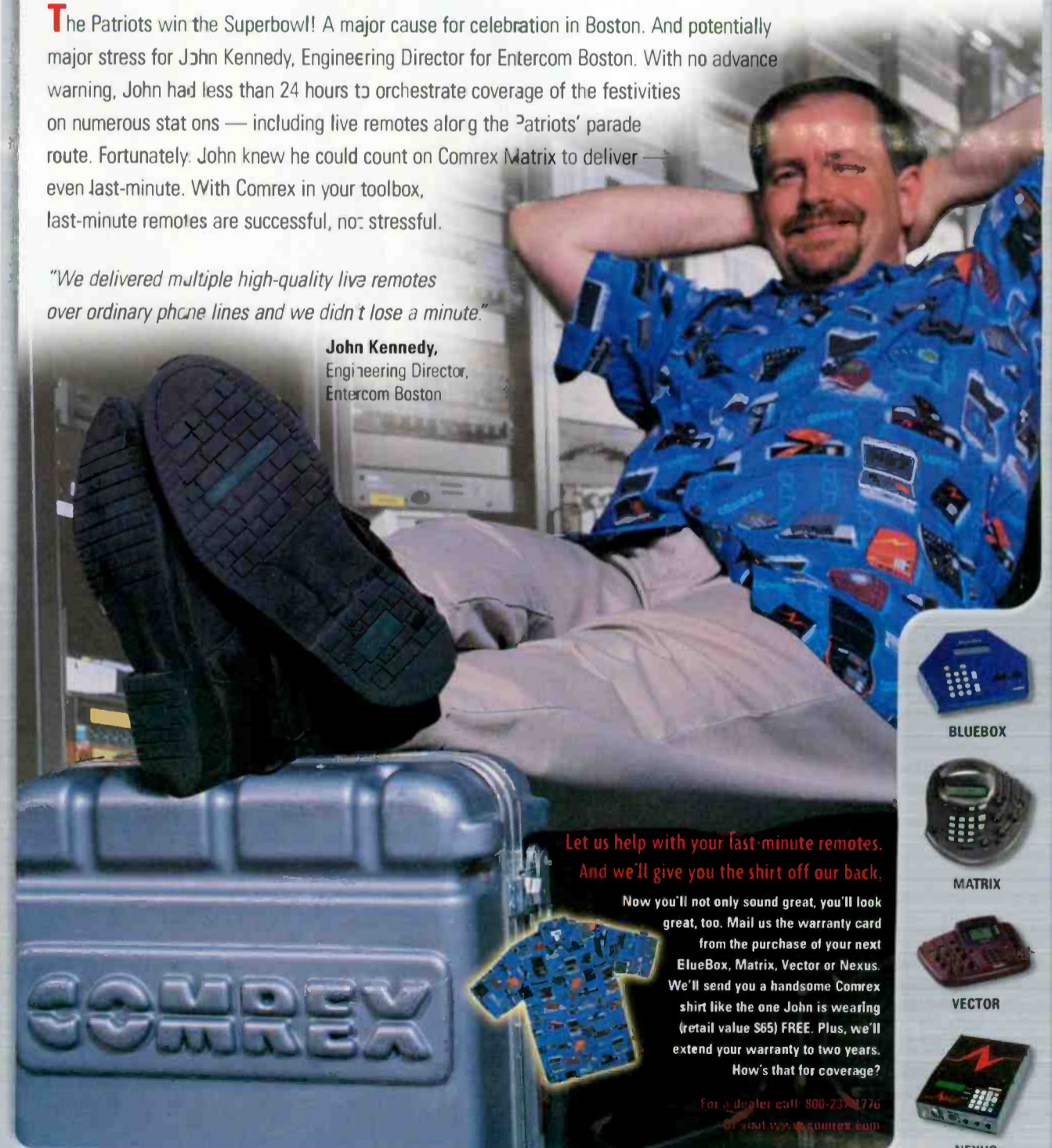
one plain telephone line. The unit has four mic inputs (3 & 4 are switchable to line level), three headphone outputs and one line level output to feed a PA system or recorder. Travel light and sound great at your next POTS broadcast!

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800-658-4403; fax 308-284-4181; www.prophetsys.com; sales@prophetsys.com



On-air console

Wheatstone

D-8000: The new digital flagship of the D-Series console line, the modular D-8000 ranges across multiple format needs with flexible configurations, frame sizes and metering types. Available features include universal input modules (accepting analog and digital signals), Wheatstone's exclusive Bus-Minus function providing an independent MXM feed with talkback interrupt on every input channel, alpha-numeric source displays, choice of master clock rates, two programmable stereo aux sends per input, 99 preset snapshots and individual channel four-band equalization, compression, gating and digital level trim. New mainframe design elements include a stainless steel meter bridge, wristrest, composite fused-finish endcaps and a low profile frame. Built-in serial communication interfaces with Wheatstone network router and many automation systems.

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Digital AM monitor Belar



AMMA-2: This addition to Belar's line of Wizard broadcast monitors offers full PC-based remote indication and control. Special metering algorithms set at the front panel allow the AMMA-2 to monitor conventional AM or controlled-carrier transmissions with accuracy. The DSP-based monitor operates in the medium and short-wave bands with harmonic and IM distortion residual effects below 0.1 percent at all carrier frequencies and modulation levels of as much as 99 percent.

610-687-5550; fax 610-687-2686; www.belar.com; sales@belar.com

Digital audio console Klotz Digital



Paradigm 16: The console includes voice processing on all mic inputs; sample-rate converters and machine control on all line inputs; mode, pan and phase reverse on all inputs; 12 faders with A/B switching and four faders with analog/digital six-source selectors. The LCD flat panel screens display a large clock and an event timer. The screens double as a password-protected, central control for console set up. The console accepts 48 sources and has digital and analog

outputs. The console layout can be configured, saved and retrieved for each operator. This product also has familiar in-hand controls and a transparent mix-minus operation. Buses are PGM, AUX, TEL1, TEL2 and PFL (cue) with cue speaker, headphones and CR and studio monitor outputs. Talkback to TEL1, TEL2 and studio is standard.

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970-461-0730; fax 970-663-1010
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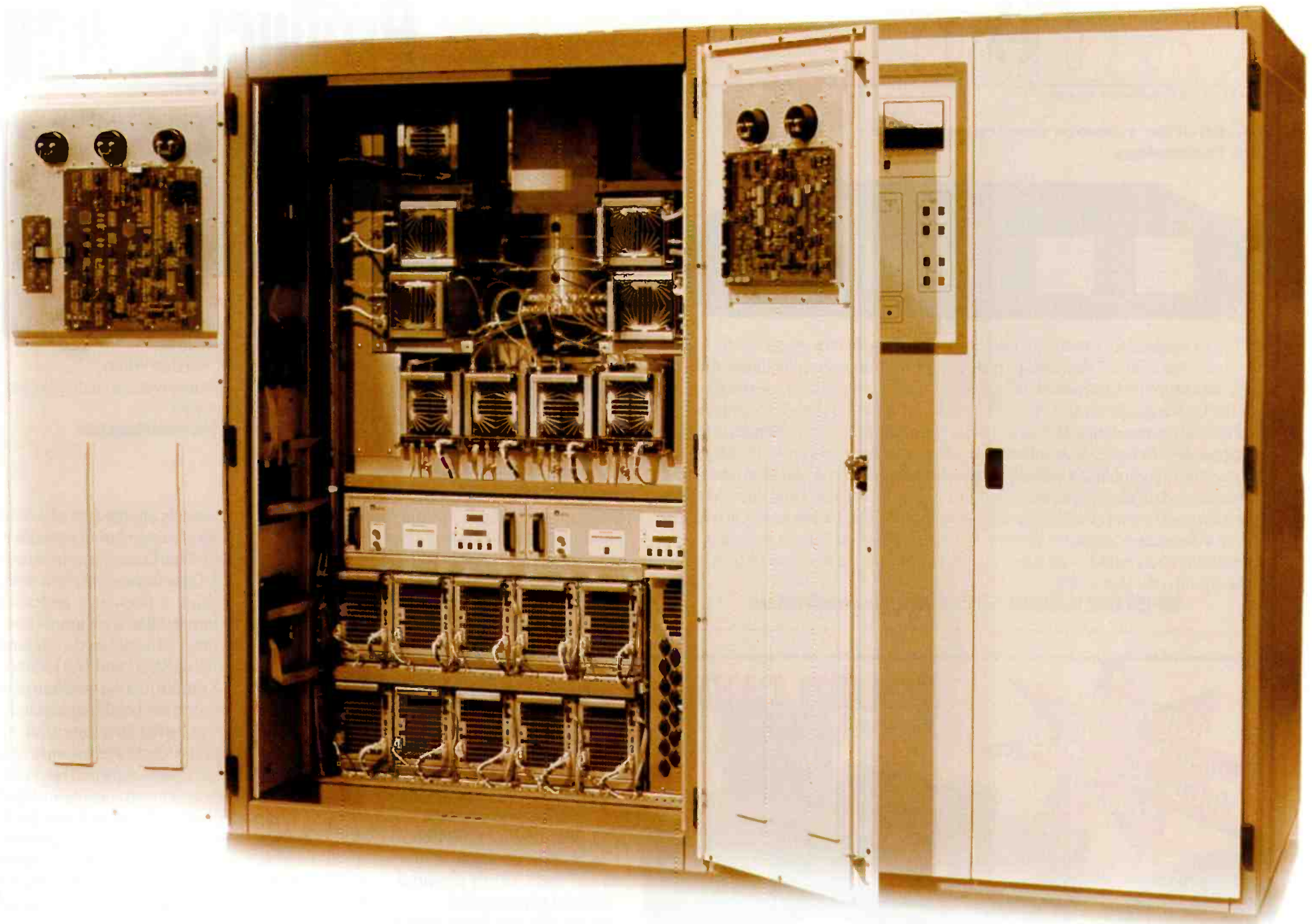
POTS/ISDN/PCS Codec Comrex



Matrix: As a plain telephone codec, the Matrix delivers 15kHz full duplex audio on one standard telephone line. An optional slide-

in module allows the Matrix to operate on ISDN using Layer III or G.722. The codec is also capable of improving the quality of GSM wireless phone feeds. The data port on the codec enables direct connection of a GSM phone without the need for a module. Another option is a NiMH battery that can power the unit for as long as seven hours. Completing the Matrix package are two mic inputs (one is switchable to line level), one headphone output and one line level output for connection to microphones and headphones or a mixer. An additional -10dBu input is available for a minidisc or DAT player.

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Transmitter remote control system Burk Technology

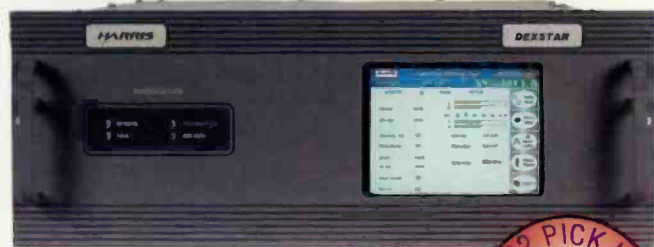


ARC Plus: Designed for expansion, each independent ARC Plus group can include as many as 16 sites with 256 channels per site. Use the optional Autopilot Plus software to connect a computer to hundreds of sites. View meter readings or graphs on the large, bright VFD, changing sites and channels quickly with the jog wheel. For commands, switches display user-defined labels for each channel on the buttons. Status is displayed on mappable tri-color LEDs. Autoload Plus software is used to set up and configure the ARC Plus from a computer. All user-accessible labels, limits and configuration information can be entered on the PC and uploaded to any connected site. Download ARC Plus images for easy backup. Built-in macros allow the ARC Plus to take corrective actions without a dedicated computer. With the optional Enhanced Speech Interface, a user can monitor and control from anywhere by telephone. As many as 16 sites can be accessed with one phone call.

800-255-8090; fax 978-486-0081; www.burk.com; control@burk.com

IBOC exciter Harris

Dexstar: This exciter provides linear performance for mask-compliant IBOC coverage. At every stage (up-conversion, RF and audio



inputs/outputs, user ergonomics and remote control interface) this product offers features for added functionality and simplicity. The exciter and transmitters are useful when a transmitter needs to be replaced but the broadcaster isn't ready to initiate IBOC service. When operating the common amplification analog/IBOC transmitter with an analog exciter, simply add an IBOC exciter and audio processing in the future.

800-622-0022; fax 513-459-3890; www.harris.com; broadcast@harris.com



Studio monitors Tannoy

Ellipse 8 and Ellipse 10: The Ellipse 8 and Ellipse 10 models are the first of a new generation of monitors featuring wideband technology and offering reference monitoring in the modern studio. Ellipse 8 is based on an eight-inch Dual Concentric drive unit with Supertweeter, while the Ellipse 10 uses a 10-inch Dual Concentric unit with Supertweeter. Both monitors are active designs and have a frequency response

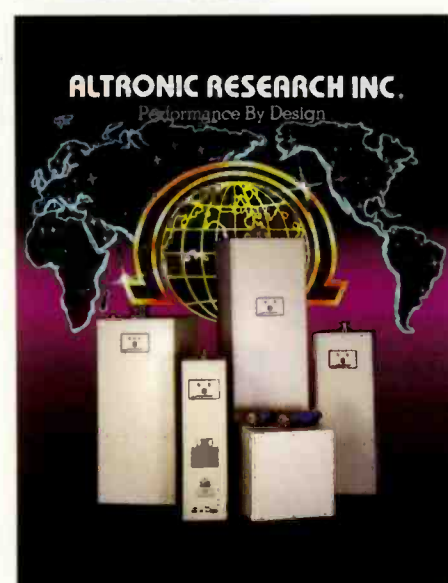
extending beyond 40kHz for more effective monitoring of wideband program material such as SACD and DVD-Audio. The result is a more natural transient performance and a more solid imaging capability, which is particularly important in multichannel production environments. The cabinet enclosures are non-resonant acoustically and mechanically, and feature a suede two-tone paint finish. Each system's 90-degree horizontal dispersion affords a wide sweet spot for practical working across the length of the console, while extensive variable and fixed equalization features allow the user to achieve ruler flat frequency response. Discrete MOSFET power amplifiers provide power with low noise and distortion.

877-342-4TGI

fax 519-426-4TGI

www.tannoy.com; litplease@tjina.com

RF terminations Altronic Research



Coaxial load resistors: A designer and developer of coaxial load resistors, this company produces water-cooled coaxial load resistors and air-cooled coaxial loads. Its sister company, Power Film Systems, manufactures Altronic's resistors. Manufacturing processes are closely controlled and are ISO 9000 compliant. The company's business philosophy is total quality management, from performance monitoring to strategic planning and results measurement.

800-482-5623; fax 870-449-6000

www.altronic.com

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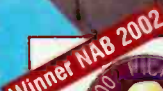
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DC-8 Plus Dial-Up Remote Control

Controls and monitors 8 external devices from any touch-tone telephone with extremely flexible programmable features.

MC-16 Telephone Hybrid/Coupler

Full-featured telephone line coupler/hybrid provides 32 programs; 32 ASCII strings (DTMF to ASCII); 64 macros; 16 relays; auto answer; 4-digit access codes and more.

SRC-1616L Serial Remote Control

Equipped with 16 opto-isolated and CMOS/TTL compatible inputs and 16-Relay (Form C) outputs that may be controlled from a host computer or a pair of units can be used in a stand-alone configuration (relay extension cord).

PSC Programmable Schedule Controller

Stores and controls up to 160 events with Hour/Minutes/Seconds, Day/Month/Year, or Day of Week with Daylight Savings Time correction. 20 SPST relays and/or 32 serial custom commands provided.

PSC-II Programmable Schedule Controller

Intended for controlling up to two RS-232/RS-422 serial devices; 16-SPDT relays; auxiliary serial ports and relays all in a single rack space. The PSC II controls functions by either scheduled time and date, time and day of week, serial port commands and remote input contact closures.

SRC-32 Serial Remote Control

Equipped with 32 opto-isolated and CMOS/TTL compatible inputs, 16 open-collector outputs and 8-Relay (Form C) outputs that may be controlled from a host computer or a pair of units may be used in a stand-alone configuration (relay extension cord).

SRC-8 Serial Remote Control

The SRC-8 provides a means of adding 8 channels of remote control to RF, wireline, and fiber type STL systems and may also be used with dedicated modems (full and half duplex models).

UI-411 Universal Interface

Perfect for adding logic functions to mechanical switches/relays, adding remote functions to transmitter control/logic, detecting phone line "ring", etc.

AVR-8 Alarm Voice Response

Used as a voice response and remote control system, the AVR-8 automatically reports changes detected on any of its eight digital inputs to a remote telephone and/or pager.

SSM Smart Silence Monitor

Monitors any stereo or two independent monaural sources and generates alarms indicating loss of carrier when white noise and/or silence is detected.

BOR-4 (Box 'O Relays)

The BOR-4 provides four independent 2PDT relay interfaces with two optically isolated or 5-volt TTL/CMOS compatible inputs.



DC-8 Plus

MC-16

PSC-II

SRC-8

SRC-1616L

SRC-32

UI-411

AVR-8

SSM

BOR-4

PSC

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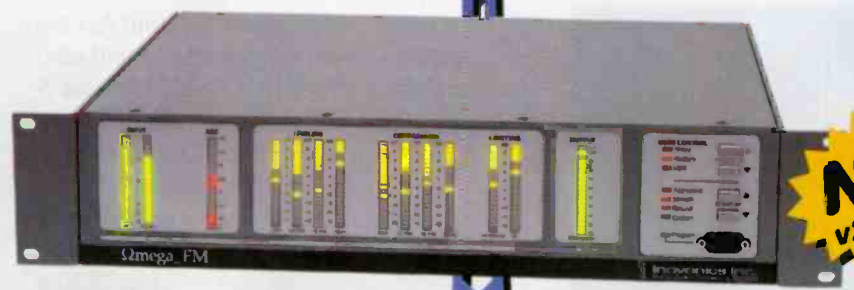
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FM MOD-MONITOR WITH PRESELECTOR

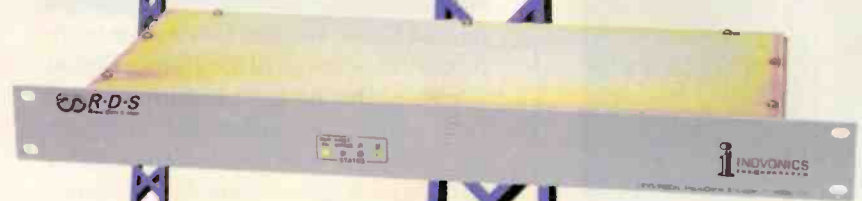
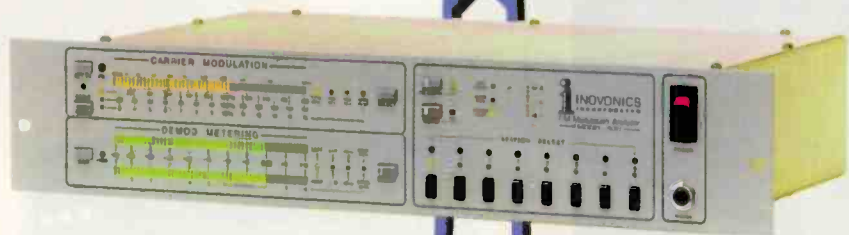
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OFF-AIR AM MOD-MONITOR

Features a built-in tunable preselector, two sets of peak flashers, program- and carrier-loss alarms and an RS-232 interface. An active outdoor antenna is optionally available.

RDS/RBDS ENCODERS/DECODERS

Interactive encoder (shown) works with hard-disk automation to transmit song titles, contests and advertising. We make a low-cost "mini encoder" too, and a full-function RDS/RBDS decoder/reader.



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www.inovon.com



NTP Time Servers ESE



E-104, E-289, E-299, E911: This line of network time protocol time servers (NTP) provides a method of putting accurate time information onto a network. The four NTP time servers provide accurate and synchronized time throughout a network. The concept is as simple as plugging the server into the network, configuring the server and allowing any client on the network to request time from the time server. Equipped with an internal GPS receiver as its time reference, it provides the user with a source of Stratum 1 accuracy. ES-289, ES-299 and ES-911/NTP receive their time reference from external sources of time code. These servers are time-code translators, each receiving time code and outputting NTP. The ES-289 accepts SMPTE/EBU time code or Time Code while the ES-299 references IRIG (A, B or E), NASA 36, XR3 or 2137 time code (AM or TTL). ES-911/NTP accepts ASCII time code in any of the formats that follow: NENA (Format 0, 1 or 2), ESE (Format A) or NMEA0183.

310-322-2136; fax 310-322-8127; www.esweb.com; ESE@ese-web.com

LED tower beacon Dialight



L864: The first LED-based flashing red beacon for marking towers and other FAA obstacles, this lamp meets all FAA, Transport Canada and ICAO requirements. Designed primarily as a replacement unit for 300mm incandescent red flashing beacons in existing installations, the L864 flashing red beacon mounts to standard bolt patterns and requires no additional wiring, controllers or monitors. It uses high-flux LEDs and uses 90 percent less energy than standard incandescent beacons that consume a minimum of 1,240W. Its unique design optimizes LED performance, resists shock and vibration, and provides 360-degree visibility while minimizing unwanted ground-lighting effect. The L864 flashing red beacon carries a limited five-year performance warranty.

732-919-3119; fax 732-751-5778; www.dialight.com; info@dialight.com

Digital carrier power meters Coaxial Dynamics

Digital Watchman: This rack-mounted station monitor/alarm is similar in function and appearance to the company's 81090 series except that it is designed for the measurement of complex RF waveforms such as Code Division Multiple Access (CDMA) and DAB signals. It will also function well with AM and FM signals. A digital station monitor and alarm system installation consists of a Digital Watchman, a dual socket line section and two digital broadcast plug-in elements for monitoring forward and reflected power. The power meter is supplied with four 25-foot cable assemblies for connection to the line section and elements, and a six-foot ac power cord. Installation requires inserting the line section and elements into the transmission line, connecting the terminals of the transmitter interlock systems to the proper terminals on the Digital Watchman and providing ac power.

800-COAXIAL; fax 216-267-3142
www.coaxial.com; sales@coaxial.com

Control surface Logitek



Numix Fader Wedge: This wedge completes the redesign of the Numix Digital Console. This product features a color LCD above the faders that indicates source, mode and timer information for each fader. Also redesigned were the bus selection buttons, which now light to indicate bus assignments. Each fader now has a dedicated talkback switch and each fader wedge offers six input channels with 100mm Penny & Giles faders and guarded on and off buttons. Cue signals can be PFL or AFL, and the faders can perform cue at infinity or fader start operations. Motorized faders are an optional feature. Each fader channel has LED indicators for on-air and in cue. Any audio engine input may be assigned to any fader.

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OPTIMOD 6200S. Whether you are streaming audio from a fixed location or producing live events for the Internet, the 6200S takes the power of OPTIMOD to your webcast.



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OPTIMOD-FM 2200 offers the benefits of digital processing to stations on a tighter budget. The 2200 carries out all processing and stereo encoding in the digital domain to provide easy set up, flexible programming options, precision calibration and long-term stability.



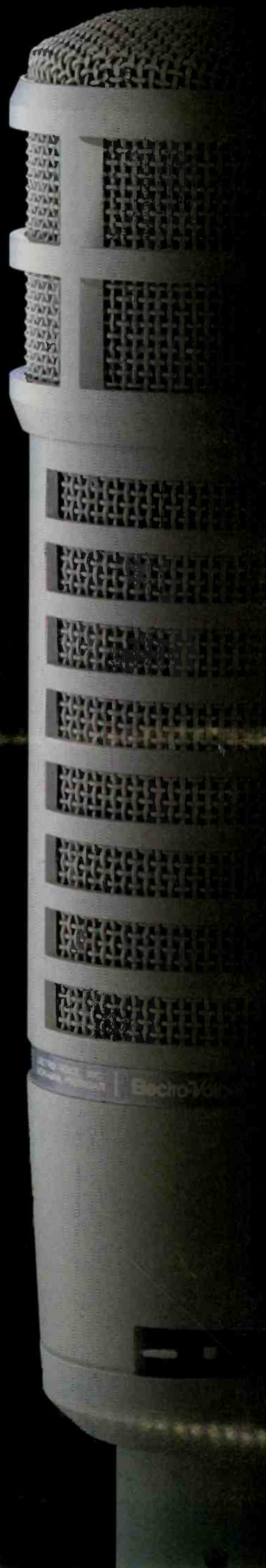
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Portable studio

Tieline Technology America

iMix: This portable studio combines the features of a remote broadcast portable mixer with built-in ISDN and a POTS codec capable of 15kHz audio. The remote broadcast mixer accepts as many as five mic/line inputs and provides a mix-minus bus. Intercom buttons on each input allow off-air communications between headsets. The studio also features channel on/off buttons, and cue and relay control buttons. All hardware features are software controlled and can be upgraded. The unit can also interface with generic codecs using G.711 and G.722 algorithms, as well as fully interfaces with the Tieline Toolbox software package that allows PC remote control for chat, upgrades and system monitoring.

317-259-8000; fax 317-259-8040; www.tieline.com; sales@tieline.com



Rototiller and Slanted-V styles

Propagation Systems

FM antenna line: A variety of radiating element designs is available for power applications from 1W to 120kW. Side-mount versions include the FHR and FMR Series Rototiller along with the FH and FM Series slanted V. For multistation applications, the CB Series cavity-backed radiator and FMP dipole panel are available. For the new LP FM service, the FL Series antenna is available in circular, vertical and horizontal polarization. Also available are the FY Series Yagi antennas.

814-472-5540; fax 814-472-5676; www.psibroadcast.com; psiba@surfshop.net



EAS encoder/decoder

Gorman-Redlich

EAS-1: This encoder/decoder offers a 25-pin printer port allowing an external printer to keep the EAS log an auxiliary output through a coaxial BNC fitting to go directly into the FM exciter and a four-line, 40-character backlit LCD for rapid interpretation of alert messages. Alert messages can be scrolled on a remote sign board, a computer screen or with a character generator on a video monitor. Other features include a 20-key keypad to construct alert messages header code, set modulation levels or set input levels. The complete required weekly test, the end of the message code, sending a stored alert or sending a composed header can be done from the keypad on the unit or with a remote push button in the on-air control room. The EAS-1 is now available with an optional telephone interface for inserting an emergency message from a remote location with a DTMF telephone keypad.

740-593-3150; fax 740-592-3898

www.gorman-redlich.com

The best selection

FM Educational Circular Polarization antennas.

Model	No. Bays	Max. Input Power	Price
MP-1	1	500 W	\$250
MP-2	2	800 W	\$650
MP-3	3	800 W	\$950
MP-4	4	800 W	\$1,250
MP-4R	4	2000 W	\$1,750
MP-5	5	3000 W	\$2,250
MP-6	6	3000 W	\$2,700

FM Low Power Circular Polarization antennas.

Model	No. Bays	Max. Input Power	Price
GP-1	1	1500 W	\$350
GP-2	2	3000 W	\$1,350
GP-3	3	4500 W	\$1,800
GP-4	4	6000 W	\$2,500
GP-5	5	6000 W	\$2,900
GP-6	6	8000 W	\$3,500

FM Medium Power Circular Polarization antennas.

Model	No. Bays	Max. Input Power	Price
SGP-1	1	3000 W	\$650
SGP-2	2	6000 W	\$2,450
SGP-3	3	8000 W	\$3,500
SGP-4	4	8000 W	\$4,300
SGP-5	5	8000 W	\$5,100
SGP-6	6	8000 W	\$5,900
SGP-6R	6	15000 W	\$6,500

Please Contact the OMB America Sales Department, for other antenna systems configurations



EUROPE

Commercial & T.V. Factory:
Avda. San Antonio, 41
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Fax 976.46.31.70
50410 CUARTE DE HUERVA
(Zaragoza)

Antenna & Radio Factory:
Camino de los Albares, 14, bajos
Telefs.: 976.50.35.80 (6 lines)
Fax 976.50.38.55
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TU & Radio antenna systems

Broadband FM antenna

ERI-Electronics Research

Axiom antenna: This antenna is a multi-station, side-mounted antenna platform that accommodates 10 or more stations. Its design incorporates three-stage transformation,

shape-factored elements and feed-point reactance compensation. The antenna features a continuous solid-contact, interbay connection system designed to eliminate typical wear-and-tear bullet failures. The antenna is available for existing structures or a new site-specific design.

This product features encapsulated, pressurized feed points that improve antenna reliability in inclement weather. A long support stem

reduces tower distortion effects, and it's built of materials that provide resistance to environmental-related corrosion. Its mean gain is computer optimized and is a function of design frequencies. Axiom models are typically center fed and incorporate rigid coax harnessing.

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that Harris is also the leader in IBOC DAB products. The DEXSTAR IBOC exciter is designed by Harris engineering, built to exacting standards in the world's largest broadcast transmitter-manufacturing facility and backed by a service department, recognized the world over for quality and commitment. If you're looking for a digital broadcast solution, from beginning to end, that offers the most advanced performance and reliability, stop searching. X marks the spot for Extreme Digital from Harris.

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Cortana

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888-325-5336; fax 505-326-2337

Pots and wireless codec

Comrex

BlueBox: Delivering the audio quality of a Matrix or Vector (15kHz on a single dial-up line), this codec is compatible with all existing Comrex POTS codecs, including the Matrix, Vector and Hotline. The Bluebox also provides GSM wireless operation to improve the audio quality of GSM phone feeds. Additionally, the codec can connect to the hands-free port on mobile phones and place calls to telephone hybrids (no codec is required on the receiving end of the call). Features include one mic/line switchable input, one headphone output and one line level output. An additional -10dBu tape input allows connection to a minidisc or DAT player. There are no special circuits to order and no distance limitations.

800-237-1776; fax 978-784-1717; www.comrex.com; info@comrex.com



Transmitter control enhancement

Armstrong Transmitter



Transmitter LCD Controller: This multi-purpose tool stores the last minutes of data from all transmitter parameters. Non-volatile storage is continuously updated, giving an accurate record of the last minute of operation. This is designed to minimize troubleshooting time in the rare event of an alarm or failure. In the event of a main controller failure, the LCD controller takes control of transmitter serving as a backup to the main transmitter controller. An internal data modem allows the LCD controller to dial out to alert of a fault condition. It can also be used for remote control and data acquisition. The LCD screen allows instant access to all readings and functions. Software provided with the transmitter allows you to dial into the LCD to verify the transmitter's operation, to receive detailed current readings or to review the last moments of operation before an alarm or fault condition.

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Complete Broadcast Solutions

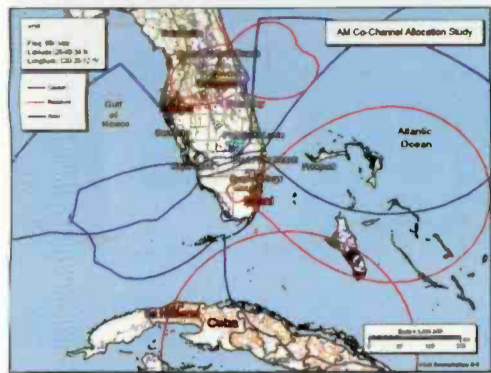
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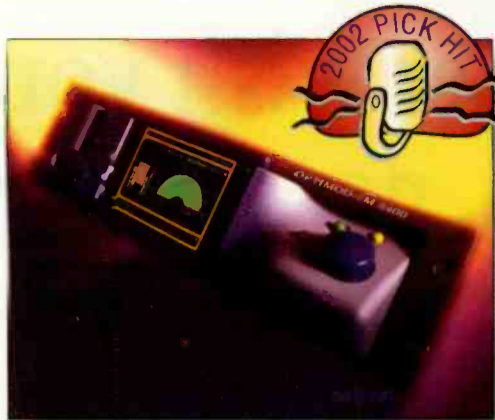
Broadcast engineering software



V-Soft

AM-Pro: This program performs all the studies required of the spectrum designer in working with AM standard band broadcast coverage and allocations. AM-Pro is configured to apply the M3 or R2 ground conductivity curves depending on where the study is carried out. The program will plot ground-wave and sky-wave signal contours and perform RSS studies to determine the level of interference a given station receives and therefore its nighttime coverage limits in mV/m. AM-Pro implements an automatic sky-wave coverage analysis routine that operates according to a set of programmable rules. A tabular listing of all stations having a distance and channel relationship can be directed to a printer. AM-Pro has check boxes for toggling on or off co-channel, first-, second- and third-adjacent channel relationships. Clicking a listing will bring up the parameters box for the station selected allowing the user to change the station's operating parameters if desired.

800-743-3684; fax 319-266-9212; www.v-soft.com; kmichler@v-soft.com



Digital processor Orban

Optimod 8400 version 2.0 w/ IBOC: Version 2.0 implements new low-delay processing on all presets, plus improved DSP algorithms that increase punch and presence. The 8400 was first introduced in 2000, and periodic software upgrades have maintained the 8400 as Orban's flagship FM processor. With version 2.0, talent can listen off the air through headphones without hearing any echo in their voices. This new software retains and improves on current technology and increases audio quality. The IBOC path provides multiple outputs to drive both analog and digital transmission chains while using a single processor and control surface. Existing 8400s can be upgraded with both ver. 2.0 software and the IBOC capability.

510-351-3500; fax 510-351-0500; www.orban.com; custserv@orban.com

On air digital system MediaTouch

iMediaTouch: New live-assist features, satellite interfacing, non-proprietary architecture and console interfaces make this system an advanced on-air system for any format, any size or any broadcast cluster. The system runs without constant engineering supervision or IT management. It comes loaded with features such as open architecture design for adaptability to any radio station's format: live assist, automated and satellite. The system runs on Windows 2000, NT4.0 Server, workstation or on any Windows-compatible sound card. As many as four discrete analog playback outputs, plus multi-overlaps for hot buttons with optional discrete AES-EBU play out are available. A simultaneous LCD touchscreen, mouse, bi-directional start and stop console buttons and digital console RS-232 remote control are offered. An early warning system notifies the air operator or administrative personnel of missing digital events or logs well in advance of airtime. With this system the user has the ability to build a custom music library in hours.

888-665-0501; fax 204-783-5805
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info@acousticsystems.com

The New RCS Master Control XV

RCS' Master Control was the first hard disk audio studio automation system. As the pioneer, Master Control paved the way for many other automation systems. As the original, Master Control plays all the audio (promos, spots, voice tracks, etc.) on a radio station and also has many advantages over other systems when used in concert with Selector and Linker. With the on-going commitment to upgrades and solid compatibility with other RCS products, Master Control has a special place in the broadcasting industry. From the Master Control—Selector "Living Log" to Internet Voice Tracking to 24/7 Support, RCS packs quality into every product.

Internet Voice Tracking™

RCS invented "Real-Feel" Voice Tracking in 1990 and patented Internet Voice Tracking (IVT) in 1998 and is the acknowledged leader in this technology.

One talent can create eight shows or more in the time they do one show now. With "Real Feel" Internet Voice Tracking™, the talent controls song starts and exact placement of voiceovers while adding voice tracks to the station's program log over the Internet. No matter how far from the studio, RCS Internet Voice Tracking keeps the quality high and costs low. Tracks can be rehearsed, recorded and reviewed by talent before adding to the log and then played on the air automatically. IVT uses the Internet or corporate Intranet, LAN or WAN through the use of universally available TCP/IP protocol. It works on any PC connected to the Internet with a minimum of a 56k modem, standard Windows duplex audio card and recording/monitoring capability. Once the dry voice track is sent back to the radio station, the audio of the voice track is automatically deleted to free up disk space on the Talent's hard drive. Because the required heads and tails audio is deleted from the remote machine as the voice track is sent, no central replicated storage of audio data is required. With



no need for a group-wide numbering system in order to run IVT, each station has the autonomy and control to use own ID numbers. The future of broadcasting is getting the most out of your talent and creating low cost network shows. Internet Voice Tracking is one of the reasons Master Control remains on the cutting edge.

The "Living Log"™

As a new song or spot is added to the schedule, it can instantly be seen and broadcast from the On-Air studio. There is no copy-out/copy-in process because there is only one schedule—the "Living Log" can be viewed and manipulated simultaneously. Any authorized computer on the network can capture and edit audio, edit and modify logs, and perform administrative functions. When approved by the Program Director, talent in the on-air studio can have access to the entire Selector database. If a song on the log needs to be



substituted with another, for example, Selector XV presents a list of songs with a complete song play history grid and a rule failure list. An operator can make the smartest decision and choose the best song for that position without leaving the studio. All modifications are instantly executed and saved. All live station copy is embedded into the schedule right at the position it is needed in the log, which eliminates mad dashes searching for live copy.

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RCS' technical support is ALWAYS AVAILABLE. Experienced software experts are available 24/7/365 so that radio people find answers fast. The latest on-going-quality-control study of more than 27,000 calls to RCS showed that the average support call was answered by a real human being in 12.5 seconds. The world renowned support department is made up of veteran radio people, each of whom have many years of in-the-trenches experience as engineers, PDs, MDs and air talent. They not only solve problems, but also



*From internal document (7/1/2001 - 6/30/2002) based on more than 27,000 calls.

provide tips and advice on ways to optimize RCS software and hardware. They are RCS' true secret weapon and help engineers and programmers learn and grow.

Besides the 24 hour direct line support team, RCS also offers online support and e-mail support. Dozens of RCS support staff members are available around the world and in dozens of languages.

Besides training videos and written documentation, there is also extensive online information from the RCS website, www.rcsworks.com. For fast troubleshooting, Master Control XV systems are accessed and diagnosed by RCS support engineers via modem and remote control software. RCS not only sells the systems and software, but also stands behind the product. One of the reasons Master Control is the system of choice for many stations around the world is that RCS responds to its users. Master Control and all the RCS products are the by-product of user needs, input and ideas.

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2002 Product Source

Portable digital audio recorder Mayah Communications

Flashman: This portable recorder handles linear and MPEG audio files. With no moving parts, this solid-state recorder uses Compactflash cards, which allow more than eight hours of mono audio at MPEG Layer 3 on a 256MB card. The removable card can be read by standard PC card readers for file transfer. Flashman features include record and playback in stereo and mono; 32kHz, 44.1kHz and 48kHz sampling rates; marking during record and playback; S/PDIF in and out; more than five hours of operation with alkaline batteries; and optional rechargeable batteries with an external loading station.



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Digital audio console Audiotronics



ALM-12d: Combining the functions of a router and an on-air audio console into one package, this console lets any input source be routed to any fader or monitor pot. Features include 12 faders plus two caller faders, four mic preamps, control room and studio monitoring, and built-in cue speaker and headphone amp with concealed output jack. A complement of high-end features

includes bright LED dot-matrix source displays above faders and monitor pots, and 24-bit A/D and D/A inputs and outputs. Its AES digital inputs have sample rate converters, enabling them to work with virtually any digital source. As many as eight external source machines can be controlled via channel on/off switches (all opto-isolated). The dual fader phone channel's caller tools generate automatic mix-minuses, and any of the console's four MXMs can be programmed to be pre- or post-fader.

252-638-7000; fax 252-637-1285; www.audiotronics.com; sales@wheatstone.com

Digital audio router Audioarts Engineering

ADR-32: The 2RU self-contained rackmount unit is a 32x32 AES switcher with front panel X-Y control and built-in monitor speaker. It interfaces with Wheatstone digital console source displays and may be controlled by the Wheatstone family of console- and turret-mounted control heads as well as the Wheatstone X-Point PC software package.



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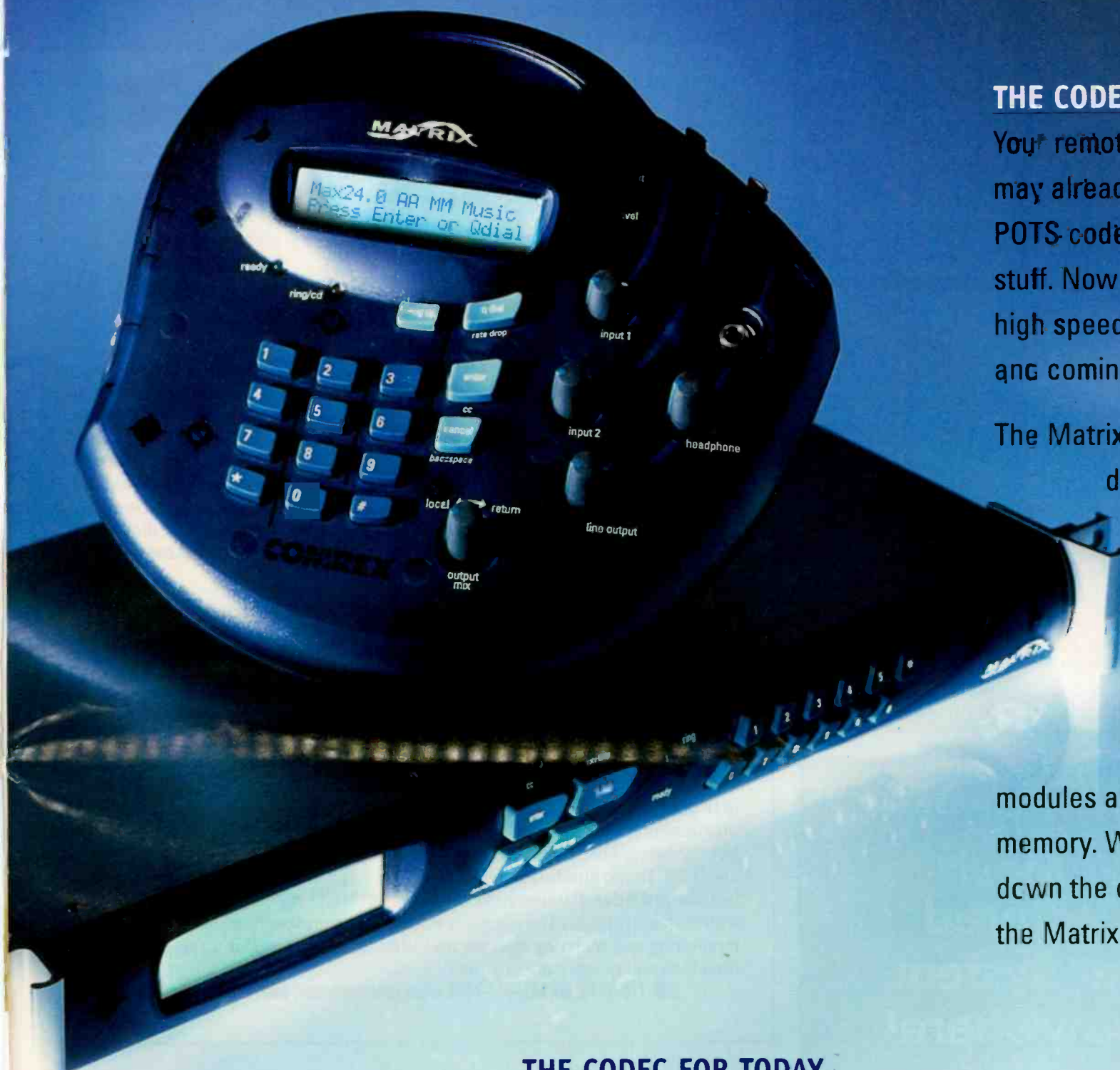
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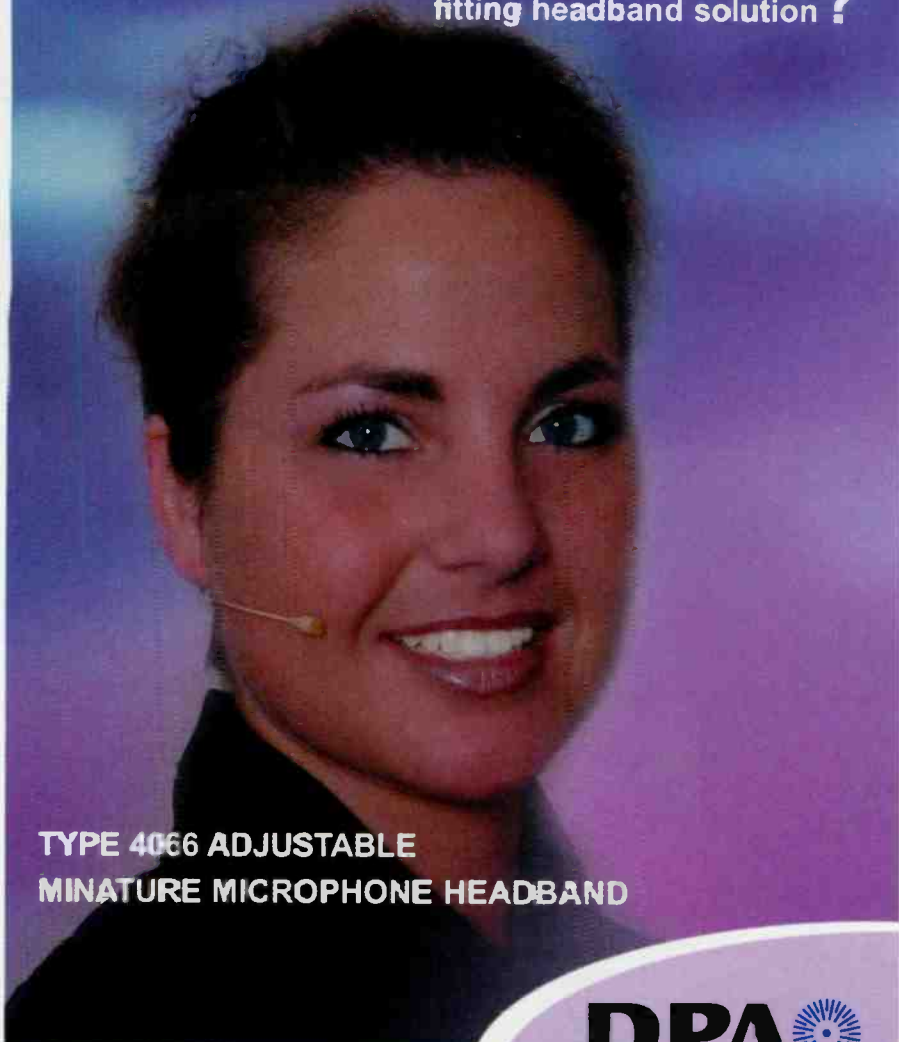
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The antenna is fully compliant with FCC spec 29-25 Log O for 2-degree spacing. The entire antenna is powder-coat painted. Complete turnkey systems are available. This antenna has an in-ground mast foundation and offers an optional pipe stand with bolt and template kit.

800-470-3510; fax 517-629-6690; www.sepatriot.com; info@sepatriot.com

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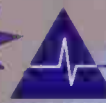
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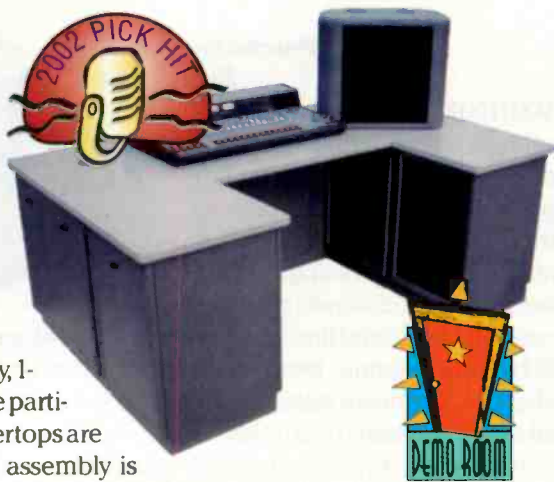
Web Site: armstrongtx.com
email: sales@armstrongtx.com

Studio furniture Mager Systems

Sound Choice Furniture: This new series of stock studio furniture offers high quality materials throughout. Vented cabinets have curved corners and countertop edges are rounded. A standard color choice is available. Various riser heights are available for the rack turret. The cabinets are 19-ply, 1-inch thick plywood and do not use particleboard or melamine. The countertops are solid-surface Avonite. No cabinet assembly is required. All surfaces are fully sealed with no laminate to crack, chip or peel.

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Audio silence sensor Danagger Audio Works

Plan B: Combining the functions of an audio loss detector, a CD/MP3 player and a talking remote control system, the Plan B provides a backup system to eliminate dead air caused by equipment failure or human error. On detection of an interruption of user-set duration, the unit switches its built-in disc player online and then dials three telephone numbers in sequence until it makes contact. A pre-recorded voice reports the unit's status, then lets the user control the Plan B and any external equipment connected to the unit's three auxiliary relays or status inputs. The user can also listen to the incoming audio or the disc audio through the phone. The unit can play audio CDs and MP3 CDs to provide as long as eight hours of backup programming. The drive can play cuts in sequence or random order, and it can be set for looping playback. External inputs can be digital (up to 24bit/96kHz) or analog. All signals are looped through the unit via gold-contact relays. Other features include an alarm siren with external mute, a tabulating failure memory and a safety switch to prevent accidental activation. It occupies 2RU.

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Satellite audio delivery ABC Radio Satellite Services

Distribution Services: ABC delivers branded and independent syndicated programs, sporting events, live concerts, premieres and press releases via satellite to thousands of radio stations and millions of listeners coast-to-coast. The company offers a variety of products and services. Distribution is achieved on AMC-8 via Starguide III, the primary satellite and system for United States commercial radio distribution. It offers three types of channels tailored to fit a user's needs: joint stereo (192kb/s or 128kb/s), 20kHz dual channel mono (96kb/s) and 10.2kHz dual-channel mono (64kb/s). This system is a gateway to the New York Technical Operating Center from Dallas, Los Angeles and Washington, DC. It offers record and playback services. Talk radio-ready studios are available in New York, Los Angeles and Washington, DC.

212-456-5804; fax 212-456-5809

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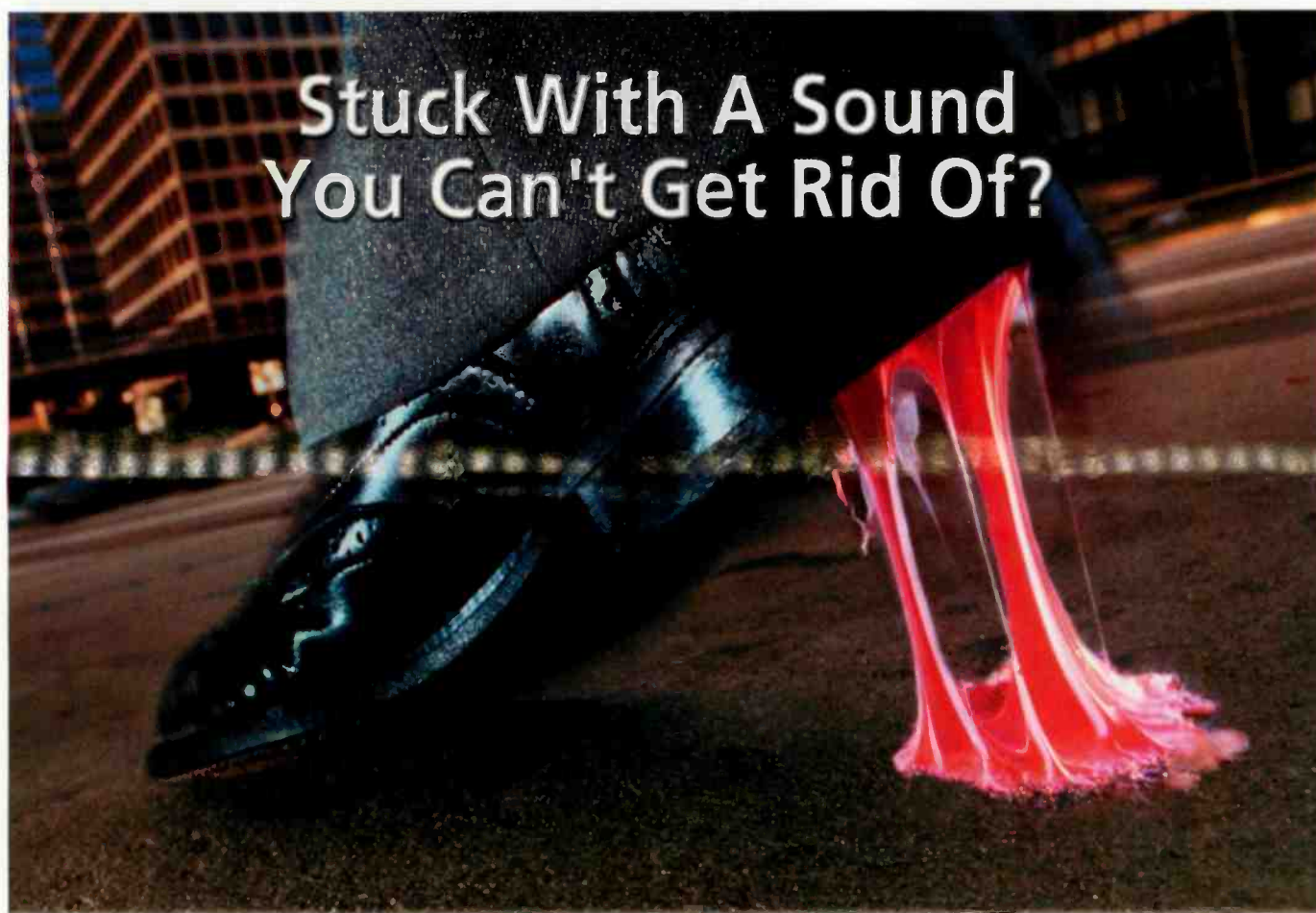
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800-733-0552; fax 831-458-0554; www.inovon.com; info@inovon.com

800-733-0552; fax 831-458-0554; www.inovon.com; info@inovon.com



Portable mixer

Behringer

MXB1002: This 10-channel mixing console operates on either ac or battery power for studio or on-the-road applications. The input complement includes two mono, three stereo and a separate stereo tape return channel. All stereo channels feature separate gain controls for mic and line inputs. It also has three-band EQ on each channel, two aux sends and inserts on all mono channels. The mixer features gold-plated XLR mic connectors on all mono and stereo channels, as well as discrete mic preamplifiers on all microphone inputs. It offers balanced 1/4-inch stereo jacks and balance controls on all stereo channels. At its largest dimensions, the unit measures 8.5 inches x 11.75 inches x 2.875 inches.

877-672-0816; fax 425-673-7647; www.behringer.com; support@behringer.de

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Dawning Technologies

Resultnet/Plus: Dawning develops interfacing software for broadcast companies, network providers, site management companies and a variety of other organizations. It offers a research and development program dedicated to combining modern software and hardware technology to provide cost effective, innovative software. Currently the company is in the final phases of development of a fourth generation interface.

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303-925-1708; fax 303-925-1714

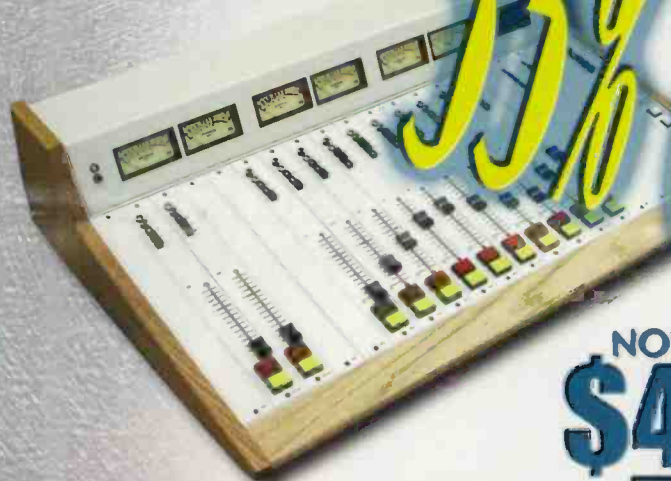
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2002 Product Source

System and file enhancements

Pristine Systems

Rapidfire updates: There are now four upgrades to the Rapidfire system. The Audio File Manager utility was designed for the Windows user to transfer and delete audio files from several workstations (on-air and production) at the same time eliminating the chore of single-file deletion. Rapid.ini wizard is a user-friendly interface, which assists the user to modify the many different settings for Rapidfire. The interface was created to help the user feel more comfortable in making changes and help reduce the possibility of errors. Rapidfire Autobreaks and Liners wizard will assist Windows users with customizing Autobreaks and Liners formats for each hour of the day based on the station's format. This helps in scheduling end-of-hour and time-critical Autobreaks for joining a satellite feed, playing back-to-back music, running a live show or any combination of the three. Audio Drops Manager facilitates the process for the Windows users in creating and managing jock profiles for unique Audio Drop presets. Each jock profile can store as many as 90 audio drops for each of the 12 jock profiles, for instant play-back from the Rapidfire main screen.

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fax 310-831-6287
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sales@pristinesys.com

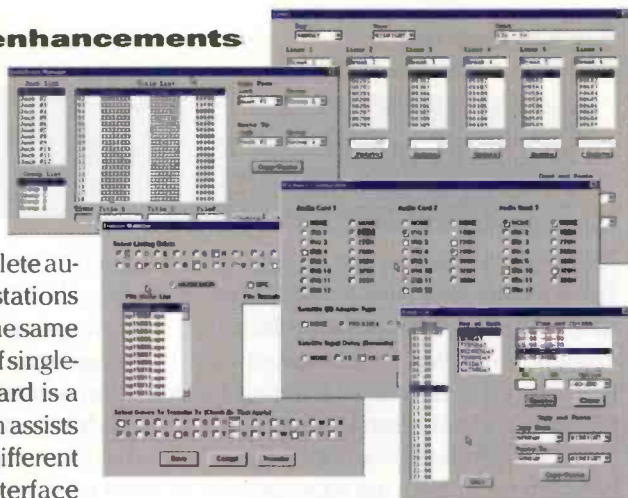
Digital FM transmitter line Harris

Z IBOC Transmitters: Designed with the same features and benefits of the Z CD transmitter series, and drawing on



the company's experience in digital TV linear transmission techniques, Z IBOC transmitters incorporate proprietary linearization and correction features that maximize coverage, increase efficiency and can eliminate the need for expensive external RF output filters. Harris drew from its experience in providing transmitters for IBOC field tests. Available in two versions: a hybrid version to transmit a hybrid analog/digital signal, and an IBOC-only model.

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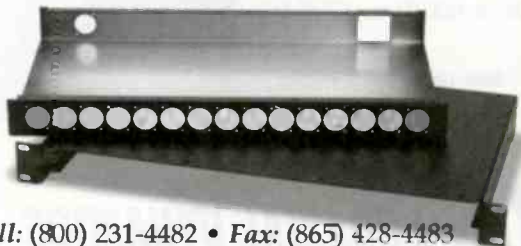
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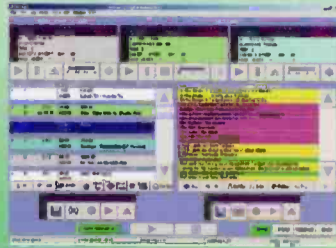
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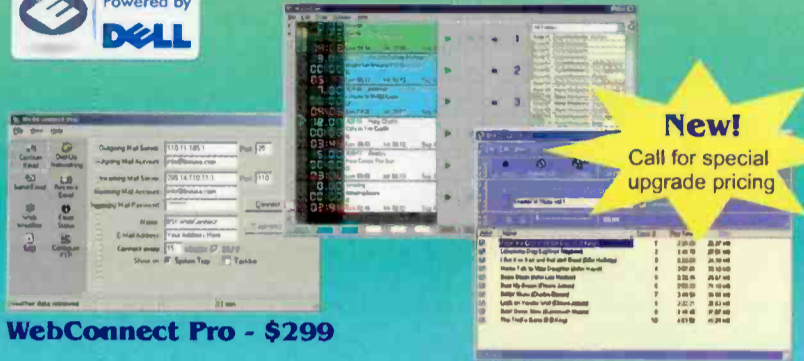
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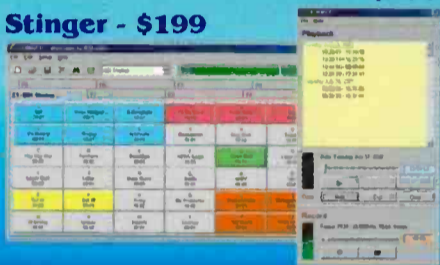


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EAS receiver Dayton Industrial Corp



AFC3: The company's line of receivers is designed for professional or EAS monitoring. Three receivers for NOAA, AM, FM or public service band are housed in a 1RU case. The AFC3 contains a front-panel audio selector switch, mounted small speaker and headset outputs controlled by a volume control. Also mounted on the front panel are LED indicators that indicate carrier and modulation activity for each receiver. An alert indicator and test/reset switch is mounted on the front panel for those receivers that use alert tone detectors, such as the weather and public-service monitors. The rear panel contains outputs for the receivers. The receiver uses a 12V power source.

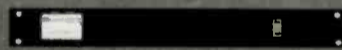
941-351-4454; fax 941-351-6081; www.daytonindustrial.com; sales@daytonindustrial.com

IBOC transmitters Broadcast Electronics

FMi Series: A new line of IBOC-compatible transmitters, this FMi solid-state IBOC transmitter line is based on the solid-state FM products now in production, the C and S series FMs. Using linearization techniques, these products can be used in a

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CD ripping software RCS

Selector Smart Ripper: This technology rips a song and then releases the industry-standard scheduling codes to an active Selector database. It reduces the time a radio professional has to spend in front of the computer. Not only does this technology create an audio file, which can be imported to any on-air automation system, it also incorporates the Smart Editor. Smart Editor allows the user to edit, equalize, normalize, add reverb, reduce noise and create special versions of the ripped audio file for different stations. This system is only available to Selector and Master Control clients.

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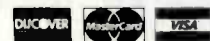
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Wiring break-out-box accessories

Radio Systems

ASI6000 accessories: Radio Systems and AudioScience have created wiring break-out-box accessories for the new ASI6000 series multichannel PCI audio cards. Cables are also available to allow the use of the B.O.B. with the ASI4300 series. The rack mount units, available in XLR and RJ-45 versions, allow users convenient and dependable access to all channels of card analog and digital I/O, as well as clocking and sync signals. One simple multipin connector connects the unit to the audio card. A single B.O.B. is all that is required for access to all card digital I/O or as many as four analog channels, while multiple B.O.B.s can be ganged when access to all eight stereo analog input and output channels is needed.

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Amplifier

OMB America

EM 1000 S: Through high efficiency heat sink, the cooling system allows a working altitude as high as 13,000 feet. In conjunction with the low-voltage power supply, without dangerous voltages accepting variations from 180VAC to 240VAC, a divider and combiner using a Wilkinson Coupling System between modules allows it to work without interruptions. With 4, 3, 2 or 1 D.A. modules it is easy to replace in few minutes. The rack is included and is adjustable from 0 to 1,000W. A 30W exciter is also included. Features include an alarm system (microprocessor), easy access to its components, a built-in low-pass filter, heavy-duty construction and a spike suppressor.

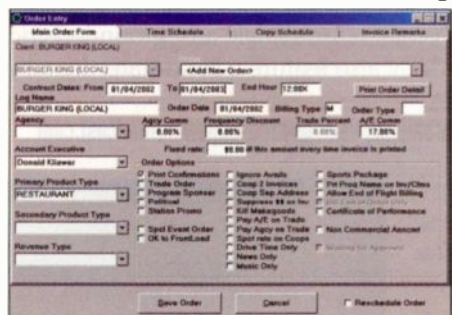
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Commercial traffic software

Broadcast Data Consultants

Traffic C.O.P. for Windows: The Traffic C.O.P. for Windows for traffic software includes a full-featured Windows, traffic and billing system from order entry to log scheduling and A/R. It offers password security. Customer support is available: no voice mail, no answering machines. There are no extra charges for updates to the software; they are included in support. This software runs on a computer network and exports to an automation system with full control over cart numbers and copy.



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800-275-6204; fax
www.broadcastdata.com
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Modular audio console

Autogram

Pacemaker II Model PM228: This model features modern styling and color with wood end trim, a bimodular concept, all dc control and screw-type plug-in connectors. It uses similar switches and the same Penny & Giles pots as the original Pacemaker. As many as 60 stereo inputs are available. Its modular design allows the user to start with the number of modules needed and expand as needed. The console is easy to install and change after installation.

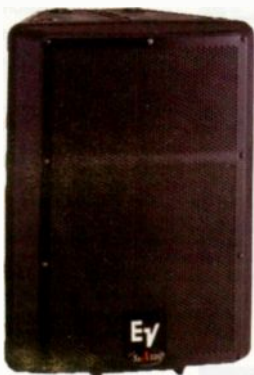
800-327-6901; fax 972-423-6334
www.autogramcorp.com
sales@autogramcorp.com

Loudspeaker

Electro-Voice

SxA100: This bi-amped two-way, 12-inch box features a high-quality mic preamp, limiter and dynamic filtering. Designed for end-users the loudspeaker is useful in portable sound reinforcement applications, including music. It is fully-contained and an easy-to-use option for lecturers, teachers, duo and solo acoustic acts, small jazz groups, seminars, business presentations and remote broadcasts. The loudspeaker requires little professional audio experience to operate.

800-392-3497; fax 952-887-5588
www.electrovoice.com; pro.sound@telex.com



Transmitter reseller

Transcom

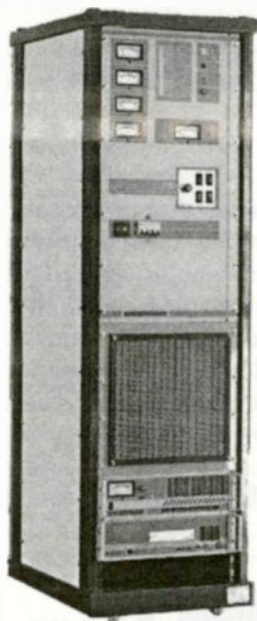
Pre-owned transmitters: This company provides used AM and FM transmitters and is a manufacturer representative for new antenna, cable, STL equipment and audio equipment.

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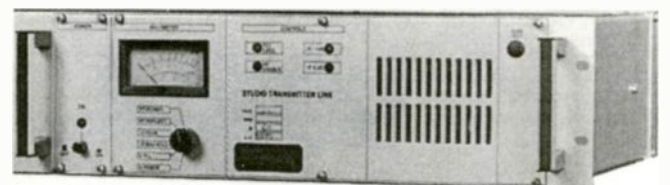
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Modular furniture line Arrakis

Flex-Studio: This modular furniture package can be quickly shipped from stock for fast on-site assembly in dozens of ways to meet nearly any studio design. It can be assembled left- or right-handed, as well as in all standard configurations: short L, long L and unbalanced U. All pedestal returns have front equipment racks and rear access doors. The table pedestals have inside and outside access doors. The table top equipment pod provides rack mount space for table top equipment. A 60-inch interview table is standard and designed to be placed on any 60+ inch outer edge of the studio. The console table is 36-inches deep and 45-inches wide to accommodate most consoles. A 37-inch inside width, console spanning, copy stand completes the package.



970-461-0730; fax 970-663-1010; www.arrakis-systems.com; sales@arrakis-systems.com

Remote control interface Syntrillium Software



Red Rover: Adding functionality and ease-of-use to the latest version of Syntrillium's Cool Edit Pro, this multi-track remote control interface provides a dedicated remote control that operates seamlessly with the software package. This product is a USB device that features standard multitrack transport controls that seamlessly interact with and control Cool Edit Pro's on-screen displays. In addition, the control unit provides unlimited access to all 128 tracks of possible audio on Cool Edit Pro.

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Tube and solid-state transmitters Superior Broadcast

FM Transmitter Line: The 120W PM120 and 300W PM300 solid-state transmitters are rack-mount units with frequency-agile tuning in 10kHz steps across the FM band. The KAFM series, available in 2.5kW and 3kW models, uses a single tube design and occupy a space that is only 22 inches x 30 inches in a package that is 5-feet tall. The 5kW and 10kW models stand 6.5-feet tall. All the tube transmitters use a single-tube grounded-grid design for low-cost, dependable operation. They also feature a solid-state, digitally synthesized, high-performance exciter and IPA.

800-279-3326; fax 800-644-5958; www.superiorbroadcast.com; jjoynt@superiorbroadcast.com

Isocouplers Kintronic Labs

FMC-1.9G-PCS and FMC-2.4G-SS: These isocouplers are designed for mounting cell phone antennas and wireless Internet antennas on hot AM towers. The model number specifies the frequency range of the product for use with each particular service. Typical VSWR is less than 1.3:1. Insertion loss is less than 2dB.

423-878-3141; fax 423-878-4224
www.kintronic.com; ktd@kintronic.com



Digital audio program logger Broadcast Software International

Skimmer: A new audio capture software program, Skimmer is great for sampling jocks or any other kind of air check. This logger can record as much as a year of audio, with any minute of any day instantly accessible. The program records all audio by time segments, allowing users to check any second of any hour. Users can also compile and export different hours to create "best of" shows or to export small clips for promos. Media tracking services will also find this logger useful for verifications. It will record in a loop, so that once a drive is full, the oldest files will be erased to make room for new ones.

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Dave Ruddick's abused 442 field mixer, along with his MixPre and MM-1, are still warming up after spending weeks at altitude and frigid temperatures on Mt. Everest for National Geographic. Dave relied on the infinitely flexible 442 as the centerpiece of his field recording kit for this once-in-a-lifetime production. The 442 mixer has rapidly become the most sought after field mixer available.



USBPre

The USBPre two-channel mic preamp and digital audio interface won't be voted off the island anytime soon. Russ Landau, composer for the CBS mega-hit show, Survivor, depends on the portable USBPre for every episode - from the South China Sea, to the Tahitian Island of French Polynesia - for crystal clear digital audio ready for editing.



MixPre

If there were a competition for "Best Portable Mic Preamp" our two-channel MixPre and our MM-1 would have won gold. If you tuned into this year's Olympics in Salt Lake City, there's a good chance that what you were hearing passed through Sound Devices MixPres and MM-1s.

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Satellite spectrum analyzers AVCOM of Virginia



PSA-45 series: These spectrum analyzers are redesigned to incorporate a high-contrast LCD and battery power in an eight-pound package. Frequency coverage is 950MHz to 1,450MHz (L-band), and selectable LNB power (+12V/off/+18V) is provided through the input connector. The series includes two models: the PSA-45A and PSA-45B. The PSA-45A was designed for the inexperienced technician, with fixed span (950MHz-1,450MHz).

The power switch and LNB power selector (+12V/off/+18V) plus soft keys for backlight and contrast adjustment are the only controls. The PSA-45B adds adjustable span and center frequency tuning. Amplitude can be displayed in dBm or dBmv. A ride peak function tracks peak amplitude; manual cursors allow non-peak amplitude measurements. The ac power supply accepts 85VAC to 264VAC.

804-794-2500; fax 804-794-8284; www.avcomofva.com; sales@avcomofva.com

Broadcast supplier Full Compass Systems

Equipment Dealer: Since 1977, Full Compass Systems has supported individuals and industries with products and services to fulfill their audio, video and lighting requirements. It offers sales, design, repair and rental services. The company represents and sells more than 600 lines of equipment for sound reinforcement, audio and video, recording, acoustical treatment, special effects lighting and video security. Design and installation capabilities range from simple paging and background music systems to applications requiring acoustical analysis and computer-assisted design and simulation. Clients include religious, commercial, musical, theatrical, institutional, governmental and residential users.

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Complete product line Zero Cases

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www.zerocases.com; sales@zerocases.com

POTS codec Tieline Technology America

Patriot: Useful for live broadcasting, this codec offers clear bi-directional 15kHz audio plus data through standard telephone lines. It features mobile telephone connectivity, two adjustable mic/line and unbalanced audio inputs, head-phone monitoring, bi-directional low-rate data transfer, a line quality visual display, an audio level indicator, high-level remote control and intelligent gain control.

317-259-8000; fax 317-259-8040
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Interconnection supplies RAM Broadcast Systems



Wire and Cable: Analog audio and control, digital audio and control, microphone and speaker cables are offered by RAM's Wire and Cable division. Available in several configurations of conductor size and quantity, a model exists for almost any radio station need. In addition, the company offers a line of patch bays and punch blocks.

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Tube mic preamp Aphex Systems



207: Built on the foundation of the Aphex 107, including the Reflected Plate Amplifier tube circuit, the 207 adds the Aphex Miclim circuit. This preamp is a two-channel tube microphone preamplifier and instrument direct interface. The Reflected Plate Amplifier is a true vacuum tube circuit without the heat, fragility, sonic variability, short life and high-frequency roll-off of conventional tube designs. The power LED glows orange while the tube circuit is stabilized and all dc is eliminated (ensuring no turn-on thump, which can seriously harm loudspeakers). When the LED turns green it is ready for performance. Additional features include two independent channels, microphone and instrument inputs on each channel, 20dB to 65dB of continuously variable gain, switchable 48V phantom power with ramp-up feature, input polarity reverse, 20dB pad and low-cut filter switches, LED headroom meter display for each channel, switchable -10dBV/+4dBu operating level, balanced XLR and 1/4-inch I/O.

818-767-2929; fax 818-767-2641; www.aphex.com; sales@aphex.com

Headphone amp Sound Devices



HX-3: This headphone distribution amplifier provides three stereo headphone feeds with individual level controls from line level sources. Producing high headphone levels with low noise and distortion, it is designed for music, television, radio and film production applications. The audiophile-quality, battery-powered amplifier is flexible, accepting balanced XLR line-level inputs or unbalanced 1/4-inch and 1/8-inch stereo inputs. Its 1/4-inch loop-out can connect multiple amps for additional headphone outputs. Headphones are connected to panel-mounted 1/4-inch stereo connectors. The amplifier offers an aluminum chassis to withstand a field or studio environment. The unit is powered by two internal AA batteries or an external 5 to 17vdc source.

608-524-0625; fax 608-524-0655; www.sounddevices.com; info@sounddevices.com

Switcher/routers Broadcast Tools

16x1 and 16x2: These stereo audio switcher/routers passively switch or route electrical signals to a single destination. The switcher/router provides passive switching through gold contact relays, meaning that the unit can route a signal in both directions (any one of 16 stereo inputs to a single destination, or a single source to any one of 16 destinations). The switcher/router is controlled by front panel switches and may be controlled with contact closures from the rear panel 37-pin male D-sub connector or the multi-drop RS-232 serial port. Product features include selection of any source that is active at power-up or the last source selected; audio mute, which allows the user to turn off the audio output when activated; an enable switch that provides a safety lock to the front panel source selection switches; an audio activity circuit that displays any audio activity at the output; an open collector transistor is provided for remote monitoring, remote status as a sustained open collector when the associated channel is selected; a programmable step input providing a means of stepping through each source or automatically stepping through selected channels with timing rates from one to 999 seconds; and a multi-drop RS-232 serial port, allowing operation from a computer's serial port.

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Microphone

Neumann

TLM 103 Monolith: The 500-piece limited TLM 103 Monolith series features a black glossy lacquer finish. The large diaphragm Monolith shares the standard TLM 103's audio characteristics and boasts the same transformerless circuit found in numerous Neumann microphones. Further, it features low self-noise ingeniously coupled with high sound pressure level transmission.

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fax 860-434-3148

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neumlit@neumannusa.com



Multitone analyzer NTI (Neutrik Test Instruments)

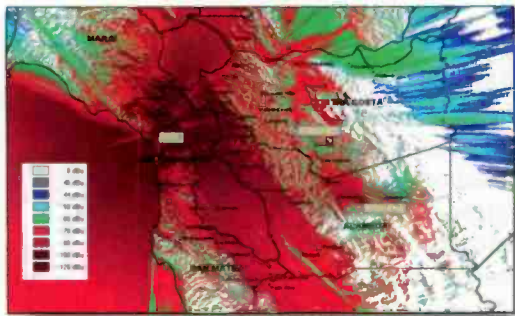
RT-2M: This multi-tone analyzer may be integrated in network administration systems and can be remote controlled. The analyzer allows the testing and quality control of audio program channels while on air. The short (160ms to 960ms) multitone burst may be used as time tone, or be inserted into the program for minimum notice. Multitone testing with RT-2M gives the broadcast engineer complete performance tests with plots of level, distortion, noise, phase and crosstalk vs. frequency. The transmitting and receiving Rapid Test handle the 50µ pre-emphasis and de-emphasis required by the CCIR standard. Test signals are resistant against enhancement and compression. The receiving device captures, stores and sends back the test results to the transmitter where data is analyzed.

800-661-6388; fax 514-344-5221

www.nt-instruments.com; info@nt-instruments.com

Site analysis software RadioSoft

ComStudy 2.2: Features of this software include TIA-TSB 88 frequency coordination compliance, area reliability analysis and mapping for any propagation model, transmitter matrix library import and export feature, individual station matrix editing and recalculation, increased accuracy, 32-bit operation for Windows and a 256-color palette for contour and coverage mapping. This software offers fully integrated transmitter databases, automatic interference calculations, area reliability studies, fast calculations and real-time 3D displays. All FCC, TIA and ITU procedures are included. APCO coordination is standard.



888-RADIO95; fax 386-423-0821; www.radiosoft.com; pmoncure@radiosoft.com

24-bit AES I/O

Moseley

Starlink SL9003Q upgrade: The Starlink SL9003Q features a 24-bit AES I/O for a transparent STL link. A dynamic range of better than 144dB for four 16-bit linear audio channels and two data channels is possible over 335MHz-1525MHz STL channels. AES3 I/O, combined with a built-in variable rate converter, provide easy connection to an all-digital air chain. Plug-in MPEG audio modules and a digital multiplex allow for additional program, voice, FSK async and sync data channels. A high spectral efficiency is achieved by user-selectable 16,32 or 64 QAM. Reed-Solomon error correction, coupled with a 20-tap adaptive equalizer, provides signal robustness in hostile RF environments. An ultra-linear 2W average transmit power out is achieved with redundant RF power modules.

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Harris

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Analog monitor ATI

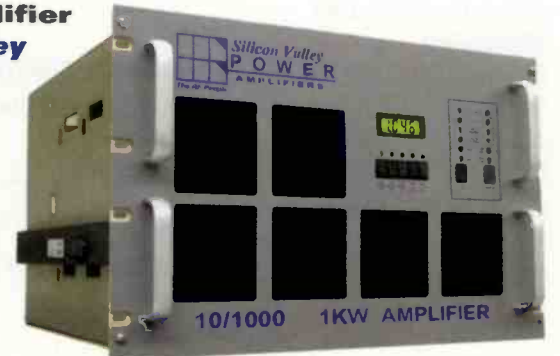


AMM200: This analog monitor is a full-featured stereo line amplifier and monitor providing balanced XLR line inputs and amplified outputs, stereo headphone drivers and a stereo LED

meter. The bright two-color LED meters are switchable for measuring line input or output levels. Meter ballistics can be switched for peak or average response. Meter range covers -15dB to +12dB in 10 3dB steps. Switched rear-panel RCA jacks allow external self-powered speakers to be controlled from the headphone amplifiers.

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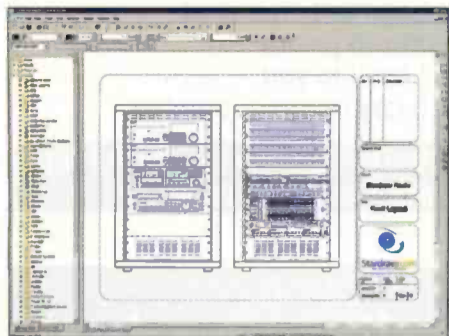
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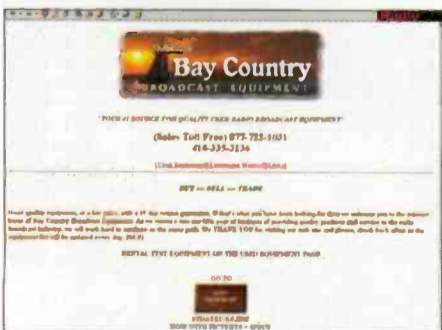


data services are also supported. This exciter allows predistortion of magnitude and phase of the individual IBOC subcarriers to correct for transmission system variations. The exciter's system time can be synchronized to an external precision GPS time reference. Purchasers will be required to obtain a license from Ibiqity Digital to use the exciter's resident IBOC software.

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Broadcast supplier Bay Country Broadcast Equipment



Equipment Dealer: This broadcast equipment dealer offers a 15-day return guarantee. In its fifth year of business, the company offers new and used equipment and also rents test equipment. The company's website includes a list of recent used equipment offerings as well.

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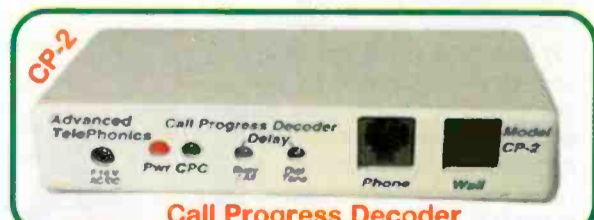
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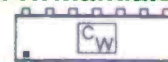


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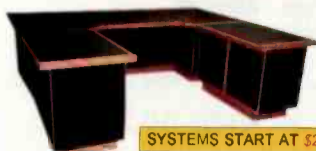
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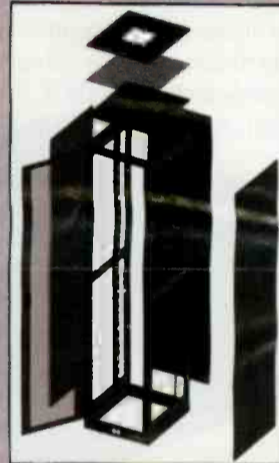
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- Two or more racks may be bolted together for perfectly-aligned multiple installations

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- Side Panels
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- Copper Ground Bar
- Casters



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Model	DEPTH	HEIGHT*	WIDTH	RACK UNITS	PRICE
EM1925-44	25 1/2"	82 1/4"	19 1/8"	44	\$306.00
EM1930-44	30"	82 1/4"	19 1/8"	44	\$354.00
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*on Standard Racks can be ordered in any height.

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300W	FM	1988	Harris FM 300K Solid State - Single Phase
2.4KW	FM	1995	QEI Quantum Solid. State, Single Phase
2.5KW	FM	1984	Harris FM 2.5K Single Phase
2.5KW	FM	1980	Harris FM 2.5K Single Phase
5KW	FM	1992	Continental 815A
10KW	FM	1974	Harris FM10H/K
15KW	FM	1980	McMartin BF15,000
20KW	FM	1981	Harris FM20K
20KW	FM	1980	Harris FM20H/K
25KW	FM	1980	CSI T-25F
25KW	FM	1987	Harris FM 25K-1
30KW	FM	1983	BE FM 30
50KW	FM	1982	Harris Combiner w/auto Exciter-transmitter switcher

EXCITERS

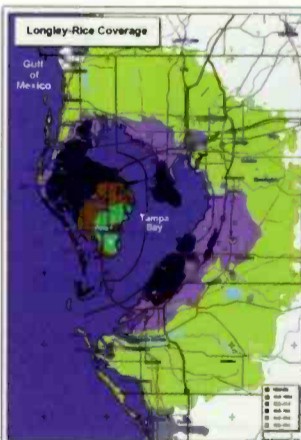
- BE FX30
- Harris MS 15
- Harris MX-15

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Power	Type	Year	Model
5KW	AM	1980	Harris MW5A
5KW	AM	1978	Harris MW5
10KW	AM	1986	Continental 316F
10KW	AM	1982	Continental 316F
10KW	AM	1982	Harris MW10A
50KW	AM	1982	Continental 317C2
50KW	AM	1986	Nautel Ampfet 50 - Solid State

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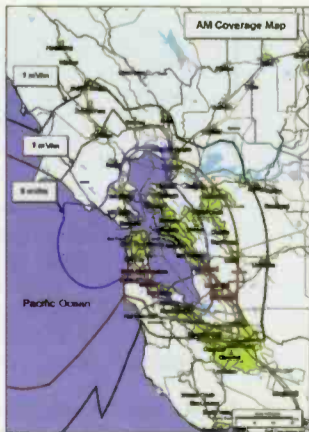
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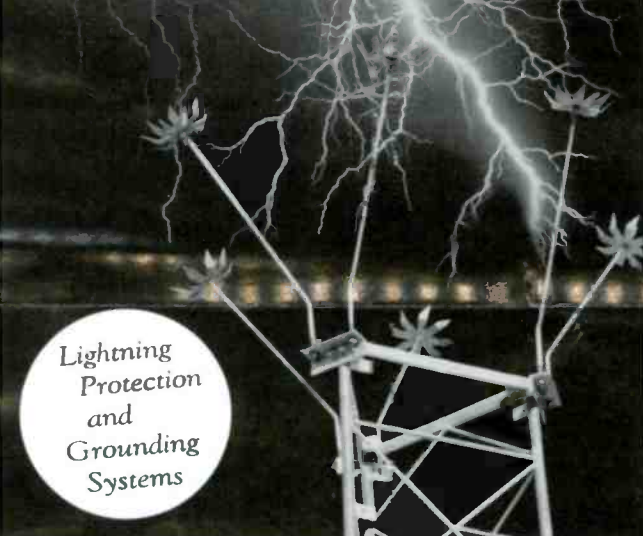
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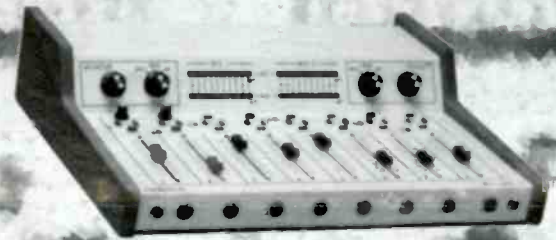
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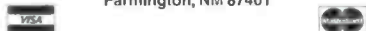
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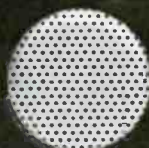
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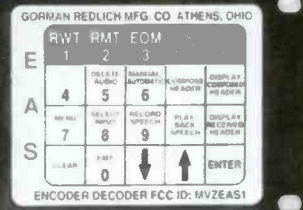
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2 Please check the ONE type of facility or operation that best describes your primary business classification:

- A Radio Station & Network (including education, government and religious)
M Streaming Media – Network Provider/ISP/IDC/Telco, Internet Content Provider/Web Publisher, Services, Software Provider
C Recording Studio (including education, government, religious, production and research)
D Consultant
E Contract Engineer (including maintenance, technical support)
G Dealer or Distributor
F Other (please specify) _____

3 Which of the following best describes your title? (Check only ONE box.)

- A. **Company Management:**
01 Chairman of the Board
02 President
03 Owner
04 Partner
05 Director
06 Vice President
07 General Manager
08 Other Corporate/Financial Official (including corporate sales)
B. **Technical Management & Engineering:**
19 Vice President Engineering
09 Technical Director/Manager
10 Chief Engineer
11 Other Engineering or Technical Title
C. **Operations & Station Management/ Production & Programming:**
12 Vice President Operations
13 Operations Manager/Director
14 Station Manager
15 Production Manager
16 Program Manager
17 News Director
18 Other Operations Title
D. Other (please specify) _____

4 Which statement best describes your role in the purchase of equipment, components and accessories? (Check only ONE box.)

- A Make final decision to buy specific makes, models, services or programs
B Specify or make recommendations on makes, models, services or programs
C Have no part in specifying or buying

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5 Which of the following types of equipment will you be evaluating for purchase in the next 12 months? (Check ALL that apply.)

- 01 Audio distribution services
02 Audio mixers
03 Audio monitoring
04 Audio processing
05 Audio recorders/players
06 Automation equipment
07 Consulting, contracting & design services
08 Data compression codecs
09 Digital audio workstations
10 Information services
11 Microphones and accessories
12 Racks, studio furniture and cases
13 RDS/RBDS & subcarrier equipment
14 Routing/switching
15 Satellite equipment
16 STL, RPU, & remote site control
17 Tape/optical storage
18 Telephone interfacing/POTS and ISDN
19 Test & measurement equipment
20 Transmitters/antenna systems/towers
21 Wire and cable
22 Internet/streaming audio equipment & software
24 Facility support equipment
25 None of the above

6 What is the budget for equipment and services you are evaluating for purchase in the next 12 months? (Check only ONE box.)

- 1 Less than \$10,000
2 \$10,000 - \$24,999
3 \$25,000 - \$49,999
4 \$50,000 - \$99,999
5 \$100,000 - \$299,999
6 \$300,000 - \$499,999
7 \$500,000 and up

7 If you checked A on question #2, what is the MSA rank of your market? (Check only ONE box.)

- A Top 20
B 21 to 50
C 51 to 100
D Over 100

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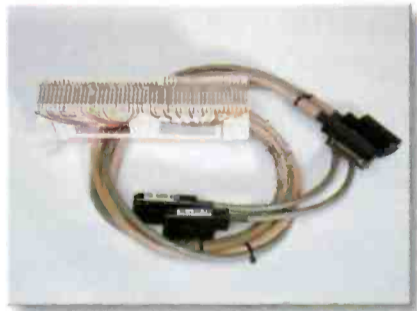
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