IBOC COST WORKSHEET. Page 20

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◆ NEWSWATCH ◆

Copps: Keep Tapes, Bring Back Code

WASHINGTON Commissioner Michael Copps believes commissioners, not the Mass Media Bureau, should decide whether an indecency decision should be reversed.

He has also encouraged broadcasters to keep tapes of programs so there would be a record of what aired should listeners file complaints with the FCC.

Speaking at the U.S. Conference of Catholic Bishops in January, Copps said Walt Disney Co. CEO Michael Eisner has assured him that all 50 of ABC's radio stations will begin recording its programs and keep the tapes for 60 days. Efforts to obtain comment from ABC by press time were unsuccessful.

Copps has suggested broadcasters should self-regulate their programming, rather than "going the typical Washington route of legislation, regulation and adjudication, with the years of suits, counter-suits and appeals that this generates."

He supports a voluntary programming Code of Conduct; the earlier code was struck down in 1983 on antitrust grounds.

FCC Kills $7,000 Indecency Fine

WASHINGTON The FCC reversed itself and rescinded a $7,000 indecency fine it originally proposed against Citadel's KKMG(FM), Pueblo, Colo., for airing an edited version of the Eminem song "The Real Slim Shady."

The decision averts what could have been a First Amendment fight for thousands of stations that also aired the song.

In the January decision, the Mass Media Bureau stated that after reviewing Citadel's response and relevant case law, "We disagree with our initial analysis and we now conclude that the material at issue was not patently offensive under contemporary community standards for the broadcast medium."

"Although the edited version of the song refers to sexual activity, those references are oblique," said the bureau. The passages in question referred to female anatomy and male masturbation.

Citadel said the version that aired was different than the one a listener complained about.

The FCC defines indecency as language that depicts or describes sexual or excretory organs or activities. The broadcast must also be considered patently offensive as measured by community standards. Indecent material must run between 10 p.m. and 6 a.m.

$14,000 Fine Stands

WASHINGTON While the commission rescinded the KKMG fine, it upheld a $14,000 indecency fine for Emmis station WKQX(FM) in Chicago.

The case began when a listener complained about a porn star describing a sexual practice during "Mancow's Morning Madhouse" in April. Emmis said the fines should be dropped because there was no tape of the program and the complainants' descriptions were summaries, and not as detailed as

See NEWSWATCH, page 3 ▶

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World Radio History

NAB, RTNDA to Host Joint Show in April

by Naina N. Chernoff

WASHINGTON The Radio-Television News Directors Association has decided to hold its 2002 conference during the National Association of Broadcasters convention in April.

Called RTNDA@NAB, the convention will take place April 8-10 in Las Vegas, in the middle of NAB's convention, which is set for April 6-11.

The spring conference replaces a convention that RTNDA had planned to hold next September in Long, Beach, Calif.

Joint shows

The decision to hold a joint convention may prove to be financially beneficial for both organizations at a time when attendance at many industry trade shows is lagging.

Last fall, RTNDA cancelled its September convention following the terrorist attacks and reportedly has been working with its insurance carrier to recover a $2 million loss.

Sources at RTNDA said NAB's April convention has a large radio component that is likely to attract many RTNDA attendees, benefiting both organizations.

"Holding the RTNDA conference at the NAB convention is a value-added opportunity for our members," said Barbara Cochran, RTNDA president, in a statement.

"Attendees can get all the training and networking they've come to expect from an RTNDA conference, plus the chance to shop the biggest and best broadcast technology show in the world."

Cochran believes the RTNDA@NAB conference offers NAB's international attendees an opportunity to exchange ideas about issues in journalism while seeing the latest in technology.

NAB's President and Chief Executive Officer Eddie Fritts believes the partnership will work.

Partners again

"This is the perfect fit for NAB," he said. "We are always looking for ways to expand and enhance our convention."

He called RTNDA a "first-class organization."

The decision to hold the joint convention may prove to be financially beneficial for both organizations at a time when attendance at many of the industry trade shows is lagging.

The recent decision is not the first time the organizations have partnered up to hold a convention.

During the mid-1990s, the organizations participated in a three-year agreement to hold a combined fall show under the World Media Expo umbrella. It included the NAB Radio Show and the RTNDA event, along with the Society of Broadcast Engineers and the Society of Motion Picture and Television Engineers.

The WME format did not survive, and the individual organizations resumed separate event planning.

The upcoming RTNDA conference will feature a news pavilion of exhibits for news directors and other journalists. RTNDA sessions will be held at the Las Vegas Hilton, next to the Las Vegas Convention Center.

◆ NEWSWATCH ◆

▶ Continued from page 2

what the commission has used in its Indecency Policy statement.

But the FCC stated in its order, "There is no question that the material broadcast referred to sexual activities" and that it aired during morning drive.

VOA Expands Afghan Hours

WASHINGTON The Voice of America has expanded broadcast services to Afghanistan again. With increases in January, VOA broadcasts three hours a day in Dari and Pashto, and has increased overall hours for listeners in the Middle East and Asia.

VOA says 4 out of 5 adult males in Afghanistan listen to VOA every week. Broadcasts can also be heard on the Net at *www.voanews.com*.

$8.2 M Earmarked for N.Y. Stations

WASHINGTON The federal government is providing $8.2 million to help restore full signal coverage for two non-commercial stations serving New York City. WNET-TV and WNYC(FM) will split the funds, with WNET receiving roughly $7 million.

Sen. Charles Schumer, D-N.Y., was instrumental in obtaining the emergency aid, which is part of a $40 million package that Congress earmarked for disaster relief. The money will go to the National Telecommunications and Information Administration, which disburses equipment grants for non-coms as part of NTIA's Public Telecommunications Facilities Program.

The money was to be disbursed once the stations formally apply for the grants and choose a tower site.

Both stations now transmit at low power from the Empire State Building.

Abernathy to Highlight Public Interest

WASHINGTON Commissioner Kathleen Abernathy has begun a "News You Can Use" information campaign.

Periodically, the commissioner will focus on a public-interest issue relating to communication policy and will feature it in her speeches and on her Web site. Go to *www.fcc.gov* and click on "Commissioners" and then "Abernathy."

"I want to make sure that we at the FCC are paying attention to issues that make a difference in people's lives outside the beltway," Abernathy said. "Looking after the public interest is an important part of the commission's mission."

She said she intends to make that task a priority during her tenure at the FCC.

World Radio History

He Learned by the Tower Fence

Bob Seaberg of Seaberg Communications Service in Wheaton, Ill., wrote to thank me for an earlier column about my days in radio in Wilmington, Del., in the 1980s.

Bob shared his own memories of Blue Hen country. During World War II, at the age of 13, he used to ride his bicycle out to the four-tower site of WDEL, then located in a marsh near Governor Printz Blvd. along the Delaware River. At the time, WDEL, broadcasting at 1150 kHz, also owned WILM, a 250-watter on 1450, and duplexed it onto WDEL's south tower.

Engineer Vic Mentzer would come out to the station chain-link fence and talk to Bob, answering the teenager's many questions. He couldn't let the youngster into the facility because of wartime rules, but Seaberg recalls being awed by the various glowing dial lights and controls that he could see from the fence.

Mentzer must have taken to the lad. He loaned Seaberg a textbook and answered his questions.

Bob boned up on broadcast rules and technology, and he earned his Restricted Radiotelephone Operator's Permit at age 14. Within two years he was hired for part-time work at WILM and eventually worked at WAMS(AM-FM) and went on to a career in radio and the Navy.

He adds that, in those days, WDEL struggled to get its pattern correct because Purina built a feed mill nearby, with a water tower in line with the towers. WDEL eventually moved to higher ground near the Pennsylvania border, where it is based today.

In my WDEL days 20 years ago, I recall watching a building fire being fought at that very same Purina plant, from the hillside near my home.

Thanks, Bob. Your recollections confirm the importance of mentoring in radio, something that happens all too infrequently.

★ ★ ★

College radio managers, listen up! The Intercollegiate Broadcasting System holds its 2002 National College Radio Convention in New York, March 8 to 10.

After six decades of service, IBS is still in business as a nonprofit resource for the college radio broadcaster. The convention features sessions, station tours and live music, and will again be held at the venerable Hotel Pennsylvania.

When I helped to manage my university's radio station, we faced many difficult issues: winning support from the school administration; applying for a power increase; whether to hire a professional general manager; how to balance the needs of fresh crops of students each year with those of a committed core of community volunteers.

Those are the kinds of headaches that college students and their advisors can discuss with their peers at an IBS convention. For information about the event, call (845) 565-0003 or visit *www.ibsradio.org*.

★ ★ ★

Three-letter call signs are part of radio lore. WLS. WGH. WGN.

They stood for the "World's Largest Store"; the "World's Greatest Harbor"; the "World's Greatest Newspaper."

Then there was "Woodman Of the World," the "Wonderful Iodine State" and many others.

Where did three-letter call signs come from? What happened to your favorite? Which ones have been snatched up by other stations?

Learn the ABCs of these calls at a Web page called "Mystique of the Three-Letter Call Signs" by Thomas H. White. It's part of his larger site, a fascinating peek into radio history. Just FYI. You can head over PDQ to the URL at *www.ipass.net/~whitetho/3myst.htm*

And where did *I* find out about the site? From Phil Wells. He wrote about it in an online newsletter — the appropriately named CGC Communicator.

★ ★ ★

Another friend of the radio industry is celebrating a notable anniversary. His is the classic story of the engineer who sets out to solve his own problems and ends up building a business.

From the Editor

Paul J. McLane

Hank Landsberg started Henry Engineering in the spring of 1982, while he was DOE for programming syndicator Drake-Chenault Inc.

"For various reasons, we used a lot of consumer and semi-pro gear at D-C, and I found myself building lots of interface amplifiers to make all that -10 dBV unbalanced gear work with our balanced console inputs," he told me.

"I figured that lots of other folks in broadcasting were probably having to do the same, so I designed the first Matchbox. And that's where it all started."

To date, Henry has shipped about 75,000 products, including 40,000 Matchboxes. His original product is so widely known that some people use the brand name generically to mean an interface amplifier.

Hank feels that as broadcasting has become more deregulated, fewer stations employ full-time engineers. Those that do have learned that engineers have less time to build from scratch all the "black boxes" that they once did. His company has definitely benefited from the trend — although his products are blue!

"The products that Henry Engineering produces have come from suggestions from station engineers and from my personal experience in broadcast engineering. Today's CE simply doesn't have the time (or budget) that it takes to 'homebrew' engineering widgets."

Congrats on your 20th year, Hank. We'll expect more new designs in those familiar blue boxes.

This week's prize in our Reader's Choice giveaway is a Lighthouse Digital Systems "OZ" Audio Router, worth $28,790. (I *told* you to sign up online for our new contest, didn't I?)

This is a 32 x 32 Analog Audio TDMC router with attitude. It includes the Navigator Control and Configuration software package. The 8RU system is expandable to a combination of 320 I/O ports and supports analog and AES in the same frame.

Lighthouse Digital Systems makes quality audio, video and data switching systems, distribution products and custom control software.

The lucky winner is John Belch, technical services director for community station WYEP(FM) in Pittsburgh.

We have plenty o' good stuff in our prize closet, and I'd like *you* to win. Just visit *www.rwonline.com*.

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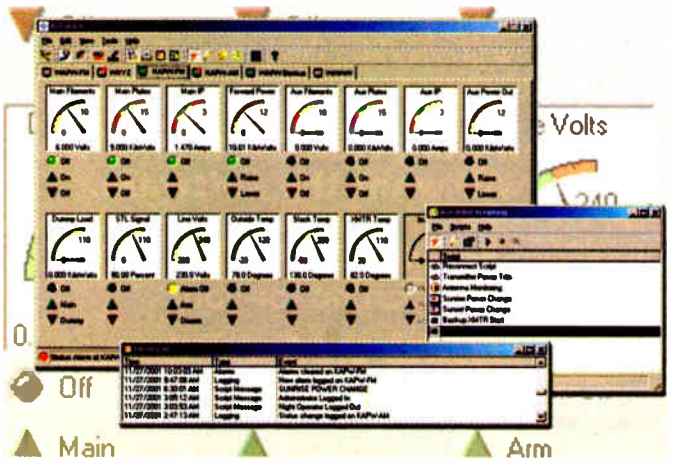

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Paul Reynolds, Chief Engineer
Cox Radio.

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Jeff Kuhne, Engineer, WRPI-FM

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World Radio History

NEWS WATCH

NAB to Tweak Marconis, Lobby On 'Local' Satellite

PALM BEACH, Fla. NAB plans to establish an "academy" of radio executives to select Marconi Award winners.

NAB's Executive Vice President for Radio John David told board members about the plan at the winter board meeting. Group members would be anonymous and would include GMs, PDs, former radio execs, owners and consultants.

NAB hopes to have the group in place before the fall Radio Show. The plan is designed to eliminate the perception of block voting by groups and campaigning by Marconi nominees.

Radio broadcasters also discussed pending regulatory issues and decided to keep up visibility at the FCC on the satellite repeater topic.

Although Sirius Satellite Radio and XM Satellite Radio, as well as the commission, have said the terrestrial repeaters needed for clear reception of the satellite service will not transmit local programming, NAB is not convinced. It believes there is a loophole in the temporary repeater rules that would allow Sirius and XM to carry local programming.

Board members planned to visit the commission to stress the importance of the issue to regulators.

NAB also opposes changing how the FCC defines radio markets for the purposes of what "counts" when applying its ownership rules and possibly changing the local ownership limits. The association intends to provide evidence to the commission that consolidation has led to an increase in program diversity.

The Joint Radio and TV Board voted to form a committee to work with FCC staff to develop an Equal Employment Opportunity proposal now that the commission has proposed new rules.

WorldDAB Forum Elects New Leader

BRUSSELS The World DAB Forum has elected a new president to steer the international rollout of DAB digital radio for the next two years.

The General Assembly Committee nominated Finnish broadcaster Annika Nyberg for the office of WorldDAB president. The group, which promotes the adoption of Eureka-147, sought a replacement for incumbent Michael McEwen at the end of his four-year tenure.

"I feel DAB is very close to a breakthrough and together we can make that happen," said Nyberg, whose background as a journalist spans daily newspapers, magazines, television news and radio, with a slant toward culture and the arts.

The World DAB Forum represents broadcast companies and organizations from 25 countries including receiver and other equipment manufacturers, public and private broadcasters, transmission provider and regulators.

DRM Names TDF Official

GENEVA The steering board of Digital Radio Mondiale has elected Michel Penneroux of TéléDiffusion de France to be chairman of its Commercial Committee.

Penneroux, who is TDF's head of AM broadcasting, brings expertise in shortwave and cellular market development to his DRM role.

DRM is an international consortium of 70 broadcasters, network operators, manufacturers and researchers planning a digital system for the broadcasting bands below 30 MHz — shortwave, medium-wave and long-wave. It is scheduled to launch globally in 2003.

Penneroux succeeds Christian Skottun, manager of strategic marketing and business development of Norway's Telenor Broadband Services/Norkring AS, who resigned as DRM's Commercial Committee chairman but remains on the steering board.

Chip May Boost DAB Abroad

LONDON Digital radios in Europe may soon be available for the equivalent of about $140, according to companies making a new digital radio and audio processor chip for the Eureka-147 DAB market.

Digital One and Imagination Technologies are offering the DBX-1 chip. Its first customer is the manufacturer Goodmans, which plans to use the processor in six radio products, including in-car and portable units, in the second half of 2002.

Quentin Howard, CEO of Digital One, the U.K.'s only national commercial digital network, said Goodman's commitment to DAB is "the most significant announcement by any manufacturer in five years. At last, a full range of digital radios will be available to consumers who increasingly look for value in their products."

IBOC Q&A

FM Coverage Area

This is one in a series in which Ibiquity Digital Corp. answers questions about how to implement in-band, on-channel digital audio broadcasting. Broadcast Technology Manager Jeff Detweiler answers here.

Past answers are posted at www.rwonline.com *under the tab "IBOC DAB."*

***Q:** Will IBOC improve the signal coverage of my FM stations?*

A: FM IBOC offers improvements in signal reception and audio quality, and it can improve signal coverage in some markets.

Although the system is not designed to extend the coverage area farther from the transmitter, the IBOC system's ability to overcome impairments such as multipath will allow many broadcasters to reach listeners that are unable to receive existing analog signals.

iBIQUITY DIGITAL

These IBOC characteristics have the ability to significantly enhance the listener's experience, a conclusion recently reached by the National Radio Systems Committee in its report to the FCC on FM IBOC.

The level of the IBOC digital carriers and the transmitting antenna's height above average terrain determines how far a station's FM IBOC signal will travel. With the IBOC carriers set at 20 dB below the analog carrier, the proposed level for hybrid mode operation, IBOC digital coverage is comparable to analog.

In the NRSC's report to the FCC, the test evaluators stated, "FM IBOC service might be obtained in areas where analog service is presently unacceptable due to interference." This improvement is due to IBOC's signal robustness.

NRSC test results confirm that the Ibiquity FM IBOC system, compared to analog FM, is substantially more robust. The digital signal survives when faced with interference from impulse noise, co-channel and adjacent channel, as well as multipath fading.

IBOC cannot overcome the strong interference that exists beyond the edge of coverage, nor was it designed to. Coverage radius will not increase, but the usable service area within the existing service contour will increase.

The FM IBOC system has also demonstrated significantly improved audio quality compared to existing analog FM, especially in mobile listening environments. This will further enhance the listening experience in the existing coverage area.

The NRSC recommendation to the FCC summarized the FM coverage issue best:

"The NRSC believes that the Ibiquity FM IBOC system as tested will offer FM broadcasters significantly enhanced performance over that which is presently available from traditional analog FM broadcasting.

"The enhancements include almost full immunity from typical FM multipath reception problems, significantly improved full-stereo coverage, flexible datacasting opportunities and an efficient means for FM broadcasters to begin the transition to digital broadcasting."

Send your IBOC questions for a reply in this space. E-mail to radioworld@imaspub.com.

Radio World welcomes other points of view.

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The DI-2000 is really 2 separate full digital hybrids. Use them independently or operate them in any of three caller conference modes.

PRODUCER PHONE SUPPORT
Just add any single line phone and a producer can answer, screen, queue calls for air or grab callers for post show follow up. Or, use a simple speakerphone in this position for call cueing if the console lacks an independent host send.

NO MIX-MINUS NEEDED
The digital nulling circuitry is so effective that a console mix minus is not required.

COMPLETE CONSOLE INTEGRATION
The full rear-panel remote control interface allows any console complete hybrid control. With the DI-2000 calls can ring-in, be answered, put on hold, screened and dropped, all via your console's channel on/off buttons. No external "black boxes" are needed!

THE CLASSIC TI-101 IS STILL AVAILABLE
And for those in search of a good, basic analog hybrid—Radio Systems still makes the classic and dependable Symetrix TI-101.

World Radio History

CES Show

▶ Continued from page 1

one of the fastest-selling consumer electronic products in 20 years, said XM executives. They compared that pace to 8,600 sales of DVD players in 1997, and 7,800 sales of CD players in 1983, according to the Consumer Electronics Association.

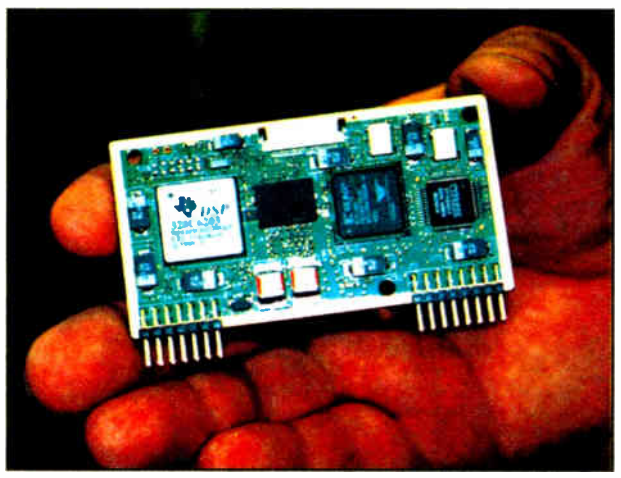
"People 'get' satellite radio," said XM President and Chief Executive Officer Hugh Panero.

"Retailers are more excited about the market potential for satellite radio than any other mobile electronic product," stated Yankee Group analyst Ryan Jones. A big reason some retailers are pleased about the selling potential of satellite radio, experts said, is that so far, the buyer's age range is significantly wider than the 15-24-year-old males who traditionally purchase mobile electronics.

XM said its customer base remains mostly male, but distributed evenly from 18 to 54. XM and some consumer electronics retailers said the customers are not "techies" and that they represent new business to the mobile electronics industry.

Hot product

"Customer feedback has been incredibly positive. (Satellite radio) has dramatically improved the way people listen to radio," said the president of Best Buy's Retail Division, Allen Lenzmeier. He called XM radios "one of our hottest products."



Each IBOC radio will have one chipset containing a DSP chip and an IBOC Digital Module. The small size enables the chips to fit in the front end of any receiver. The Texas Instruments DSP chip in this photo can be integrated with prototype IBOC receivers.

Sound Advice Chairman and CEO Peter Beshouri said the wide age group attracted to the product is "not dissimilar to satellite for the home."

The question of audio quality on the satellite service has been a topic of conversation in the engineering community. For instance, readers of the CGC Communicator, an industry newsletter, recently exchanged views about what they heard. Their comments ranged from "Grade A" for noise-free high fidelity, to a complaint about noise on the Sony Plug and Play unit used indoors.

XM and retailers summed up what they said was the typical customer comment: Once they get satellite radio, they don't go back to AM and FM.

To win more customers, XM plans to extend service to Alaska and Hawaii this year. Apparently the satellites are performing better than expected and the company feels the audio quality would be acceptable, one expert said.

When asked if it plans to begin airing commercials on its 31 music channels that now are commercial-free, Panero said no. Many analysts believe the satellite digital radio providers eventually will increase their spot load should they not make their subscriber goals.

Both XM and Sirius are using Radio's All Dimension Audience Research service from Arbitron in addition to the personal information they gather from subscribers. XM has hired Arbitron to conduct two random-sample, phone-based studies of its subscribers in the spring and the fall to determine when and where subscribers listen.

Multiple subscriptions

Currently, XM has no subscription plan for multiple radios within a family. For example, someone who buys the Sony Plug and Play unit for his or her home needs another subscription for a car unit.

Panero said the company would evaluate the idea as it receives more information from its subscriber base.

An XM executive said creation of a multiple-purchase plan is not as simple with mobile units as it is with stationary units, such as cable TV. Broadcast engineering sources were somewhat skeptical because the XM receivers are addressable.

Addressable receivers and security software enable XM to deactivate a radio for someone who doesn't pay the monthly subscription fee. XM hopes to incorporate two-way capability into the receivers long-term, so a listener may receive a response from a query if he or she uses a "buy" button on the radio's faceplate display.

Might the satellite services expand beyond 100 channels each? Executives of XM and its competitor, Sirius Satellite Radio, said they could use statistical multiplexing to eventually carve out more channels from their existing spectrum.

Statistical multiplexing is a way of managing the digital bits to optimize the audio quality in real time. For example, XM or Sirius might choose to devote fewer bits to talk channels than to music channels to enable them to create new channels.

At some point, the audio quality of the remaining channels would be lowered depending on how many bits are taken away.

Pioneer has several XM-ready head units on the market.

For CES, it displayed an add-on tuner, an FM-modulated tuner and a head unit/tuner package. Sony planned to release an XM head unit this spring. Alpine added four new XM-ready head units to its product line.

General Motors intends to expand its OEM XM radios to 23 cars and trucks this fall.

Shortly after the show, XM promoted three executives: Stephen Cook had been senior vice president of sales and marketing; Steven Gavenas was senior vice president of programming and new business development; and Dr. Stellios Patsiokas had been senior vice president of technology and engineering. All three become executive vice presidents.

While XM was discussing subscribers, Sirius detailed its rollout plans and showed off key new marketing and sales hires.

New Sirius Satellite Radio President and CEO Joe Clayton dismissed concerns over not being the first company to launch satellite radio.

The Pioneer XM universal FM-modulated tuner is shown in a Saab.

"Satellite radio is in the infancy of a product lifecycle," said Clayton. He said RCA did just fine with VCR sales even though Sony first introduced the product.

Sixty of Sirius' channels are commercial-free and will remain that way, Clayton said, touting the fact that Sirius has more news channels than its competitor.

Some analysts expressed renewed confidence in Sirius after Clayton came on board. With a beefed-up team and his high-level experience in the consumer electronics industry, one source said, "What Joe can do is look at a manufacturer and get something done."

Many newly hired Sirius executives had worked with Clayton during his years at Thomson Multimedia, including Guy Johnson, executive vice president of sales and marketing, a 20-year consumer electronics veteran with RCA, GE and Thomson.

Sirius experience

Stan Kozlowski, vice president of retail marketing, is another 20-year veteran from Thomson, RCA and GE.

Jeff Peace, vice president of western regional sales, was former vice president/general manager of Thomson's Western sales department with 25 years of consumer electronics experience.

Russ Fyke, vice president of Midwest retail sales, is a 27-year consumer electronics industry veteran who has worked at RCA, Thomson and GE.

Tom Steckbeck, vice president of retail marketing and distribution, expanded his role to include vice president of eastern retail sales and national accounts.

As it prepared to launch this month in Houston, Phoenix, Denver and Jackson, Miss., Sirius will test

See CES SHOW, page 7 ▶

Public Service Announcement

The BlueBox is a new POTS codec from Comrex. This codec delivers the audio quality of our Matrix and Vector codecs (15 kHz on a standard dial-up line) at the entry-level price of our HotLine, just $2800. It also adds features such as wireless operation, field upgradability, and a cellular hands-free interface, and remains completely compatible with all our POTS codecs.

Since the HotLine is so popular, we decided to provide a "heads up" in advance of replacing it. To this end:

1) The BlueBox will begin shipping in February 2002, and the HotLine will be taken out of production.

2) We'll continue to support the HotLine for many years to come.

3) If you can't wait for the BlueBox, you can buy our remaining HotLines at the new price of $1995 (while supplies last!)

We at Comrex hope this helps. If you want to talk about the options or try a demo of any of the Comrex codecs, give us a call at 800-237-1776.

If you want a small 15 kHz POTS codec that can also work on wireless circuits but only want to pay $2800, you can wait and buy the BlueBox in February.

Choice A
The BlueBox: $2800

Choice B
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World Radio History

CES Show

▶ Continued from page 6

subscription prices to see what the market will bear. Consumers in some areas will see $9.95 monthly rates while others will see $12.95.

The company will advertise free trial subscriptions with factory rebates on radios in some markets.

Why the price differences? One analyst said early subscription models were based on the assumption that Sirius would launch by the end of 2001. When that didn't happen, Sirius changed the subscription rate to make up the difference. All of this occurred before Clayton became head of the company.

Experts believe Clayton "knows the price needs to drop to $10 but he can't just do that" and testing different pricing schemes is a way to gradually accomplish this. As retailers make a profit on the hardware, they said, price would be the single largest differentiator between the two companies and the lower the price, the faster the sale.

Sirius plans to have receivers available from Clarion, Jensen, Kenwood and Panasonic in the initial rollout markets. It plans to offer its service nationwide Aug. 1.

Sirius radios

The company is allowing potential customers to hear live, streamed audio of 60 channels on an improved Web site.

Radio programming consultant Walter Sabo will work with Joe Capobianco, Sirius' senior vice president of content.

Sarnoff Corp., a technology development and commercialization firm, will advise Sirius about future product enhancements.

Kenwood and Visteon showed Sirius head units; Visteon also is working with XM. Jensen displayed a plug and play radio that will be available in stores in September and a portable unit for release in the fourth quarter.

Kenwood said its first home-based satellite radio, the Kenwood Sovereign Entré Entertainment Hub, will be available soon after the Sirius launch. The unit stores and streams compressed music files, Internet radio and Sirius' commercial-free music channels and can distribute them to other rooms in the house.

Sirius partners also displayed a variety of marine and truck radios.

Although the satellite radio companies dominated much of the digital radio news at CES, Ibiquity Digital Corp. made some news of its own.

Ibiquity's chipset has gone from about the size of a breadbox to something small enough to fit into the front end of a receiver. Ibiquity plans to use one set in each receiver, one a digital signal-processing chip from Texas Instruments or Philips, plus the IBOC Digital Module. The company's personnel in Warren, N.J., have spent the better part of a year shrinking the size of the IDM to fit into the front end of any receiver.

Getting the chipset size reduced is a key milestone for Ibiquity to have some receivers ready by the end of this year and more in greater volume by next year's CES. The goal is for Ibiquity to link its receiver and transmitting equipment rollout in its targeted cities.

"We have pre-production units now," said Ibiquity Senior Vice President Jeff Jury. "These are no longer generic boxes."

Ibiquity used ENCO's DADpro32 Digital Audio Delivery System to generate linear digital audio and text information for receiver demonstrations.

Automakers

Visteon, the world's second-largest automotive supplier, will produce IBOC radios. Visteon will integrate the IBOC chip into its receivers slated for availability to automakers in the 2004 model year timeframe.

Ford, the world's No. 2 automaker, and Ibiquity have reached an agreement to investigate opportunities to deploy Ibiquity radio technology in Ford, Lincoln and Mercury vehicles.

Ford has taken an undisclosed equity position in Ibiquity. Ibiquity sources said the company also is talking to several other automakers.

Ford announced cutbacks shortly after CES, and all automakers are bracing for a tough year. One auto source from a competitor said his company has been narrowing the types of radios offered in vehicles as a result of the economic downturn.

One source said a slow IBOC rollout might give automakers pause as the companies would like to see a quicker return on they investment if they spend money developing IBOC radios. He said his company, an automaker, would want to avoid what happened with RDS.

His auto manufacturing company invested in RDS, a technology that, while popular in Europe, failed to catch on with U.S. broadcasters.

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World Radio History

Wind

▶ Continued from page 1

access to any stations, said Tom Lowther, chief engineer for the eastern network of the state's public radio service.

The number of travelers who drive that stretch of highway is estimated to be 2,000 daily, increasing to about 8,000 drivers during the summer.

"Wind was chosen because no commercial power is available at the site," Lowther said. "All we have is wind."

Delays

Steve Johnston, BSR director of engineering, managed the project. In October 1998, Lowther began designing the new station and supervising its installation. But funding setbacks and weather delays have hampered test efforts.

Boise State Radio eventually received a $251,000 federal Public Telecommunications Facilities Program grant to cover some of the estimated $480,000 needed for the entire project.

In order to raise money, BSR conducted a fundraiser in December, titled "Tools, Towers, & Tinsel," which raised $60,000. BSR plans another equipment fundraiser in June.

More recently, the weather postponed the launch of the station. In an area where snow starts as early as mid-October, Lowther said the staff has been using a helicopter, the safest form of transportation in winter, to get to the top of the 8,633-foot mountain to finish the work.

Chief Engineer Tom Lowther had to snowshoe to the future tower site.

The engineers have erected a 100-foot tower, installed an antenna and built a small building on top of the mountain. Tests and the launch were to take place this month, weather permitting.

Despite the difficulty in traveling to the mountain, Lowther said the terrain lends itself to broadcasting. It is the highest elevation in the region and is shaped perfectly for a wind-powered site.

The terrain also is ideal because there is no turbulence at the site, Lowther said, adding that the site gets laminar flow, an occurrence similar to the flow of air over an aircraft wing that moves as one mass. This helps the turbines derive more power out of the wind, which makes them more efficient. Also, the lack of turbulence will increase the life expectancy of the turbines, said Lowther.

BSR erected four towers on the site; three are 10-kW wind turbines on top of three separate towers. A fourth tower holds the station antennas. The FM station's ERP will be 3.7 kW.

According to Lowther, the new station is unusual because its backup system consists of a propane generator supplied by three 1,000-gallon tanks of propane. The propane could power the station for eight to nine days. A stored battery bank, weighing more than 12,000 pounds, could provide an additional three days of power.

Reliability, savings

Most stations using wind power are connected to the commercial power grid. For them, wind provides power reliability and saves money. Other stations using wind have solar power generators as backups.

KBSJ's fellow tenants on the mountain use solar power, a more expensive option at the high power levels FM broadcasters need, Lowther said. The other users at the site are two-way radio and cell services; both use significantly less power than an FM station. He cited an estimated $1 million cost for a solar-powered system compared to the $200,000 BSU spent on the wind power-generating equipment.

If a commercial grid had been available the site, Lowther estimates the state radio network would have saved a considerable amount of money because of the wind turbines. Before the California energy crisis occurred, he had predicted that Boise State Radio would recoup costs of the turbines in five years, but now says it might be sooner. This case also will help BSR determine whether wind power will help save money at other sites already served by commercial power.

Lowther expects the backup system would be used in late summer and early fall when rain on the mountain ceases and the winds die down. During the summer season, he said, the site will be accessible for him and his staff to refill the propane tanks.

Photos by Tom Lowther

Boise State Radio's Director of Engineering Steve Johnston points out the three 7.5-kW wind turbines for the new KBSJ.

The elevation also made it necessary to use an alternate method in place of a crane to erect the wind turbines, said Michael Bergey, president and chief executive officer of the Bergey Wind Power Co., which sold the turbines to Boise State Radio for an undisclosed amount.

The turbines were stacked at the base of the tower, then hoisted up the tower using the gin-pole method, similar to the davit system that raises and holds lifeboats on ships.

The turbine company has installed wind turbines for about six other broadcasters, Bergey said, all of which use a hybrid of wind- and solar-powered systems because they have seasonal variations in wind.

The view from the summit. Winds up to 150 mph blow the dry snow off the top of the mountain onto the sides.

Besides taking an alternative approach to its backup system, Bergey believes Boise State Radio is unique because it will have a more powerful signal than the other stations that use the company's turbines.

The other stations using wind power are either 10-watt translators or Class A or D FM stations operating at 100 to 500 watts.

For Boise State Radio, Lowther said, the new station will be a test case. If KBSJ is a success, Boise State Radio could launch more stations relying on wind in other parts of Idaho or install wind power systems at existing sites for power redundancy and economic savings.

"We're not limited to where the power grid is," Lowther said.

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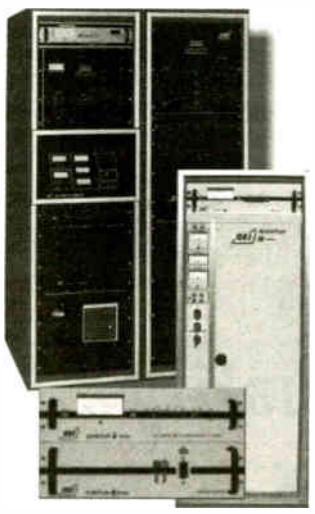

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World Radio History

ROOTS OF RADIO

Legends Live at Antique Site

by Tom Vernon

Surf the Web and you'll turn up an endless variety of specialized sites in the realm of radio and electronics. High on the list of vintage radio Web pages is *www.antiqueradio.org*, a site that its creator claims is the oldest devoted to the collection and restoration of vintage wireless equipment.

Phil Nelson of Woodinville, Wash., has nurtured this site from its inception. Unlike many who collect and restore various types of old electronic equipment, he does not have a technical background.

Phil Nelson

Minimalist

"I'm completely self-taught," he said. "Radio restoration is a pretty approachable hobby. If you find some good books and learn the basics, you can fix most old radios without too much trouble. They tend to have the same common problems, and that accounts for about 80 percent of restoration work."

Nelson had done some furniture refinishing before getting interested in old radios, and he also repairs the wood and bakelite cabinets common on receivers manufactured from the 1930s through 1950s.

He usually takes a minimalist approach, preferring to preserve the original finish. In cases where the cabinet is too far gone, a complete refinishing, including replacing damaged veneer, may be necessary. When this is done, any lettering on the surface is lost.

Surprisingly, there are commercially-available decals with gold lettering of the most common names and logos of the period, and custom decals can be designed and printed with a color laser printer.

Career path

In the case of larger "boat anchor" communications receivers with badly damaged facet panels, it is possible to scan the front panel onto a computer, electronically "repair" the lettering with a program such as Photoshop, and create a silkscreen image of the front panel.

The panel then is painted in the proper background color, and the newly-created silkscreen is used to restore the lettering. While the results usually are gratifying, this can be a very expensive process.

Nelson has had a curious path to electronics and technology. He earned an undergraduate degree in liberal arts and went on to law school. He practiced law for seven years, but eventually drifted into computers and computer programming.

He started writing about computers and worked for a publishing company for a number of years. He wrote books and numerous articles about computer programming for various publications, and in the late 1980s found himself working in technical publishing at Microsoft. Nelson retired from there three years ago.

His hobby has kept him busy for the past decade. He began with an interest in collecting anything old, and gradually specialized on antique radios.

Eventually, Nelson tired of simply collecting radios and taught himself how to repair them, starting with simple sets, and working up to more complex projects. He has been at it for 10 years, and has about 400 receivers around the house.

As the collection grew, his tastes became more selective. "If you already have 20 plain, brown bakelite radios," he asked, "do you really need 21?"

As the radio collection grew, Nelson became interested in more complex receivers. One area he has explored is the legendary Zenith Trans-Oceanic, an all-band portable receiver manufactured from 1941 through 1969.

A pet project of Zenith President Commander McDonald, the Trans-Oceanic was sent on expeditions to the far corners of the earth to prove its durability.

Unique to the earlier models was the Zenith Wave Magnet, a removable loop antenna that could be taken out of the receiver and positioned for best reception. Trans-Oceanics were marketed to an upscale demographic, and old ads in magazines like Town & Country make for interesting reading.

Mystique

The success of the Trans-Oceanic was not lost on other receiver manufacturers, who began to sell portable all-band receivers that were similar to the Zenith. Although many were of excellent quality, none could capture the mystique of the Trans-Oceanic.

"It has an incredibly loyal following," Nelson said. "There are people who just live and breathe Trans-Oceanics. I've gotten letters from people who have inherited them from relatives."

Nelson's collection of Zeniths includes one with a leather case gold-stamped with the name Joan Fontaine, the only celebrity radio in his collection.

Nelson recently has expanded his collection to include vintage televisions. Restoration of old TVs is much more difficult than that of old radios, which generally have simpler circuits and more readily available parts.

Items like picture tubes, flyback transformers, yokes and tuners are specific to a limited number of televisions, making the location of replacement parts a difficult task.

The jewel in Nelson's television collection is a Philco Perfecta, a 1950s-futuristic TV with separate chassis for the picture tube and receiver. Fortunately, the set is in working condition. In addition to vintage TVs, Nelson has a collection of old test equipment that he hopes to photograph and add to the Web site.

Rich in photos

Working at Microsoft when the Internet revolution began, Nelson decided to build a Web site and teach himself HTML, the then-current language of Web programming. The radio collection seemed like a natural choice of subject matter, and thus the first vintage radio Web site was born in August 1995.

The site has expanded over the years to include not just pictures of old sets but valuable reference material as well.

One of the many interesting features on this Web site is the gallery of antique radios, with separate sections for bakelite, communications, plastic, portable, transistor and Zenith Trans-Oceanic radios. While some sites have scanned images of dubious quality, Nelson has tried to ensure the quality of the photos he uses on the Web.

Radios are photographed with a Nikon FE2 using a 50-mm lens with a blue filter for indoor color correction. Lighting must be tweaked carefully so that details like bakelite knobs are sufficiently illuminated while not generating glare from reflective surfaces such as the dials.

Photographs are scanned onto an HP Scanjet II flatbed scanner, taking care to align images so that the straight lines on

See ANTIQUES, page 18 ▶

World Radio History

Sight and Sound

by
Ron Bersani
Talking Information Center

Marshfield, MA: As a radio reading service for people who are blind or visually impaired, The Talking Information Center Network has some very specific equipment needs. First of all, as a non-profit service dependent on government and foundation grants, corporate and private contributions and fund raising events we don't have a lot of money to spend on equipment. We have to be absolutely sure that whatever equipment we do purchase is reliable, reasonably priced and durable. When you have to justify every dollar you spend to people who donate those dollars in good faith, it helps to be absolutely confident you've made a good choice!

A second factor that always weighs heavily on any decision we make regarding studio design and equipment purchase is the volunteer factor. We have volunteers, lots of them!

Over 500 people volunteer their services as readers at our six affiliates scattered throughout Massachusetts. Over twenty thousand people with disabilities depend on us to bring them everything from the daily newspaper to the supermarket ads every day throughout New England.

Very few of these volunteers have any professional experience when they come to us. Because our staff is so small both at the network center and in all of the affiliates, our studio equipment HAS to be user friendly. That's where Radio Systems comes in.

The RS-12 series and the RS-12a Millenium Audio Consoles are the only consoles we buy. They fit every criterion important to us. They're affordable without sacrificing quality and durability. They are full-featured. They are easy to use. As a matter of fact even the least technical of our volunteers can learn how to operate the console in one easy training session. On top of that, the straightforward, tactile nature of the console makes it a favorite with our blind operators.

The consoles aren't the only great things at Radio Systems. All of our distribution amplifiers are Radio Systems models. We have several of every model they make. In some of our applications, the DA-8 is perfect for a mono application. The DA-16 gives us flexibility in stereo applications and the DA 2X4 and DA 4X4's have the ultimate flexibility. The prices are much better than you'll find for comparably featured models from other manufacturers.

Another great product from Radio Systems is their telephone hybrid. We just took advantage of a great sale to replace all of our older hybrids. We had some 1X6 hybrids that seemed like a great idea at the time. The problem was no one could figure out how to use them. They were cumbersome, and on top of that, conferenced callers could hear each other and the host without adding another hybrid. The Radio Systems DI-2000 completely solved our problems and made it so easy to answer calls, place the caller in cue and then to air that all of our operators can make it work smoothly.

Radio Systems clock and timing systems can fit any need. Each of our affiliate locations needs to be able to join and leave network feed at various times during the day. With the use of Radio Systems clocks and master drivers we can be sure everyone is on the same page at the same time.

Perhaps the best part of dealing with Radio Systems is the close personal connections I've been able to establish over the years. It's nice to call somewhere where people remember your name, are friendly AND knowledgeable whether it's Dan Braverman who happens to be the owner, Jo-Ann Dunn in sales or any member of their technical support team. Radio Systems has definitely proven to me that they're a company that cares.

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World Radio History

Local Chapters: Heart of SBE

by Ken R.

They may have as few as four members, or as many as 200. They may meet in a local restaurant or only via ham radio. The first was formed in the north, the latest one in the south.

They are the local chapters of the Society of Broadcast Engineers and they represent the diversity of that organization.

John Poray, SBE executive director, said about 135 chapters have been formed covering all 50 states plus Saipan, a U.S. territory in the Northern Mariana Islands near Guam.

"These local chapters are the lifeblood of what we do," Poray said. "One of our primary purposes is education and our members get it at their chapter meetings. All of the local chapters are volunteer organizations."

Meeting and greeting

Some chapters cover a vast, sparsely populated area. One such group is Chapter 87 in central Nebraska, chaired by Verne Killion.

"We have eight or nine members and our meetings are held over two-meter ham FM," Killion said. "We do it over the air because some of us are hundreds of miles apart."

Occasionally a vendor can be found who will offer a meeting program. In those cases a central location is designated where everyone can gather. Chapter 87 is a close-knit group that finds e-mail communication indispensable.

As with many small organizations, it is difficult to find people willing to take on leadership responsibilities.

"I've been active chairman and certification chairman for about five years," Killion said with a grin. "I can't find anyone else to do it."

Verne Killion chairs Chapter 87 in Nebraska, which holds its SBE meetings via ham radio.

Killion is director of engineering at KRVN(AM-FM), Lexington, Neb. He holds the SBE Life Professional certification.

A much larger chapter is presided over by Joe Dimaggio, chairman of the 88-member Connecticut Valley group.

"We get together about seven to nine times a year, with the summer off," said Dimaggio. "We hold our meetings at various locations around the state and we'll see about 50 people at a typical meeting."

Chapter 14 is located in an industrial area near insurance companies, production houses and the offices of ESPN.

"This means we get a lot of people from the corporate side," said Dimaggio. "But our meetings are open to anyone, members or not. I have never turned anyone away."

One of the more successful programs held by this chapter was a day-long seminar for the Connecticut Broadcasters Association, presented by the SBE's national certification committee chairman, Terry Baun. The event focused on network technology and was well-attended, according to Dimaggio.

Chapter 26, Chicago, meets at the top of the Sears Tower for a demonstration.

"The key is to have a balanced program that has educational, social and recognition components," said Poray. "That feeds the needs of most of the people who want to belong to a group of their peers."

Poray said that, across the country, the chapters have about an even split of TV and radio members with a small percentage from the corporate communications world.

"We have in-house people from IBM, GM and those kinds of companies," Poray said. "And we have a smattering of government folks, military people, some who work on navy ships and even people within the White House communications office."

Jim Biggers chairs Chapter 7 from Jacksonville, Fla.

Content is king

"One key to having a successful chapter: holding great programs," Biggers said. "We try to focus on new technology and keep our radio guys interested too, because this is primarily a TV market."

To that end, Biggers keeps his members involved through e-mail to promote upcoming events.

"We have also sponsored local science fairs. Through sustaining relationships, our members can help make possible $100 and $500 scholarships for first and second place in these events."

Biggers said the scholarships the chapter awards come with no strings attached.

"We just try to encourage young people. They don't have to become members of our group."

Mark Humphrey, chairman of the Philadelphia/Trenton area chapter, handles his SBE chores from his day job at Media One stations WPLY(FM) and WPHI(FM) in Philadelphia, where he is director of engineering.

"You have to make the meetings accessible to keep everyone interested," said Humphrey. "We hold evening meetings because it's easier for people to get there."

Lunch or dinner

Biggers is in favor of the midday meeting for his members in Jacksonville.

"We used to have our meetings in the evenings, but since we've moved to lunches we've gone from about three people to 20 at our events."

Dimaggio said that whatever the time of the meeting, the program must be interesting and informative.

"We try to make the business portion as short as possible, usually no more than 15 minutes. But whether we have our get togethers in the evenings or for lunch, some of our members can't make it because of their work schedules."

Poray said the most recent "Chapter of the Year" is No. 73 in the Tucson area, hosted by Hal Hostetler. He has been holding meetings over ham radio for 10 years.

"He runs his meetings for anyone who wants to tune in," said Poray. "We provide him a ham net and he has discussions over the air and resolves technical issues of interest to the people in his area."

Humphrey believes that finding dedicated people is the best way to insure a successful chapter.

"Sometimes the same individuals do it year after year and they just get burned out," said Humphrey. "You need to keep bringing in new members and get them involved and taking some of the duties."

Poray said if a chapter withers, that chapter number is held open in the hopes it can be revitalized.

Lee Eichelberger chairs Chapter 115, which covers southern Idaho.

"Most of the burden for keeping the clubs alive rests on the chairman, vice chairman and secretary," said Eichelberger. "The amount of time they put into it will be reflected in what the chapter does and how many members there are. If they can line up some interesting meetings, the chapter will succeed."

Among the best-received meeting programs seem to be facility tours or visits from suppliers. And not all of them involve broadcast operations.

"We had a meeting where a supplier came in to tell us about surveillance and security measures," said Killion.

Dimaggio described a recent meeting program at which the members went to RF Systems, which operates a huge cable manufacturing plant.

"It was an incredible tour," said Dimaggio.

Eichelberger said his group has toured the local weather service and civil defense offices.

Growth

Ernest Sutton Jr.'s Knoxville chapter visited Scripps Productions, a large company that creates satellite TV and cable programming.

Poray said SBE is growing.

"The largest chapters are in Los Angeles, where we have actually split it into two separate groups: Chapter 47 covers Los Angeles and its 200+ members, and about five years ago we started Chapter 131, which covers Riverside."

SBE chapters are in every state plus the territory of Saipan. The largest are in Los Angeles, which has two.

Nashville is another market with too many professionals for one chapter, so SBE added Chapter 135 for the suburbs in addition to the already existing No. 103.

It is no secret that bringing young people into the fold is one of the biggest challenges radio engineers face. With competition from telecommunications, satellite and the Internet, broadcast may seem a bit less glamorous.

"We try to encourage young people but if we're going to get our share, we must do a better job of telling them what's out there," said Poray. "Forty years ago we didn't have that competition, and broadcasting was more of a lure. That's still there, but now people have more choices."

Ken R. is a frequent contributor, a former broadcaster with no engineer training. His chief engineer once sent him to a supply house to bring back a fallopian tube.

Reach him via e-mail to Ken@KenR.com.

World Radio History

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

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World Radio History

FM Parasitics and Test Ranges

Radio Consultants Share More Ideas to Help You Get the Most Out of Your FM Antenna System

by Richard J. Fry

How can you get the most out of your FM antenna system? To provide some insight into this subject, three prominent broadcast consulting firms were asked to respond to 15 topics about FM antenna performance. Their earlier responses can be seen in previous issues of Radio World and online at *www.rwonline.com* under the tab "Better FM Coverage."

The participants are Ben Dawson of Hatfield & Dawson; Bob Culver of Lohnes & Culver; and Don Markley of D.L. Markley & Associates. Note that any consultant would need specific site and application information to provide an accurate recommendation for a given situation.

Topic: Comment on the use of parasitics — to make patterns more omni or to favor coverage toward an important market. Are there downsides of parasitics?

Dawson: Any antenna with parasitics is a directional antenna and must be licensed as such, with a measured pattern, and with ERP limited to the maximum lobe value.

Parasitics themselves are generally dipoles, and have substantial downward radiation and therefore are often contributors to high levels of NIER. Directional antennas with parasitics have their gain based on the manufacturer's assumed (not calculated or measured) gain for the antenna element.

Because the parasitics result in substantial energy radiated in other then the horizontal plane, such antennas virtually always have lower gain than the manufacturer's rating, and, if possible should be avoided for that reason as well.

Culver: Regarding making a pattern more omni, see my comment on that topic in the Jan. 2 issue.

Regarding favoring coverage toward an important market: Ah, there's the rub. Pattern circularization so as to identify and minimize pattern variation can be used to minimize the detrimental effects on primary community coverage.

For example, the H-pol and V-pol fields are often different values at different azimuths depending on the antenna type and mounting. You may be able to get adequate H and V field toward the city or you may find some alternative of one or the other will work.

But if you want to favor coverage by using mounting and/or parasitic elements to distort the pattern to increase the ERP in one direction, it is a *directional* antenna. Assuming you want a directional antenna for conservation of power (i.e., no service over the ocean, avoid reflections off a nearby mountain, FCC Rule 73.215 contour protection, etc.), parasitic elements can work.

However, it is absolutely essential that the antenna have been properly tested (measured) with the parasitic elements, that it is all properly documented and then all the elements, antenna and parasitic elements are properly installed.

It is absolutely essential that the antenna is tested properly with the parasitic elements, that it is documented and all the elements are properly installed.

— Bob Culver

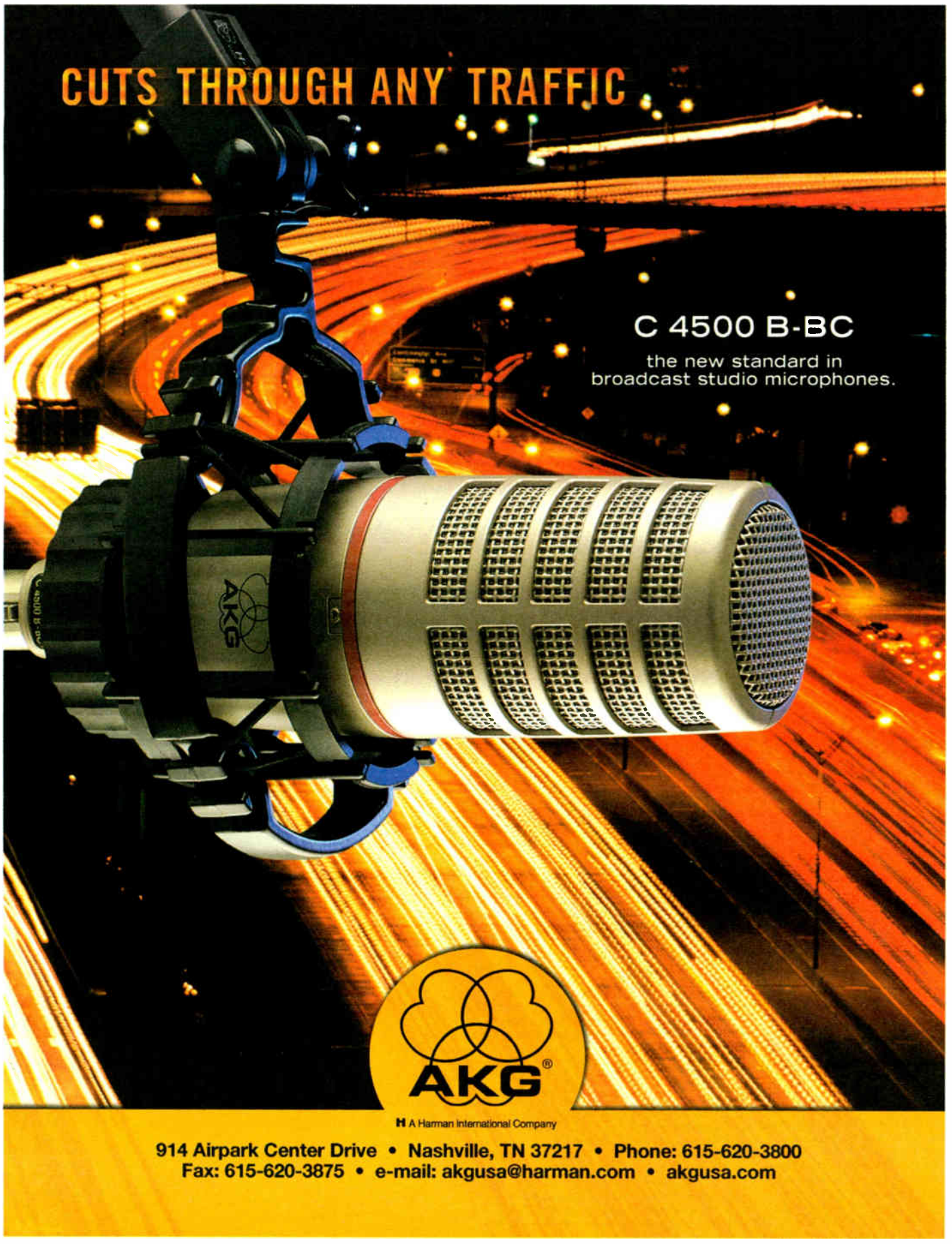
Then they must not be changed or damaged in the future. This last point is sometimes difficult to ensure. A chunk of ice, an errant footstep, even a few big birds can upset this. Especially with a Section 73.215 antenna, this constancy of antenna pattern must be ensured.

If you want a directional pattern, you can achieve quite a bit of directionality and variety with panel antennas. Once mounted, unless there is major failure to the elements or feed system, which you should be able to detect, the pattern will stay the same.

Even changes within the tower structure may not have much impact on the pattern, less so than for a side-mounted antenna with parasitic elements.

Markley: It is not legal to use parasitics to improve the signal toward your market unless you declare the antenna to be directional. Unless attempting to improve the omnidirectional characteristics of the antenna by eliminating distortions caused by the

See CONSULTANTS, page 22 ▶



World Radio History

Workbench

Radio World, February 13, 2002

Past columns are archived at *www.rwonline.com/reference-room*

Dodge PC Problems Ahead of Time

by John Bisset

After building computers for critical broadcast applications for more than 15 years, Jeff Allen, engineering and IT manager with seven stations in Idaho including KMHI(AM) in Mountain Home, has seen few failures when the computers have been maintained properly — like any other broadcast equipment!

Hard drives can and do fail without notice. But if you scan and defrag often, you will notice most failures before they arrive, if you know what to look for.

Among the biggest culprits are the hard-drive bearings. They should be quiet. Another item to check is the CPU fan. As with the little fan on your FM exciter, if it dies, the equipment operation will be compromised.

Sometimes these fans will begin to whine. Just as you use your ears to troubleshoot "normal" sounds in the transmitter building, use sound to help diagnose computer ills.

Once a month, Jeff takes down the systems of one of his stations to scan and defrag the drives. He vacuums out the PC case and checks the fan on the CPU and power supply.

In almost every case, this procedure permitted him to spot problems early and replace hard drives before they had a chance to fail on the air.

Fig. 1: An inspection would have detected the 'hidden' anchor disguised as a tree.

Keep replacement fans and a replacement power supply on the shelf. The supply will run about $25; it is good insurance.

Also consider a spare hard drive. At $250, it's not cheap, but vital to keep the system running should a failure occur.

Jeff's maintenance regimen is backed up by performance. Since October 1999, he's had only one hard-drive failure out of 42 computers!

Jeff adds that he doesn't ever remember being that lucky with cart machines.

★ ★ ★

Now that we're well within the snow and ice season for many engineers, how are your guy anchors?

Regular and thorough inspection of guy anchors is important. The additional stresses caused by the elements can make the point.

A corroded guy anchor rod can slip out of the ground and bring the tower down. The potential for this problem increases in agricultural areas where aggressive soil, great for crops, is death to buried metal.

You can spot guy anchor failure due to corrosion if you inspect all the anchors periodically. An inspection would have detected the "hidden" anchor disguised as a tree in Fig. 1.

We've all seen sites where bushes, trees or junk are piled around the anchors. One contract engineer told me he inspects twice a year, with the station owner or manager accompanying him. The inspection is done in the daylight, on a sunny day.

As you inspect, also look for proper drainage. An engineer told me of a cell site that had to operate from a cherry picker after losing its guyed tower. One set of the guy wires ended at the bottom of a bluff, next to a drainage ditch.

Water pooled at this location, and the anchor eventually failed. Speculation was that the water and the aggressive soil caused the failure.

The magnesium slug sacrificial anode installed to mitigate cathodic corrosion had disappeared completely, as well as the copper ground rod, and most of the wire. With unusually high winds, the anchor breaks, and the tower falls.

See WORKBENCH, page 16 ▶

Fig. 2: How to Camouflage a Radio Station

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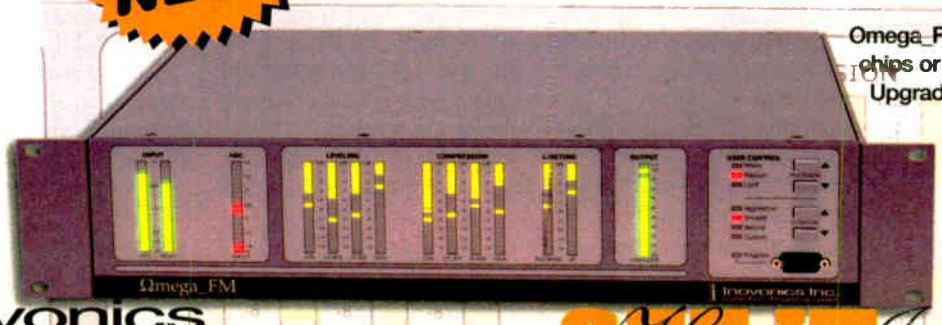

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World Radio History

PRODUCT EVALUATION

Dawning Offers Net Connectivity

by James G. Withers

If you are a radio station chief engineer, chances are you are responsible for several, maybe dozens, of stations. If you are a group's engineering manager, the universe is even larger.

Technical types can use every tool available to help monitor operational performance at a multitude of stations, which may be co-located, across town or in the next state.

Dawning Technologies of Fairport, N.Y, has created such a tool with its Secure Network Interface unit.

Product Capsule:
Dawning Technologies Secure Network Interface

Thumbs Up
- ✓ Convenient EAS application
- ✓ Flexible operation
- ✓ Simple connections
- ✓ Reasonable price/ performance ratio

Thumbs Down
- ✓ Few current broadcast apps
- ✓ Not rack-mountable

For more information contact the company in New York at (800) 332-0499 or visit www.dawning.com.

Cut out the middleman

To cut right to the chase, the SNI converts a standard serial connection to TCP/IP protocol, without the expense and hassle of an intermediary.

The "intermediary," of course, is a host computer. The SNI has to be configured to the device inputting data to it, and there is an extensive list of applets on the Dawning Technologies Web site at *www.dawning.com*. The SNI can be configured to work with any system as long as it has serial output. The company's programming staff can assist with the configuration or you can do it yourself.

Once on the Internet, the SNI has its own IP address, and thereafter, logging on to it allows the user to display and monitor any device connected to the SNI exactly as if it were the device itself. User-definable settings allow for restricted access and, as the name implies, the Secure Network Interface is, in fact, secure.

According to Dawning, the company's background is in making connectivity equipment for the medical and clinical market for 25 years.

The SNI itself was created for the medical community. Numerous applets have been created to interface to a variety of medical equipment.

Dawning saw an expanded market in other industrial fields, and from our test, has hit pay dirt by extending the applications to broadcasting.

One catch is the relative newness of Dawning to the broadcasting field. Because the medical apps business is much more mature, dozens of interfaces are written for that area. Not so in the area of broadcasting.

Dawning tells that new applications are being written all the time, and in the event one does not exist for a specific use, the company will provide the development kit for a do-it-yourself program or will write a custom application on a work-for-hire basis.

Either way, it seems a minor inconvenience for a slick addition to an operator's bag of tricks.

The cost of the unit is $595, with a one-year hardware warranty.

The company sells the product direct. The unit packs a lot of power in a small frame. The unit is not rack-mountable, but the desktop footprint is small, only slightly larger than an external modem. RJ-45 jacks provide connectivity.

John Selmyer, CEO of Dawning, initially envisioned the SNI as a way for broadcasters to monitor EAS encoder/decoders remotely, and our SNI unit was configured to interface with a TFT EAS unit.

In this mode, EAS operations and logs can be monitored and stored from any remote location simply by logging onto the Internet from any computer, and typing in the proper IP address. Voila, instant access to the TFT box.

The SNI is advertised as being fully bidirectional. Even though Dawning configured our test unit as a remote monitoring device for the TFT, RS-232 serial connections inherently are bidirectional, so it seems a small step to add control functions to the monitoring/logging functions.

The SNI has lots of on-board storage (700 kb), and can be formatted to store and present data in HTML, or deliver it using FTP or email formats, among others.

With regard to performance: the SNI was transparent. If you like the way the TFT performs, you will like the way the SNI performs. This is the essence of a good utility product: it doesn't get in the way of, or even appear tangential to, the host product. The SNI passes this test with flying colors.

The SNI comes in a small package, only slightly larger than an external modem, and in fact, incorporates some of the same conveniences. Connect-ions were straightforward, and anyone with the slightest understanding of computers and the Internet — certainly any technically minded broadcast engineer — will have the SNI up and running within an hour of unpacking it.

About the only downside to the SNI, other than the relative paucity of broadcast applications available, is the incredible flexibility this little piece of hardware offers to the overworked station engineer. Of course, this is a tongue-in-cheek criticism; but the creative engineer no doubt will spend long hours inventing uses for this neat little gadget.

The author is vice president of engineering for Pacific Broadcasting of Missouri.

Workbench

▶ Continued from page 15

★ ★ ★

While we're looking at fun pictures, I think the caption for Fig. 2, page 15 should read something like, "How to camouflage a radio station!"

Those of you engineers working in the south understand when I mention the word kudzu. Although there's no FCC violation here, the life of the roof is certainly shortened, and one wonders how efficient the air conditioner is working.

Pity the poor meter reader who has to dodge the bees in the summertime just to read the meter!

★ ★ ★

Andrew Struiksma is with Heritage 1550, KCCF(AM) in Cave Creek, Ariz. He queried Dave Biondi's *radio-tech@broadcast.net* for a suggestion about a good PC time program.

Andrew uses an ISDN dial-up connection that is used not only for his station's Internet service but also to keep the PC clock synched to Boulder. The PC is used to control a satellite receiver and to run a proxy server.

Jim Turvaville, director of engineering and expansion for WAY(FM) Media Group in Nashville, responded with a wonderful timeserver program. Jim is using "AboutTime" from *www.arachnoid.com/abouttime/index.html*.

He's never had a problem with it. The program runs on his main server to query the U.S. Naval Observatory timeserver and send that info to all his workstations, on a schedule that Jim has set. It then resets the internal clock on each workstation in the background.

Jim writes, "No muss, no fuss!"

★ ★ ★

The FCC is levying heavy fines for safety violations like the one in Fig. 3. If your site has wooden fences, make sure the slats are not missing and that gates are locked and in working order.

If chain link is used, be sure it is properly attached and stretched, with no gaps. Replace those rusted locks!

Fig. 3: The lock was locked, Mr. FCC Inspector! Too bad the fence gate rotted around the hasp.

One inspector, speaking at a state convention, asked me where I get these photos.

"Mum's the word," I told him. Kind of like "Where's Waldo?"

He's going to have to find the sites himself. Problem is, he may visit yours while in pursuit. So save your manager and owner the embarrassment of a fine. Check your sites thoroughly and document the results of your inspection in writing.

Be sure to keep a copy of your written report. It's amazing how some managers and owners get a severe case of amnesia when the FCC shows up.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is a district sales manager for Harris Corp. Reach him at (703) 323-8011.

Submissions for this column are encouraged, and qualify for SBE recertification credit. Fax your submission to (703) 323-8044, or send e-mail to jbisset@harris.com.

World Radio History

FIRST PERSON

A Flag Salute in Terre Haute

by Jerry Arnold

Wanting to do something to salute those who fell in New York, Washington and Pennsylvania on Sept. 11 and those who continue to serve our country, we decided to erect an American flag at the studio location of WMGI(FM)/WWSY(FM) in Terre Haute, Ind., owned by Bright Tower Broadcasting.

We are located on U.S. Highway 41, where 55,000 cars a day pass us. Our facility takes up a city block, so we have plenty of room.

After discussions with Bob Swanson, our general manager, we decided our flag should be a real standout.

I contacted friends at the local power company and explained what we wanted. They immediately supported our project and installed two 70-foot power poles, one on each side of our building, then strung a piece of 1/4-inch galvanized steel cable between them.

After quite a search we located a vendor, Eagle Flag Co. in Massachusetts. What a flag it is! It measures 30 by 50 feet. We ordered it with a canvas strip sewn across the top of the flag, which contains brass grommets spaced every 3 feet. Total price: about $1,300.

We contacted the local fire and police departments and told them we wished to honor them by having them participate in the flag raising. They agreed enthusiastically. Both stations promoted the event and fliers were sent to all American Legion chapters as well as VFWs and other veterans' groups.

We chose to hold the ceremony on Friday, Dec. 7. In that way, we also could honor those who served in World War II.

Ceremonies

We folded the flag into a rectangle about 3 by 4 feet and premounted spring-loaded, numbered clips in the grommets so that the firefighters who were asked to mount the flag to the wire could do so quickly.

A rope was attached to the clip on the end and passed over to the power company crew in their bucket truck.

At a given signal the flag was released, cascading down its 30-feet height.

Then the rope was pulled across and the flag, which had been folded in an accordion fashion, slowly unfurled until it was stretched across the cable to its full 50-foot length. The crowd oooohed and ahhhed.

Even Johnny Palmer, our master of ceremonies and a World War II combat pilot and former broadcaster, became a little choked up at the sight.

A chorus from our local chapter of the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America gave a rousing rendition of the national anthem. People driving by on U.S. 41 honked and waved, and a few stopped to take pictures.

All afternoon we could look out the station windows and see people on the other side of the street admiring the flag and taking photographs.

At night the flag is illuminated by eight 500-watt flood lamps on the roof. The view at night is spectacular. We continue to get many calls complimenting us on our tribute, and a local restaurant gave us a thank-you on their marquee.

Not one negative comment has been directed at us for the ceremony or our display of our huge flag.

The author is director of engineering for WMGI(FM)/WWSY(FM).

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The 16-station **Hall Communications** radio group chose AP NewsPower service. Hall has stations around the East Coast. ...

Scott Studios signed a three-year licensing agreement with **Audio Processing Technology** (APT), allowing Scott to incorporate SOFT apt-X into its products.

SOFT apt-X is a software version of the APT proprietary apt-X digital audio data compression algorithm.

APT Managing Director Noel McKenna said he sees the agreement as a "firm endorsement" of SOFT apt-X within the broadcast arena. According to McKenna, the APT decision to move away from PC audio compression cards to a software-based platform was instrumental in securing the three-year agreement.

Who's Buying What" is printed as a service to our readers who are interested in how their peers choose equipment and services. Information is provided by suppliers.

Companies with news of unusual or prominent sales should e-mail information and photos to radioworld@imaspub.com.

World Radio History

Antiques

▶ Continued from page 10

the image are properly aligned. Otherwise, unwanted moiré effects and other distortions can occur.

These scanned images are tweaked for color and detail using Photoshop and other shareware. Finally, the completed BMP files are compacted to JPEG format. Nelson emphasizes that expensive equipment isn't needed for a great-looking Web page — just patience and an understanding of the basics.

Back to life

The Projects and Restorations section of *www.antiqueradio.org* contains illustrated narratives of many of Nelson's rehab efforts. Bringing an All-American Five back to life is a comparatively simple task. One of the more challenging projects that Nelson describes is the restoration of the classic Hallicrafters SX-42, a 15-tube, six-band communications receiver manufactured in 1947.

Fifty-odd years of time takes its toll on the components in these old sets. Resistors change value or open, capacitors become leaky and switch contacts corrode. Often the components in an entire section of the receiver must each be checked individually.

Typically, all the paper capacitors in a set are replaced; in the SX-42, they number about three dozen. Even more sinister than the ravages of time are the efforts of semi-skilled repairmen who have worked on the set in the past. Wires are sometimes cut and left dangling, or put back on the wrong connection. Color codes on resistors are misread and the wrong value of replacements are installed. Slugs in IF transformers and peaking coils are turned seemingly at random.

Nelson restored a classic Hallicrafters SX-42, a six-band receiver made in 1947.

Schematic diagrams must be checked carefully to ferret out these difficulties. This can be a problem in the case of sets like the Hallicrafters. As time went on, the design of that model changed slightly; not all models use the exact same circuits.

Nelson carefully documents all of this on his site and describes the steps he takes to rectify each problem. Other collectors frequently are contacted for additional information or scarce parts.

In the case of this receiver, many problems were related to burned contacts on the bandswitch, which is buried under layers of wiring and RF shields. Repairs to this switch involved micro-surgery with dental tools.

The patience of the restorer is tested at every turn, because often one symptom is caused by multiple problems in the set. The replacement of some defective resistors or capacitors on one tube socket typically reveals more difficulties further down the line.

Working on and off, the Hallicrafters SX-42 restoration took Nelson about six months.

TV role

The Radio Wrinkles section of the Web site contains vintage radio construction projects. You can add an S-meter to the Hallicrafters S-38 receiver or build a portable vacuum tube AM transmitter, crystal shortwave radio or battery eliminator.

The site also contains construction plans for a magic eye tuning indicator for the Hallicrafters S-20R receiver, an accessory that is much cooler than the traditional S-meter.

Nelson's Web site recently was featured in the TV movie "Lethal Vows," aired by CBS. As the plot of this murder-mystery unfolds, one of the characters suspects foul play in a recent death. Finding a stash of old radios in the garage of a non-collector raises questions. Some dismembered radio parts seem especially suspicious.

While surfing the net to determine the nature of these parts, the characters find Nelson's *antiqueradio.org* site. Some further sleuthing through the site's parts lists reveals a picture of the component in question, a selenium rectifier common in the power supplies of 1950s radios.

Suddenly the connections are clear. Selenium is a poison and the old rectifiers are the source. This was no accidental death, it was a slow poisoning.

Armed with this information, the police arrest the murderer. Justice prevails, thanks to Phil Nelson's Web site.

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World Radio History

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Gentlemen,

When the Winston-Salem Forsyth County School system contacted me about designing and building a radio facility for their Vocational Education Program, I immediately thought of BSI.

They asked how to build a state of the industry training program with an On Air Control Room, Production Room, and 20 Digital Audio Workstations for the students.

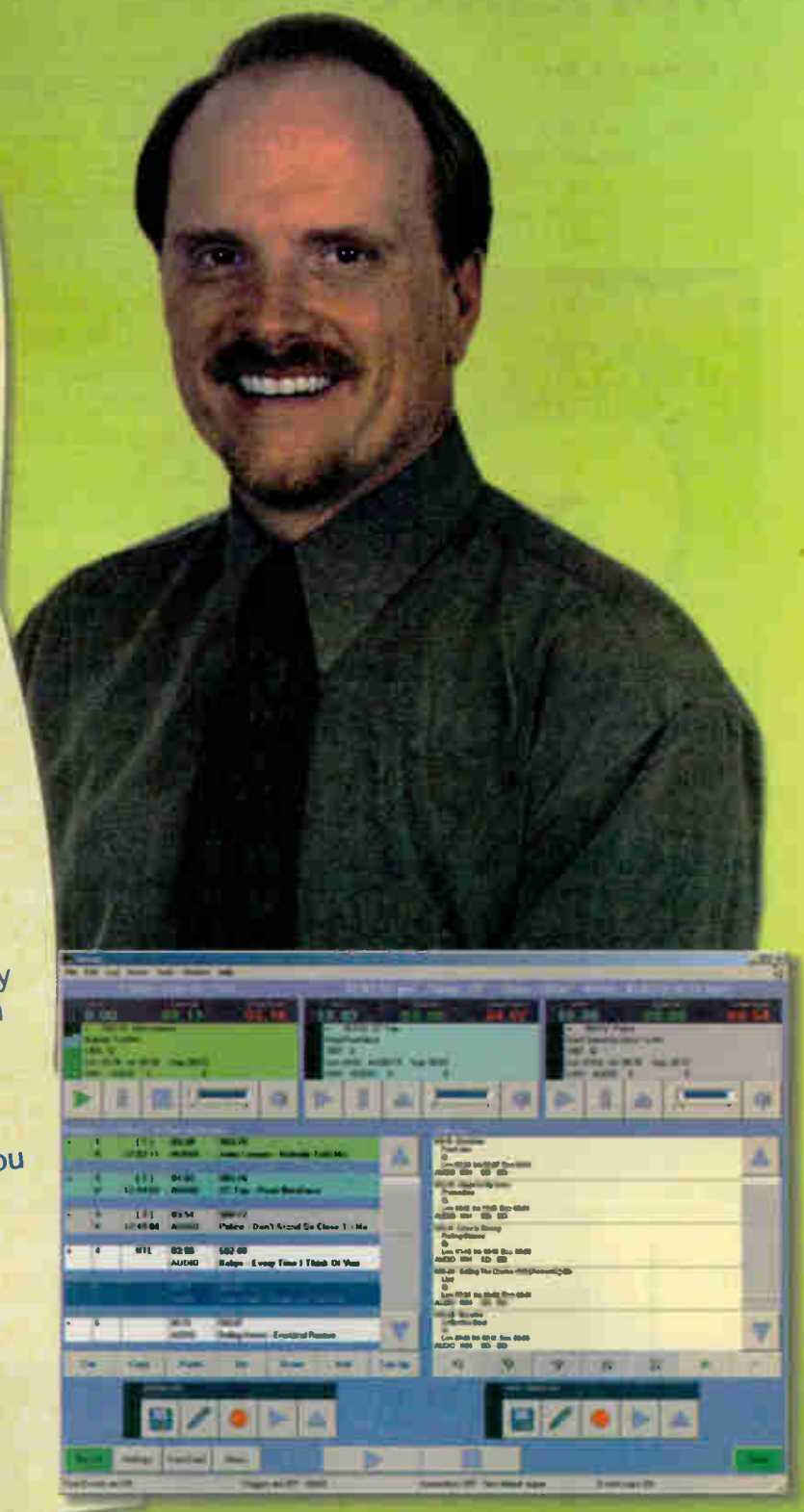
We are using Simian for our on air automation system with Stinger sitting by for elements during our live shows. We use Cool Edit Pro and Simian on our networked workstations. When we hit the field, we load up files on the laptop and run them with WaveCart for remotes.

I chose BSI for several reasons. First was cost. We were able to put 21 full automation systems in place for the cost of a dedicated box system. Second was flexibility. We are training a generation that grew up with computers. These kids were able to plug in to the software the first day they saw it. Within a week we were programming logs. Simian is a tool. We can use it for everything from updating our playlist on our streaming website to throwing start commands to a videotape playback programmer. (Our signal is simulcast on the stereo audio of our local school cable channel).

We rip with Speedy; cut with Cool Pro, tag and play with Simian. Now if you can only design a module to write multiple choice tests. . . ?

Sincerely,

Mike Apple
Radio Broadcast Instructor
Winston-Salem Forsyth County Schools
Winston-Salem NC. 27101



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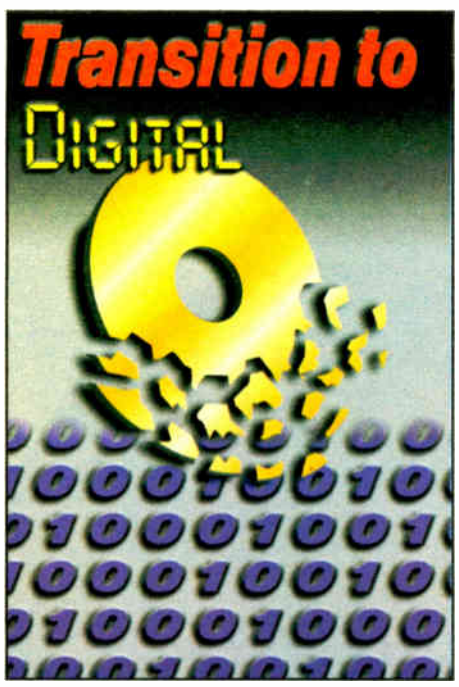
World Radio History

FM IBOC Planning Worksheet

by Richard J. Fry

As the possibility of FCC authorization of in-band, on-channel digital radio draws closer, many broadcasters are considering the costs needed to add IBOC to their present analog FM service.



Some of those basic cost elements are difficult to estimate because the final standard for FM IBOC is still in the proof and acceptance phase at press time. Costs for some of the needed hardware components will remain somewhat fluid until the final design requirements are available.

Still, it would be useful to know approximately what those final costs might be.

The template shown here identifies some of the major components needed when adding IBOC to a Class B FM station. The main variations in hardware approach are shown across the horizontal axis, and the cost elements are shown on the vertical axis.

FM IBOC Cost Worksheet

Class B FM Station

	SYSTEM CONFIGURATION (SEE NOTE)				
			SEPARATE AMPL		
	COMMON AMPL			Digital	
	No Filter	Filter	Analog	No Filter	Filter
Tx Total AC Power Input, kW avg:	36	40	30.8	5.33	6
Tx Total RF Power Output, kW avg:	18	20	20	1.6	1.8
STARTUP COSTS (in thousands of dollars)	*(thousands of dollars)*				
Analog Exciter	Existing	Existing	Existing	-	-
IBOC Exciter	$ 30	$ 30	-	$ 30	$ 30
Analog Power Amplifier	-	-	Existing	-	-
IBOC Power Amplifier	-	-	-	$ 50	$ 50
Common Power Amplifier (solid-state)	$ 250	$ 250	-	-	-
High-Level RF Combiner & Reject Load	-	-	-	$ 10	$ 10
Exciter RF Combiner	$ 2	$ 2	-	-	-
IBOC Mask Filter	-	$ 15	-	-	$ 15
IBOC Program Link (T1)	$ 10	$ 10	-	$ 10	$ 10
IBOC Audio Processor	$ 6	$ 6	-	$ 6	$ 6
IBOC Digital Demodulator	$ 15	$ 15	-	$ 15	$ 15
Installation Material Allowance	$ 12	$ 20	-	$ 4	$ 12
SUBTOTAL 1	$ **325**	$ **348**	-	$ **125**	$ **148**
Tx Building Modification	$	$	-	$	$
Installation & Commissioning	$	$	-	$	$
SUBTOTAL 2	$	$	-	$	$
ANNUAL OPERATING COSTS					
AC Power @ 10 cents/kWh					
RF System	$ 31.6	$ 35	$ 27	$ 4.7	$ 5.3
Tx Air Ventilation Cooling	$ 2	$ 2	$ 1.5	$ 0.5	$ 0.5
IBOC Licensing	$	$	-	$	$
TOTAL, FIRST YEAR	$	$	-	$	$

Note: For 50 kW analog ERP and -20 dBc IBOC (average power), using an antenna system with 2.8X net gain.

R.J. Fry

The costs are estimates based on input from representative manufacturers of IBOC transmission equipment meeting the expected standard. Widely variable cost elements have been left open for your station to enter an estimate based on your local situation.

An inspection of this chart shows that either form of IBOC using separate amplification is less expensive for these particular assumptions. This is the direct result of the high cost of a transmitter capable of common amplification at this power level.

Cost considerations

The cost difference between common and separate amplification would be much less for a typical Class A station, and for some power levels may even favor common amplification. Even at Class B power levels, the costs would be closer if the analog FM transmitter had to be purchased (our template assumes using the station's existing analog transmitter and exciter for FM/IBOC hybrid operation).

The need for the IBOC mask filter is dependent on the spectrum performance of the IBOC transmitter installed. Some IBOC transmitters may meet the FCC mask internally, and the external filter will not be needed. This will save the cost and installation space needed for the external filter, as well as reduce the power output requirements of the IBOC transmitter by about 10 percent.

There could be circumstances in which the apparent higher cost of using common amplification even for Class B and C stations could be offset by other factors. Each station will have to choose a configuration based on their own operation.

Note in the "Separate Ampl" columns of the cost template that the operating costs for the analog transmitter need to be added to the costs for the digital hardware format selected (filter or no filter) to arrive at the total cost. Note also that there are other elements of the overall cost over time such as equipment depreciation, true residual value and others that have not been considered here.

Use the above worksheet to help you 'rough out' the cost of converting your station to IBOC digital radio.

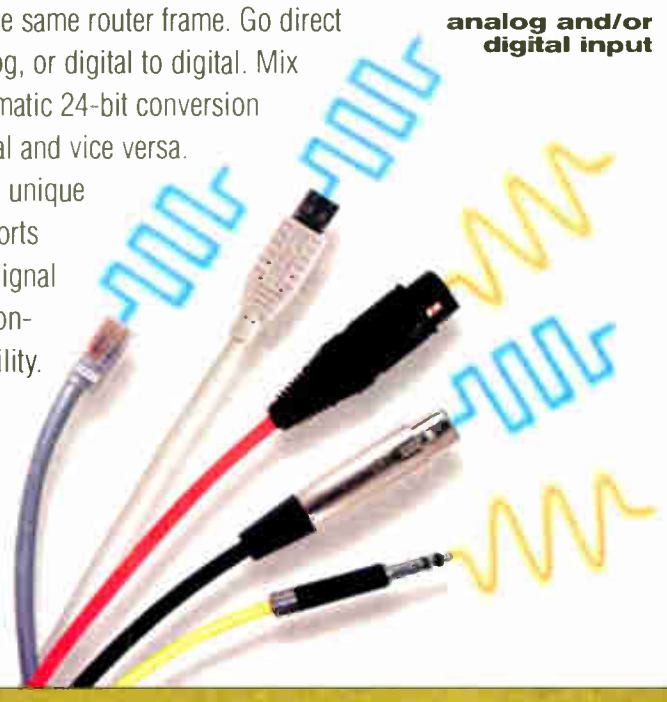
Richard Fry is a retired FM applications engineer with almost 35 years of service with major U.S. broadcast transmitter and antenna manufacturers. Reach him via e-mail to rfry@adams.net.

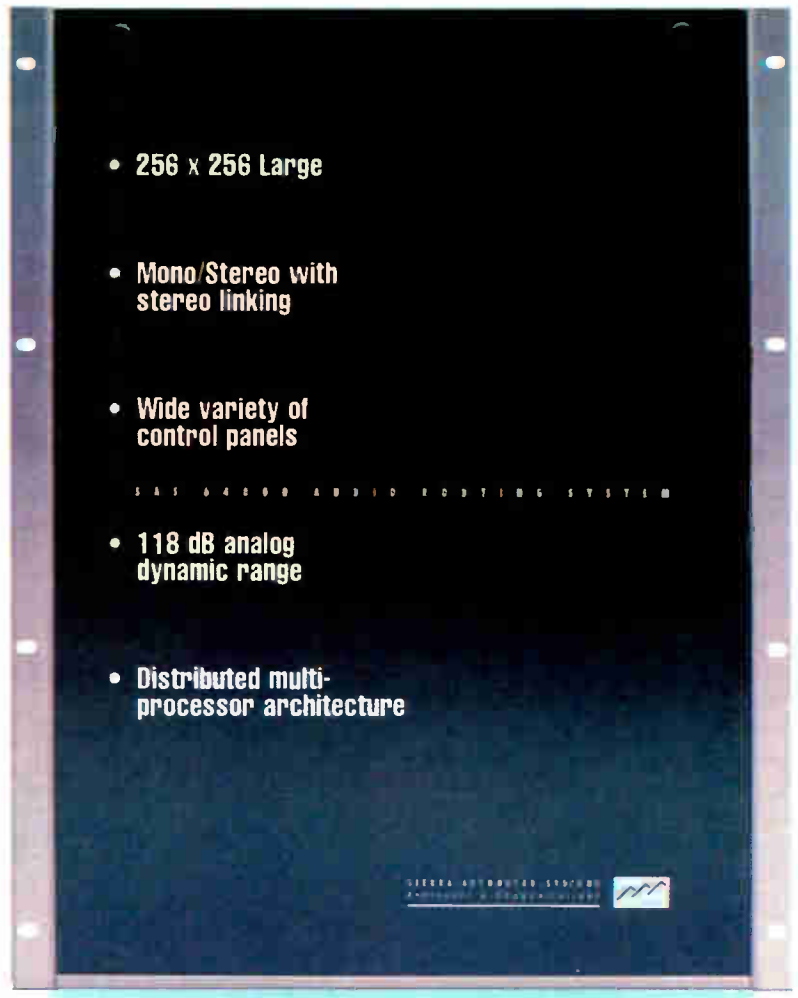
World Radio History

ROUTING SYSTEM

IN 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. 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 Audio Routing System creates a path to AES/EBU digital audio without creating analog obsolescence.

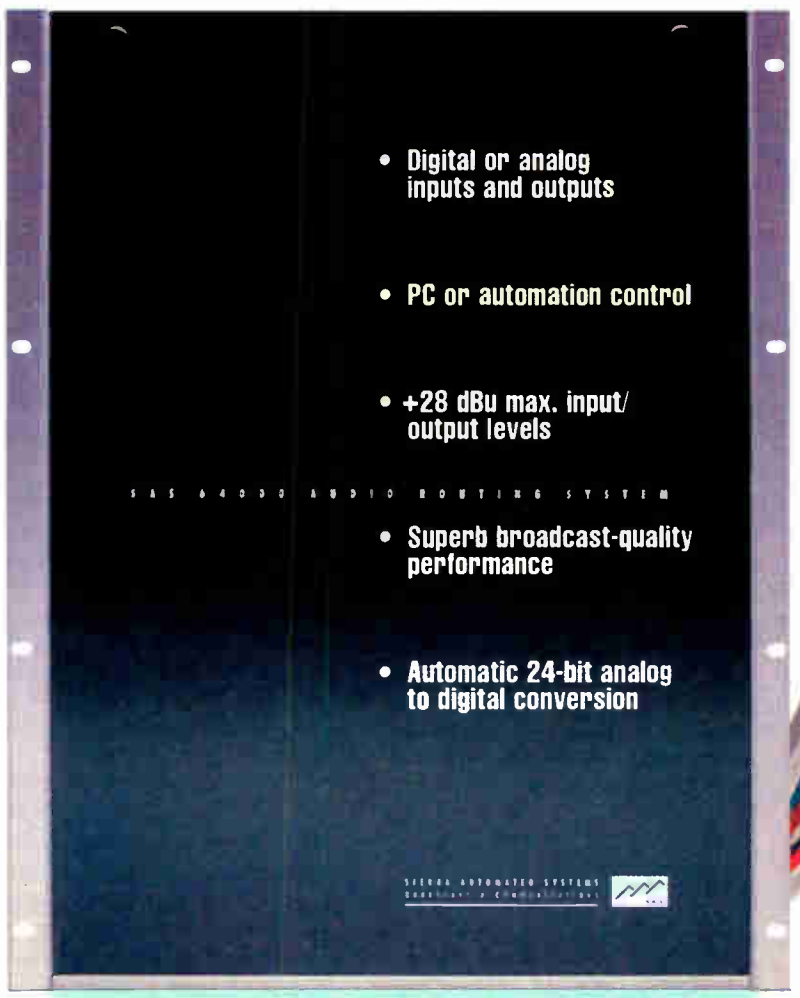
This means you can mix your analog and digital I/O in the same router frame. Go direct analog to analog, or digital to digital. Mix it up with automatic 24-bit conversion analog to digital and vice versa. Either way, this unique architecture sports uninterrupted signal integrity and non-blocking flexibility.





Mix-and-!

SAS64000 AUDIO



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World Radio History

Help Your Children Learn Safely

by Charles S. Fitch

Recently I rendezvoused with an engineer whose station that was off the air. We both wanted to get his transmitter back up as soon as possible. His $1,100 spots were coming up at dawn.

Due to the emergency, the engineer was forced to bring his small children. We worried that these two young, sleepy ones would get into trouble while we were working, so we kept a watchful eye while they tried to be good and played sleepily at the workbench.

What looked like a major disaster turned out to be a simple part failure in the control system. We were back on in short order.

In our modern society of dual-income families, it's not unusual for a station engineer to have to bring along the urchins. But many hazards are to be found around shops, transmitters, generators and the other paraphernalia of our business.

If there is even a remote chance that your children may be near this gear, introduce them to the dangers involved right now.

Teach by doing

As an accomplished father whose two daughters survived my ineptitude, I can guarantee that children learn at least 10 magnitudes more from example than from any stern warning.

Let children see that you are awake and aware and that you work safely. Always put on your safety glasses and your gloves; lift with your legs and not your back; describe to them what you are doing and why. If your message is what you *do* rather than what you *dictate*, they'll take it as gospel.

Children are far more sensitive to their environment and experiences than we can imagine. Under stress, such as a parent yelling to "teach them a lesson," young children may not remember the lesson, only the "thing," the machine, was bad.

Address such situations calmly, in advance and in a fun environment. The children will be more likely to retain and understand. They will understand that a device may be hazardous, but not intrinsically bad.

What do you do with the really curious ones who want to explore your toolbox, opening razor-blade knives, turning on your cordless soldering iron and chasing the cat with your can of freeze spray?

You give them their own toolbox!

Many tools are great, safe role-playing toys. A first-time toolbox for a child would be a plastic box about the size of a lunch box. It has to have a carry handle (so it's just like yours) and a hasp with a small lock and key.

Keeping the key helps teach responsibility and allows what's inside to be the child's own tools. "You stay out of my toolbox and I'll stay out of yours" — the way of big people.

Before you give your child this box, make a label of her name and put it on the box. Point out her name. It will reinforce her sense of self and give her a visual reference of what her name looks like.

What do you do with kids who want to explore your toolbox, open knives, turn on your soldering iron and chase the cat with your freeze spray?

A good opening set of tools includes a torpedo level, a small flashlight, a measuring tape (plastic to avoid shock hazard), small gloves with leather palms, a small note pad, pencil and children's safety glasses. The latter is not to allow your child to work in an unsafe environment, but to teach the habit of wearing them.

Give each new tool as a result of an accomplishment — brushing his teeth well, depositing his dirty clothes in the hamper. He will feel he has earned the tool and will value it.

Give a short demonstration and then let the children discover. If the directions in the box have pictures, let them look these over and field questions thoroughly. Don't worry if he shatters his level to see if that's really glycerin water inside. It's all part of a life lesson.

The abrupt lesson is that he broke it and now he has to get along without it.

The next tools might be as a small paintbrush for dusting or low-danger tools. Parts can be a good idea for older children. A 1/4-inch stainless steel bolt with fender washer, flat washer, lock washer and nut allows you to name the pieces. This helps your child to communicate with precision.

As you work, explain what you are doing in simple terms. Do this especially if you are using one of the tools that they also have.

Common sense

You, the mature one, will determine which situations are appropriate for learning and which demand your entire attention or are dangerous. Obviously, the latter should be performed without kids, especially in the presence of attractive moving machinery.

At some point the child will shine her flashlight into a dark recess or help you with some difficult task. She is becoming sensitive to working with tools. Thank her profusely.

You also will know at some point that she has grown in ability to where she can have a tool with some element of hazard, such as a small hammer. Give her the smallest one you can find, and some materials that she can hammer to her heart's content. Scrap wood and small finishing nails are perfect.

Identify and set a place for "hammering." Insist that he wear his safety glasses. Undoubtedly, he will wallop his fingers. Either he will get good at hitting the nail on the head, or you will know that he needs to see the optician.

You may think we're bending the twig to shape the tree. But in reality we're imparting skills to help our children succeed, or at least survive, in a challenging world.

Also they will get a clearer picture of what you do for a living.

While working at a major television station in the 1970s, I rode the train to work. One day my wife MaryAnn and I were stunned to discover that our three-year-old daughter thought I worked on the train!

Take nothing for granted.

Finally, don't worry or lose heart if your child grows disinterested in her tools. Children play with things until they get tired of a particular toy or there is no impetus.

The "work-safe" attitude that you will have instilled will remain.

The author writes about the National Electrical Code in Radio World. His daughters — Carolyn, a sergeant in the Air Force, and Christina, a student at the Yale Medical School of Public Health — still have their original toolboxes.

You Read It Here

Five Years Ago

"'Sold! To CD Radio for $83 million and AMRC for $89 million!'

"No it didn't happen quite like that, but after 26 rounds of bidding as part of an FCC auction last month, Satellite CD Radio and American Mobile Radio Corp. did pay $83 million and $89 million, respectively, for two 12.5 MHz slices of S-band spectrum at 2320-2345 MHz. This will enable the companies to provide new satellite digital radio services (DARS) to compete with existing terrestrial broadcasters. ...

"CD Radio hopes to roll out 30 channels of music and 20 of news by mid-1999 ... available on a subscription basis, ranging from $5 to $10 per month."

"DARS Hits the Street — In a Few Years"
by Matt Spangler
May 14, 1997

Consultants

▶ Continued from page 14

tower, parasitics are only used to limit the signal in some directions to protect other stations.

You can use the measured pattern of your antenna to orient it to minimize the impact of pattern minima on desired markets. You cannot legally play with the mounting to cause the pattern to be distorted. That is the same as using parasitics and can result in big trouble with the commission.

Topic: Comment on the use of full-scale vs. reduced-scale pattern test ranges.

Dawson: All modeling, full scale or reduced scale, must be performed by experienced and knowledgeable engineers under controlled, reproducible conditions.

When so performed, it is quite valid within reasonable limits of acceptability. Not all antenna vendors are capable of such efforts, however, and some should be avoided.

Culver: There is only one remaining broadcast antenna full-scale test range that I know of, in Palmyra, Mo. You can build and then test an FM antenna at it but the cost of testing for a ring-style antenna of any size may exceed the cost of the antenna. You would be testing it for a pattern which you had already investigated by scale-model measurements.

Scale-model measurements are quite good, just as good as full scale within a fraction of a dB IF everything is done right.

Scale pattern testing at about 450 percent of operating frequency is quite common and everyone has had enough practice to get it right by now. If anyone is still having problems doing it right, it is because they have not learned from several decades of experience or they don't care.

At scale frequencies, everything is smaller by the scale, but all errors in making the model are multiplied by the scale. The range can be smaller because the antenna under test is smaller.

To some extent, reflections can be dealt with easier because only a few hundreds of square feet of absorption material are needed to cover a reflection area that may be most of an acre in a full-scale range, etc.

It just has to be done right. If the need is critical, make sure you know what the manufacturer will be doing and that he knows how to do it right. Take him up on that invitation to visit the range and witness the final measurements for your approval. If he does not offer it, ask for it. Even if you eventually cannot go, have someone there to see what is done.

Markley: We really don't see much difference between full-scale and reduced-scale pattern test ranges. However, we still prefer full-scale, if available.

This may be an unjustified fear, but we feel that there is less opportunity for error in the full-size range.

Richard Fry is a retired FM applications engineer with almost 35 years of service with major U.S. broadcast transmitter and antenna manufacturers.

Reach him via e-mail to rfry@adams.net.

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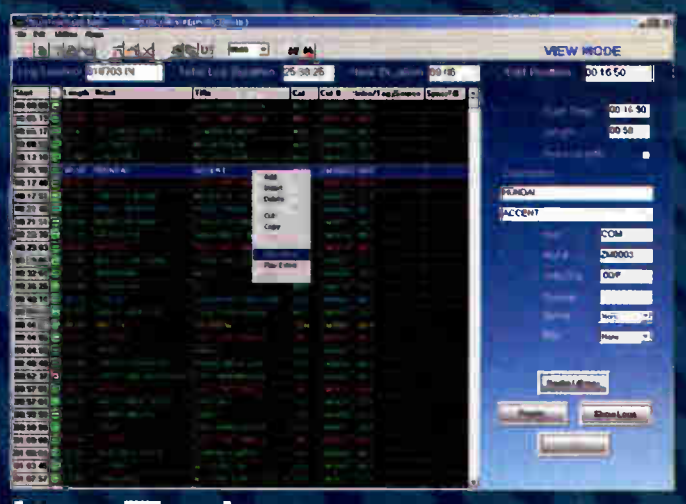
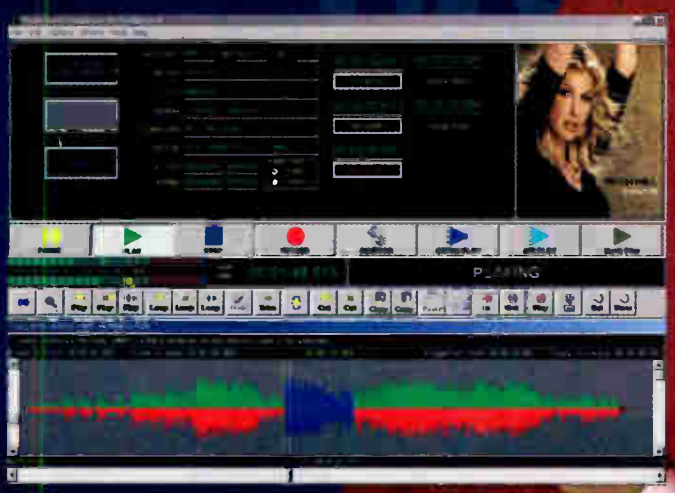
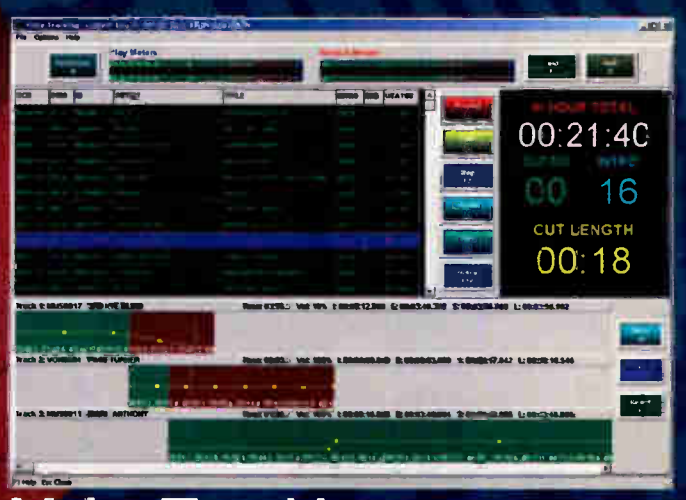


Log Tools



Production



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World Radio History

GM Journal

Radio World | Resource for Business, Programming & Sales | February 13, 2002

Vrrmmmp!
See Page 30
FOCUS ON RACING RADIO

MARKET WATCH

Many Radio Choices in Augusta

by Damon Cline

Augusta, Ga. is defined as a mid-sized radio market. But for one week of the year, the city's broadcasters act as if the whole world is listening. And in a way, it is.

The rich, famous and influential from around the globe descend on Georgia's second-largest city every April to attend the exclusive Masters Tournament at the storied Augusta National Golf Club.

Background: The Augusta Riverwalk

Big three

The city's major stations — the majority of which are controlled by Beasley Broadcasting Group Inc., Clear Channel Communications Inc. and Radio One Inc. — engage in a flurry of promotional events and demand the utmost precision from their talent and technicians.

"The bar is raised that one week out of the year," said Kent Dunn, co-general manager of the market for Beasley.

"Masters is the one week of the year the world is looking at Augusta," Dunn said. "We try to step up to the plate."

Beasley edged out Clear Channel as the market's No. 1 cluster in revenue when it bought GHB Broadcasting Inc.'s two Augusta stations, adult contemporary WSLT(FM) and country powerhouse WKXC(FM), near the end of 2000 for $12 million, according to BIA Financial Network.

The WCHZ(FM) Staff — Top, from Left: Greg McLaughlin, Rob Hamilton; Bottom: Jacob Green, Jason Barron, Scott McGlasson, Brian Beasley and Kent Dunn

WKXC is tops both in 12-plus, Monday to Sunday, 6 a.m. to midnight listeners, as well as overall revenue.

The two stations sold $2.6 million in 2000, according to BIAfn.

This year, one independent Augusta radio station plans to use its celebrity ownership to lure Masters Tournament visitors away from the course to downtown.

That station, soul classics WAAW(FM), owned by Augusta's own "godfather of soul," James Brown, will open its Broad Street studio to tourists.

Station Manager Stacy Brown, the singer's daughter-in-law, said some lucky visitors might even catch the godfather hanging around the offices of his community-oriented station.

"At the very least they will be able to get a James Brown CD or say hello to people on the air," Brown said.

During the other 51 weeks of the year, Augusta's radio market, which Arbitron ranks No. 116 based on population, is not unlike many medium-sized markets.

However, compared to similar-sized cities and even some major metro areas, Augusta's radio dial is chock full of signals. The market has nearly three dozen licensed stations.

Augusta's distance from the next closest radio markets — Atlanta (140 miles) and Columbia, S.C. (80 miles) — made it the logical spot in east central Georgia to locate stations once the government relaxed licensing regulations.

Plus, the market was a haven for independent station owners before industry consolidation swept through the Augusta market, which was extended into Aiken, S.C., during the late 1990s.

"Augusta was one of the last vestiges of the mom and pop," said Tim McFalls, general manager of Clear Channel Communications' Augusta cluster.

"At one point there were more stations servicing Augusta than were servicing Atlanta," McFalls said.

There is still a smattering of independent stations in the market. Aside from Georgia and South Carolina public radio stations, these are religious/gospel formats that account for less than 5 percent of the area's $17.7 million radio revenue, according to BIAfn.

Hall of fame

The city's broadcast history is as rich as its dial is crowded.

WRDW(AM) went on the air as Augusta's first radio station in 1930. The station still exists as a news/talk/sports format in the Beasley cluster.

The golden years of Augusta radio were defined by people such as the late J.B. Fuqua, who helped launch WGAC(AM) at age 21 in 1941 and later created Augusta's first TV station, WJBF, as well as its first cable TV system.

The informal hall of fame includes George Fisher, a 40-year broadcaster and station owner, whose last years on the air during the early 1990s were spent as host of WGAC's morning show.

And no discussion of Augusta radio history would be complete without mentioning George Weiss, the legendary entrepreneur and newsman who, in 1946, founded WBBQ(AM), a seminal Augusta station that ruled the market's airwaves until the late 1980s.

See AUGUSTA, page 26 ▶

NRB Boosts Christian Broadcasting

by Michael Hedrick

When the National Religious Broadcasters' association convenes in Nashville, Tenn., for its annual convention and exposition Feb. 16-19, thousands of attendees will consider new technology and choice of media, music licensing fees and how to grow and retain a Christian media audience.

RADIO • TELEVISION • INTERNET • FILM
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The NRB expects more than 5,000 people representing 1,300-plus Christian media groups and roughly 240 exhibitors to take part in a four-day show that will highlight training, new products and new technology for Christian broadcasters.

The show will open with the inauguration of the organization's new president, Wayne Pederson.

Following the death of Dr. Brandt Gustavson last May, Pederson has served as acting president. He will be sworn in as president on the show's Saturday morning. Gustavson's long service to the Christian broadcast industry will be commemorated during the ceremony.

Facing challenges

Pederson said Christian stations confront some of the same challenges that secular broadcasters do, from the financial concerns of a publicly traded company like Salem Communications to new technologies that threaten to diminish Christian broadcasters' audience or are expensive to use.

"Our broadcasters are seeing competition from the Internet and direct satellite. One of the major problems for many members right now is streaming audio," Pederson said.

"The licensing fees that are being discussed are a major concern to broadcasters who are doing a lot of streaming."

See NRB SHOW, page 32 ▶

World Radio History

Augusta

▶ Continued from page 25

Its programming, which was simulcast on WBBQ(FM) beginning in the mid-1950s, evolved from variety to top 40 in the early 1960s, making it a mainstream favorite.

But it was the 100,000-W station's mobile news team, led by Weiss, that made it *the* station for radio news and information. "We were doing something the experts said couldn't be done," said former WBBQ General Manager Birnie Florie, who worked under Weiss for 34 years.

BBQ Car 1

"We were selling our time at a premium playing top 40 and it was because of our local news," Florie said.

Weiss, a Chicago native, picked the call letters by combining the letters of his hometown's AM stations: WBBM and WMAQ. Even after taking full ownership of the stations, Weiss was content to let his managers run the business while he covered news and events from the city's most famous news vehicle, "BBQ Car 1."

"If something happened in the middle of the night, he would just go," Florie said.

Before Weiss died of cancer in 1997, 50 years after putting WBBQ(AM) on the air, he donated the BBQ stations and his WZNY(FM) to Augusta's Medical College of Georgia, where he had sought treatments.

The stations were sold to Cumulus Media for $14 million that same year. In 2000, Clear Channel acquired the stations as well as Cumulus' other Augusta holdings — WEKL(FM), WGUS(AM), WKSP(FM) and WPRW(FM), as part of a $55 million swap involving 45 stations in eight markets.

Under Cumulus, WBBQ(AM) was converted to a Radio Disney affiliate and then to an ESPN Radio affiliate, a format that Clear Channel maintains.

As for WBBQ(FM), Cumulus shocked many in the market by quickly dropping the station's storied news operation as part of its streamlining plan. WBBQ(FM) today is a straight adult contemporary that goes head-to-head with Beasley's WSLT(FM) — "Lite 98."

WBBQ(FM), "BBQ" as it's known in Augusta, is not the top-rated station it once was — six other stations in the market scored higher than the 5.3 BBQ earned in the 12-plus, Monday through Sunday, 6 a.m. to midnight category in Arbitron's spring 2001 book.

But BBQ's reputation still allows it to command a premium for its airtime — it's the No. 2 revenue station behind Beasley's country-formatted WKXC(FM).

The former BBQ news department was eventually picked up by Beasley's news/talk station, WGAC(AM). Dunn has positioned the station as the market's premiere source of local radio news with homegrown talent such as Harley Drew and Austin Rhodes.

Harley Drew at a Recent WGAC(AM) Event

Cher and Fattz, named Augusta's favorite radio personalities in an Augusta Chronicle survey last year, celebrate at their coronation.

Dunn also beefed up the station's Internet sites, something the market's other radio clusters have been slow to do.

"It just made a lot of sense," Dunn said about incorporating mobile news into the mix. "Our focus is to be in touch with what's going on in the metro area. Our niche is localism."

Just minutes from Dunn's office, across the Savannah River and into South Carolina, sits the cash cow of Beasley's Augusta cluster: WKXC. It is the market's No. 1 in overall 12-plus listeners, according to the spring 2001 Arbitron ratings, as well as the No. 1 in 25-54.

It also generates more annual revenue than any other Augusta station, $2.3 million according to the latest estimates by Duncan's Radio Market Guide and BIAfn.

And the country station, now in its 13th year, has been without competition since the demise of former Cumulus station WUUS(FM), "US 107," which was changed in 1999 to the urban-formatted WPRW(FM) "Power 107."

Clear Channel designed the new WPRW to go head-to-head with the market's top urban station, WFXA(FM) "Foxie 103." Radio One Inc. owns WFXA.

"Since putting 'Kicks' (WKXC) on the air, we have not had any other country

See AUGUSTA, page 27 ▶

Augusta, Ga. Commercial Radio Market Overview

Station	Owner	Format	BIAfn's 2000 Est. Station Revenue ($000s)	Spring 01 Share
WKXC(FM)	Beasley Broadcast Group	Country	2,300	10.5
WFXA(FM)	Radio One Inc.	Urban	1,400	9.6
WZNY(FM)	Clear Channel Comm.	CHR	1,725	9.4
WPRW(FM)	Clear Channel Comm.	Urban/CHR	1,050	6.9
WEKL(FM)	Clear Channel Comm.	Clsc Rock	1,775	6.2
WSLT(FM)	Beasley Broadcast Group	Soft AC	300	5.7
WBBQ(FM)	Clear Channel Comm.	AC	1,900	5.3
WKSP(FM)	Clear Channel Comm.	Oldies	600	5.0
WGQR(FM)	Beasley Broadcast Group	Oldies	725	4.6
WGAC(AM)	Beasley Broadcast Group	News/Talk	1,700	4.4
WAKB(FM)	Radio One Inc.	Urban	550	4.1
WCHZ(FM)	Beasley Broadcast Group	Modern Rock	650	3.4
WAJY(FM)	Beasley Broadcast Group	Adlt Stndrd	350	3.2
WKZK(AM)	Gospel Radio Inc.	Gospel	450	2.3
WHIZ(FM)	NicWild Comm. Inc.	Urban	425	2
WTHB(AM)	Radio One Inc.	Gospel	700	1.4
WKSX(FM)	Edgefield Saluda Radio Co. Inc.	Oldies	100	0.9
WTHO(FM)	Camellia City Comm.	Country	75	0.5
WJES(FM)	Edgefield Saluda Radio Co. Inc.	Oldies	0	0.5
WKIM(AM)	Kimchris Broadcasting	Talk/Gospl	200	0.4
WRDW(AM)	Beasley Broadcast Group	Sports	100	0.4
WAEJ(FM)	Radio One Inc.	CHR	50	0.4
WAEG(FM)	Radio One Inc.	CHR	100	0.2
WBBQ(AM)	Clear Channel Comm.	Sports	50	0
WGUS(AM)	Clear Channel Comm.	News	50	0
WFAM(AM)	Wilkins Comm. Network Inc.	Chrst/Talk	350	0
WJES(AM)	Edgefield Saluda Radio Co. Inc.	Oldies	0	0
WTWA(AM)	Camellia City Comm.	AC	0	0
WRFN(FM)	Beasley Broadcast Group	Sports	0	0
WTEL(AM)	Beasley Broadcast Group	Sports	0	0
WACG(FM)	GA Pub TeleComm. Commission	Variety	0	0
WAFJ(FM)	Radio Training Network Inc.	ChrsContemp	0	0
WLJK(FM)	SC Ed TV Commission	Educational	0	0
WLPE(FM)	Augusta Radio Fellowship Institute	Gospel	0	0

BIA fn Financial network

Stations are ranked in order of Arbitron Spring 2001 12+ share. Copyright 2002 the Arbitron Co. May not be quoted or reproduced without the prior written permission of Arbitron. Other information provided by BIA Financial Network through its MEDIA Access Pro Radio Analyzer Database software.

Background: The Jack Nicklaus Statue in the Augusta Golf and Gardens Park

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World Radio History

APPRECIATION

Forrest Boyd, Gentle but Daunting

The late Forrest Boyd founded the International Media Service in Washington in 1976 after working as White House correspondent for the Mutual Broadcasting Network during the Johnson, Nixon and Ford administrations.

He continued to work at IMS as a radio newscaster and commentator until he suffered a heart attack at the end of December 2001. It was a radio news service for Christian radio stations. Clients included Moody Broadcasting Network, Skylight Radio Network and Family Radio.

Writer Bill Clough got his start as a radio newscaster with Forrest Boyd. Clough is news and operations director at South Texas Public Broadcasting Systems in Corpus Christi, Texas.

He wrote the following appreciation when he heard that his mentor had died of a heart attack Jan. 5 in Baltimore.

Forrest Boyd at the White House

Forrest Boyd was one of the few Christian journalists who had the respect of the secular broadcast field, simply because he had been the chief White House correspondent for Mutual for a dozen years before he started the IMS Radio Network — a news network for Christian stations.

I met him in Washington in the winter of 1989, when I began to work as a producer for his IMS Radio Network — a legitimate news network for Christian radio stations.

Of Forrest's many talents was the ability to gently intimidate. When I arrived at IMS, my radio experience was measured in months compared to his many years at the top of the field.

After a few weeks, Forrest and his main employee, Carl Ramsey, started pressuring me to learn how to anchor. It meant working six days a week, but it also meant more money — always a rare commodity.

"It's easy," Forrest assured me, with that typical glint in his eye. "Nothing to it."

See BOYD, page 30 ▶

Augusta

▶ Continued from page 26

station come in the market and get more than a 2 or 3 share," said Coni Sansom, a 24-year Augusta radio veteran and general manager of WKXC and WSLT.

The station's popular morning team of Chuck and Debbie Johnson, a husband-wife duo, recently moved to the Birmingham, Ala., market to take the morning reins at WZZK(FM).

Head hunt

Operations Manager T. Gentry said the station is conducting a nationwide search to replace the team.

"In order to keep us No. 1, we're going to have to find the best people for the job," he said.

Meanwhile, Kicks' midday personality "General" Zack Taylor is filling in for the Johnsons.

Purchasing WKXC from GHB Broadcasting in November 2000 was a major move for Beasley, which put the country station on the air with a 49-percent ownership stake.

Adding the powerhouse to its Augusta holdings allowed it to keep up with Clear Channel's diverse station mix. Together, Beasley and Clear Channel control about 80 percent of the market's radio advertising according to Duncan's.

"If we hadn't bought the (GHB) stations, we probably would have sold our stations to (GHB)," CEO George Beasley said. "One of the two clearly had to go to be competitive with the fine group of Clear Channel stations."

Beasley's radio interests in Augusta go back to the 1970s, but his personal history with the city goes back much further. He was stationed at Augusta's Army base, Fort Gordon, during the early 1950s. It was during that time that he met his future wife, Shirley Ann.

Clear Channel, on the other hand, is a relative newcomer to Augusta. Still, the cluster it acquired from Cumulus in 2000 is perhaps the market's most well-rounded.

It is also the cluster with the highest listening share, if barely. BIAfn lists Clear Channel's share of the market at 32.8, compared to Beasley's 32.2 and Radio One's 15.7.

Aside from WBBQ(AM-FM) and WZNY, Clear Channel has urban station WPRW, R&B station WKSP and classic rocker WEKL. The seven Clear Channel stations earned $7.1 million in 2000, according to BIAfn.

"Beasley's doing a good job right now," McFalls said. "Now that they have Kicks, they are competing with us on a revenue basis. Without Kicks, they were coming in No. 2 in the marketplace."

McFalls said his cluster's ejection from the top spot will not cause a radio war, as Augusta historically has been a genteel market.

"The competition is healthy and there's no real animosity. There's no call for it in this market," said Cliff Bennett, DJ and program director for WEKL, which, according to Arbitron, has become the No. 1 station among adults 25-54 Monday through Friday, 6 to 10 a.m., by carrying the syndicated John Boy and Billy Big Show out of Charlotte, N.C.

Augusta's relatively staid radio market was jostled only during the three-year period Cumulus was in town. The company's managers shook things up with an aggressive marketing campaign that culminated with hiring away the top urban station WFXA(FM)'s morning team, Cher Best and Minnesota Fattz and half its ad staff to work for its newly created WRPW(FM) — "Power 107."

James Brown's R&B/Oldies Station, WAAW(FM)

WFXA(FM) saw its 12-plus morning share dip from 10.8 in the spring 1999 book to 5.8 in spring 2000. Foxie's new owner, Radio One, has recaptured most of the listeners by filling the Cher and Fattz void with the nationally syndicated Doug Banks show out of Dallas.

"Now that the dust has settled, we're trying to rebuild these stations," said Dennis Jackson, manager of the Radio One Augusta cluster, adding that the spring 2001 book showed Foxie had moved up to a 9.6 share of 12-plus morning listeners.

Augusta is a slow-growing market and broadcasters say that must change in order to keep its radio market from stagnating.

The city was among the Southeast's slowest-growing markets during the last decade because of post-Cold War layoffs at its largest employer, the Savannah River Site, a U.S. Department of Energy installation that helped produce weapons-grade nuclear material.

The market's second- and third-largest employers, Fort Gordon and the Medical College of Georgia, are zero-growth industries compared to the information technology boom that fueled Atlanta and other southeastern markets during the 1990s.

Perhaps the radio executive most challenged by Augusta's moderate growth is Jackson, the Radio One executive who has spent time in the Detroit and Atlanta markets.

He was transferred from Greenville, S.C., to Augusta in March 2001 to replace retiring Bill Jaeger, who had managed the cluster under previous owner Davis Broadcasting Co.

In addition to the three urban stations in Jackson's cluster, four others vie for the market's 32-percent black population.

"There's seven stations going for the African-American market, but most advertisers only want to buy one or two," Jackson said.

That's why shortly after arriving, he changed the format of WAEG(FM) and simulcast partner WAEJ(FM) from urban contemporary to a hit music format, "The Beat," to compete with Clear Channel's established WZNY, "Y 105," which had free reign over the city's top 40 segment.

More than urban

That move may not yield major results, Jackson said, but he said it has helped clarify the urban radio segment, allowing him to position his Foxie 103 and urban contemporary station WAKB(FM) "Magic 96.9" as the top urban stations in both the 18-49 and 25-54 demographics (Monday through Sunday, 6 a.m. to midnight).

As for the ratings loss suffered by the stations during the past two years, Jackson said he believes those will be regained through his emphasis on tight programming.

"We have a cleaner sound and are much more music-driven," Jackson said. "We hope to see some sort of impact in the next book."

Arbitron's Fall 2001 book for Augusta was to be released this month.

Beasley's Dunn and Sansom said that what Augusta lacks in growth, it makes up for in stability. Their goal is to preserve their cluster's dominance in the news, oldies and country music formats.

McFalls said his primary strategy to gain revenue in the city's moderate growth climate will not be through cut-throat competition, but through creative sales.

"Clients want to buy great ideas," he said. "This market has moved away from the package-of-the-week type selling … you can't rob Peter to pay Paul."

Damon Cline is business editor at the Augusta Chronicle.

Reach him at (706) 823-3486 or via e-mail to dcline@augustachronicle.com.

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World Radio History

Boyd

▶ Continued from page 27

Forrest elected to train me on a Saturday.

No computers or word processors then; just an IBM Selectric and lots of paper.

The IMS newscasts were at :55, so I started typing at the top of the hour.

The toughest five minutes

Forrest sat by, watching me trying to write a five-minute newscast.

At :15 past the hour, he seemed to be dozing. I wasn't past the first minute.

At :30 he seemed to be sleeping. I hadn't finished the second minute.

At :40 past the hour, he asked, "Think I should do this one?"

I reluctantly agreed that if we were going to have a newscast at :55, he had better do it.

Forrest suddenly came alive, put a piece of paper in the typewriter and Bdrrrrrrrrrrrrrrrrrrrrrrp!

He finished with five minutes to spare.

As I said, he had the power to intimidate.

"Let me ask you this," he said, after he anchored the newscast and we took in the UPI feed. "Can you type a one-minute newscast?"

"Sure," I said.

"Well, do it. And then, type another minute. And then another minute."

I think that's when I discovered the irrefutable value of the UPI wraps between 45 and 50 seconds and long sound bites — anything to keep me from having to type so much.

Finally, I was pretty much up to speed — although the last five minutes before airtime often was a contest between timing and mayhem.

Beware the twinkle

Forrest decided I was ready to try a Saturday alone.

"But," he said with that same glint in his eye, "I'm going to make it easy for you. You're only going to have to do six newscasts instead of eight. I'm going to ask Carl to come in and do the last two."

I should explain that, at that time, I was a night person.

Even today, early mornings and I have only a shaky truce — sort of like the amicable conditions along the India-Pakistan border. The sun wasn't even up by the first newscast.

Although I was in the dark, things went pretty well; even the weekend UPI feeds had plenty of material.

But after the sixth newscast on my debut solo Saturday, I was ready for a nap. Carl had not shown up yet, so I stayed around to take in the UPI feed at 10 minutes past the hour. Secure in the knowledge that Carl be here at any moment, I fell asleep.

When I woke up it was :35 past the hour. No Carl.

I learned how to anchor in the next 20 minutes.

We all laughed about it on Monday.

Forrest never did admit whether he intentionally failed to tell Carl that he would have to do the final two newscasts that Saturday.

In the ensuing years, I worked for two other networks, even made it to the White House with UPI. But when I anchored, there never was a newscast — just before walking into the booth to rehearse — that I didn't think about those frantic 20 minutes or that peculiar glint in Forrest's eye.

I see it now.

— Bill Clough

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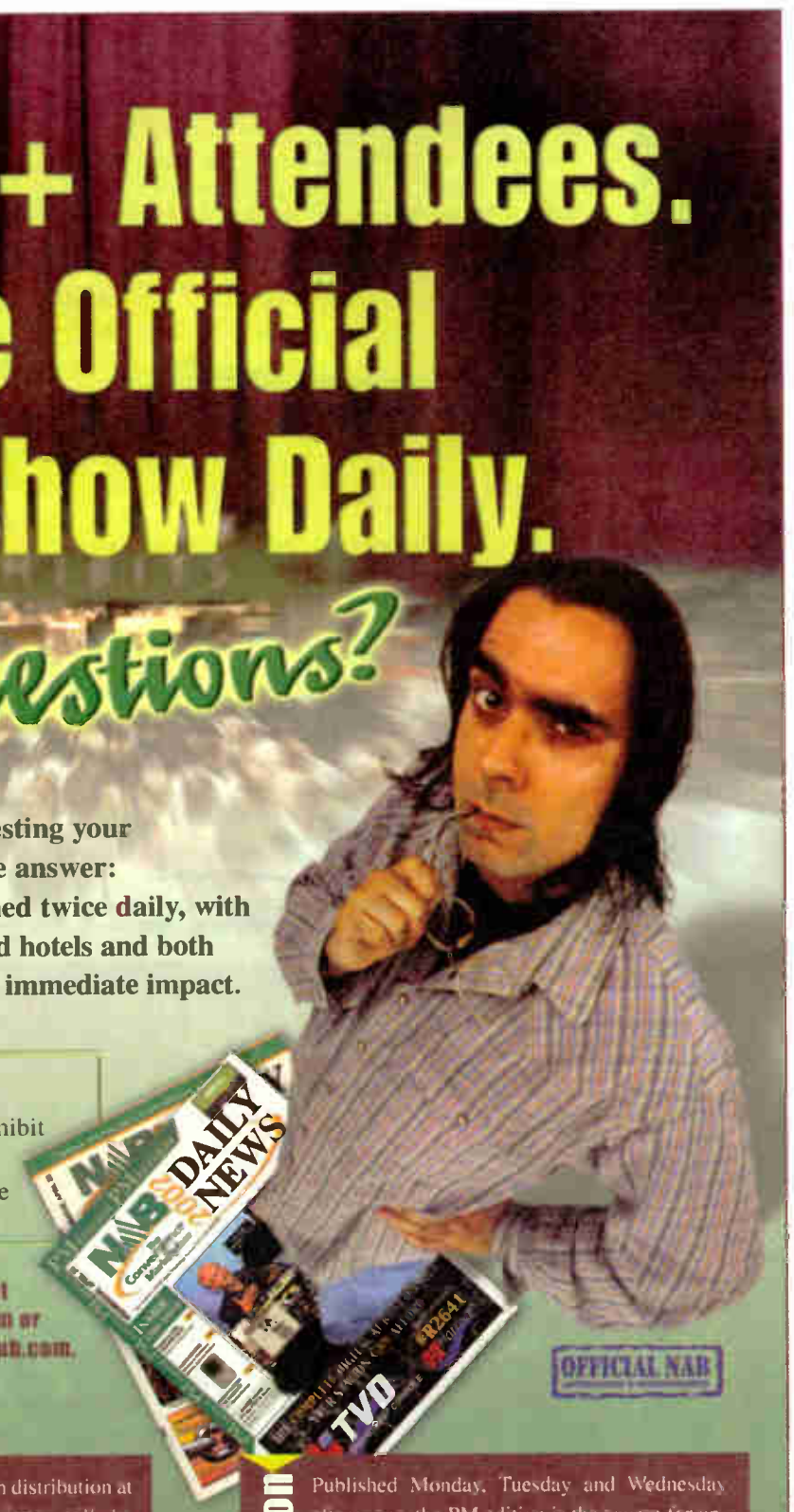

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PM Edition Published Monday, Tuesday and Wednesday afternoons, the PM edition is the source for up-to-the-minute news, making it a must-read "hot sheet" for the show. The afternoon edition will be distributed at both the Las Vegas Convention Center and the Sands Expo Center.

Reach the crowd that reaches for the only official on-site newspaper —
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STATION SERVICES

WW1 to Syndicate 'Focus on Racing Radio' Program

On the heels of a television ratings explosion for motor sports and National Association of Stock Car Auto Racing, Westwood One will offer "Focus on Racing Radio," beginning Feb. 15.

ESPN personality Bob Varsha and race champion Billy Edwards are co-hosts of "Focus on Racing Radio." Varsha will broadcast from racing venues throughout the year, while Edwards will provide color commentary from his home base in Detroit. "Focus on Racing Radio" will be delivered via satellite service.

FOCUS ON RACING RADIO

According to published reports, NASCAR television ratings grew last season 38 percent overall — 71 percent among males 18-24 and 128 percent for females 18-24. Popular TV programs like "Friends" and "Ally McBeal" have featured NASCAR drivers in their shows in the past year.

"This was the first time that NASCAR was treated like a national franchise. The broadcast partners embraced it, enhanced it and took it to the next level," stated Paul Brooks, NASCAR vice president of broadcasting.

For more information contact Fred Bennett at WW1 in New York at (212) 641-2038.

World Radio History

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KLOTZ DIGITAL

World Radio History

NRB Show

▶ Continued from page 25

Pederson said some NRB broadcasters depend on audio streaming as part of what they do.

"If license fees are onerous, that could be a problem," he said, in reference to the pending U.S. Copyright Office decision on rates that radio broadcasters will pay to stream music online.

Still, Christian broadcasting is enjoying a renaissance, according to Pederson.

"This is a heyday for Christian broadcasters," he said. "We enjoy a tremendous amount of freedom and success. Christian broadcasting and its audiences seem to be growing.

"Especially after Sept. 11, there has been a big increase in listenership, mostly because more people are looking for hope and perspective."

Continuing connections forged with government officials in Washington and the members of the National Association of Broadcasters is particularly important.

Tranquil

The NRB isn't facing "hot button" issues at present, according to Pederson, so the association plans to continue to build strong relationships for future challenges.

"We also now enjoy a new degree of credibility we've achieved with the FCC, Congress, the White House and the general public. In the past we've felt some doubts about support from the government, but we don't perceive this as a threat now."

Unlike some conventions that suffered from a decline in attendance and sponsorships because of the terrorist attacks and the downturn in the economy, the NRB expects attendance at this year's convention to be about the same as last year's.

"We're building upon last year's convention," said David Keith, vice president of conventions at the NRB, referring in part to Christian broadcaster's growing use of the Internet.

The NRB will have an expanded hall space for this year's 240 exhibitors, slightly more than last year.

"We're expanding our emphasis on various media. Larger churches and denominations are becoming more media-savvy and there's a growing need to train these people in use of the various media resources. We find that many of them become tomorrow's broadcasters," Keith said.

Boot Camps

A major training effort at the NRB Conference will be the Saturday "Boot Camp" sessions — intense daylong training workshops.

Radio broadcasters attracted to the Internet will be interested in the "Internet — Is Your Web Site Accomplishing What You Need?" This Boot Camp begins at 8 a.m. Saturday.

Included will be a workshop titled "Web-Enhancing Your Radio Station." Rick Killingsworth, president of OnePlace.com, a Christian-audio streamer, will moderate.

On the Internet frontier, the NRB has seen continued growth of the new technology, but Keith said some ministry groups have been hurt by the decline in stability in the dot-com world.

"There's been an adjustment of expectations in regards to the use of the Internet, while at the same time there is excitement over the pool of listenership and its impact upon stations in traditionally smaller markets."

Although the NRB hasn't scheduled a Boot Camp just for radio, there are many sessions for radio personnel. Among other topics, sessions will cover generating business, creative radio programming, how to reach more people in the community and a survey of digital radio.

"The Place for News in Christian Broadcasting" Boot Camp is co-sponsored by the NRB Radio Committee. Radio news issues to be covered include "Getting Started: The Basics of Christian Radio News," "The Issues of Christian Radio News and How To Cover Them," "Tools for Christian Radio News, Technology and the Internet" and "Integrating News and Ministry." Gordon Govier, news director, WNWC(AM-FM) in Madison, Wis., will moderate.

Christian radio broadcasters looking for inspiration at the local level will find the "Experiencing God: Joining God in His Work in Your Local Community" session on Tuesday afternoon of interest.

See NRB SHOW, page 33 ▶

Enter to win one of 26 great prizes in Radio World's reader appreciation contest giveaway!

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Throughout 2002, *Radio World* will conduct 26 random drawings. Prizes and winners will be announced in every issue of Radio World.

That's 26 chances to win!

To enter the contest you need to complete these three easy steps:

1. Go to our Web site: www.rwonline.com
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Contest Rules: To enter the drawing, simply register online at www.rwonline.com/sweeps. 26 drawings will be held throughout the year. Contest registration expires Dec. 4, 2002. Final contest prize announcement on Jan. 1, 2003. One prize per winner. All contestants MUST reside in the United States and have a valid mailing address. Winners should receive prizes within 30 days of notification; however, actual delivery time may vary and is not guaranteed by IMAS Publishing. Federal, state and local tax laws may apply to prizes and are the sole responsibility of the winner. Employees and affiliates of IMAS Publishing are not eligible.

World Radio History

NRB Show

▶ Continued from page 32

Ron Harris, the general manager of KCBI(FM) in Dallas, NRB's Radio Station of the Year, will lead a panel featuring Dr. Henry Blackaby, author of "Experiencing God."

"Ultimately, one of the greatest things that can happen on Christian radio has to do with the individual listener and its effect on their heart," said Harris. "We're going to hear from people in radio about how God has worked through their broadcast ministries to change people's lives.

Work with God

"Dr. Blackaby will help flesh this out and show how people can work with God. I think this session will help people to understand the power of radio as a tool and its impact on society."

Besides the sessions and the exposition floor is a job fair, which has expanded this year.

"It started out as a service for the student arm of the NRB," said Keith, "but has seen growing interest and a need to expand for use by all our members. I've received terrific responses from people who've used the venue to find new jobs and/or new employees."

At the end of the show on Monday

Wayne Pederson will be inducted as the NRB's new president.

is the NRB awards ceremony for the best in broadcasting.

In addition to the Radio Station of the Year, KCBI(FM), the association will recognize "Joni & Friends" as Radio Program of the Year and "Jay Sekulow Live" as Talk Show of the Year.

"We're thrilled to receive the award," said Harris. "It's always encouraging to know that your peers and those looking from the outside are acknowledging the level of excellence in serving God."

According to Pederson, 1,800 stations, mostly FM, carry Christian messages in the United States. Five hundred are praise, worship or inspirational stations, with around 200 talk and news stations.

Eight hundred radio stations cover music formats from contemporary hit radio to gospel.

While Christian talk radio enjoys success with personalities like Janet Parshall of "Janet Parshall's America" and Jay Seklow's show, the booming business in Christian radio is in music. According to BIA Financial Network, Salem Communications Corp. is the biggest Christian broadcasting grouping, as measured by revenue, $132.4 million in 2000, and number of stations, 82.

The company owns 10 of the top 20 Christian stations by weighted audience share, according to BIAfn, and the top six by revenue, including the 18-month-old KFSH(FM) in Los Angeles.

Salem also programs three of the 100 channels on XM Satellite Radio.

KFSH and a dozen similarly programmed stations are a notable recent success for Salem. These "Fish" formatted stations feature contemporary hit Christian music. All are in major markets.

"The Fish is a format of 21st-century contemporary Christian radio," said Dan Vallie, the CEO of Vallie Richards Consulting.

Vallie worked with Salem and George Toulas, Dave Armstrong and Chuck Tyler at the first "Fish," KFSH. The format is the brainchild of Salem's CEO and president, Ed Atsinger, and Howard Freedman, Salem's national program director. The two first thought of tapping into the popularity of then-emerging artists such as Amy Grant in the early 1990s.

Targeting listeners

"Historically, a lot of Christian radio has programmed broadly in order to try to bring everybody to the party, but actually pleasing only a few," said Vallie. "The Fish is more targeted. We're targeting the 25-54 adult contemporary audience.

"The music is well-researched with a specific strategy for each market. Fish stations are already climbing into the top 10. It's exciting to see that Christian radio can cut into ratings like that."

"The NRB has really grown beyond the name of the 'National Religious Broadcasters,'" said Pederson. "We're really more international than national, more Christian than religious and more multimedia than just broadcasters."

The growing breadth of the NRB's responsibilities, however, doesn't change the simple necessities of how it aims to help members.

Survival

"The Christian operators that will survive will be the ones who look to the future and shape their programs for the next generation — format adjustment, adapting technologies such as the Internet and changing the style of the personalities when necessary," said Pederson, adding that in this regard, Christian broadcasters have similar challenges to secular ones.

Dr. James Dobson, founder and president of Focus on the Family, a nonprofit organization that produces his syndicated program for 3,000 stations in North America, will be the keynote speaker.

Registration for attendees is $345 for members, $395 for associate members and $525 for nonmembers. More information can be found at *www.nrb.org* or by calling the NRB in Virginia at (703) 330-7000.

STATION SERVICES

Christian Musicians' Contest Pays

Embassy Music will award more than $50,000 in prizes to winners of its eighth annual "Ultimate Talent Search and Seminar" when champions are announced in Nashville, Tenn., April 5 and 6. The grand-prize songwriter will receive a $500 cash prize as well as a single-song contract for the grand-prize song. The top performer or group will receive a recording contract for a single to be distributed to Christian radio stations.

EMBASSY MUSIC

Embassy Music is a Christian music publisher and producer based in Nashville.

Finalists will be chosen from submissions delivered to the company by Feb. 8. The company will present the talent search finalists to a panel of Christian music recording industry leaders at the "Ultimate Talent Search and Seminars" in Nashville April 5 and 6.

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For more information, contact Embassy Music in Tennessee at (615) 345-2500 or visit the Web site www.embassymusic.com *and click on "Talent Search."*

FCC Extends Comment Deadlines

An update to Barry Umansky's "Broadcast Law Review" column in the Jan. 16 issue:

The FCC has extended the comment and reply deadlines in its Notice of Proposed Rule Making on multiple local-market radio station ownership. The new deadlines are March 13 for comments and April 10 for replies.

The commission also posted comment and reply deadlines for its reconsideration of equal employment opportunity rules. The comment deadline is March 15 and the reply deadline is April 15.

World Radio History

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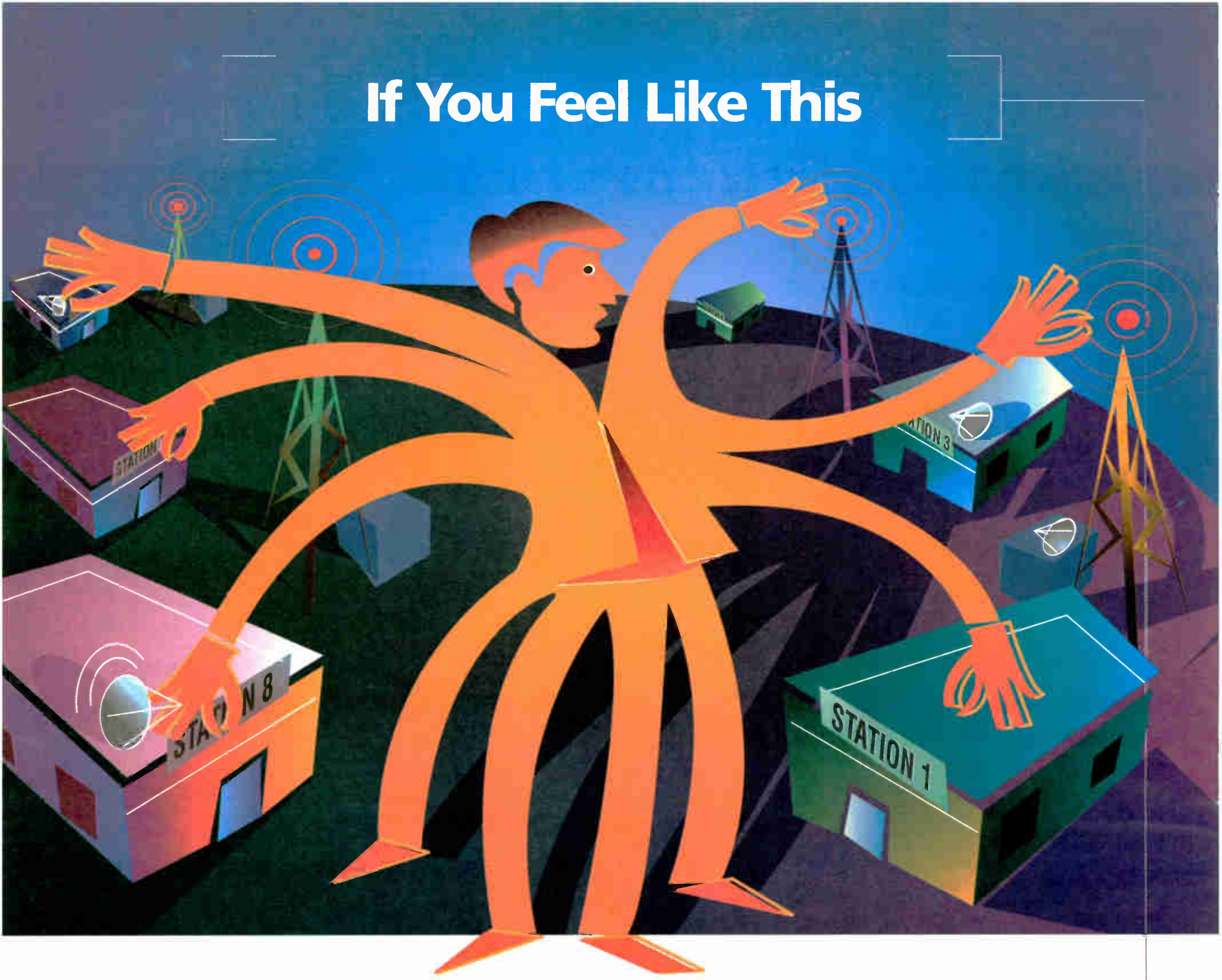

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World Radio History

Studio Sessions

Radio World — Resource for Radio On-Air, Production and Recording — February 13, 2002

Angry Monkeys
See Page 38

Putin's Exclusive NPR Call-In

by Rich Rarey

One fine day in the middle of November, Dave Argentieri, operations director at National Public Radio, stepped briskly into my office.

"The president of Russia is coming to the NPR New York bureau next week for an exclusive call-in program with us."

My jaw dropped. "Vladimir Putin wants to talk to *us?*" I asked incredulously. "Yes," Dave said, "and we should expect extreme security in New York. This program should be considered The Big Gig — there can be no mistakes and no errors."

New York, here I come

The next thing I knew, I had been assigned to supervise the N.Y. bureau technical arrangements and technical staff for the broadcast, which was scheduled to happen in exactly a week and a day.

It would turn out to be one of the most intense and satisfying gigs I have ever had the luck to work on.

Everyone has a particular style when it comes to planning remotes. I prefer first to gather and analyze the limitations under which we have to conduct the remote.

The limitations were few and broad: Give whatever audio is required to anyone who asks.

The interview would take place at the New York bureau of NPR, on the 7th floor of a building in midtown Manhattan. The bureau has two smallish studios with associated control rooms and offices.

Photo courtesy of Tony Nagelmann

NPR's Michelle Kelemen, left, and Robert Siegel, right, pause with Russian President Vladimir Putin. Author Rich Rarey smiles at right rear.

NPR's Robert Siegel would conduct the interview, accepting call-ins from regular citizens into the program. Calls would be screened and fed from NPR Washington. Siegel would select which one of eight callers on hold to put on the air.

I would have to connect a laptop with an analog modem to control the call screener hardware in Washington.

PUBLIC DOMAIN

Further, two translators would be required in New York: one English-to-Russian translator provided by President Putin and a Russian-to-English translator hired by NPR.

A total of five audio sources, blended into five headphone mixes, plus an air feed of only the four voices would be sent to NPR in Washington for broadcast (read: mix number six).

More mixes

In addition, Russian television required an audio feed, as did an American TV crew. Also, the Russian print and radio media wanted a Russian-only audio feed. That meant adding a seventh, eighth and ninth mix.

I was told that I would have to provide a video camera feed from the interview studio, which would feed a video monitor in the translators' studio.

The Russian and American security agents also required video to three more locations within the N.Y. bureau to observe the interview participants, along with a Russian-only audio feed through speakers at those three locations.

To ensure enough bandwidth to stream a video for the NPR Online Division, I needed to mount and install two Web cameras in the studio, confirm their IP

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PRODUCT EVALUATION

VoxPro Arrives For Windows PCs

by Alan R. Peterson

Glory be, the VoxPro is finally on the PC platform.

VoxPro PC is a high-performance, fun-to-use telephone audio editor from Audion Labs. Once available only on Mac computers, the new version runs like a tiger on IBM-compatible Pentium machines.

A dedicated controller offers full transport and edit functions, while also dishing up a fistful of Hot Keys for instant playback of favorite recorded bits.

A colorful on-screen wave editor lets you clock, chop, edit and bleep your contest caller into a fully airable product. You even have a choice of which way you want the waveform to travel across the screen.

Asked and answered

Customers have asked about a PC version of VoxPro since the original Mac version came out. Well now it's here, controller and all. And it was worth the wait.

When the Mac version was released around 1994, few Windows audio editing programs even came close.

In the mid to late 1990s, you might have tried using the original Cool Edit for Windows, but it did not have that nifty VoxPro controller. Fast EdDit (or its predecessor, Fast Eddie) from Minnetonka Software was a possibility, but that highlight/copy/cut/paste thing was cumbersome and slow to work while juggling 10 contest callers during a four-minute song.

On top of that, PC drives were slow and a writeback to disk took an eternity (at least in radio terms).

Other options were offered. The 360 Systems Short/cut is a great recorder/editor, but not the answer for those needing a large display on which to edit.

Broadcast gear manufacturers and software companies included two-track editors as

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World Radio History

Putin

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address, configurations and placement prior to the security sweep on day of broadcast. I also needed to record the video feed for NPR Online to stream out later.

A dedicated audio path was needed between NPR Washington and NPR Control Room 2 in New York. Putin's press advance person, Dimitri Peskov, (department chief of the Press Service of the president of the Russian Federation), requested two analog cassettes be produced as well, which would be taken immediately after the interview.

Getting it right

After reviewing my scribbled notes, I was able to scribble Table 1.

I've annotated the mixes that were "sprung" on us — we planned for the mixes we knew we had to generate, and only suspected there'd be more.

Once gathered, the limitations started to break down when analyzed: Putin and Siegel in New York would have to be in the larger Studio 2. Siegel's headphone mix would need almost identical sources at the same mix level as the broadcast mix we would send to NPR Washington.

A few buttons on the Wheatstone console in N.Y. bureau Control Room 2 accomplished that.

Control Room 1 would be the headphone-and-special-mixes room, in addition to watching over the two translators in N.Y. Studio 1 and steering the remote-controlled video camera.

Analyzing the Russian requirements showed that five destinations would be served if those requesting the Russian mix could also hear what President Putin was hearing. Not surprisingly, everyone thought that would be just dandy.

That left two headphone mixes for the translators and two mixes for the American camera crew — one of which we knew about, the other we found out about the day before the broadcast.

In the site survey taken a week before the broadcast, we realized we would need a temporary console lash-up that could satisfy the number of separate mixes.

Initially, I envisioned a simple Shure mixer for each feed, splitting all five sources multiple times. While that image helped visualize the big picture, such an arrangement would have been unwieldy.

Instead, I brought in one of our Mackie SR24•4 mixers. It has six prefader auxiliary sends and it is lightweight. Instead of my original thought of Shure FP22 headphone amps for amplifying custom headphone feeds — *de rigueur* for out-in-the-field remotes — I could exploit the installed RTS headphone system and save a bunch of cables.

Because the NPR N.Y. bureau control-room conduits were stuffed to capacity, I would have had to identify cables that would then have to be run around sound lock doors between studio and control room. It was simply not practicable to rewire existing cables for the event and still maintain other NPR production work until the broadcast.

A convenient hole under the raised floor in the Control Room 2 wall allowed us to stuff cables through to the hall adjoining Control Room 1 — so we could at least close the Control Room 2 door during the broadcast.

We spent the entire Tuesday before the broadcast just planning and replanning the technical setup.

An afternoon meeting with Russian and American Secret Service representatives clarified some of the extreme security measures they would take to ensure Putin's safety for the broadcast.

I asked the U.S. agent what would occur if something really bad were to happen.

"Just get out of our way," he said. "There'll be a lot of shouting, *but just stay out of our way.*"

Seeing my face pale, he added with a slight smile, "It's not like in the movies — so you won't have to worry."

Photo courtesy of Tony Nagelmann

Neal Rauch at the Controls

No less surprising was the revelation that Putin would arrive at the bureau earlier than we had been told.

A call was immediately placed to the executive producer at NPR Washington with this nugget of information and our broadcast was soon scheduled to start earlier.

Protocol matters

The meeting with the agents also crystallized our protocol for greeting the Russian president, all the way down to the giving of NPR hats and gifts. A Russian agent informed us that gifts would have to be screened by security and approved by the minister of protocol.

The security agents approved the locations of the closed-circuit video monitors, asked for an additional window office for their radio-relay, and identified an office as a holding room in case the Russian president decide he need to make a few phone calls in private.

Then there was the matter of the restrooms. Russian Security decided that the 7th floor men's room was just not good enough for their president; we concurred. They decided to close it for security reasons and then secure the women's room, which actually had a locking door.

Believe me, the technical details were the easiest items to manage after this meeting.

By the end of Tuesday, we had identified the number of cables that needed to run between the bureau's studios and control rooms.

All the interconnections required were thoroughly planned. The installation of the in-bureau RF feeds (to be turned into video paths for monitors with the addition of a Radio Shack video DA and adapters) were finished, the video camera was staged, along with its heavy remote-control head, and the Mackie mixer prepared. All the while, the technical staff engineered two-way interviews and production mixes, doing business as usual.

Wednesday, the day before the broadcast, was surprisingly easy after all of the planning.

It took Bureau Engineer Manoli Wetherell, Bureau Tech Neal Rauch, Shop Engineer Dennis Coll and I five hours to stuff cables, plug together, complete and test every aspect of the technical plan.

Best resources

I can attribute this speed to an excellent crew and doing a remote at a site that has a good infrastructure. The N.Y. bureau's existing facilities include an SAS crosspoint, which exposed a number of useful sources and destinations, including all four audio paths to and from NPR Washington. Distribution amplifiers were already in place, making distribution easy. A distributed data, RF and telephone system and basic pieces, such as recorders, tie lines and video monitors, were already in place.

We brought in Crown AHS111 headset microphones for the two translators in Studio 1 and cabled the mics to individual Whirlwind 1x2 splitters, one leg feeding the Mackie mixer, the other connected into a new multi-pair cable slung through the wall adjacent to Control Room 2.

These mic-level feeds brought the translators' voices to the broadcast mix position by snaking through the hole under the floor in the control room and plugging into the studio's XLR inputs. (It was deemed impractical to rewire the Wheatstone's DB-25 input connectors to get these translator mics into that console.)

Split ends

We quickly found that any split left unterminated made a good radio-receiving antenna in mid-town New York. Line-level inserts of Siegel's and Putin's microphones were sent to Control Room 1 by existing tie lines. This brought their voices back to generate the headphone and recording mixes.

The Mackie SR24•4 was perched carefully upon C-cell battery boxes on top of the Wheatstone console in Control Room 1. The main fader bus became the feed for Putin's headphones, and the basis for all other "Russian-only" feeds.

By substituting Control Room 1's normal console distribution with the Mackie mixer, I moved the desired audio quickly and easily throughout the bureau.

An existing DA fed the Mackie's Left-PGM audio to our Online Division's video recorder, to the Tass microcassette (through a mic pad), to the Russian video crew, and to the in-bureau audio monitors.

To create the other feeds, Aux 1 send was patched into the RTS headphone input for the English-to-Russian translator, Aux 2 send was patched to our Russian-to-English translator's headphones, and Aux 3 and 4 sends were patched to Control Room 2 by tie-lines for the American video crew.

Using an existing SAS crosspoint destination, we brought the broadcast mix from Control Room 2 to the other channel of our video recorder.

We held a mock rehearsal Wednesday evening with NPR Studio 3A to test all the systems.

Peskov, the Putin advance man, arrived to inspect the quality of our headphone mixes and to approve the translators' video monitor location in Studio 1.

No one seemed to mind that there were cables still undressed and floor panels still missing in Control Room 2. The laptop screener worked as designed and mock callers were put into the system to challenge the Studio 3A staff's response time to hit the delay dump button.

I left the bureau that night confident in our setups.

The big day

Thursday morning, I arrived at the bureau in my grubby clothes — it was to be a full day of dressing cables and replacing floor tiles in Control Room 2. After all, it would be an international incident if the president of Russia stepped into a hole in the floor while walking into the studio.

Manoli elected to upgrade an Adtran CSU/DSU card in the transmission equipment that managed the audio channels between NPR D.C. and the bureau.

Within moments, the audio became scarred with glitches and dropouts. I had been assured that this upgrade would *fix* the occasional glitch, not propagate it, so minutes were spent checking downstream Prima codecs and the cables, with conference calls between NPR Telecom and Norb Gallery, remote supervisor and guru.

Manoli replaced the old card and the problems disappeared.

"That upgrade card must have some bad code in it," someone remarked. It was not the day to have anything bad near the bureau.

The PBS video crew producer arrived at 3 p.m., inspected Studio 2 for camera positions and noted that our closed-circuit video camera was in their way.

I explained that I would be unable to get a two-shot unless I put the camera back that far.

"Why don't you put the camera on top of the speaker in the control room and shoot through the window?" the producer suggested. "Then you'd see both Siegel and Putin easily."

It seemed so obvious after the video professional pointed that out; that is what we did.

Neal Rauch was selected to make the N.Y. bureau broadcast mix, Manoli Wetherell was to oversee the seven headphone and recording mixes, and Chris Tsakis was to tend the remote-controlled video camera and the recorders.

At 5:50 p.m. Secret Service agents arrived with their team and bomb-sniffing dog. As instructed, we cleared out of the bureau and milled about the 7th floor hallway. Our contact agent gave me several stamped badges to distribute to those

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Putin

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needing close access to Putin.

Without a badge one could not get closer to Putin than the length of an agent's arm. Then our contact agent told me to come inside the bureau to assist in the security sweep.

I was instructed to tag along with the agent he specified and point out anything that I did not recognize. We combed the bureau with the agent lifting our mostly empty shipping cases.

I asked how he could tell if it was dangerous. He said easily, "Explosives have a certain weight to them."

When the security sweep concluded at 6:45 p.m., our engineering team made another survey of all systems. Headphone mixes OK; broadcast mix OK; ISDN backup connection OK; video crews plugged in and ready; laptop screener software finally communicating (when in doubt have someone reboot the computer at the *other* end); closed-circuit video and audio OK; and the most important item of the moment: The catered food had arrived.

Getting comfy

Nibbling on sandwiches and snacks intended for the coming dignitaries helped keep the engineering team focused while we awaited President Putin's 7:45 p.m. arrival.

An almost surreal calm surrounded the bureau at this point. We milled about while the Secret Service and Russian agents spoke meaningfully into their wrist microphones.

The broadcast began from NPR Washington at 7:30 p.m., with host Neal Conan conducting interviews from NPR Studio 3A. The program was designed to simply continue from Washington until we gave the "go" sign from the bureau.

We were not particularly worried about timing Putin's arrival, as the program was scheduled to run until 9:30 p.m. Nor were we worried about being bypassed, as we tracked Putin's progress at "ground zero" through regular updates from the Secret Service.

Although I knew the tension level at NPR Washington was rising exponentially, I did my best to shield the bureau from that needless worry. At 8:15 pm., we received word that Putin had arrived outside, and would be coming up an elevator within two minutes.

I called "places everyone" and the engineering team took their posts. NPR President Kevin Klose stood in the bureau's reception area, waiting to be the official greeter. Then, as if a cyclone had blown in, a gaggle of dark-suited agents whisked the bureau's door open and produced the president of the Russian Federation.

Kevin Klose warmly greeted the president in Russian and conducted him to the studio, while Russian photographers snapped photos and security agents eyeballed everyone. Chris Tsakis made a beeline for Putin's translator and hustled him into Studio 1.

I stood in Studio 2, under the assumption that I could describe the finer points of the Cough button and Neumann U87 mic technique to the Russian president, but I might as well have been elsewhere.

Peskov murmured and gestured to Putin, and Putin murmured back acknowledgement. Peskov had been instructed earlier on how the U87 would sound best, and we had removed the clunky mic boom arms in favor of heavy Atlas desk stands for easy positioning.

I had no further tasks in Studio 2, so I went to check the translators. I walked into Studio 1 to find things in slight disarray; President Putin's translator was wiping down his suit, his chair and the studio table from a spilled glass of water.

Seeing that the man knew how to dry himself off, I went back to Control Room 2, to see how the sound checks were coming. Meanwhile, NPR Washington was squawking up the communications line, getting anxious to toss the program to the NPR N.Y. bureau.

Once all four participants got their headphones on, Robert Siegel made small talk that was translated into Putin's headphone. Manoli adjusted her seven mixes in Control Room 1, Neal adjusted his broadcast mix in Control Room 2, and we gave a verbal high sign to NPR Washington.

Host Neal Conan tossed the program to Robert Siegel, and we were finally on the air at around 8:30 p.m.

Fantastically boring

Once our broadcast began, I had nothing, *absolutely nothing* to do.

The engineering staff performed beautifully, Rauch ducking the Russian under for English translation in complete synchronization. If only television audio could sound this good.

I wandered between Control Room 1 and Control Room 2 looking for problems. There simply were none. In a way it was a fantastically boring moment. No glitches, no faults, no dead air — no problems.

The program was stimulating, the callers delightful, the Russian president charming and Robert Siegel in top form.

After 45 minutes, Peskov gave us the five-minute warning. The president had to leave to meet with U.N. Secretary-General Kofi Annan.

Siegel began his final question, Putin answered, and almost immediately the president was whisked out the studio.

"Time for family photos," called Peskov. All of the NPR staff posed with Putin. Cameras clattered, then after brief pleasantries, the entire security detail surrounded Putin and spirited him to the elevator.

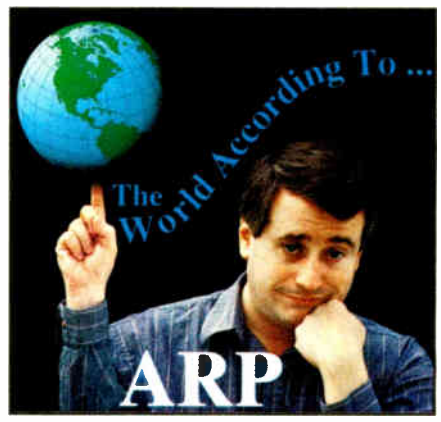
It was a cyclone in reverse. Moments later the bureau was quiet and we were left slightly breathless, basking in the glow of "the perfect gig."

Required Destinations	Required Sources for Those Destinations	Uses Mix Number *n*	Did We Know About It Ahead Of Time?
Two analog cassette recordings	Russian only	1	Yes
Feed to Tass for their microcassette	Russian only, mic level	1, thru an attenuator pad	No
Feed to N.Y. bureau's in-house speakers	Russian only	1	Yes
English-to-Russian translator's headphones	English + callers + other translator at low level, but not himself	4	Yes
Russian-to-English translator's headphones	Russian, and callers if in Russian, + some of other translator, but not himself	5	Yes
V. Putin headphones	Russian, with low-level English + callers, only if they spoke Russian	1	Yes
R. Siegel headphones	English + callers + low-level Russian	2	Yes
Broadcast mix from NPR N.Y. bureau	All four microphones, no call-ins	3	Yes
Feed #1 to PBS video crew	Siegel and Putin and callers only	6	Yes
Feed #2 to PBS video crew	Both translators only	7	No
Feed #1 to NPR Online video recorder	English + callers + low-level Russian	2	Yes
Feed #2 to NPR Online video recorder	Russian only	1	No
Analog reel recording for NPR reporter	English only	2	No

Fig. 1: Putin Planning at NPR

The Attack of the Angry Monkeys

by Alan R. Peterson



Some time back, I remember watching an obscure nature TV show, filmed in a land where monkeys roamed free and sidled up next to folks to grub food and other goodies from them.

Scientists and animal experts noticed that one monkey was quite sick, so when he got close enough for them to gain his confidence, they captured him and took him away to treat in a medical facility.

Take him away, boys

He put up a huge stink while the other monkeys sounded a shrill vocal alarm. As the sick primate was hauled away for treatment, his cronies went into a panic.

When he was returned to the group a few days later, still somewhat sedated, his chums ran up, tore him away from his "captors" and carried him back to safety, scowling back and shrieking what could only be monkey curse words. They did not know the humans had *helped* their fellow anthropoid, but instead perceived some kind of harm had come to him.

Darwin was wrong. Humans did not evolve from the apes. Computers did. And somewhere along the way, I must have really ticked them off.

Those monkeys did not forget, either. While other humans remained soft touches for free food, the ones who "harmed" their pal were still recognized, scorned and even assaulted by them.

What does this have to do with radio? Simple: Darwin was wrong. Humans did not evolve from the apes. Computers did. And somewhere along the way, I must have really ticked them off.

Slowly they turn ...

One of the bazillion jobs I have is taking care of engineering duties at the Washington campus of the Connecticut Schools of Broadcasting.

There, as in real commercial radio, computers are king. They edit, they hold audio, they automate a day's broadcast and do so much more. But cross one, and the whole enclave lets you know.

I had one particularly stubborn NT machine give me grief recently. We loaded the OMT QuickPic program on this one particular computer for students to get familiar with computerized playback. Only now, this PC would not "rip" any CDs. The CD drive was iffy.

In the course of swapping CD drives, I had not noticed the slave/master jumper

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World Radio History

Monkeys

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was in the wrong position. I got a "CDFS" warning on bootup, telling me the CD deck was unrecognized and wasn't going to do a thing.

Trouble was, I didn't recognize the problem until an hour later, after wrestling elsewhere with the innards and coming up with entirely new swear-word combinations. And while struggling with the machine, it tipped off the work surface and got banged up — a moment akin to that doctor trapping that monkey.

From that moment on, every computer in the school was out to avenge their buddy and gang up on me.

Down the hall in the TV studio is a teleprompting computer based around an NEC 486 DOS machine. Inexplicably, the machine began to spit out *"bad command or file name"* in response to any command typed in to it.

Computer-land

Few things in computer-land are as quaint as DOS is these days, but it is still easy to get wiped out if you have forgotten how to handle it.

In this case, a student had tried to save a text file she had written, and did so under the first name she found in the Save menu: *autoexec.bat* which is one of the key files that tells a computer what its purpose in life is.

The machine was restarted for another class, and without the autoexec file, the PC just sat there like an angry monkey. It took an e-mailed attachment from the prompting company to restore the batch file.

Was that the end of it? No. I was instructed to set up one of our machines to run the PC version of Digidesign Pro Tools. Try as I might, one Hewlett-Packard Pavilion model computer just flat-out refused to cooperate with me. The program would crash; sometimes it would not start at all.

Before I got too far, I checked the Digidesign Web site for information on the program. Sure enough, it noted that the program has trouble running on some computers, particularly HP Pavilion models.

So the program has difficulty by design. Still, I could not help thinking the angry monkeys were just beginning to gather in the shadows and jump me.

Jolly good, old chap

I won't bore you with the number of Blue Screens of Death and "Illegal Operation" pop-ups I get in a normal day's work on my own machines. But I am becoming concerned about the timing of some of these failures.

Every now and again I am apprised of some free or low-cost piece of audio playback software that I should run out and try. Especially intriguing are the programs that are written for "hospital radio," a micro-broadcast phenomenon unique to the United Kingdom.

There are a couple of playout programs and some cart emulators used in hospital radio that I have tried out. One named Guinivere actually appealed to me for a day. On the second day, it was almost as if the software went, "Wait. Is that you, Al? *Boom!*" and would not work properly again.

The software was not at fault. I traced the problem down to static electricity damage to my soundcard. (It was a dry December day.)

Creeping paranoia aside, I couldn't help but wonder how those angry monkeys found out where I lived.

I do not want to believe I am the cause, but the monkeys may be on the loose in greater Washington too, messing up audio computers everywhere.

Several prominent stations here have begun doing extensive voice tracking during evenings. One Thursday night, the box on one station thought it was Tuesday instead and played back appropriate voice tracks.

On another station, I frequently heard more than one source go over the air at one time as the automation rig "forgot" to mute the satellite channel.

And we may all have heard at one time or another that horrendous digital screech that goes over the air when someone recorded audio at a sample rate different than the on-air standard. It even sounds like an angry monkey sometimes, doesn't it?

Dear old DAD

The manual for the ENCO DADpro32 we use at WAVA(FM) specifically tells us to keep a standard rate across the board, lest something like that will happen. So far, we've done okay.

I have since returned to that original NT machine that I inadvertently knocked around weeks ago, just to check up on it. So far, it appears to be behaving itself and, odd as it may sound, seems to have forgiven me for the assault I committed upon it. Otherwise, it would still be exploding in my face and forcing other issues on me.

Now if I could only convince all those other machines around town that all was forgiven and it was time to get back to work.

Maybe the answer is in returning to Ye Technologies of Thyne Olden Days, where cart machines ran unfailingly day in and day out, with no major computer blowups or booboos. Somewhere here I have an ITC 99 I think I can put back into service.

Wait a minute. The 99 had a microprocessor *computer* chip in it, didn't it?

Good grief ... the angry monkeys are everywhere.

Al recently added a new activity to his endless roster of duties: teaching digital audio broadcast techniques at Montgomery College in Washington. Reach him via e-mail to alan peterson@earthlink.net.

World Radio History

VoxPro

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part of the integrated package. But not everybody wanted to lose sight of the log and the on-air playback status while cutting up a call.

Today, the PC is the iron that rules the radio studio, so it was inevitable that a VoxPro version be written for it.

PC hardware is cheap and plentiful, and a formidable box can be built for a percentage of what a Mac — even an early iMac — might cost.

Indeed, my review machine was a PII-333 with Windows 98, and VoxPro PC ran on it like a champ. Comparable machines with a decent soundcard and a network interface can be found in used computer stores for less than $300.

By all means mount the VoxPro PC system into the best machine you can obtain. But know that it can run on a lowly Pentium II with 16 MB RAM. Audion Labs recommends a P-III. Win2000, 128 MB RAM and a soundcard with DirectX 8.0 capability.

DirectX included

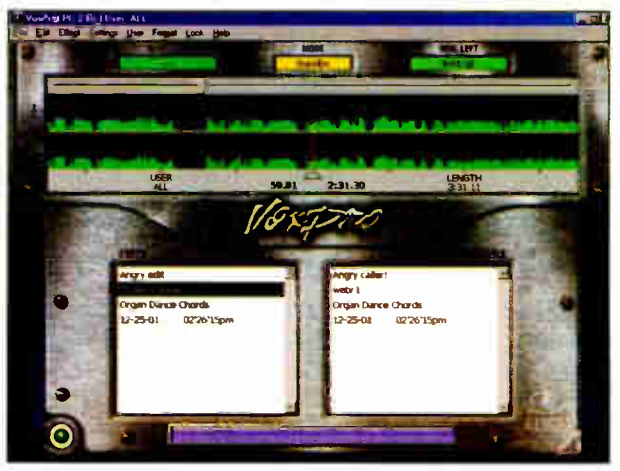
The VoxPro PC requires DirectX 8.0 to function. The CD-ROM contains the latest version of DirectX, so you need not traipse all the way to the Microsoft Web site to pull a download.

Besides hardware cost, a Windows machine talks easily with other Windows machines on a network. Audio files can be swapped, copied and transferred over a network with conventional Windows file commands we all know.

The VoxPro PC can let you send that great 'phoner down to the production room via Cat-5 right now — not after the show — for a quickie recycle promo that can begin running at 10 a.m.

Audion Labs has not abandoned the Mac platform. Should Windows leave a bum taste in your mouth, a wonderfully powerful VoxPro system can be created with the current generation of Apple hardware too.

If your network server runs Linux, then you can swap and send files to your heart's content. But there is no standalone VoxPro editor for Linux.



Audion VoxPro Screen Capture

If you are a diehard Mac fan, you must know that Audion Labs is discontinuing the Mac product altogether. The company will be offering an upgrade path for legacy Mac customers where they can purchase the PC software only and use the control panels they bought for their Mac computers.

Installation of VoxPro into a PC is not difficult, but obligates you to pop the hood to look at DirectX Diagnostics using *dxdiag.exe*.

Like MSCONFIG or REGEDIT, this is a little-known program used for examining and tuning your system. It allows you to look at the version of DirectX you are running, as well as the qualities and functionality of your soundcard.

As long as DirectX 8.0 is there and your soundcard drivers are up to date, you are set.

Install the controller software first. Plug in the USB or Serial version of the controller — whichever you ordered — then check it out with the on-screen test program: Clicking a button or spinning the jog wheel lights a corresponding item on the monitor screen.

You will require a driver for your machine to "see" the controller. No sweat, that's on the CD-ROM too.

Next go ahead and do *setup.exe* to install VoxPro. A nag screen will appear, letting you run VoxPro in demo mode for a finite number of recordings and insert recordings, or you may register the program (on a single PC) using a unique serial number provided by Audion Labs.

In use

The on-screen editor has a steely appearance, with "brass screws" holding the front panel together. The upper peaks-only display of the audio is much like that of an Audicy workstation.

This motif cannot be changed, which is unfortunate. If Winamp-type "skins" could be overlaid on the worksurface, the appeal of this program would be greatly enhanced. For example, one could match the appearance of the control console in the studio for a more harmonious fit.

I think I prefer a larger waveform display too. A lot of the screen is eaten up by the file lists and the background metal image. A clearer view of my audio would be preferable.

Recording an original cut is called a Master. The edited version is held as an Edit. Note the two different scrolling boxes for each in Fig. 1.

Recording a new Master requires only tapping the Record key on the controller, rather than a Record/Play combination. The Mode indicator at top center changes to red to indicate a recording underway. Hitting Stop naturally ends the recording.

Extra handy feature: a pop-up dialogue box that requests you name the Master. If

See VOXPRO, page 41 ▶

THE ISSUES, THE PEOPLE, THE TECHNOLOGY
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Referred to by *Advertising Age* as the advertising industry's soft-spoken visionary DDB Worldwide Communications Group Chairman, **Keith Reinhard**, thinks Radio delivers more personal, more precise images than any other advertising medium. He will first inspire you and then challenge you as he illustrates his keys of advertising at The NAB Radio Luncheon, Tuesday, April 9. **Dick Orkin**, from The Radio Ranch, will be inducted into the NAB Broadcasting Hall of Fame.
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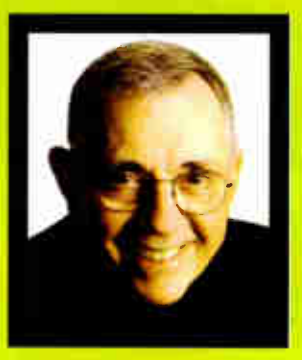

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World Radio History

VoxPro

▶ Continued from page 40

you do not, it generates a filename based on the date and day.

Given the pace of a typical morning show or request hour, it is not always possible to come up with an appropriate name for a file, but jocks somehow always seem to remember what time a certain call came in. Handy indeed.

Besides, you may always go back during a break and change the filenames of both the master and edited versions to more appropriate ones. Do this under the *Windows File>Rename Active File* command.

Call me Lefty

There is an option to choose the waveform direction: left to right or vice versa. At first glance, this is a curious feature.

Editors such as SAW, Cool Edit and others move the waveform or the cursor in such a manner that audio is seemingly "read" left to right, like words in a sentence.

VoxPro also lets you read the wave in the opposite direction, much like the way a tape actually travels from a feed reel across a set of tape heads to a takeup reel. It does not reverse the audio playback, only the perceived direction of the wave across the point of reference.

not yet been implemented in VoxPro. There is a Zoom button that so far does nothing, which limits the usefulness of the display. There is also no way to alter the resolution of the jog/shuttle wheel. The outer ring requires a delicate touch, as it is possible to inadvertently blast through a 4-minute recording in less than 1 second.

The VoxPro With Controller

If you would rather opt out of obtaining and using the controller, note that the keyboard can duplicate nearly all of the edit and transport functions.

But the commands can get somewhat arcane (CTRL-left arrow for reverse-play at 3/4 speed), and jocks like having nice clear controls in front of them.

You may also find that, depending on how imported audio was originally edited, there may be a click or pop at the tail end of a file. Engineers at Audion Labs are aware of this in version 3.0 and are looking into it.

If I seem enthusiastic about the arrival of the VoxPro for the PC, I am. It works as advertised; it trades files with other Windows computers on a network; it uses file management conventions we are all familiar with, and, because of hardware availability, it can be fabricated as affordably or as expensively as a station's budget can absorb.

I have used and enjoyed the original Mac VoxPro very much. But Audion Labs was painting itself into a corner by not offering a Windows version; something I think the company should have done ages ago.

It did not hurt much that Radio World adviser and Infinity Radio engineer Tom McGinley also suggested to the company that a PC version would "fly out the door."

If changes are to be made, I would suggest the option of adding skins, altering the resolution of the jog wheel to match the screen zoom, and perhaps devoting a tiny bit more room to the audio editing area and less to the gingerbread.

Is it one more screen and keyboard in an already crowded control room? Yeah, but if that is such as issue, a KVM (keyboard, video and mouse switcher) takes care of that quickly.

Is it much better than having a Short/cut in the studio? That is up to you to determine. You can always add a second hard drive to a VoxPro yourself without botching a warranty. There are no audio and power cables pouring out of the controller (just a slender USB cable).

And of course, VoxPro imports and exports standard WAV files with conventional Windows file commands.

Audio quality is as good as the soundcard in your computer. Go with a good one, but know that many users report satisfactory results merely with low-end SoundBlaster cards.

Audion Labs nailed it with the VoxPro PC. Even if powerful Windows computers were not cheaper than coal right now, this is a great phone editor to put in your on-air studio for your most creative jocks.

Product Capsule:
Audion Labs VoxPro
PC Digital Audio Editor

Thumbs Up
- ✓ Finally available for Windows
- ✓ Fast editing
- ✓ Dedicated controller
- ✓ Clear and concise operation
- ✓ Still available for Mac

Thumbs Down
- ✓ Some controller features still need to be designed in
- ✓ 'Skins' would be nice, but not necessary

Price: $2,499 for software and control panel, $1,299 software only

For more information contact Audion Labs on Bainbridge Island, Wash., at (206) 842-5202 or visit www.audionlabs.com

Editing is fast and furious on the VoxPro, which is what made it a star on the Mac five years ago.

Editing is fast and furious on the VoxPro, which is what made it a star on the Mac five years ago. Hit Play or Play Beg(inning) on the controller, stop it where you need to, nudge the audio with the jog wheel and drop a Mark Left or Mark Right point (determined by the wave direction). Continue, and then drop another marker.

You may now play the marked area with the PlaySel(ection) button, or delete it using the delete key. If you are in a real hurry, don't stop the playback — drop the markers on the fly when reviewing the call.

Wrong marker positions? Move to a new position and drop again, or hit the Deselect key and start over. Did you delete the wrong area? There is always an Undo key.

An Insert Rec(ording) key lets you "shove over" whatever you just recorded to make way for more audio, without recording over the original. And a "bleep" feature replaces a marked region with a tone or silence, covering potty words.

A couple of controller features have

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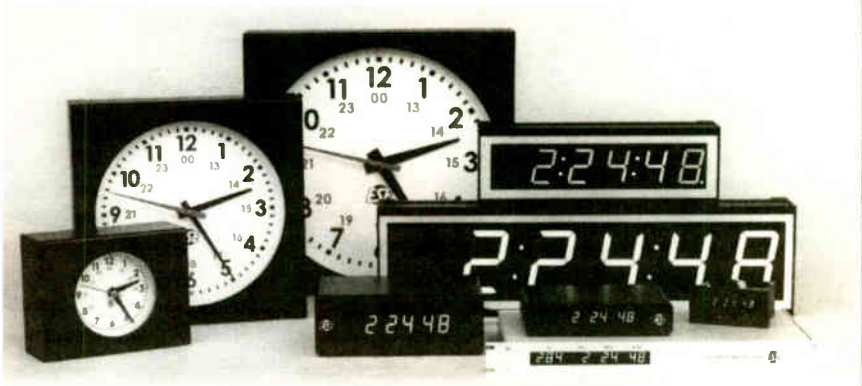

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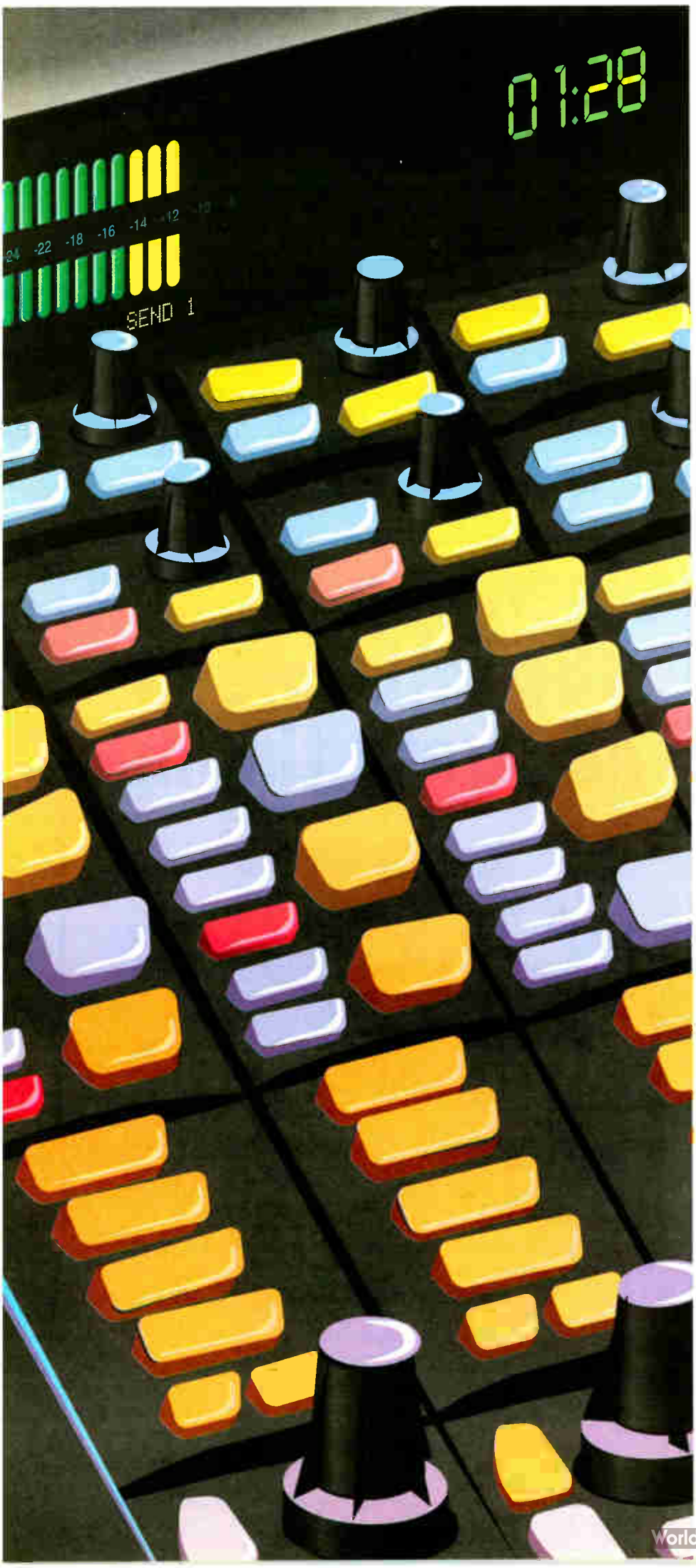

Sure, it's the best looking broadcast console you've ever seen. But, beneath the sleek, elegant exterior beats the heart of a true warrior!

Pacific BMX*digital* has everything you need to win the digital revolution. Whether it's the number of output buses, mix-minuses, off-line mixes, stereo sends, direct IFB's, monitor inputs and outputs, inter-communication paths or logic interface, BMX*digital* offers more.

Incredible Flexibility including all input modules accommodate analog and digital signals without reconfiguring, swapping, or even removal from the mainframe.

Amazing Adaptability with easy storage, recall and reconfiguration of set-ups for various day parts, and built in connectivity to routing switchers, digital storage systems and other networked sources.

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Pacific BMX*digital*. Beauty that's a lot more than skin deep.

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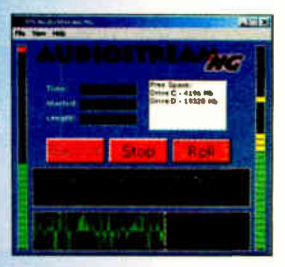


USER REPORT

Selector XV: A Hat for Every Head

by Steven Strick
APD/Music Director
WBCN(FM)

BOSTON As a programmer, I rely on many tools to do my job, but one of the most important is the software I use to schedule the music on WBCN.

I need something I can tailor to my station's format quickly. Music is my bread and butter. If I don't get it right, the rest of the station suffers.

I've been using the Selector software from **RCS** for years to schedule the music here, and I think that Selector XV has come a long way from its predecessors in doing the job. It's one of the most important tools I have in executing the most important part of my job.

Selector won't replace a radio programmer. In fact, it really needs one to do the job. The programmer designs the clocks and chooses the categories and rotation. Selector (and Linker) XV are intuitive and adaptable to any vision, regardless of format.

After many years of using Version 12 (DOS version), I became a power user of Version 14 for a while before switching to Version XV. My main concerns were speed and efficiency, but it met my expectations both ways.

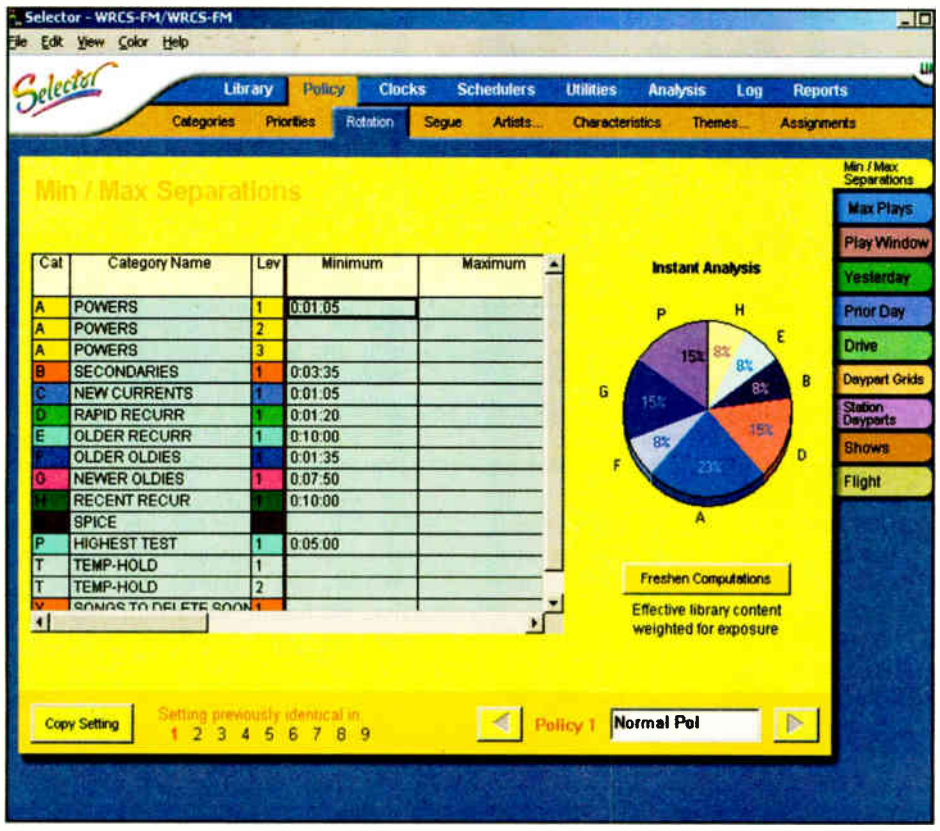
Built for speed

I made sure both my computer at the station and the one I use at home were built with the best specs the station could afford. Selector XV runs well with a P3 1-GHz processor with 512 MB of memory and a few gigs of hard-disk space and a video card with 64 MB memory.

Many users are still hooked on Version 12 or don't have the time to convert. Now that I'm on "the other side" as a XV power user, I'll say it was worth my time.

The learning curve was low because RCS changed as few keystrokes as possible. For example, when manually editing, one key still brings up the most-requested songs in a category. Each song's history is already there for every title.

At WBCN, we use Sound Codes and other Rules throughout the program. However, the more Sound Codes and Rules you use in Selector, the more difficult scheduling music becomes, so I can't get carried away.



If you report to the trades, check out the Chart Editor. I was a big user of that feature in Version 12 and just began to check it out in XV. There are more features in the new Chart Editor that I can't wait to explore.

The RCS Tech Support is great and available 24/7. I work a lot with Technical Support Specialist Jack Becker, but all their people are expert. It's great to talk to the same person if you're working on a special project — they'll remember what you explained yesterday and can pick it up from there.

I recommend that every station have an extra person know how to schedule tomorrow's log in case you're late or sick. Otherwise, your station will suddenly sound different, and who needs that? Music scheduling is far too important a hat to place on the head of only one person.

Linker rocks

I can't talk about Selector without mentioning Linker, a companion product.

Linker rocks. It's like a special version of Selector, but for promos and other non-music elements. The day I got Linker my life became easier.

I candidly think RCS invented Linker because they knew that once a PD used it, he or she would never go back to an archaic paper system. We also use Linker to schedule all our PSAs, then print out an affidavit for our public file. In the old days we did this manually. Now it saves multiple people a few hours.

Selector XV should be in your future. RCS even lets you run both versions simultaneously while familiarizing yourself with the new one.

I empathize with people saying, "I don't have the time," because I sure didn't. Still, I remember how long I used to spend on a music log.

With XV I have been able to cut that time down without sacrificing quality. By taking time right now to learn the new version, you will save hours in the long run. Here at WBCN we have Selector tuned up very well. It enables me to do the most important part of my job thoroughly and efficiently.

For more information contact RCS in New York at (919) 428-4600 or visit the company Web site at www.rcsworks.com.

World Radio History

TECH UPDATE

Pristine Puts Scheduling Software Into Rotation

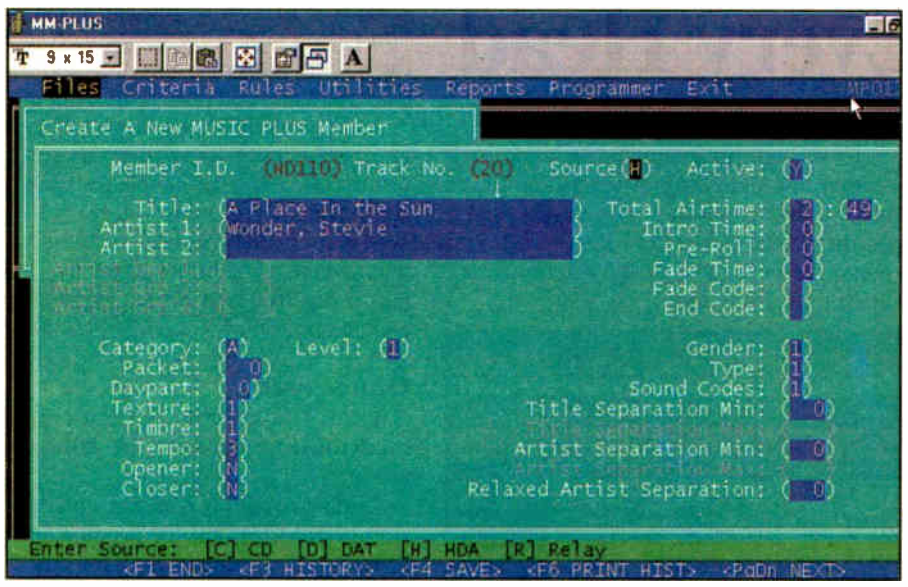
Pristine Systems has a "quick and reliable" veteran software program for scheduling a music log in MusicPlus, also available as part of the company's RapidFire digital automation system.

MusicPlus features a single or multipass scheduling mode to provide rotation for all songs in each category.

Twenty-six user-defined categories (A-Z) are available, each with three sublevels. To provide flexibility for scheduling situations, more than 1,000 music and day formats are available, plus 26 possible weekly formats.

MusicPlus allows users to adjust the scheduling priorities controlling their music rotation rules. Various separation rules include title, artist, category, level, daypart, tempo, texture and gender.

MusicPlus allows easy insertion of voice track markers, time announcements and live events into the music log.



MusicPlus also is available as part of RapidFire.

Program directors are able to generate playlists in advance and then integrate the traffic as needed.

Editing playlists after generation for last-minute changes is designed to be simple. Spotsets can be scheduled by time or sequence. The system can be used with third-party traffic software.

For more information contact Pristine in California at (866) 240-6497 or visit the company Web site at www.pristinesys.com.

Wicks Offers Two Traffic Systems

Wicks Broadcast Solutions offers two traffic and billing systems for radio use: DeltaFlex and the new Visual Traffic (VT).

DeltaFlex is Wicks' most feature-rich system, built on what the company calls "dynamic scheduling." It has functions for inventory management information, sales management reporting, credit management and reporting and collection tools.

VT is designed to take advantage of the Windows graphical interface with time-saving point-and-click features including order entry for multiple station features and improved automatic inventory management. The system can help move a station toward a paperless sales department by using its e-mail reports.

VT's visual, on-screen, building-block approach is designed for easy operation of order entry, log creation, maintenance and invoicing with the ability to address multiple radio sites from a single order.

The company says the system can be used by those with no traffic experience, by using "drag and drop" and other Windows features to schedule orders and track air time from preparation of the original contract through final payment.

For more information contact Wicks at (800) 547-3930 or visit www.wicksbroadcastsolutions.com.

WireReady Speeds Ad Sales

WireReady32 from **WireReady NSI** is the sales "system that tells your sales staff who to call, when to call, and why to call." The software places a contact/telemarketing database system in a setup designed for radio use.

A sales database can store 1,000 kinds of pitches and sales activities, contact information and pitch/sales histories for 16,000 clients and prospects. It can maintain sales statistics, track the results of calls and provide a recall date for the next call back.

The system can sort by and calculate the percentage of success to failure on a per-caller or per-event basis, and makes sure the sales staff calls everyone applicable for every event the station promotes. All information is available via a search function.

Automated dialing speeds up telemarketing sales. One feature gives a user the capability to use a computer with a soundcard to record, edit, store and play audio over the phone for playing commercials back to customers and recording verbal contracts. Sales managers gain control and monitoring capabilities, ad copy integration and production requests. The manager can track the details of sales calls and use the statistics for analysis. The system is designed to grow a station's active customer base and bottom line.

WireReady32 comes with free tools for the broadcaster or convergent media office, including electronic newsroom, automatic e-mail/Web publishing, Cool Edit 2000 four-track digital editing and production software and basic live-assist and automation software.

For more information contact WireReady in Massachusetts at (800) 833-4459 or visit www.wireready.com.

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TECH UPDATES

RCS Makes Software to Track Rates

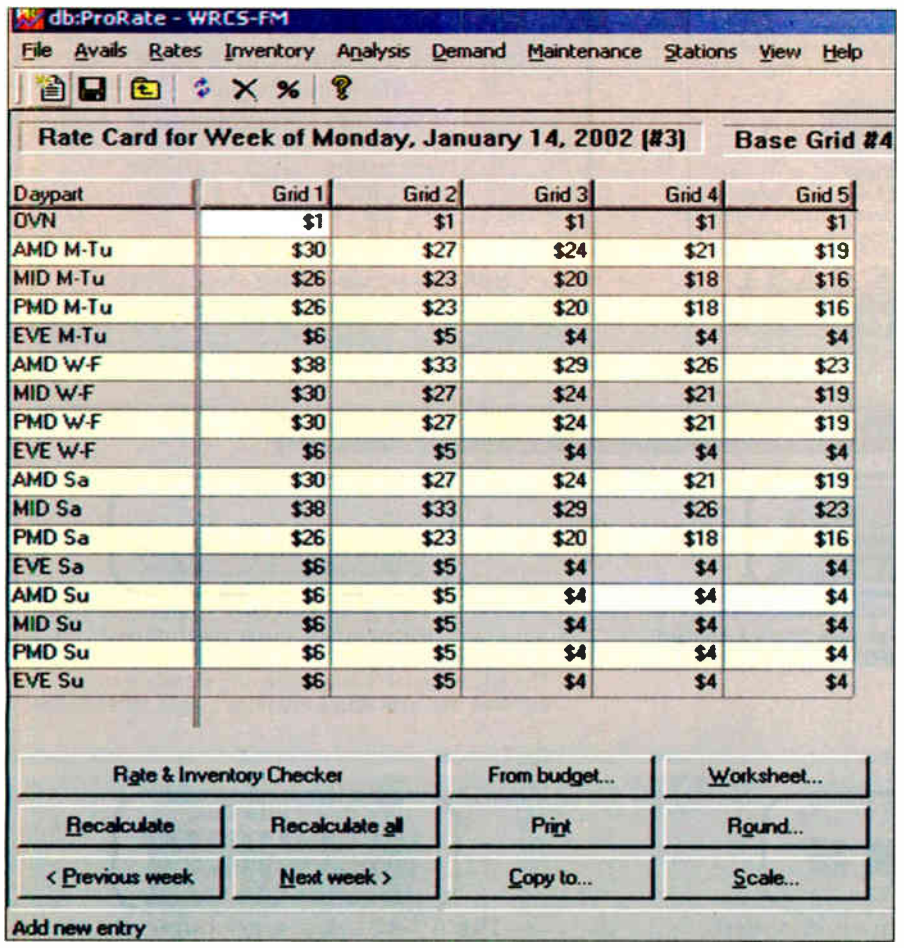
RCS says it can help radio stations increase revenue with Windows versions of ProRate and ProPak sales software.

The company says stations that would benefit are those that sell out prime inventory but don't make budget; that have a hard time increasing rates; that have a high rate of unsold inventory; or are forced to bump high-paying business because of a surplus of trade or discount contracts.

ProRate shows GMs and GSMs how to use multiple rate cards to capture long-term, short-term and immediate buyers. ProRate can help a station establish "super saver" rates for early birds, but save inventory for "just-in-time" buyers who are willing to pay higher rates.

ProPak gives users access to current rate cards so they can always obtain the best rates. Using real-time rates and avails, ProPak can help a sales team create proposals and packages that earn a station more money.

For information contact RCS at (919) 839-4144 or visit www.rcsworks.com.



Sample of ProRate's five-grid rate-card system. Rates move across grids based on percent sellout per week per daypart.

Summit Offers Radio Tool

Summit Software Systems tailored its general advertising sales management system into the Summit for Radio version, a scalable traffic and billing system that functions for yield and avail management, proposal generation and contact management.

The system is designed to assist a variety of occupations in radio. Sales managers will have tools to maintain and grow revenue, traffic managers get functions for performing complex operations efficiently and business managers receive help with paperwork. General managers and executives can use it to drive market share and improve profitability, and technical staff have data and automation interfaces for driving new digital automation systems.

Summit for Radio runs on Windows with real-time, dynamic spot scheduling and horizontal/vertical spot and copy rotation with integrated script and automatic media numbering. The system employs a modular design and uses the Pervasive.SQL 2000 database engine from Pervasive Software. Remote access is available via the Internet or RAS. It can manage hundreds of channels from the same or multiple databases.

Other features include: long-form paid programs scheduling and avails, simple non-spot billing, client/contact management including interactive proposals, a suite of sales and management information reports and automatic reconciliation from insertion equipment verification files.

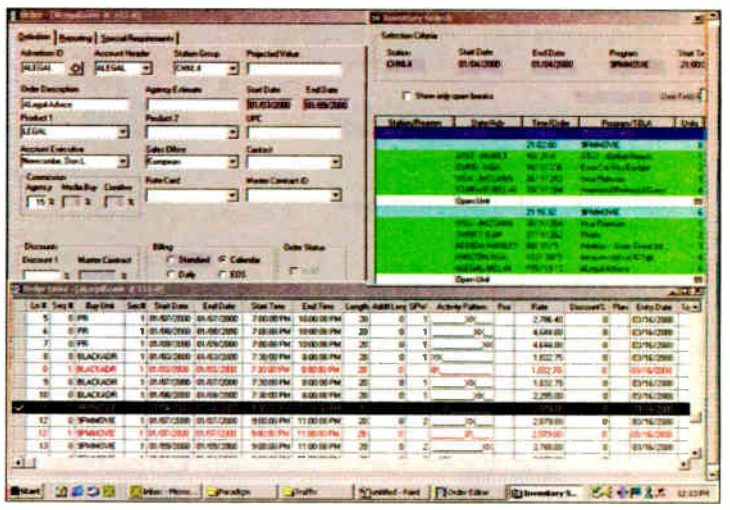
Users customize data entry and report defaults, formats for confirmations of contracts, copy, programs, logs, invoices and statements. Multilevel user security settings provide safety. Report and data-entry functions cover sales, billing, scripts, troubleshooting, utilities, analyses and a variety of other details.

The system's utilities can assign copy and filler spots to logs, edit logs, reschedule make goods and perform other functions. Users can define invoices and account statements.

For more information contact Summit Software in Colorado at (800) 771-1824 or visit www.summitsoftware.com.

Two Encoda Systems Manage Ads

Encoda Systems' two latest products for managing a radio station's business are Paradigm 5.0 Traffix traffic software and Spotdata electronic invoicing (EI) software.



An Encoda Paradigm 5.0 Traffix Screenshot

Traffix provides tools to help manage ad sales and operational assets. It can be used as a standalone sales, traffic and operations system or be integrated with other Paradigm business systems.

The software is an advanced management system that includes integrated programming/material management and a proposal system. It is suited to single- or multichannel and centralized operations. New features include enhanced inventory management and sales management reporting, and the automated loading of schedules from third-party systems or other Paradigm systems.

Spotdata is the EI module of the ODAC suite of ad-commerce products. EI allows broadcasting and cable companies to deliver electronic invoices to local and national advertising agencies. By providing data transfer via the Internet, Spotdata enables buyers and sellers to eliminate some of the time and expenses associated with processing invoices and payments. One of its new features is the batch printing of invoices, allowing broadcasters and agencies to print multiple invoices at once.

For more information contact Encoda in Colorado at (303) 237-4000 or visit www.encodasystems.com.

BUYER'S GUIDE

Coming Up in Buyer's Guide

Suppliers: Buyer's Guide is a section of Radio World intended to inform our readers about new products in a specific category of equipment and to share stories written by their industry peers.

If you offer a product in one or more of these categories, please contact Buyer's Guide Editor Michael Hedrick at mhedrick@imaspub.com or (703) 998-7600, ext. 146, in advance of the deadlines shown here.

Issue Date	Category	Deadline
April 10	Mics, Speakers, Amps	March 1
May 8	Transmitters	March 29
June 5	Audio Processing	April 26
July 3	Consoles, Mixers & Routers	May 24
Aug. 1	Codecs, Remote & STL Gear	June 21
Sept. 1	Studio Design & Furnishings	July 19
Sept. 25	Audio Sources	Aug. 16
Oct. 23	Automation & Digital Storage	Sept. 13
Nov. 20	Signal Monitoring, Remote Control & Test	Oct. 11
Dec. 18	Antennas, Towers & Transmission Support	Nov. 8

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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).

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 & half duplex models).

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.

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 much more.

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.

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BOS, ROS & PBB-24 Switch Panels
The BOS offers 12 N.O. dry contact switches with status LEDs in a desktop panel. The ROS is similar, but in a single-space rack unit. The PBB-24 provides 24 momentary buttons that can be programmed to output ASCII character strings.

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TECH UPDATES

Smarts Touts Second Generation

Smarts Broadcast Systems' Smarts — The Second Generation traffic and billing software for Windows is based on the company's 20 years of radio traffic experience, customer feedback and Smarts' vision of how software should work.

Order entry is designed to be fast and easy. Because of the system's flexible design, orders can be entered to appear on tomorrow's log, or next year's. The logs can be generated and ready for air within five minutes. Time orders slide easily into the system.

Users can log ROS, daypart and fixed position spots. Users can also make TAP plans and special events.

The system can be set up for multiple stations; making identical entries for those stations is simple. Program material such as spots, PSAs or jingles can be forced into a particular break position. Any number of TAP Plans can be created. Sales functions cross account lines.

The system can also creates comprehensive reports or reports for individual stations with several sorts available. Accounts can be level billed on a daily, weekly or monthly basis. Special events can be set up in advance for remotes. The co-op also uses a standard ANA/RAB tear sheet. Users can type a script in the program or import it from a word processor. Co-op may be added after the fact.

Telephone and Internet training are available. Training sessions are held twice a year at the Smarts office. On-site training also is available.

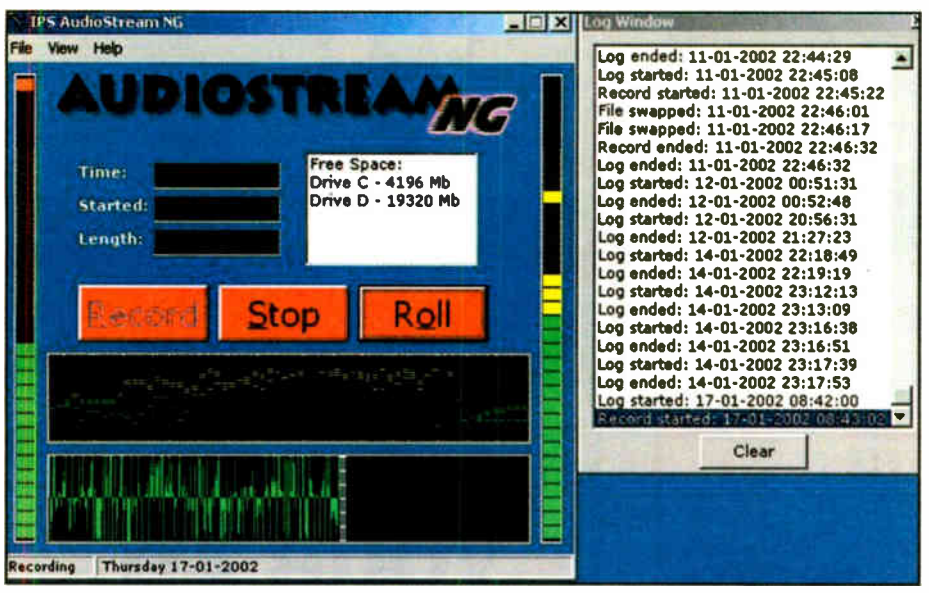
For more information contact Smarts in Iowa at (800) 747-6278 or visit www.smartsbroadcast.com.

InterPlanetary Solutions Introduces New Logger

InterPlanetary Solutions has introduced an audio logging software system, AudioStream NG, which comes with a log player.

AudioStream NG has an unlimited number of timers to record as many segments throughout the week as needed.

Lengths from 1 minute to seven days can be recorded and divided on the fly. A quality editor saves "qualities" — each a combination of audio codec and audio quality that can be recorded.



The qualities defined can be used in the above-mentioned timers. For example, one section that needs to be replayed at a later stage can be recorded in CD-quality and the rest of the program schedule can use different qualities.

A free-space monitor tracks hard-drive usage and deletes old files when space runs low. Another routine maintains a set number of days of audio, so only the amount needed to be kept according to regulations remains on disk.

A disk space calculator calculates the drive space that will be used over a time frame, combining the choice of timers and quality.

Features include password-protected settings; manual stop, start and dividing of recordings; external triggering of recordings from devices such as console buttons; silence control to trigger recording based on the absence of silence; an alarm that sounds after a set period of silence; a visible logfile; and a configurable spectrum analyzer and oscilloscope.

AudioStream NG Player can be installed on any number of PCs, allowing the user to play recorded audio. Users can listen to any timeframe by entering in the start and end.

The player automatically retrieves and plays them. A playlist can be created so that many timeframes can be played back-to-back. This makes air checks, legal proceedings and similar operations easier.

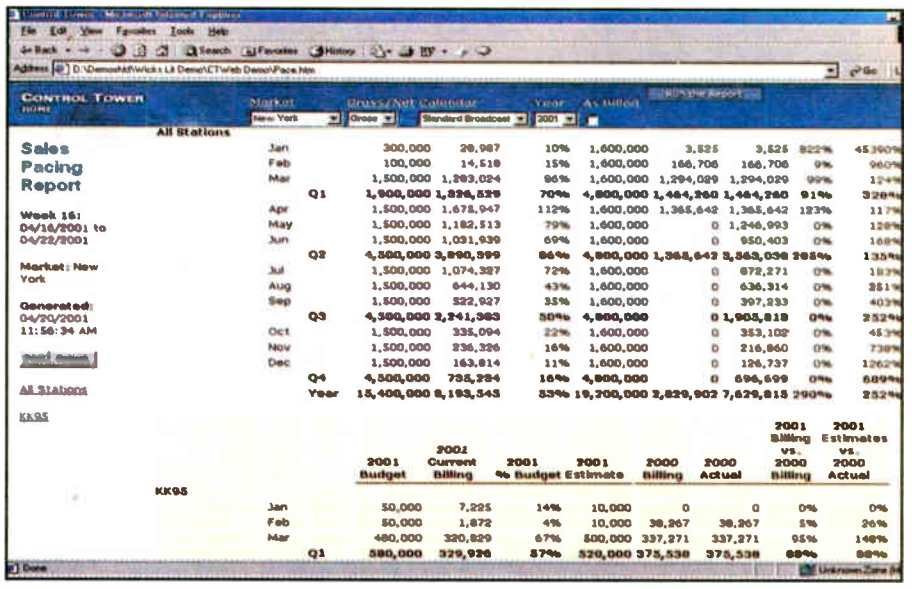
The software is sold directly by the company in Australia and can be purchased through its Web site at www.ipsware.com.

Wicks Helps Manage Information

Wicks Broadcast Solutions' Control Tower is automated report consolidation software for use at market level and the corporate office.

The Control Tower boasts accurate reporting, fast access to information, reduced costs in report preparation and provides information for management decisions.

The software is designed to provide a data warehousing capability to Wicks traffic and billing systems. Users have real-time access to information electronically gathered from stations on multiple traffic systems. The data is viewable as a report or spreadsheet and is accessible at any secure location via the Internet.



Control Tower provides analysis, charting and reporting capabilities for data collected from traffic systems. It supports development of questions for identifying and tracking sales issues. Detailed assignments of goals and targets can be matched against actual and projected sales. Reports and analyses can be saved and rerun at any time, and can be run automatically on a user-defined periodic basis.

Sales managers can use the software to set revenue goals by station and income type (such as local, national and trade accounts), and to track sales by agency, account, station, industry category and income type.

Managers can measure sales activity and monitor how inventory is sold, compare sales with goals and create pacing reports comparing previous years' sales. Control Tower can aggregate this information for a CFO and present refined reports and graphs via a Web browser.

Special features include analyses, flexible charting/graphing capability with spreadsheets such as Microsoft Excel, automatic generation of reports and analyses on a predefined time basis and using relational database technology modeled for the media industry.

For more information contact Wicks in Oregon at (800) 547-3930 or visit www.wicksbroadcastsolutions.com.

NBS Provides Feature-Rich System

Natural Broadcast Systems promises a low-cost traffic software option that has many of the same advanced features as more expensive systems.

The Natural Log Radio Traffic/Logging/Billing software is compatible with most computer automation systems and can handle two stations at once. The traffic functions can manage thousands of customers and 1,000 active orders.

Users can specify week and alternating week scheduling and time and time-class scheduling. Multiple price and length spots and multiple scripts/cuts can be on the same order.

The system has dual product-type protection. Special log formats are available for sports. Spotset fill sequencing is user-specified. The system can make automatic "Fill-to-Length" spotsets for satellite formats and has an on-screen log editor, bumped spots and copy problem reports on screen and a copy manager with script affidavits printed.

Billing and accounts receivable functions can follow the calendar month and the standard broadcast month and weekly, end-of-flight and demand factors. The system includes an on-screen invoice editor and on-screen viewing of a customer's account history and other details.

On the reporting side, customer and order lists can be sorted as desired and spot-rate reports are provided for orders and salesmen. Billing error reports are available before bills are printed. Aged accounts receivable can be sorted as desired, and account transaction summaries, invoiced sales and collections reports with sales commissions, six-month projected sales and 52-week inventory-management reports are available.

For more information contact Natural Broadcast Systems in Texas at (210) 349-5808 or visit www.nat-soft.com.

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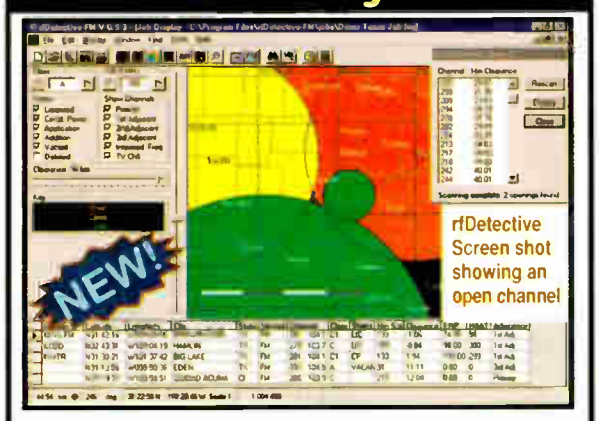

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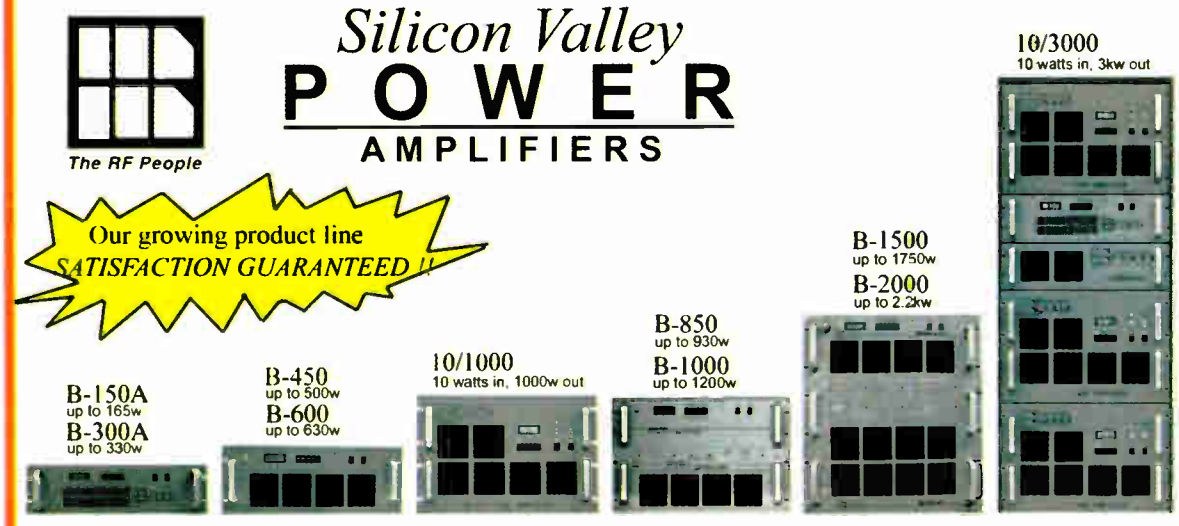

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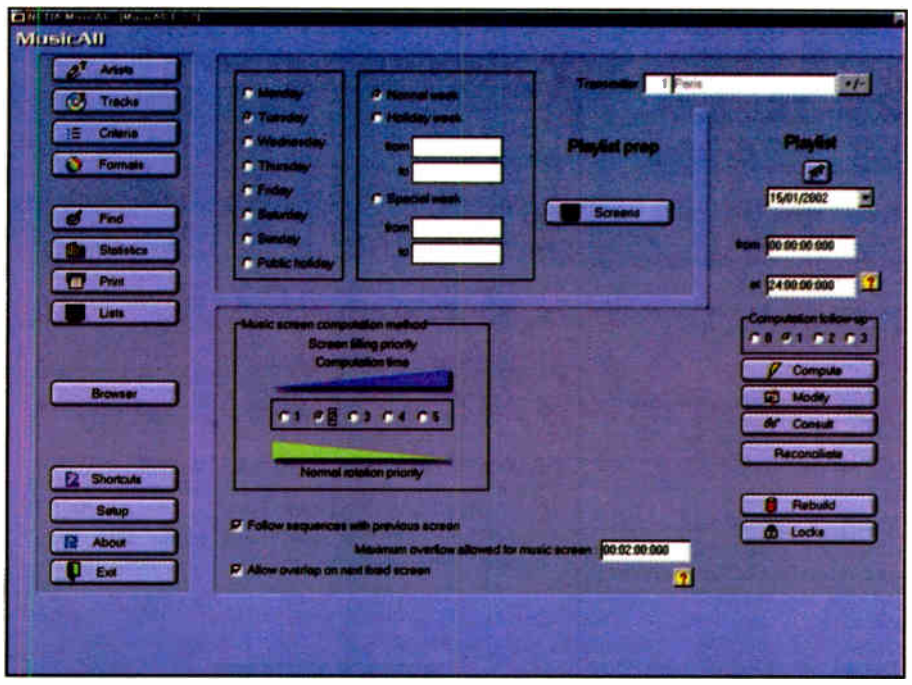
TECH UPDATES

Netia Adds to Music-All Manager

Music-All is the music management tool in **Netia's** Radio-Assist 7 line, designed to manage a radio station's music schedule. It can deal with thousands of tracks and keep account of the scheduler's instructions at the same time.

viewing a calendar of recent broadcasts and histories and other functions. A player/editor governs smooth playback and sequence preparation. A two-track editing device can be used to reposition intros or fine-tune mixing levels.

Users can choose a range of broad-



cast criteria to define run frequency, mandatory or forbidden sequences and other constraints. Tracks are mixed and matched by an independent rotation method so none are forgotten or repeated too early.

The program can produce 100 schedules from one title database. If a schedule is altered to adapt to a change in taste or news, it is updated automatically. Modification can be induced by a second local computation on one or more tracks. Another control function warns of inconsistencies. Several users can access the system at one time.

For more information contact Netia in New Jersey at (973) 575-9909 or visit www.netia.net.

The system's newest feature is a reconciliation function. During last-minute changes when a broadcast goes on air, what is actually broadcast is not always what was scheduled. The reconciliation function tracks what actually went on air.

Reconciliation is particularly suited to quality scheduling computation. The system takes into account the tracks not broadcast and those that have been added. The function can automatically compute copyrights and draws up royalties records.

A more user-friendly control panel has been installed, with tools for setting parameters, modifying a schedule, searching, running a local computation,

RDS Readies Two Managing Systems

Register Data Systems' System Six is a sales, traffic, billing and accounts receivable software program. According to the company, incorporates ideas from broadcasters across North America.

Orders need to be entered only once, covering any period of time from days to years. Each order can hold 255 lines of scheduling information and automatically rotate multiple spots. System Six automatically generates logs, placing spots in restricted programs, exact times, an infinite variety of dayparts, and rotating throughout the day or in user-defined TAP and ROS schedules. It interfaces to most automation systems.

Logging information is stored so time affidavits and invoices are available. It also stores and prints co-op copy according to ANA guidelines. Logs can be transferred to automation electronically. Billing information is posted to the Open Items Accounts Receivable, where users can run statements for any client. Management reports are button-touch available, showing projected sales, avails, expiring orders, collections and other details. Context-sensitive help screens guide an operator through data entry and producing reports.

Another product, RDS System Seven, adds general business functionality by combining System Six with an accounts payable, payroll and general ledger package. The system is designed so each revolution in the sales cycle feeds into the next, from sales to traffic, traffic to billing, billing to accounts receivable and so forth.

For more information contact RDS in Georgia at (800) 521-5222 or visit the company Web site at www.registerdata.com.

StarCaster Handles Eight Stations

Datastar Inc.'s StarCaster is designed to help a radio station get the most out of traffic and A/R management. Invoices, statements, accounts receivable, billing histories, credit histories, sales projections and avails, log reports and copy tear sheets are viewable within scrollable windows and are printable. Previous invoices can be viewed onscreen, obviating the need to load backup disks.

StarCaster's Custom Log Face Scheduler is designed to help users handle special programming days such as those calling for remotes, sports events and other functions.

When entering co-op orders, users can rotate the co-op evenly or by percentages. Combo-buys are possible if a client advertises on more than one station; users can use the same order to enter the buy. Licensing plans vary minimally with the number of stations running.

StarCaster is shipped with several digital audio interfaces built in at no additional charge. Help is available online and the operating manual has been revised to include version 6. Both standalone and networked versions are available.

For more information contact Datastar Inc. in Nebraska at (800) 696-2545 or visit www.starcaster.com.

Natural Music Now Uses Windows

Natural Music from **Natural Broadcast Systems** is a music scheduler and database, now is available for Windows and DOS.

The software uses nine sets of rules for different dayparts and has 26 song dayparting restrictions.

Controls are available for Gender, Tempo, Intensity, Mood Style and artist separation, and users can define their own controls.

Natural Music has functions for prior-day horizontal title separation, artist blocks (multiple songs in a row by same artist) and backup protection.

The software can set up 676 clocks. The log editor and artist and song play histories are available on-screen. An audit log is included for trouble-shooting, as are reports and lists, including BMI and ASCAP reports. Natural Music is compatible with most automation systems.

The new Windows version has added features. It can store songs in 1,225 music categories. The music log has advanced generation diagnostics, hour and day recycling and reconciliation with BSI WaveStation and other automation "actual-play" logs.

Data from these automation logs can be imported with a built-in feature. Editing can be performed through drag-and-drop and cut-and-paste functions. Users can configure on-screen song browsing and reports that can be printed and exported to text files.

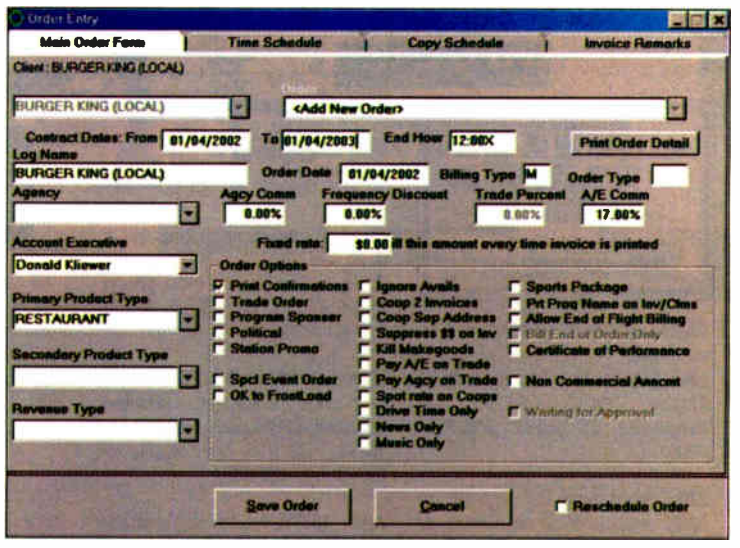
The software creates standard RIAA "Webcast" performance reports for electronic filing with the RIAA. It has "Never-Violate" and "Preferred" flexible rule specifications. New daypart and hour circulation rules are included.

For more information contact Natural Broadcast Systems in Texas at (210) 349-5808 or visit www.nat-soft.com.

Traffic C.O.P. Made for Windows

The Traffic C.O.P. for Windows traffic software from **Broadcast Data Consultants** recently passed its fifth anniversary. The software is designed to work easily and reliably with Windows software.

The system software for traffic and billing can be used for order entry to log scheduling to A/R. The integrated program combines continuity and traffic/commercial announcements on the same log, executing the commercial scheduling, log-generation and billing functions. The program can be exported from a station's computer network to its automation system.



The software controls cart numbers and copy. It can create 26 clocks and tell the computer which clock to schedule on any day. The log program and reports check the schedule to find out which clock to run. Stopsets, programs and remarks are accessible via buttons that quickly display lists.

Other features include password security and customer support, which includes free updates from the company Web site.

The company states that the software is easy enough to use so that anyone with a working knowledge of Windows and a background in radio traffic can master the program.

For more information contact Broadcast Data Consultants in Florida at (800) 275-6204 or visit www.broadcastdata.com.

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RCA, Altec tube amplifiers & mixers in any condition, working or not. Larry Drago, WELI, POB 85, New Haven CT 06501. 203-230-5255.

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ERI Cycloid 3-bay FM originally on 92.7, tuned to 93.9, no heaters or radomes, $1000, you pick up, will not ship. Randal Miller, Miller Media Group, 918E Park, Taylorville IL 62568. 217-824-3395.

Phelps/Dodge CFM/LP3 3 bay tuned to 95.3 FM with de-icers. Removed from service in 7/01 due to upgrade & frequency change, power gain 1.5, 3 sections, $1000. Tony St James, KFLP, POB 658, Floydada TX 79235. 806-983-5704.

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IGM Rampart automation system. Mainframe circuits cards rollouts, BO. Jack Vobbe, WLEW, 935 South Van Dyke Rd, Bad Axe MI 48413. 989-269-9931.

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Yamaha 03D (OH-3-DEE) (2), production consoles, excellent condition, $2230 each. Pete Stouer, WJYJ, POB 905, Spotsylvania VA 22553. 540-582-5371.

Altec 1567A mixers (2) and one case for same, BO. Jack Vobbe, WLEW, 935 South Van Dyke Rd, Bad Axe MI 48413. 989-269-9931.

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Western Electric 25A. Paying up to $7500 for this console & always buying WE mics, tubes, catalogs & TT's. Larry Drago, WELI, POB 85, New Haven CT 06501. 203-230-5255.

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RCA 77DX/44BX. Will pay $1000 for these mics. Call anytime. Larry Drago, WELI, POB 85, New Haven CT 06501. 203-230-5255.

MISCELLANEOUS

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Comrex Nexus ISDN codec unit. Works Perfectly. Used 1 year, $1300. Charles, Pitroad Racing Network, WCON, 706-886-0652.

Gentner SPH10 analog hybrid, like new, connects phone calls to audio board without feedback or echo, $350. Aaron Hall, Minnesota Family Council, 2855 Anthony Ln South #150, Minneapolis MN 55418. 612-789-8811 x226.

ROTRON BLOWERS AND PLATE BLOCKERS, new & rebuilt for Elcom, Harris, CCA, CSI, McMartin. Goodrich Ent. 11435 Manderson St. Omaha, NE 68164 402 493 1886 FAX 402 493 6821

Housing & desk for Western 25B console & box of parts, BO +shpg. Jack Vobbe, WLEW, 935 South Van Dyke Rd, Bad Axe MI 48413. 989-269-9931.

Tascam patchbays (2), new PB-32-4 & 32P 1/4 to 1/4 to RCA, $120/pair; Sound Level meter, new with case & manual (Radio Shack), $55. Will Dougherty, WLD, Music Valley, Rt 1, Box 1548, Mill Spring MO 63952. 573-998-2681.

Two boxes (19 total) of new motors. Oriental motor, Japan S-301 motors, 7.5W 115V 1500/1800 rpm, $30/all. Will Dougherty, WLD, Music Valley, Rt 1, Box 1548, Mill Spring MO 63952. 573-998-2681.

Western Electric Model 199 repeat coils (6) in rack mount frame, BO. Jack Vobbe, WLEW, 935 South Van Dyke Rd, Bad Axe MI 48413. 989-269-9931.

Want to Buy

CBS Original microphone flag for RCA 44 microphone. radcmex@aol.com.

RCA 77-44-74 etc, ribbon mics, on-air lights, console, manuals, tubes, etc. Highest prices paid. Larry Drago, WELI, 495 Benham St, Hamden CT 06514. 203-248-8814.

RCA on-air lights in any condition, working or not, will pay best prices for them. Larry Drago, WELI, POB 85, New Haven CT 06501. 203-230-5255.

WNOE New Orleans air-checks from the late 50's. radcmex@aol.com.

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MONITORS

Want to Sell

Used Mod Monitors, McMartin & Belar. Many to choose from, tuned & calibrated on your frequency, full guaranteed. Goodrich Ent. 402-493-1886.

Belar FMM-1, FMS-1, RFA-1, factory tuned 102.5, calibrated 1999, $1500/all. Russ Kinsley, WCLX, POB 310, Vergennes VT 05491. 802-759-4000.

Gates FM modulation monitor, as is, $100; Belar AM RF amp, as is, $100. Randal Miller, Miller Media Group, 918 E Park, Taylorville IL 62568. 217-824-3395.

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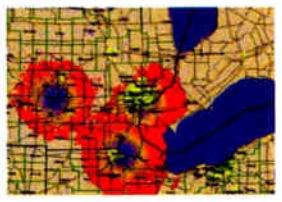
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Want to Sell

New motor for Tape-Athon tape players, BO. Jack Vobbe, WLEW, 935 South Van Dyke Rd, Bad Axe MI 48413. 989-269-9931.

Tascam #32 in excellent condition, very little use, rack mount, $800/BO. Curt Marker, WHWL, 130 Carmen Dr, Marquette MI 49855. 906-249-1423.

REMOTE & MICROWAVE

Want to Sell

Dolby DP 5501 transmitter, DP 5502 receiver, frequency agile, excellent condition, $3200. John Salov, WUPS, 1314 Eagle Pt Dr., Clark Lake MI 49234. 800-995-9850.

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(516) 763-1776
silverlakeaudio.com

Marti RPT30 transmitter, 800-900 MHz radio remote or STL, 2 channel w/mixer built in, $1200/BO. Ron Meyer, TSR Media, 5053 Ocean Blvd, Sarasota FL 34212. 312-208-3599.

Marti tube type VHF 160 MHz receiver, as is, $50. Randal Miller, Miller Media Group, 918 E Park, Taylorville IL 62568. 217-824-3395.

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Zephyr's 4 cards #304, excellent condition, BO. Curt Marker, WHWL, 130 Carmen Dr, Marquette MI 49855. 906-249-1423.

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Teac A1500W stereo r-r, as is, $50. Randal Miller, Miller Media Group, 918 E Park, Taylorville IL 62568. 217-824-3395.

TEST EQUIPMENT

Want to Sell

Ampex 300E vacuum tube voltmeter, $30; Beta Scope non destructive thickness guage, $30; (4) HP 400D vacuum tube voltmeters, $40/all; (4) NRI 12 vacuum tube voltmeter, $25; HP 400L vacuum tube voltmeter, $20; Sierra Electronics scope in metal box, $20; Standard electrical products Type LR-5 Adjust-A-Volt variable transformer, cable cut, $20; Supreme 574 electronic set tester in case w/manual, $40; Motorola TA-42 input & output terminals, T&R 2-25 amp fuses, 1-15 amp fuse, $30. Will Dougherty, WLD, Music Valley, Rt 1, Box 1548, Mill Spring MO 63952. 573-998-2681.

TRANSMITTERS

Want to Sell

BE FM-30, 30KW FM. Continental Communications. 314-664-4497. Email: contcomm@fiastl.net.

Harris-Gates BC-10H 10KW AM transmitter. Continental Communications. 314-664-4497. Email: contcomm@fiastl.net.

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RCA BTF-20-E1. Continental Communications. 314-664-4497. Email: contcomm@fiastl.net.

RCA BTF-5-E1 5KW FM transmitter, single phase. Continental Communications. 314-664-4497. Email: contcomm@fiastl.net.

Continental 314R1 power rock AM transmitter, 1 kW AM tuned to 1600 kHz, located in Chicago IL, $5000. George Arroyo, WONQ, 1033 Semoran Blvd #253, Casselberry FL 32707. 407-830-0800.

Continental 814R1, 2.5kW FM, removed from service in 7/01 due to upgrade & frequency change, will include 802-A exciter, needs repair, tuned to 95.3, $5000. Tony St James, KFLP, POB 658, Floydada TX 79235. 806-983-5704.

Harris Gates 2, 2500W solid state AM transmitter, 6 adjustable power levels, LED overload, module status indicator & many more features, 1510 kHz, like new, never used, excellent condition, $21,500. Angie Sugalski, WCN, POB 444, Spartanburg SC 29304. 888-989-2299.

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Harris MW-5 AM transmitter, 5 kW, tuned to 1140 kHz, presently on air, some spare parts, $10,000. Located in Orlando FL. George Arroyo, WONQ, 1033 Semoran Blvd #253, Casselberry FL 32707. 407-830-0800.

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World Radio History

◆READER'S FORUM◆

Richer replies on CFA

Radio World printed comments from Edward Dulaney and Paul Shinn concerning the Crossed-Field Antenna (*Reader's Forum*, Feb. 1). It might be beneficial for me to offer some clarifications.

The ideas inherent in AM propagation have changed little since Marconi's tests 100 years ago. We believe that the CFA is a logical evolution that is being embraced by a number of experienced engineers around the world.

We are completing the installation of a demonstration CFA in England for the express reason of allowing engineers to come in and take their own measurements. We hope to have the initial testing completed by the time this letter is published.

I would point out, however, that while Mr. Dulaney claims that we are reluctant to allow other engineers to conduct experiments on the CFA, the opposite is true. We have 10 CFAs in Egypt, with power from 1 kW to 100 kW, and we've never turned down a request to examine these antennas.

We are also constructing two CFAs in Brazil, where the registered professional engineer in charge, Mr. Sylvio M. Damiani, said, "The first step I took when I got back home was to check the FCC propagation curves valid for 1161 kHz (dBu X distance) for several soil conductivities. I've also made an estimate of nonattenuated field strength at 1 mile for 1 kW of power, resulting in the unbelievable figure of 359.4 mV/m.

"Indeed, what kind of transmitting system is this that puts 50 mV/m of field strength at 55.4 km from the transmitting site, even if one considers the highest soil conductivity known on the planet (equivalent to sea water)?"

Mr. Dulaney's claim that we are reluctant to publish designs or data, conflicts with a paper presented to an NAB engineering session in Las Vegas. I'm happy to supply copies to anyone via e-mail at *cfaricher@snet.net*.

Concerning the use of the word "cable," I say "mea culpa." I was referring to the earth mat that is a component in the installation of most MW masts.

Mr. Shinn should know that CFAs are painted the way they are because the customers requested it.

We have not built a CFA in the United States because, although we have had numerous offers from radio operators to do so, we do not want to build one on a site where there are existing towers. Many skeptics have accused the CFA of not radiating a proper signal of its own, but that the signal is picked up by an existing tower and reradiating. The one we have in England is in an open field.

One of the problems with U.S. broadcasters is that they assume that nothing of significance occurs beyond U.S. borders. We have selected a site in the U.K. because: 1) it is easy to get to from anywhere in the world, particularly from Europe; 2) there is immense interest in the CFA within the U.K. broadcast community; and 3) engineering being what it is, the FCC will accept the figures taken from that antenna provided the measurements are done in compliance with FCC standards.

It is our intention to present detailed test results in the near future, but we are also certain that there will continue to be a core of engineers who will need even further convincing before the CFA is fully accepted.

Robert Richer
President
Crossed Field Antennas Ltd.
Farmington, Conn.

Radio World Source Book

I received the new 2002 Source Book today. Congratulations on another very successful resource.

I noticed that the ZIP code for QSC Audio Products Inc. is, unfortunately, incorrect. The correct zip code is 92626.

Roger Maycock
Marketing Services Manager
QSC Audio Products Inc.
Costa Mesa, Calif.

XM Radio

Just read Larry Tighe's letter in the Dec. 19, 2001 Radio World ("XM excels"), and I could not agree more.

I am the news director of an AM-FM combo halfway between St. Louis and Cape Girardeau, Mo.

We have to provide local news, sports and community announcements in order to give our listeners the service they need and want. It is the only thing our stations can do better than larger, more powerful stations in St. Louis or Cape Girardeau. We do not have to change a thing to compete with XM or other satellite radio service — we're already doing it.

The only stations that have anything to fear from the new service are the cookie-cutter "jukebox" stations. As Tighe said, they may have to dust off their newsroom consoles and come back to real radio.

I am also the manager for a small public access television service on the local cable system. I have already competed successfully against the "dishes" in this medium. I have been told by the local distributor of satellite television services that he has a hard time selling the dishes in our coverage area because people do not want to give up our local access channel by going off the cable.

Don Pritchard
News Director
KSGM(AM)/KBDZ(FM)
Perryville, Mo.

Having read Larry Tighe's comments in the Dec. 19 issue of Radio World, I just have to add my two cents' worth.

I recently purchased the Sony Plug and Play digital receiver for the home and hooked it up to my stereo system.

After noting on the channel guide from XM that they carry a New York City FM station that I am able to hear quite well on my Carver TX-11B tuner, I then decided to do an A-B comparison.

The result can be summed up this way: It's like hearing an old cassette tape vs. a new CD, but even some of my CDs don't have the XM quality. And if you have a sub-woofer in your system — stand back!

FM sounds so inferior with all that processing and modulation noise, I will no longer subject my finely tuned XM ears to poor 'ol Major Armstrong's technical achievement.

Dick Tyler
Retired Broadcaster and
Chief Engineer
Burlington, N.J.

Get Off The IBOC Dime

"We have arrived."

"Once they turn on satellite radio, they don't go back to AM-FM radio."

"People want to go on errands to try out satellite radio."

"I drive slower, because I don't want to get out of my car."

"I don't mind traffic jams. I look for them."

"Listeners say they hear songs long-forgotten by traditional radio."

These kind of comments, from consumers and satellite radio providers at the recent CES show, demonstrate the market's interest in satellite radio.

But these remarks also should inform terrestrial radio and the FCC that it is time to mark out a clear transition path for IBOC before radio is left further behind.

Unfortunately, the details of how terrestrial DAB would roll out are fuzzy. Broadcasters require more information about how a rollout would proceed, both to plan for plant conversion costs and to handle the regulatory process.

For example, must a station's license be changed to broadcast the IBOC analog and digital signal? How must IBOC equipment certification work?

The FCC has said it supports radio's digital transition, and it began a DAB rulemaking. Now it is taking comments on a report by the standards-setting National Radio Systems Committee, which endorsed Ibiquity's FM system.

By the end of March, the agency should have the NRSC report on the AM system as well.

FCC employees are cautious when talking about digital radio. By policy, they can't reveal to anyone outside the commission what they intend to do about an open proceeding. But the commission needs to lay out a clear road map for the transition. We urge them to put their top technical people on the task of reviewing the data, and to treat terrestrial digital radio as a priority.

In fact, it's unclear even whether stations require FCC approval to implement IBOC technology. Ibiquity has said it could proceed with the rollout on its own. The FCC apparently sees the matter differently and doesn't want to be rushed in its decision-making.

This disagreement could well be moot if the FCC approves IBOC; but we should know now how things would proceed if it didn't.

— RW

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