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The New Convergence
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The Pod People
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Radio World®

$2.50 The Newspaper for Radio Managers and Engineers May 25, 2005

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More, Cheaper, Faster Digital

Product Pace Accelerates To Support HD Radio Rollout

by Leslie Stimson

LAS VEGAS Four companies are rolling out HD Radio transmission products. Several have been producing associated antennas. More receiver firms are rolling out IBOC radios now or plan to do so this year.

As major broadcasters pick up the pace of their rollout, promotion of digital radio is top of mind and so is content.

If one word captures the buzz about digital radio at the recent NAB convention, it would be "multicast." Several booths featured demonstrations of what broadcasters might be able to do if they split their digital signals into several streams; receiver manufacturers are introducing, or planning to introduce, HD Radios with the capability to decode multiple FM signals.

What follows are highlights of news from the NAB2005 convention. Radio World will also provide more in-depth coverage of HD Radio sessions and equipment demos, as well as the highlights of the NPR Public Radio Engineering Conference, in the HD Radio section next issue.

Photo ©NAB

NAB saluted Don Jones of RF Specialties of Texas for 40 years of consecutive NAB attendance. He's shown with NAB Senior Vice President of Conventions and Expositions Chris Brown. Also noted was TV engineer John Silva, not shown, who attended his 51st NAB convention.

FRITTS SAYS 'FAREWELL'

In his last address to spring show attendees as president and chief executive officer of the NAB, Eddie Fritts quoted a former broadcaster, the late Ronald Reagan, as saying, "Politics is not a bad profession. If you succeed, there are many rewards. If you disgrace yourself, you can write a book."

Fritts said serving broadcasters in his 23 years at the helm of NAB "have been an honor and a privilege" as he "walked miles through the corridors of Congress and the FCC."

It's a good thing, too, Fritts, said, he eventually proved former Senator Bob Packwood's early prediction wrong about the NAB not being able "to lobby its way out of a paper bag."

Before passage of the 1996 Telecom Act, Fritts reminded the audience, 60 percent of radio stations were losing money. Consolidation helped them grow.

"Where would radio be if Congress had *not* changed the outdated ownership rules? What if Congress had *not* rolled back the FCC's initial low-power FM plan and allowed hundreds, if not thousands, of new

See SHOW, page 8 ▶

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Clear Channel Realigns, Spins Off Entertainment

SAN ANTONIO, Texas Major corporate changes are in store for the second half of the year at Clear Channel Communications. Its board approved a plan it said is focused on increasing shareholder value.

The plan includes the spin-off of Clear Channel Entertainment; an initial public offering of approximately 10 percent of Clear Channel Outdoor; a special $3 per share dividend; and a 50 percent increase in the company's recurring quarterly dividend.

Clear Channel must get final approval by its board, a letter from the IRS relating to the Clear Channel Entertainment spin-off and meet other conditions; but shareholder approval is not required, it said.

The principals said the move will enable the company to better focus on advertising for the broadcasting and outdoor units. President/CEO Mark Mays said, "We are the best equipped radio broadcaster to benefit from a rebound in advertising while leveraging the sustainability of local content."

The company's broadcast holdings include 1,189 radio stations, equity interests in international broadcasting companies, a national radio network and 40 owned or programmed TV stations.

"We expect these transactions to highlight the fundamental value of each of our leading businesses in a tax-efficient manner, so that current and future investors can more clearly evaluate the company's overall inherent value," stated Mays.

CFO Randall Mays said the company is "returning a considerable amount of excess capital directly to shareholders."

Outdoor

Clear Channel will continue to hold a controlling stake in the outdoor business. The company said a partially separated outdoor division would have more focus and flexibility.

"Additionally, Clear Channel Outdoor will be able to supplement its attractive organic profile by pursuing selective acquisitions using a currency based on its inherent valuation rather than the blended valuation represented by the Company's current common stock," the company said.

It said this will also enable Clear Channel Outdoor to better attract, retain and reward management and let shareholders evaluate the business better.

The firm named Paul Meyer as global president and chief operating officer of the outdoor worldwide operations. He continues to oversee outdoor operations in North and South America.

Entertainment

Clear Channel is getting out of concert venue operations and intends to spin off its entertainment unit, which had about $2.75 billion in sales for 2004.

The CEO of Clear Channel Entertainment will report to a separate board although the firm expects the entertainment division will still be based in Houston.

Entertainment Division CEO Brian Becker is pursuing other opportunities outside the company, the company said; he and Clear Channel decided to form a joint venture to pursue entertainment content opportunities through acquisition and development. Randall Mays is serving as interim CEO during the transition.

With the announcements above, Clear Channel also said it would pay a special dividend of $3 per share pending completion of the IPO of Clear Channel Outdoor and the spin-off of Clear Channel Entertainment.

It also announced a 50 percent increase in its quarterly dividend, from $0.125 per share to $0.1875 per share.

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World Radio History

Stations to Promote HD Radio

Ibiquity Expects Broadcasters Will 'Take Up the HD Radio Challenge'

by Leslie Stimson

"We need to sell HD Radios."

That's how Ibiquity Digital President/CEO Robert Struble characterized one of the industry's challenges this year as stations convert facilities to digital.

Station promotion of the technology and broadcaster efforts to reach the consumer electronics retailers are part of that effort, according to panelists in "HD Radio: You Ain't Heard Nothing Yet" as well as receiver manufacturers and CE retail representatives at the NAB show.

"The technology curve drives ahead of the consumer demand curve," said Dan Mason, a program consultant to Ibiquity for the rollout. "The only way to close the gap is to take the technology and promote it on the air."

Last year, three manufacturers offered HD Radios, and in only aftermarket automotive form. This year, Ibiquity predicts 15 to 20 models will be available, and in more product categories.

One automaker, at least, reportedly plans to introduce HD Radios in cars this fall; many observers believe it is BMW. Automakers like to announce their own features and normally do so closer to new vehicle launches.

Struble says Ibiquity "has commitments from eight other brands in 30 different vehicle platforms, which we think will be rolling out in the next couple of years."

About 10,000 HD Radios were sold last year. Ibiquity expects that number to grow to about 100,000 this year. And next year? "The story for '06 is more, cheaper, better. Demand drives it all." Struble said.

Polk Audio, Boston Acoustics and Radiosophy say they will release HD Radios for the home this year.

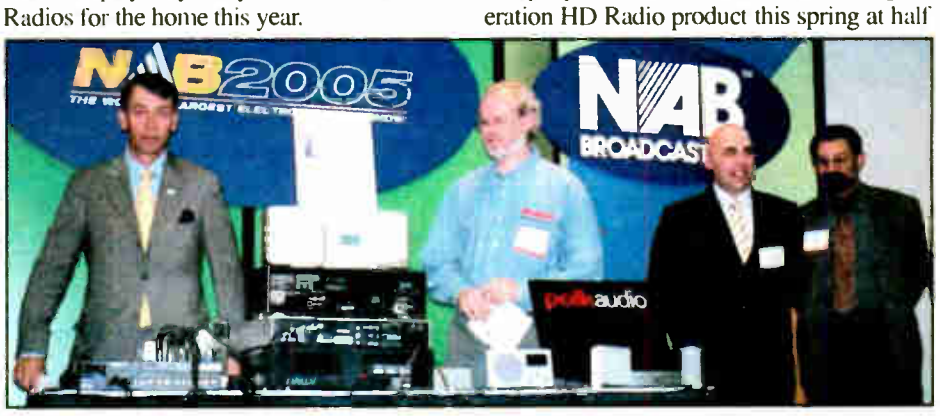

Photo by Leslie Stimson

From left: Ibiquity's Bob Struble, Boston Acoustics' Stephen Shenefield, Panasonic's Robert Lopez, and Polk Audio's Paul DiComo prepare for the Ibiquity press conference.

Stephen Shenefield, director of product development for Boston Acoustics, said the HD Radio version of the Recepter would be one of the first home- or office-oriented terrestrial digital radio products.

"The important thing about this product category is it puts the radio where many people listen."

He's had "several" HD Radio aftermarket radios in his car for the past nine to 10 months and said, "As a music user I've been pleased with the advancement of the technology. I think consumers will really get it; it will sell well."

Boston Acoustics offered a $299 NAB show price for the product for broadcasters.

The Recepter Radio HD ships in June and will have the ability to decode several digital channels.

Several other receiver manufacturers plan to introduce HD Radio products this year.

Robert Lopez, group manager for Panasonic Mobile Electronics, said the company is set to introduce its second-generation HD Radio product this spring at half the retail price compared to last year. Then, Panasonic had introduced a separate HD Radio receiver; this year, the HD tuner is incorporated into the head unit, hence a lower price of just under $500.

Given the buzz at the show about multicasting and station interest, he said, Panasonic recognizes the need to introduce that feature in its HD Radio products earlier than planned.

Panasonic is looking to make HD Radio "more of a mainstream product" and is developing future IBOC offerings, he said.

He said retail interest in HD Radio is high. "For us manufacturers, it's always about demand. (You) need to increase awareness to increase demand."

Sanyo Fisher plans to introduce its first aftermarket automotive HD Radio receiver this year. Product Development Manager for the Audio Video Division Chris Palmer said the company has kept abreast of IBOC development for several years. "We are now convinced that the station infrastructure is in place to ensure mainstream adoption of this technology."

Radiosophy, formerly RiverRadio, has a projected price of $249.

"Along with your listener education, tell them about our radio," states the company in a brochure. "We sell, ship and bill. Then we send you a check."

Company President Richard Skeie said the name Radiosophy means "intelligent radio. It reflects that we blend computers with radios." Radiosophy is a privately held company with operations in South Dakota, formed in 2004. The founders describe themselves as computer professionals.

"By keeping manufacturing costs low and selling directly to consumers over the Web, we will be able to offer an HD tabletop receiver with multicasting abilities in

See HD RADIO, page 5 ▶

NEWS WATCH

Lawmakers Debate Indecency

Much of talk at the annual congressional breakfast focused on discussion of whether TV stations should give back their analog spectrum by 2006. Toward the end, though, indecency received serious attention from the panelists, especially the measure by House Telecommunications Subcommittee Chairman Fred Upton, R-Mich., which would raise the FCC's penalties for indecency to $500,000 per utterance.

The bill, passed by the House, also includes a provision to revoke a station's license after three violations of indecency rules and allows individuals such as on-air talent to be fined under certain circumstances.

Several panelists urged broadcasters and programmers to curb their programming to guard against indecency violations.

"If we're talking about fines, the bad thing has already happened. I talk to broadcasters about their contracts with the networks," said House Commerce Committee member Michael Bilirakis, R-Fla. "They (broadcasters) have the right to reject but not the right to preview network programming."

Asked whether cable and satellite should be included under the FCC broadcast indecency rules, Senate Commerce Committee member Conrad Burns, R-Mont., said, "Those are pay services. When do the programmers start taking some responsibility? I haven't heard anybody out of the creative community yet say we need to take a look at what we're providing. It's a paid service. I think MTV should be a paid service like HBO."

Smith: 'Let's Move Forward'

HD Radio "works and works well. The shouting is over," said Greater Media, VP/Engineering Milford Smith upon receiving this year's NAB Radio Engineering Achievement Award.

Smith, also co-chairman of the standards-setting body, the National Radio Systems Committee, said now that the group had adopted a standard for digital radio which "will pave the way for the FCC to write its formal rules for the service," broadcasters and receiver manufacturers need to support the rollout.

"Let's work together on moving forward rather than lusting after an analog past which is already becoming, by technology standards, ancient history," he said.

He thanked a number of people, including several fellow NRSC colleagues as well as Greater Media co-workers and President/CEO Peter Smyth, Chairman John Bordes and late Chairman Peter Bordes for supporting his time spent on industry standards-setting efforts.

He thanked his wife of 34 years, Maralee, and their daughter, Ashley, a senior at Amherst College, who was hospitalized earlier this year. Smith dedicated his award to her successful recovery.

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World Radio History

Simone Leaves Her Thumbprint

From the Editor

Paul J. McLane

Simone is leaving.

Many Radio World readers, and virtually all of our advertisers, know whom I mean. There's only one Simone.

Look in the back of the paper and you'll find her name in small print: Simone Fewell. It's been there for 26 years. Over that time her last name has changed, her title has changed, the name of the paper has changed. But around here, you don't need to know her last name anyway. She's just Simone; and no one has worked for Steve Dana, the founder of IMAS Publishing, longer.

BEE

After moving to the DC area from New York with her husband, Simone responded to an ad seeking a part-time secretary, working with Steve Dana in a small office on Wilson Blvd. in Arlington, Va., a few miles from its current headquarters at Bailey's Crossroads in Falls Church.

When she joined, Radio World was Broadcast Equipment Exchange — "serving the communications industry worldwide" — a monthly publication built around a marketplace of products bought and sold.

Reading BEE, you might see a listing like this: "Limiters, Want to Sell: FM volumax 410 automatic peak controller, $250. Key Code 6-79." The listing was free to the seller. If you wanted to buy that item, you needed to decode the key code to complete the transaction; only paying subscribers got the key code list with the contact info. Or you could receive BEE for free and then buy the key code list for $5 only when you needed it.

Those were days of rotary pots and Microtrak arms; MCI and Ampex; Clone-Tone and Fidelipac. Equipment buyers knew nothing of the Internet or e-mail, eBay or listservs; faxes had yet to take hold.

If an engineer wanted to engage in the time-honored pleasures of the equipment swap, he needed help; and BEE offered it. Only over years did the editorial content, now the bulk of the publication, grow up around it. In May of 1979 BEE was 24 pages, and almost a third of those were equipment listings. Its circulation was a fraction of what it is now.

"It was pretty much just Steve and me," she said. "My office was in the supply room. I typed everything by hand, on a manual typewriter; and I did the labels on a Scriptomatic machine."

She was the receptionist and the accountant; she chased down late payments. Over time she would also lay out the issues, physically cutting and pasting; there was no desktop publishing.

Simone as she appeared on a promotional RW renewal card.

Dana wrote copy, sold ads, expanded the editorial content of the paper and hired more people. BEE became Radio World. Simone's job, too, changed over time. She managed circulation, she took on sales administrative duties.

"Editorial is the only work I haven't done here," she said. (But the first reference to her that I find in our archives is May 1979, where the masthead lists her as, yes, editor.)

Personal contact

Her current title — in charge of "classifieds and product showcase ads" — belies her role. You get a better idea of it by noting where she sits: on the top floor, and three feet from the president's office door, closer than anyone at IMAS.

Or you can stand in RW's booth at the NAB show as advertiser after advertiser comes by and asks for her. "I sent this to Simone…" "I've known Simone for 25 years…" "Please say hi to Simone for me."

Relationships with clients have been the best part of her job. Quite a few she's never met, having worked with them only by phone.

She recalls the advertiser who sent her a hand-painted Christmas ornament from Asia, and the sympathy she received when her husband passed away. She enjoys chatting about how some of her early clients have grown and changed.

"Look at Harris," she said, recalling the days of Allied Broadcast Equipment, "a family business that is now a big corporation." And as you might expect of a girl from Queens who grew up in a beauty parlor, she is also funny and blunt: "Ninety-five percent of the people have been great," she told me. "But you do get a couple of jerks."

Not big on exposure, she pooh-poohed the idea of sitting for a photo here. Many readers got to know Simone anyway when her picture appeared on a circulation card.

She has a quick tongue and brooks no B.S., as I learned early. She tells you what she thinks. When I asked her to chat with me for this article, she was quite clear: "Don't make it an obituary!"

Moving on

Simone's headed south now, to a less hectic corner of Virginia. She'll work there, enjoying her country music and oldies, her NASCAR, the slower pace of life, the lack of sales deadlines and traffic jams.

It will be odd for me to sit down in the conference area outside my office for "final proof," as we do with each issue of Radio World before sending it to the printer, and not have Simone with us, exchanging wisecracks and making sure each ad runs just as ordered.

"I'm excited and nervous," she said of her life change. "I've been here so long, it's all I know." Not one to give a compliment lightly, Simone salutes Steve Dana for the business sense he helped teach her. "Everything he's done has been for the needs of this company," she said.

"I love my job, I wish I could take it with me. I learned a lot here," she continued. "I knew nothing about the publishing business. Now I feel like I have a profession."

The Broadcast Equipment Exchange lives on, in the back of each issue. But in Radio World, Simone's thumbprint is on *every* page.

World Radio History

Surround Sound Systems Wrangle

by Leslie Stimson

Whether or if the radio industry will select one surround sound technology to coincide with HD Radio is still very much in flux.

The National Radio Systems Committee — the standards-setting group co-sponsored by NAB and the Consumer Electronics Association — has yet to determine whether it will choose a surround system to recommend for use with HD Radio; it is still in the early stages of studying them. After the convention, members scheduled a May 9 demo with all surround sound participants. NRSC Chairman Charlie Morgan and others stressed the event was not intended to be a "shoot-out."

But surround sound was a hot topic at the convention, at demos in the 5.1 Pavilion on the exhibit floor and in session panels.

Representatives for companies adapting their technologies for digital radio peppered each other with sharp questions during "Surround Sound — A New Frontier for Radio." Proponents from Omnia Audio, SRS Labs, Coding Technologies and Neural Audio discussed the pros and cons of matrixed, or non-discrete, channels vs. non-matrixed — discrete or separate channel — surround sound systems.

Ibiquity had just certified Dolby's Pro Logic II system as compatible with its HD Radio technology and thus its representatives were not on the panel. However, the NRSC will now include Dolby in its surround task group.

Alan Kraemer of SRS Labs said a lot of surround sound systems are touted as being discrete, but are not.

The NRSC is also looking at the systems offered by the proponents who spoke.

Independent verification

Omnia President Frank Foti said surround is a great application for HD Radio and can drive consumer adoption. He said terrestrial radio is under attack from other media, such as satellite radio and iPods, and broadcasters need to act on surround sound.

"Please let's not let FM radio become a media backwater," Foti said.

When asked what happens with his system if something goes wrong, Foti said it drops back to stereo.

He said independent testing of all surround systems is important, and vigorously questioned the other panelists about the testing done on their systems.

"We're fooling ourselves if we say, 'We've done a bunch of Grammy nominations (in surround sound) and we're done,'" he said.

Neural Audio subsequently issued an announcement that Dr. Schuyler Quackenbush had led an independent test effort of its system. Quackenbush is president of Audio Research Labs and chairman of the MPEG audio subgroup that led the test efforts.

Coding Technologies developed Spectral Band Replication, which Vice President and General Manager of U.S. Operations David Frerichs said "approximately doubles the efficiency of audio codecs." SBR is used in the Ibiquity Digital HDC codec for HD Radio.

Frerichs said the MPEG parametric sound is going to become part of MPEG-4, an open standard. "The goal of the MPEG surround system is to accurately replicate sound."

He said broadcasters need a surround

See SURROUND, page 6 ▶

HD Radio

▶ Continued from page 3

June," he said. The unit can decode multiple digital signals; the company says it can be incorporated into an existing sound system or used in a car, kitchen or boat.

Ya gotta promote it

Yet as more receiver manufacturers introduce HD Radio product, they and Ibiquity are pushing broadcasters to promote the technology and the radios because much of the public doesn't know what HD Radio is.

To keep HD Radio sales from being converted to satellite radio in stores and car dealerships, Struble told Radio World, much needs to be done.

"There's a massive need for consumer awareness, promotion and education. The plan is for broadcasters to take up that challenge."

Rather than airing massive TV campaigns like their satellite radio counterparts, terrestrial broadcasters will have a grassroots station-by-station effort, Struble said. "The radio broadcasters are fabulous at promoting products and educating their listeners. They know how to do this. They're going to take up the HD Radio challenge and do that.

"It doesn't make a ton of business sense for the broadcasters to invest hundreds of millions of dollars as they've committed to do in (converting) stations and not tell anybody about it."

Struble reported a lot of effort "at the highest levels" of radio groups to develop plans to promote the technology.

Ibiquity is preparing to support stations in their HD Radio promotions. The company has a marketing guide that lays out how stations can incorporate digital radio in their events as well as radio giveaways, on-air promotion, billboards, demo cars and remotes at retail outlets.

The company also is developing an online training program for retail salespeople so they can become acquainted with HD Radio and its products. The online program should be completed this summer, according to company vice president of marketing Dave Salemi.

Ibiquity executives also pointed to the Radio Advertising Bureau as planning to share HD Radio promotion "best practices" with member stations.

As an example of promotion planning that's in discussion now, Good Guys, a retail chain based in the Northwest, is planning to work with broadcasters and vendors in the Los Angeles market to sell HD Radios.

This is an artist's rendering of Radiosophy's HD Radio. The company is offering stations the option of placing their call letters on the center pre-set button.

Josh Finkelstein, senior buyer for mobile audio told Radio World, "Some of our local stations and Good Guys are planning to do in-store events, where every commercial break or so the channel will promote 'Come into Good Guys right now and check out what this channel that you're listening to sounds like in HD Radio compared to what you're hearing. We guarantee there will be a difference. Enter to win a product.'

Good Guys has approximately 70 retail locations on the West coast. Through its recent merger with Comp USA, the chain plans to roll out HD Radio product eastward through the 200-plus Comp USA stores, which will promote the HD Radio brand as well.

Broadcasters transmitting digital/analog signals are doing so under the FCC's interim authorization for IBOC.

Deborah Klein, acting bureau chief of the FCC's Media Bureau, said the commission would address remaining issues for implementing IBOC, such as multicasting and AM nighttime operation, in the agency's further order on the technology. She said the agency hopes to get the order out to the public this summer.

World Radio History

Curbing Raunchiness Debated

Panelists Bat Around Concept of Indecency Self-Regulation

by Lauren Evoy Davis

LAS VEGAS Broadcasters facing heightened scrutiny over alleged indecent programming sounded off in a freewheeling discussion of shock talk, racy content and government oversight in a panel discussion at NAB2005.

The session, in a "town meeting" format, featured members of NAB's Responsible Programming Task Force, along with station owners and network TV who talked about what they are doing voluntarily to avoid FCC fines and the wrath of Congress.

CNN's Jeff Greenfield kicked off the session "Come Together, Right Now!" by making a naughty play on words.

Greenfield said young people who named the session might not have known that the referenced Beatles song promoted simultaneous orgasms. That comment livened the crowd right up.

Take this seriously

"We are trying to demonstrate to the FCC and many constituents that we can self-regulate that we do take this seriously," said David Kennedy, president and chief executive officer of Susquehanna Radio.

All members on the panel seemed to agree that self-regulation is better than having government decide on which content to air.

However, how the groups would implement the self-regulation was another matter, because of varied demographics in this country.

"You can't write rules that apply to all," Kennedy said.

The irony of talking about indecency while spending a week in "Sin City" was not lost on the crowd.

Gary Chapman, chairman/president/chief executive officer, LIN Television, agreed. "What is acceptable in Grand Rapids and Las Vegas are not the same. It's difficult for the Supreme Court to decide one size fits all."

Good judgment

Training and staff education were offered up as measures stations could take to ensure that radio and TV personalities make appropriate choices.

Greenfield peppered panelists with spicy questions, such as how can you train people *not* to send listeners into St. Paul's Cathedral to have sex, a reference to the infamous Opie & Anthony radio show stunt. The duo has since moved to XM Satellite Radio; the pay service is not subject to the commission's indecency rules.

Clear Channel Communications President/CEO Mark Mays agreed, citing his six-child household where his wife reigns supreme over the remote control when Viagra commercials and similar promos are broadcast during family television hours.

Rideout said that through focus groups and other research, she has learned that parents are less concerned about the fleeting exposure of a breast on TV than they are with the coarse day-to-day content with which people are bombarded.

Photo by John Staley, ©NAB

From left: Tony Vinciquerra, Jeff Smulyan, Victoria Rideout, David Barrett and Mark Mays

"We're never going to cure stupidity in our industry," said Jeff Smulyan, chairman and chief executive officer of Emmis Communications.

More people seem to hear and read about a millisecond of an exposed breast or a televised bachelor party incident than those who may have actually seen these incidents, panelists agreed.

For those who may have missed that episode of Fox's "Married in America," it contained the requisite bachelor party rituals — a person eating whipped cream off of exposed, albeit pixilated, body parts.

About the latter, Greenfield asked Tony Vinciquerra, president and chief executive officer of Fox Networks Group, "What the hell was Fox thinking?" Vinciquerra conceded this was "not our finest moment on television," yet maintained the show was not "actionable" in terms of violating FCC indecency rules.

Family shows, raunchy promos

For Victoria Rideout, vice president and director of the Program for the Study of Entertainment Media and Health at the Henry J. Kaiser Family Foundation, the concern is not so much about the shows aired during the so-called indecency "safe harbor," but the promos for those adult-themed shows that air during family-viewing hours.

About promos for steamy shows, David Barrett, president and chief executive officer of Hearst Argyle, said, "We have to schedule these things in a more thoughtful way."

The V-chip and content ratings systems can help parents guard their children against programming they consider inappropriate, and broadcasters can implement audio delays, but many questions remain about how broadcasters can make parents happy without having the government censor content.

"Let us take a crack at this. Let us self-regulate rather than have the government regulate," Chapman said.

This story first appeared in the NAB Daily News and is © NAB.

Surround

▶ Continued from page 5

system that will address today's FM needs, but can also be used with streaming and other uses beyond HD Radio down the road.

Robert Reams, chief technology officer, co-founder and chief scientist for Neural Audio, told attendees that 5.1 content is scarce, so broadcasters need to think about how they would both upmix and downmix audio from stereo to 5.1 and back again.

Storage of 5.1 content in automation systems is also something for broadcasters to think about, he said, noting he saw three products at the show that can store 5.1 content as a WAV file.

Bandwidth issues

Reams and Frerichs said their systems underwent so-called MUSHRA testing, a form of detailed analysis by independent experts.

Alan Kraemer, executive vice president of technology and business development for SRS Labs, which developed Circle Surround technology, said the marketplace is already forcing a choice in surround sound systems.

"We have moved past the AM stereo era," he said, referring to the technology that most experts agree failed to catch on with consumers because no single system was agreed upon by the industry.

Consumer electronics manufacturers such as Yamaha, Kenwood, Fujitsu 10 and Eclipse have adopted surround sound systems, he said. Auto manufacturers such as Honda are expected to add surround to their receiver offerings soon.

A lot of surround systems are touted as being discrete but are not, Kraemer said. "Parametric systems provide incremental improvements over pure matrixed systems but they require infrastructure changes. No truly discrete system is practical due to bandwidth limitations."

In the automotive environment, the SRS system compensates for non-optimal speaker location, as the acoustic perspective of listeners changes depending on where they are sitting, he said.

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◆ NEWSWATCH ◆

Arbitron No Longer Waits on Nielsen For PPM

NEW YORK Arbitron isn't waiting anymore for Nielsen to decide what level of involvement it wants in the Portable People Meter; the company has moved on.

PPM President Pierre Bouvard, in an April memo to customers, said the company informed Nielsen "of changes that redefine Nielsen's role" in the Houston market trial of PPM.

Arbitron has withdrawn its invitation for Nielsen to participate in day-to-day operations of the Houston PPM market trial. Given the progress of that trial, Arbitron said that by the time Nielsen would make its decision, the Houston demo market will be producing audience estimates.

Nielsen will still provide access to its meter/diary television audience estimates in Houston so that the industry can compare those to audience estimates produced by PPM.

"Instead of spending time determining how Nielsen might fit into to an already functioning Arbitron organization in Houston, we would rather we spend our time with Nielsen focused on those issues that hold the most promise for bringing the PPM to the marketplace," stated Bouvard.

At Arbitron's request, Nielsen has agreed to focus on two of the three current priorities: a look at the audio detection capabilities of the PPM and a study of the issues that a potential joint venture must resolve in order to deploy the PPM as a local market ratings service for radio and television.

Arbitron plans to start releasing comparisons of PPM to diary audience estimates in late August.

Ibiquity's Stull Promoted

COLUMBIA, Md. Ibiquity Digital promoted Scott Stull to vice president of Broadcast Business Development. Previously, he had been director of that group.

Company COO Jeffrey Jury credited Stull with helping to develop agreements between Ibiquity and transmission equipment manufacturers and broadcasters.

"This promotion recognizes the growing number of stations committed to HD Radio in the U.S., and increased interest in other markets," noted Jury.

Stull joined Ibiquity in 1999. Previously he was director of development for a database system developer in the San Francisco area.

FCC to Auction More FM Allotments

WASHINGTON The FCC will begin a new FM auction on Nov. 1. A total of 173 allotments will be available; 143 are new while 30 remain unsold from the previous FM auction.

Auction No. 62 will use the FCC's Integrated Spectrum Auction System, a redesign of the previous auction application and bidding systems. The commission says it has updated the Form 175 application search function. The agency also tweaked the auction bidding system for what it believes will lead to easier navigation, customizable results and improved functionality.

Expect a procedures notice in June, followed by a filing window in August.

Comments on minimum opening bids and procedures regarding DA No. 05-1076 were due April 29, with replies on May 5.

BE Offers Consulting Engineer Training

QUINCY, Ill. Broadcast Electronics begins what it calls a "Learn and Earn" series of sessions for consulting engineers starting June 1 at the Wyndham City Center hotel in Washington. Topics include HD Radio system evaluation, including coverage, interference and operating parameters. Creating a functional and compliant synchronous FM system will be covered.

Consulting engineers who participate will receive a certificate of participation. The company will list participants on its Web site as a resource for stations and groups. The initial sessions in the series take place June 1 and are free. Complimentary lunch will be offered.

Pre-registration is required. Consulting engineers can obtain agenda details and sign up by e-mailing *consultants@bdcast.com.*

RAB Seeks to Educate Wall Street About IBOC

IRVING, Texas To help Wall Street analysts get the gist of HD Radio, the Radio Advertising Bureau has developed what it's calling a white paper on the technology, a marketing primer on where digital radio is headed.

"The White Paper also lists some of the revolutionary features HD Radio holds for consumers and advertisers," state RAB President/CEO Gary Fries and VP, Corporate Marketing Renee Cassis in a letter to analysts.

To read it, go to *www.rab.com/release.cfm?id=940*

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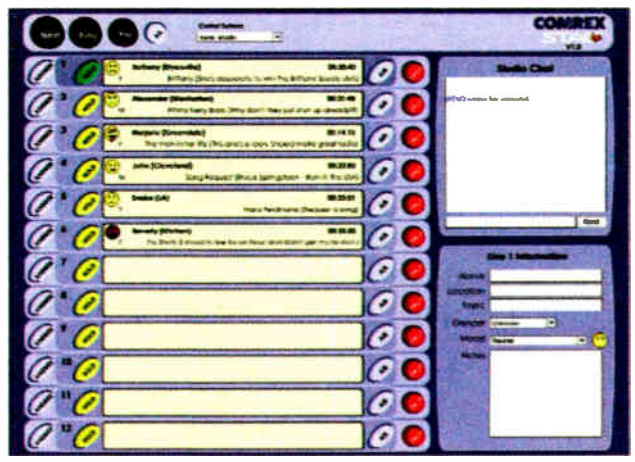

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World Radio History

Show

▶ Continued from page 1

low-power stations to create technical interference for radio listeners?" Fritts asked rhetorically.

Issues on the horizon left for the organization to tackle: the re-write of the Telecom Act, radio's digital transition and indecency. Fritts said while many experts predict it could take years to finalize a communications package, "the stakes are high" for the outcome.

Detailed excerpts of Fritts' remarks appear on page 52.

NAB ATTENDANCE 104,000 — UP 7%

NAB says more than 104,000 attendees registered for the spring convention; of that figure, some 23,400 were international attendees.

The trade group said 97,544 attended last year's spring show. It planned to release final attendance figures for this show after the convention. The show record was reached in 2000, at around 115,300.

WESTWOOD ONE TO OFFER MULTICASTING PROGRAMS

NPR had announced plans to offer programming for member stations that are splitting their FM digital signals; now so will Westwood One, the first commercial program provider to do so.

Westwood said it would make its lineup of news, sports, talk and entertainment programming, as well as traffic and information content available to HD Radio FM broadcasters for their multicast services.

Its audio programming and traffic data content were showcased at Ibiquity's booth. Home and auto radios receiving HD Radio broadcasts contained Westwood content.

Westwood traffic content also was part of a traffic demo in which an integrated HD Radio receiver and GPS Navigation system were used to illustrate real-time traffic overlaid on navigation systems.

Photo by Leslie Stimson

NPR's Kyle Evans demos the Kenwood HD Radio tuner with multicast capability in this vehicle in Ibiquity's booth.

NPR EMPHASIZES 'MULTICASTING,' SWAPS TOMORROW RADIO NAME

Twenty-four NPR member stations will begin multicasting in 2005, the network said.

It also has set up a Multicast Receiver Team made up of seven member stations. They are talking to receiver manufacturers that answered NPR's request for proposals for receivers containing the ability to decode multiple IBOC signals. NPR hopes to seal a deal for a bulk receiver purchase this spring with delivery in time for fall fundraisers.

Under the Tomorrow Radio initiative, NPR, Kenwood and Harris combined efforts to test the concept of splitting a station's FM IBOC signal into several channels to see if the extra channels would survive a mobile environment. NPR has a service mark on the "Tomorrow Radio" name. The joint project will continue under that name, but the pubcaster has now trademarked "NPR Multicast" and is trying to establish that as its brand name for the multichannel concept.

Kenwood, for example, has been certified by NPR to use the "NPR Multicast" brand logo on its HD Radio receivers, the KTC HR100-TR and KTC HR100-MC units.

The stations on NPR's "multicast receiver team" are WOSU(FM), Columbus; WUSF(FM), Tampa; WFAE(FM), Charlotte; WNYC New York Public Radio; Chicago Public Radio; Northern Indiana Public Radio; and Colorado Public Radio.

NPR ADDS FIFTH MULTICAST MUSIC FORMAT

NPR also added to its previously announced program lineup that can be used by member stations that multicast HD Radio signals.

In January, NPR said it would offer jazz, classical, triple-A and folk formats for free beginning this summer. The network has added an electronica channel.

There are 56 public radio stations broadcasting in HD Radio, with a total of 312 public stations committed to converting in coming months, according to NPR. Vice President for Engineering and Operations Mike Starling called digital radio "the biggest innovation in radio since Armstrong invented FM in 1933.

"Public radio looks at multicasting with HD Radio as more than just a new technology. It's a creative, cost-effective way to extend our public service at a time when demand for public radio is greater than ever," Starling said.

KSTJ, KCNV DEMO MULTICASTING

Beasley's KSTJ(FM) in Las Vegas broadcast a demo of an HD Radio multicast during the show. The station was the first Beasley facility in the Las Vegas market to go IBOC. It is also the first commercial station publicly to demonstrate the split digital signal concept.

With gear and technology from Broadcast Electronics and Ibiquity Digital, KSTJ aired a digital multicast program channel alongside its main analog and digital channel, as well as separate data streams containing program associated data and two real-time traffic alert systems and other navigational content.

The multicast programming was received by a Kenwood receiver, which displayed program-associated data such as song title, artist and other "now playing" information. The streams of traffic information were coded by event, such as an accident or freeway jam and its location, as an overlay to vehicle navigational systems.

Public station KCNV(FM) also demoed the multicast concept; it could be heard on Kenwood and Boston Acoustics receivers in Ibiquity's booth. Both KCNV and KSTJ broadcast two channels of audio and two data channels.

CITADEL JOINS GROUPS IN FASTER CONVERSION

Citadel Broadcasting will join the coalition of broadcasters that recently announced accelerated plans to convert stations to digital HD Radio. Citadel plans to convert 60 of its 155 stations to HD Radio over three years.

Ibiquity said all top 10 broadcast groups now have sped up their digital radio conversions.

"The digital experiences offered by HD Radio superior sound, the ability to multicast additional content on FM stations and data that can be displayed on receivers, will allow us to continue producing the best entertainment possible for consumers," stated Farid Suleman, Citadel chairman/CEO.

Citadel joins 21 groups that announced their accelerated HD Radio rollout plans in January.

KENWOOD SHIPPING MULTICAST TUNER NOW

Beginning this month, Kenwood began shipping to its dealers HD Radio tuners with the ability to decode several digital channels. The unit, which sports an "NPR Multicast" logo, is an upgrade of Kenwood's current HD Radio tuner, the KTC-HR100, which can be used with HD Radio-Ready Kenwood in-dash receivers.

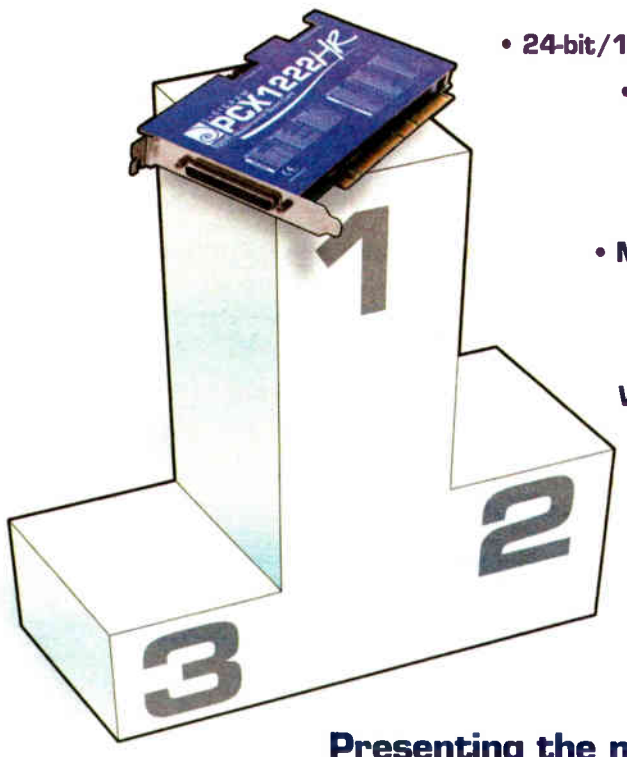
The radio lists for $500 and is available from Kenwood dealers. Kenwood USA VP/New Technologies Mike Bergman told Radio World the company rewrote the firmware for the radio, "giving it the ability to recognize the presence of supplemental channels tune to them and also display song title and artist."

Dealers can special-order the units at a customer's request. Crutchfield will also carry the new product.

Kenwood is also offering upgrades of its

See SHOW, page 10 ▶

The industry standard reaches new heights



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The routing switcher gets a new twist.

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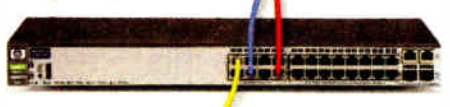
Routers are OK... but a network is so much more modern. With Axia, your ins and outs are next to the audio, where they belong. No frame, no cards, no sweat.

Scalable, flexible, reliable... pick any three.
An expensive proprietary router isn't practical for smaller facilities. In fact, it doesn't scale all that well for larger ones. Here's where an expandable network really shines. Connect eight Axia 8x8 Audio Nodes using Cat-6 cable and an Ethernet switch, and you've got a 64x64 routing switcher. And you can easily add more I/O whenever and wherever you need it. Build a 128x128 system... or 1024x1024... use a Gigabit fiber backbone and the sky's the limit.



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Most mainframe routers have no mic inputs, so you need to buy preamps. With Axia you get ultra-low-noise preamps with Phantom power. Put a node in each studio, right next to the mics, to keep mic cables nice and tight, then send multiple mic channels to the network on a single Cat-6 cable. And did we mention that each Mic Node has eight stereo line outputs for headphones? Nice bonus.

Put your snake on a diet.
Nobody loves cable snakes. Besides soldering a jillion connectors, just try finding the pair you want when there's a change to make. Axia Audio Nodes come in AES/EBU and balanced stereo analog flavors. Put a batch of Nodes on each end of a Cat-6 run, and BAM! a bi-directional multi-channel snake. Use media converters and a fiber link for extra-long runs between studios — or between buildings.

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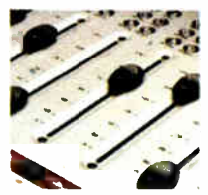

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World Radio History

Show

▶ Continued from page 8

HD Radio for those who wish to add the multicast capability. The upgrade offer is open to anyone, consumers or broadcasters. An individual can ship Kenwood's HR100 to the company and obtain a firmware upgrade for a fee. For information about how to ship the unit, call 1-800-Kenwood.

SEVERAL HD-R RADIOS READY IN JUNE

Boston Acoustics, Radiosophy and Sanyo plan to ship HD Radio receivers to stores in June; Polk Audio plans September availability.

Boston Acoustics says its Recepter Radio HD is one of the first home IBOC products to become available and one of the first to be able to decode multiple digital signals. A compact satellite speaker, allowing for stereo reception, will be included in the package.

"With multicasting very close to taking off, June is an ideal time to launch" the radio, said Stephen Shenefield, director of product development.

The radio has a stereo input for iPods or other external sources, as well as a stereo headphone output.

The company offered a $299 show price to broadcasters.

Radiosophy, formerly RiverRadio, says its "transportable" HD can decode multiple digital signals for stations that are multicasting. The removable receiving unit measures less than 6 by 4 inches and the complete radio measures about 16 by 7 inches. A prototype of the compact unit was on display in Ibiquity's booth at the NAB convention. The projected list price is $249.

Photo ©NAB

From left: Rep. Fred Upton, Rep. Joe Barton, Rep. Conrad Burns

Slated for shipping to retailers in June, Sanyo has introduced a car audio model, the ECD-HD1990M, an HD Radio 200W receiver that supports playback of MP3 and WMA music.

The radio will retail for just under $500.

Polk Audio will combine HD Radio into its I-Sonic entertainment system, a stereo system that includes an AM/FM, HD Radio tuner, a DVD/CD player and XM Satellite Radio capability. The system ships to consumer electronics stores in September and will list for just under $600.

NEURAL: OUR SURROUND SYSTEM 'EXCELS' IN INDEPENDENT TEST

Neural Audio says its surround sound system consistently scored high marks in recent testing conducted by Audio Research Labs. In a controlled listening study, experts compared Neural's technology to other competitive systems for digital broadcast applications, according to the company.

The tests took place at the AT&T Research multi-channel listening room in Florham Park, N.J.

Using a Multi-Stimulus test with Hidden Reference and Anchor (MUSHRA) testing, the company said, trained listeners evaluated selected 5.1 source material for level of discreteness and presence of artifacts. During the testing, Neural said its 5225 downmix system and SEE system outperformed the matrix systems and delivered performance perceptually close to the source material.

"We performed standard tests for evaluation of surround sound technologies, and it is clear that the Neural solution can deliver the artists original intent without significant compromise or the use of side data. This could have great value for digital broadcast and low bit rate applications," Neural quoted Dr. Schuyler Quackenbush as saying.

Quackenbush is president, Audio Research Labs and chairman of the MPEG audio subgroup that led the test efforts.

The test was conducted using AAC at 96 kbps to carry the coded music material and full data on the testing, and was to be posted on the Neural web site, *www.neuralaudio.com*, after the show.

Neural Audio CEO Geir Skaaden stated the tests underscores Neural's position that its "watermarking" system can deliver the promise of discrete 5.1 without the use of valuable bits for side information. The test coordinator, Dr. Schuyler Quackenbush, is an expert in audio signal processing, audio signal compression, assessment of speech and audio quality.

DOLBY PRO LOGIC II GETS IBIQUITY NOD

Ibiquity Digital has approved Dolby Pro Logic II, a surround sound technology, as an audio format for the Ibiquity HD Radio system. Content encoded in Dolby Pro Logic II is stored, edited and broadcast as traditional stereo signals, and is then decoded into five-channel surround sound by the listener's Dolby Pro Logic II receiver.

Broadcast Electronics demonstrated Dolby's application on its AudioVault radio automation system to its FXi 60 HD Radio plus FM exciter at its booth. The demonstration featured a Dolby DP563 Dolby Surround and Pro Logic II Encoder and a Dolby DP564 Multichannel Audio Decoder.

Ibiquity has also given the nod to SRS Labs and Neural for their surround sound systems to be used with IBOC.

DRE REVEALS FMEXTRA

As part of the Broadcast Engineering Conference, Digital Radio Express debuted its FMeXtra to broadcasters, the technology that digitizes analog FM subcarriers.

As reported in RW's April 13 issue (page 19), the system uses advanced audio compression to digitize the FM baseband so a station can deliver multiple channels of high-quality audio or other data services.

DRE Vice President of Engineering Derek Kumar, involved with digital radio technology since 1992, said the company wanted to develop a technology that is compatible with IBOC.

"We wanted to integrate multichannel programs and conditional access," said Kumar.

The company believes stations will transmit both digital and analog signals for many years to come.

"We think it's a mistake to talk about turning off analog FM anytime soon. Why obsolete all current radios?"

Using DRE's encoder, Kumar said a station's channels could be configured independently and on the fly.

It's a myth, he said, that SCAs cause interference to their analog host station, saying it's not true with digital SCAs, the inaudible subcarrier signals embedded in the FM signal.

Kumar said the company is talking to receiver manufacturers about incorporating the ability to decode the DRE digitized subcarrier signals in IBOC receivers in the 2005-06 timeframe.

Kumar said DRE has a deal "in the works" with a radio reading service for its product.

HP, INFINITY TEAM WITH 'VISUAL RADIO'

Hewlett-Packard and Infinity broadcasting want to supply interactive content to mobile radio listeners. They say Infinity is the first broadcaster that will deploy what they call "Visual Radio" to listeners in the United States.

Using Visual Radio, listeners can tune into local FM stations on their cell phones. Simultaneously, listeners receive interactive information and graphics synchronized with the broadcast. Text and graphics are delivered via the cellular network onto the cell phone's screen.

Users can see song title and artist names, check upcoming concert dates, purchase ring tones or other

content from the artist, and participate in radio station promotions.

For stations, the companies claim Visual Radio can increase listener loyalty and ad revenue. The benefits for cell phone carriers, according to the companies, is an opportunity to increase data services use and revenue.

Nokia developed the technology and HP is selling it to cell phone network carriers and broadcasters.

What stations get from HP is the software necessary to synchronize the interactive visual content to radio programs. Cell phone network carriers provide Visual Radio as a service to subscribers.

Outside of the United States, HP says radio station operators in the U.K., Germany, Finland and Sweden are creating Visual Radio content to deliver to some Nokia cell phones.

Carriers deliver the digital content and services to their customers, billing those cell subscribers for data traffic and additional content and interactive services. Radio stations create the Visual Radio content provided in the channels synchronized with their existing rado broadcast.

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World Radio History

Podcasting Stripped to Basics

by Carly Didden

Podcasting seems to be the buzzword on radio these days, and the legal issues covering this new technology are in a Wild, Wild West stage that probably won't last. Carly Didden, an associate in the communications group of Garvey Schubert Barer, lays out the basics for stations to consider before they delve into this technology.

Think of podcasting as TiVo for radio. Just as TiVo allows a viewer to watch his favorite television program or movie when he has the time, podcasting automatically downloads audio files to a user's computer for listening at the user's convenience. A podcast is an audio file archived on the Internet in such a way that it can be automatically accessed by a personal computer, downloaded and transferred to a portable MP3 player, such as an iPod.

While they are usually in a talk show format, podcasts may also be music or audio clips from television programs, movies, chat groups, daily horoscopes or lectures. Most podcasts are freely available on the Internet and do not contain commercials or advertisements.

Podcasts are technologically unlike Webcasting or streaming. While Webcasting is an Internet stream of a live or online simulcast of a broadcast signal, a podcast is a download of a non-live audio program. Streaming is one technology for downloading and accessing a stream of electronic information at the same time.

Podcasting is the downloading of a single complete audio file to be listened to at a later time. Because of these differences, copyright licensing for podcasting is different than the copyright regimes for Webcasting and streaming. Indeed, copyright law has yet to catch up with the technology of podcasting.

Questions

Who can podcast? — Anyone who has bandwidth, a Web site, a computer with a microphone and necessary software can podcast. Podcasting software and podcasts are widely available on the Internet. Examples of some sites are *www.ipodder.net, www.podcaster.net, www.podcasts.org, www.ipodder.org, www.podfeeder.com* and *www.audible.com.*

Podcasting is based on open standards so podcasts can be downloaded on any type of computer and played on any MP3 player or computer audio program that recognizes Real Simple Syndication (RSS) feeds or MP3 files.

Radio stations and content providers are taking notice of podcasting and making their own content available on the Internet. Within the last few months, for example, NPR, the BBC and a number of local radio stations have started to package their on-air programming into podcasts.

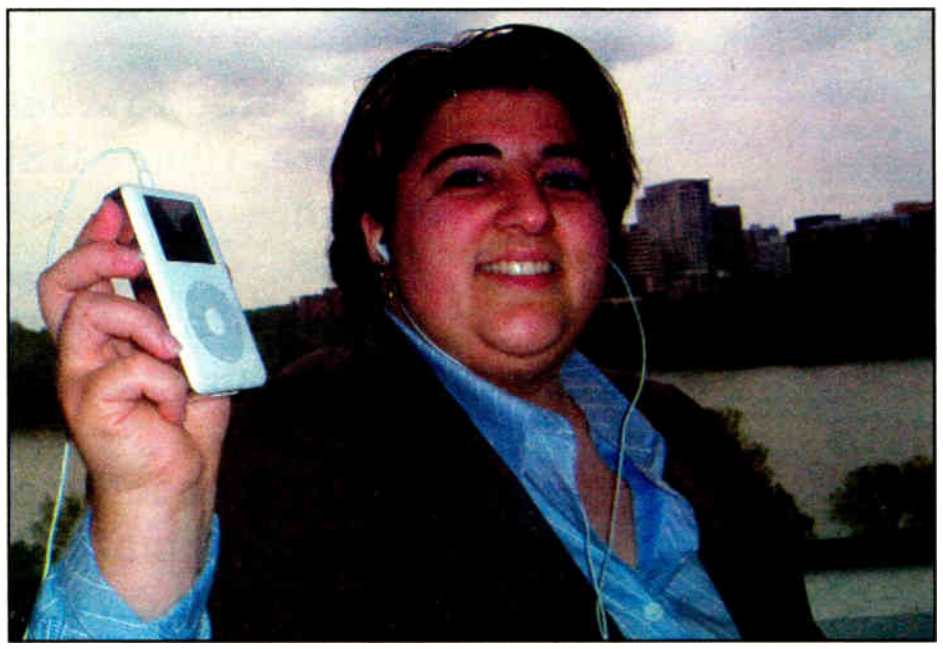
Traditional broadcasters and programmers are beginning to realize that providing "a podcast a day" can draw listeners to their Web sites and introduce listeners to new music.

Copyright law

Copyright law protects musical and spoken compositions, or "works"; the performance of a work preserved in a sound recording; and the sound recording itself.

Podcasting implicates these in three ways: the performance of a work; the playing of a recording of a performance; and the reproduction of a recording by incorporating it into a podcast. The law is well settled only as to the first of these.

Musical works — Performance rights organizations (ASCAP, BMI and SESAC) handle copyright licenses for the performance of musical works, including their performance in a podcast. Separate licenses are necessary from each performance rights organization because each company represents different publishers of composers' musical works.



Carly Didden

Sound recordings — Copyright licenses for the playing (or "performance") of sound recordings historically have been handled directly with the owners of the works, usually record companies.

Over-the-air broadcasters are not required to obtain copyright licenses for playing sound recordings. They must, however, hold licenses for playing the underlying musical works.

Under amendments to the Copyright Act in 1995 and 1999, Congress enacted a statutory license scheme for the digital transmission of musical works and sound recordings. However, the statutory licenses reflect the technology of the times.

The 1995 legislation covered downloadable music files, such as the commercial sale from a Web site of an MP3 file. The 1999 act reached Web casting and streaming, both non-interactive activities that involve the transmission of a sound recording, but not the distribution of a reproduction of that recording.

Reproduction — By contrast to Web casting, a podcast may include a reproduction of a sound recording. Podcasting is an interactive activity that results in the transmission of a sound recording that is fixed and is accessible on demand by the user.

The reproduction requires clearances or licenses, both for the sound recording, and for the musical work. Although the performance rights societies offer licenses to cover the musical works in a podcast, no uniform or industry-wide licensing scheme has been developed to cover the sound recording.

This leaves the podcaster with a choice: to attempt to obtain licenses from the record companies or to limit podcasts to sound recordings not subject to copyright protection. Generally, these include U.S. recordings pressed before Feb. 15, 1972 although a CD reissue of a pre-1972 recording is a new, protected, sound recording. Podcasters may decide to eliminate sound recordings altogether from podcasts.

Do I need all these licenses? — Yes. The owners of copyrights in musical works and sound recordings are entitled to compensation for the performance and reproduction elements of podcasting. However, the challenge to meeting copyright obligations is that the law lags the technology.

What if I get caught without one? — The performance rights organizations, RIAA and others monitor the Internet for Web sites with music. They may begin to do the same with podcasters.

If your podcast is identified, they may locate you and request proof of your licensing. It is in your best interests to cooperate with the organizations.

If you do not have a license, the performance rights organizations will work with you to get a license. If you fail to respond to the organizations, they are likely to send you a cease and desist letter demanding removal of the infringing material from your podcast.

If you do not cooperate voluntarily, they may sue you in court. Remember that the cost of a lawsuit will far exceed the cost of a license.

If you are caught, remove the infringing content and get licensed. If you do not remove the infringing content, the fines for copyright infringement may be multiplied.

But my podcast is talk-only. — If a broadcast station conducts a live interview on-air or a podcaster records an interview or discussion group for posting as a podcast, the station or podcaster should make sure to receive permission from the guest to convert the interview to a podcast. Conducting an on-air or in-person interview does not necessarily give permission to convert the interview to a podcast.

In order to get that permission, broadcasters should have the guest sign a release, a short legal document that waives a person's right of privacy, which is the right to be left alone, or the right of publicity, the right to control how one's image, voice or persona is used to sell things. Failure to obtain a person's permission or a release to podcast an interview could be a violation of his or her publicity and performance rights.

Stations should review their programming contracts to determine if podcasting is a right that was included in their syndication agreement. Many syndication agreements give only broadcast rights, and reserve all other rights.

This means that a station may need to acquire an additional license from the syndicator in order to convert its on-air broadcasts to podcasts.

Future developments

Today podcasts are free to download, may be commercial-free, and are unregulated. In the future, at the risk of turning away listeners, podcasters may add commercials or charge fees in order to pay for bandwidth or copyright licenses.

To date, there has been little copyright enforcement by the performance rights organizations over podcasting. As the popularity of podcasting increases, however, it is fair to assume the performance rights organizations and the record companies, or their industry arm, the Recording Industry Association of America, will more actively enforce their copyrights.

This has been the case with file-swapping programs. Initially there was little enforcement, but that changed once the popularity of such programs as Napster and Kazaa increased.

Improvements in podcasting software will increase audio quality. With the rising popularity of podcasting, expect more sophisticated tools and software to be developed. This will make it easier to download higher-quality podcasts and perhaps attract greater attention from the performance rights organizations.

Because podcasting is an Internet rather than a broadcast service, it is not regulated by the FCC. This means that no license is required and that podcasts may contain content that is uncensored for language or subject matter.

Future podcasts may be required or strongly encouraged to carry rating information or warnings on RSS feeds to alert listeners that the podcast content exceeds certain thresholds. It is likely that, eventually, the FCC or the courts will be called upon to determine what broadcasting rules, if any, apply to podcasting.

In time, the law will catch up with technology, and podcasters will have clearer guidance on copyright licensing requirements. For now, the best course of action is to monitor copyright developments and to take affirmative steps to comply.

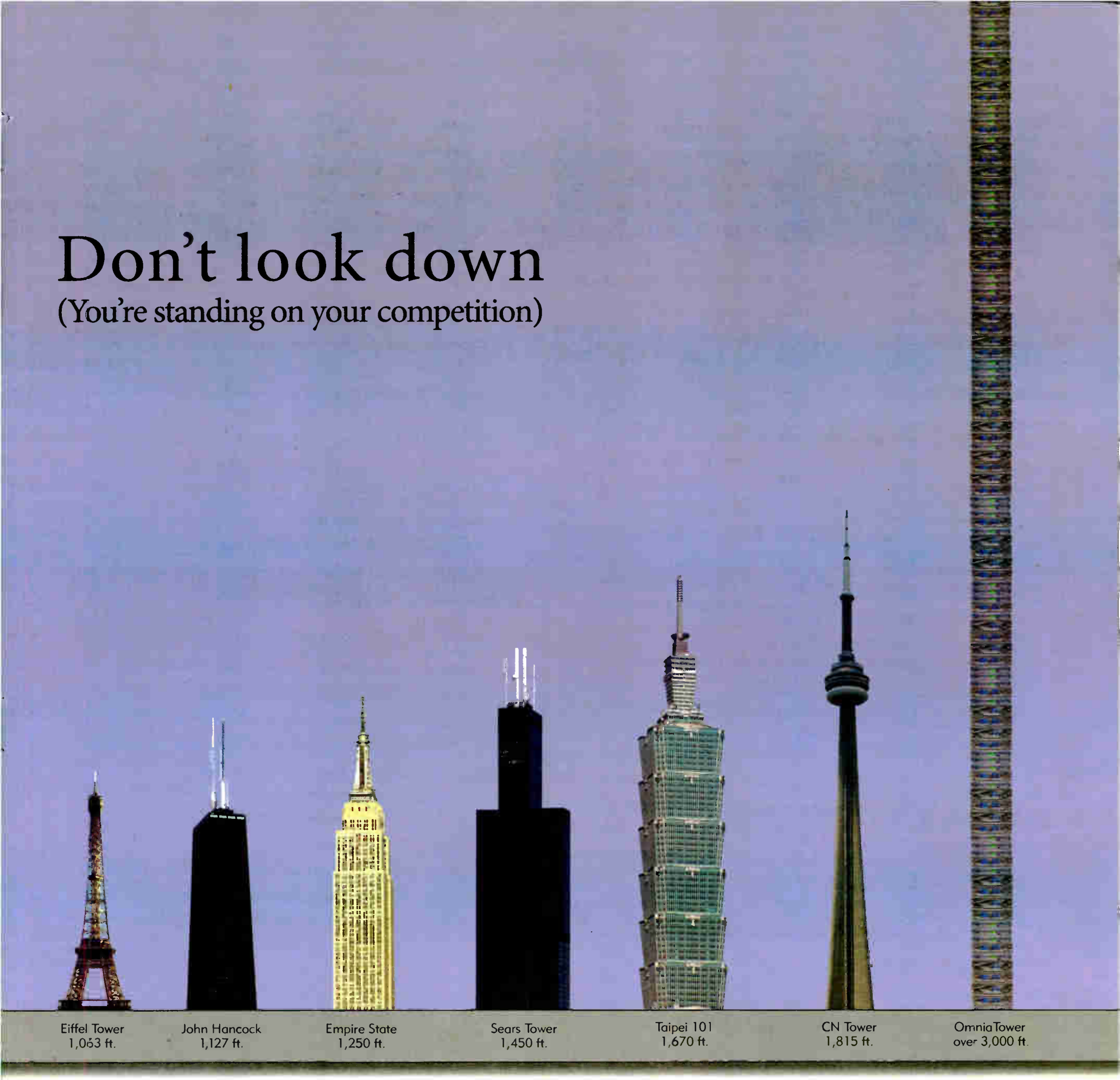
The information presented here is intended solely for informational purposes and is of a general nature that cannot be regarded as legal advice. Consult an attorney if you have questions about the application of copyright law to podcasting. My thanks to John Crigler and John Wells King for their expertise and assistance in this article.

Reach the author at (202) 965-7880 or cdidden@gsblaw.com. *This article appeared in the College Broadcasters' newsletter and is reprinted with permission.*

World Radio History

Don't look down

(You're standing on your competition)



More than 60% of the Top 100 highest-rated FM stations in the USA have already upgraded to Omnia-6EX—the six-band dual-path processor for standard FM and HD Radio signals. The reason these leaders choose Omnia? Once you've heard it, you'll know.

The Empire State building is pretty tall. Taipei 101? CN Tower? Even taller. But Omnia dwarfs them all. In fact, if you stacked up all the Omnia audio processors in use around the world, you'd have a tower well over 3,000 feet high.

In just a few short years, Omnia has emerged as the best-selling audio processor in the world. More importantly, it's the most successful stations in top markets like New York, Los Angeles, London, Paris, Rome, Beijing, Tokyo, Amsterdam and Berlin, that have put Omnia on top. And more broadcasters are upgrading every day, using Omnia as their secret weapon to stay miles above the competition.

Speaking of heights, did you know that Omnia processing now powers stations broadcasting from every one of the famous structures pictured above?

Big or small, isn't it high time you upgraded to Omnia?

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World Radio History

Keep Your Cool With Racked Equipment

by John Bisset

One of the problems with using vented rack panels to separate your equipment is that they are too large, eating up prime space in the rack.

Tony Lopez, chief of Clear Channel's Pueblo, Colo., cluster, writes that the smallest ventilated panels he's seen are the 1-3/4-inch models from Middle Atlantic. These are great vented panels for higher-wattage equipment; but for lower-power equipment such as mic processors, MiniDiscs, etc., a smaller spacing is adequate. Furthermore, this kind of equipment often is located in console turrets or similar small racks where vertical space is at a premium.

For small equipment racks, where even 1RU vented panels take up too much critical space, Tony came up with a yields two 1/2-inch vented panels that fit well between low-power equipment, but without hogging valuable vertical rack space. Fig. 2 shows the finished product.

Reach Tony at *TonyLopez@clearchannel.com.*

★ ★ ★

Contributors to *Workbench*, please note our new e-mail address. You can write to me at *jbisset@bdcast.com.*

★ ★ ★

Tim Walker has run a contract engineering business in western North Carolina and western Virginia for many years. Regarding our discussion of UPSes and how they dislike dirty generator power, Tim resolved the problem by

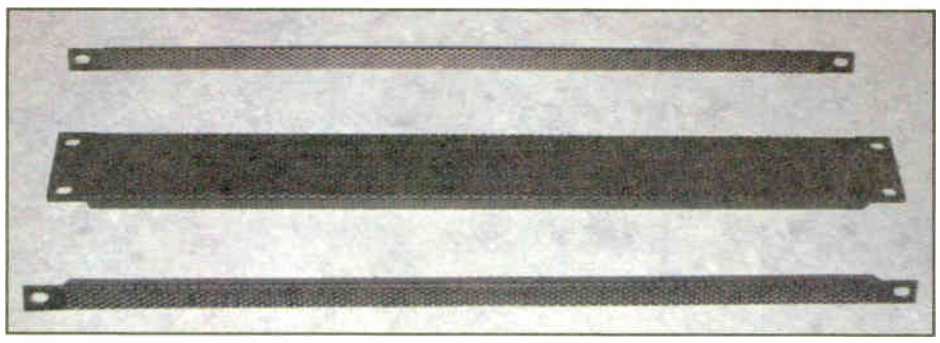

Fig. 1: Modifying a standard vented rack panel.

Fig. 2: The smaller panel reduces the amount of vertical space.

solution. By cutting a half-inch from both sides of the standard 1-3/4-inch vented panel and discarding the middle section, you are able to keep the factory bend on one side. See Fig. 1.

Each standard 1RU vented panel

selecting a more tolerant line sensitivity setting on his American Power Conversion UPS.

More effectively, Tim operates the UPS behind a Sola voltage regulator that not only regulates voltage, but also attenuates harmonics. At one location, Tim uses a Sola model MCR500 voltage regulator. This regulator powered two APC model SU450 UPS supplies.

Tim offers a word of caution. The voltage regulator is a hog for power itself, and generates a fair amount of heat. Still, it cleaned up the power from a Home 4500-watt generator to the point that the UPS didn't object. He can be reached at *timwalker@dilyns.com.*

★ ★ ★

Leon Amstutz is CBRTV certified and hails from Fort Wayne, Ind. He has a great deal of experience with UPS systems and generators, having served as a full-time engineer and then as a consulting engineer with a missionary radio network — Radio Lumiere, Haiti — for over three decades.

In Haiti, even the commercial electric power source (when available) regularly tends to run anywhere from 59 to 62 Hz. That fluctuation caused similar problems with the station UPS.

What Leon found is that most UPS systems are more sensitive to frequency variations than line waveform. By default, most will only tolerate about +/- 0.5 Hz deviation from 60 Hz. Generators, especially before they are fully warmed up, typically deviate as much as +/- 2 Hz, particularly if you have large loads that cycle on and off.

Most UPS brands have a field programmable configuration option or a factory PROM update for use with generators. This

See DIRTY POWER, page 16 ▶

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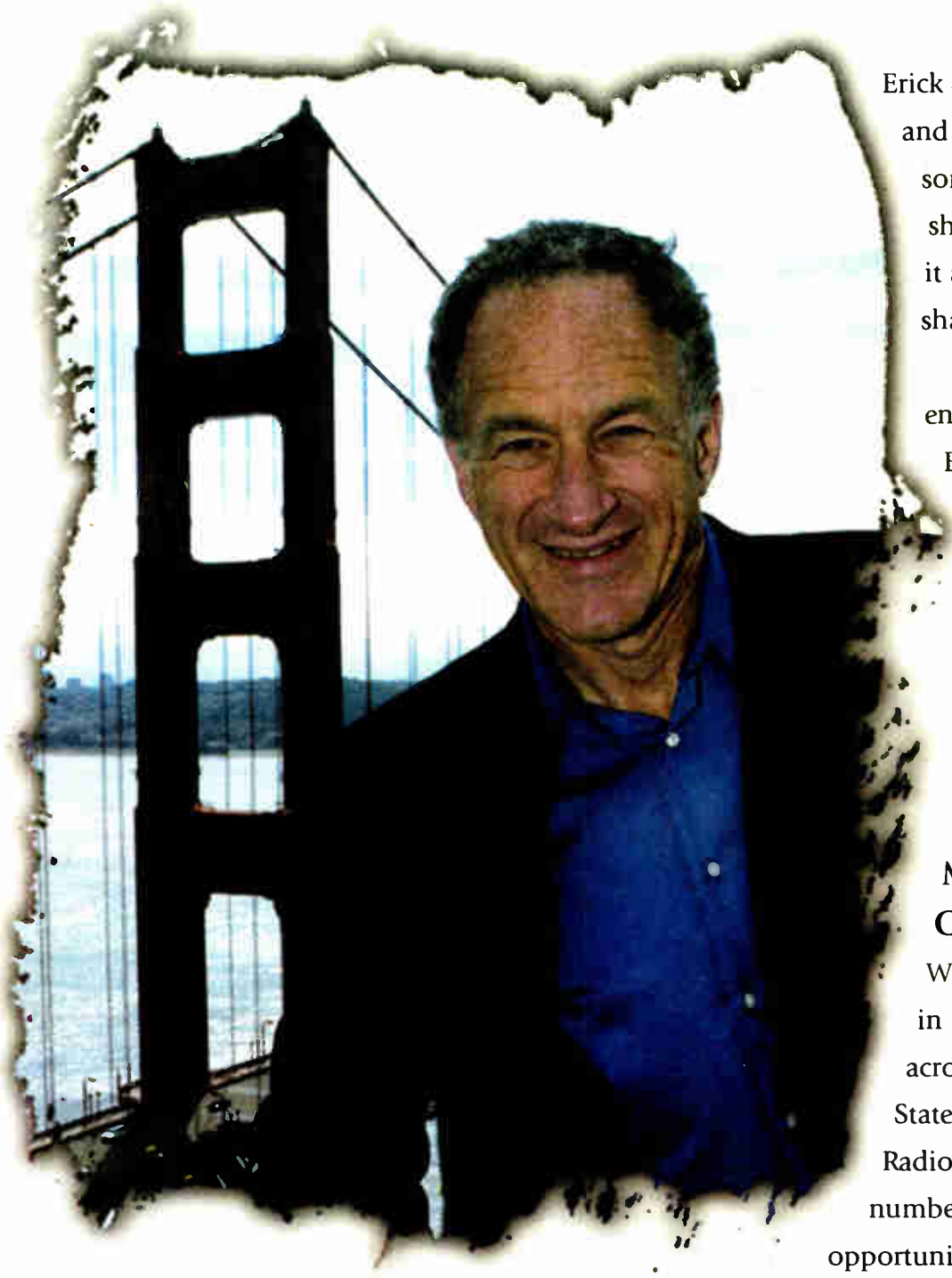
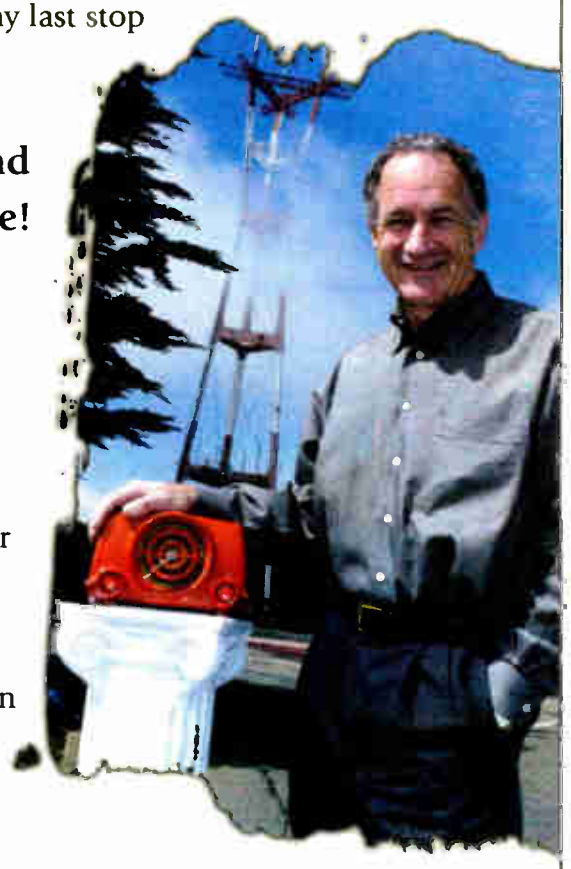


Erick Steinberg
Director of Technical Operations
Susquehanna, San Francisco

Erick Steinberg's job is challenging, demanding, and requires a very hectic work pace. It's something he describes as "hard fun." "Radio is show biz," he says. "It should be fun!" Of course, it also helps that he's surrounded by people who share his passion for the industry.

"We're all career broadcasters around here, and I enjoy working for a company that is run by broadcasters," Erick says. "Their commitment to technical excellence and training at all levels is unbelievable!"

When he first arrived at Susquehanna Radio, Erick says, "I felt right at home." Now, years later he adds, "Susquehanna is just the right size. My work friends are here, my work family is here. I intend to make this my last stop in radio."



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World Radio History

SBE NEWS

Time to Call a Specialist

First Elements of SBE's New Specialist Certification Program Are Underway

by Larry Wilkins

A natural part of an individual's growth is to develop his or her knowledge and skills. As a broadcast engineer you already know this. As technology changes and evolves, you must stay informed and aware of the latest developments while maintaining your current skills.

As we are exposed to various aspects of our jobs, we tend to find certain abilities that interest us more than others. It may have been a subconscious effort, but you have specific skills that other people do not possess. Even within our industry, individual ability becomes more specialized.

While two broadcast engineers may hold the same job title and have similar job descriptions, it is likely that their own skill sets are different. We all have our own strengths. It is an individual's strength in a particular area that uniquely qualifies him or her for a given task.

To establish a benchmark of these individual strengths, the SBE National Certification Committee created the concept of Specialist Certifications. This is one result of the daylong strategic planning meeting of the Certification Committee and several guests in February 2004.

Exam and tutorial

While the Core Four Certifications (Certified Broadcast Technologist through Certified Professional Broadcast Engineer) cover a broad knowledge base and carry a time experience requirement, the SBE Specialist Certifications will focus on the growing demand for certification in specialized areas of knowledge.

There are two components to a Specialist Certification. The exam component — created and administered by the SBE National Certification Committee — will evaluate a person's understanding of the subject. This is what the SBE Program of Certification has done all along, but the difference is that a Specialist Certification acknowledges skill and understanding in a specific area and without a direct time experience requirement.

The other component adds an educational opportunity to prepare an individual to better understand the knowledge that is being evaluated. With this in mind, the Certification Committee will also help create tutorials in conjunction with the exams.

To achieve this second element, the Certification Committee will work closely with the SBE Education Committee. The Certification Committee may also look to existing sources to provide tutorial opportunities that relate to the Specialist Certifications.

The exam portion for the first of these Specialist Certifications has been developed. The SBE AM Directional Specialist Certification was introduced at NAB2005. The SBE National Certification Committee anticipates that the tutorial element will be available soon.

With so many possible topics to choose from, why did the Certification Committee choose AM directionals as the first Specialist Certification?

The technology used in an AM directional antenna system is a mature one, which means that there is little changing in this area. This makes it easier to identify the skills and knowledge required by an individual and allows the members of the Certification Committee to focus on a stable topic while we develop the process. In addition, for a long time there has been concern about finding qualified people to maintain AM directional arrays.

AM radio stations can operate as non-directional with a single tower or directional using more than one tower. While both require knowledge and skill to maintain in proper working order, the directional antenna system involves a higher degree of skill and understanding of RF theory.

The AM Directional Specialist Certification doesn't evaluate the ability to design a system — a task best left to a consultant — but covers operation, maintenance and repair.

The SBE AM Directional Specialist Certification is designed help evaluate an individual's ability to perform the necessary tasks to keep these facilities operating properly. It doesn't evaluate the ability to design a system — a task best left to a competent consultant — but covers the operation, maintenance and repair of a directional antenna system. These are the tasks common to the station engineer charged with maintaining these systems.

The exam gauges a person's knowledge of AM radiators, understanding of the principles of phase addition and cancellation, familiarity with the various components used in a directional antenna system and ability to correctly make necessary measurements and take proper procedures to make repairs and adjustments to the system. In addition, the exam covers the FCC rules concerning directional operation, test equipment and safety procedures.

The baseline creation of the exam question pool and establishing the outline for the tutorial is the work of the AM Directional subcommittee of the Certification Committee. This subcommittee includes John Battison, P.E., CPBE; Terry Baun, CPBE, CBNT, of Criterion Broadcast; Tom King of Kintronic Labs; Michael Patton of Michael Patton and Associates; and Watt Hairston of WSM Nashville. I am the chairman of the subcommittee.

I thank this group for its work in setting the foundation for this first Specialist Certification.

Other specialty areas under consideration are 8-VSB/DTV and IBOC. To apply for a Specialist Certification exam, you must hold a valid Broadcast Engineer Certification (CBRE, CBTE, CEA, CEV) or higher. If you would like to obtain the SBE AM Directional Specialist Certification, you can apply now for the next available testing session. The application is available through the SBE National Office or the SBE website at *www.sbe.org*.

Larry Wilkins, CPBE, CBNT is assistant director of engineering for Cumulus Broadcasting, a member of the SBE National Certification Committee and chairman of the AM Directional Specialist subcommittee.

Dirty Power

▶ Continued from page 14

option or update will allow you to widen the frequency tolerance of the UPS so that the UPS doesn't continue to run after the generator starts.

Some units will also allow you to adjust the minimum and maximum voltage levels tolerated before the UPS kicks in. Leon has been able to resolve these generator compatibility problems with several different brands of UPS. Check with the manufacturer of your specific UPS to see if this option is available; it will likely solve your problem.

Leon commented on another topic in a recent column: the use of razor security wire atop tower fences to deter vandals. Leon has found that in climates where ice buildup is common, razor wire does not survive falling chunks of ice from a nearby tower or guy wires.

The razor wire actually is a thin stainless steel strip and it is fairly brittle, unlike galvanized barbed wire. If a chunk of ice hits the razor wire and flattens it, the wire often breaks and uncurls. You are left with dangerous strips of razor wire whipping around the fence at head level.

Fig. 3: Barbed wire can be bent back into position.

At least with barbed wire, if it gets bent out of shape, as shown in Fig. 3, you can usually rebend it (carefully) back into position numerous times. In Leon's experience, barbed wire survives much longer than razor wire in northern climates.

Leon Amstutz can be reached at *l.amstutz@att.net*.

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or jbisset@bdcast.com.

Submissions for this column are encouraged, and qualify for SBE recertification credit.

World Radio History

FIRST PERSON

So You Want to Be a Specialist

Buc Fitch Sits Down and Takes the SBE's New Directional Antenna Certification Test

by Charles S. Fitch

One of the primary roles of the Society of Broadcast Engineers has been to provide a progressive certification program focused on broadcast engineering. We're all familiar with the Certified Radio Broadcast Engineer, or CBRE, which in function and prestige has replaced the old entry-level FCC First Radio Telephone Operators License that the commission abandoned many years ago.

Since the SBE certification program's inception back in the 1970s, further multiple certification grades have been added to reflect accomplishment at the senior and professional levels as well.

This year the SBE has decided to expand the roster of testing by adding a new specialist certification focused on AM directional antennas.

Masochist that I am, I decided to take this exam at its first offering during NAB2005. The fee for taking the test as an SBE member was $50. A non-member is charged $110.

I have been a firm believer in the SBE certification program from the beginning. My now-lifetime Certified Professional Broadcast Engineer certificate number is 202. My guess is that this will be numbered 202DA if I passed.

Although SBE test takers are sworn not to reveal specific questions on their exams, one can discuss the test in general.

The questions

About 35 people were on hand in Las Vegas for testing Tuesday morning at 9 a.m.; about five were there specifically for the DA. The exam in this premier event consisted of 50 multiple-choice questions and an essay designed to demonstrate that one had a workable knowledge of DAs.

Overall I found the exam fair. I had to use two of the three hours allowed to finish and recheck twice. I was certain — a dangerous sign for me — of about 80 percent of the answers I had entered, and reasonably certain of another 10 percent. I was just guessing on the balance.

Like most SBE exams, the questions were crisp and to the point, not ambiguous. In a general context, about a third were practical, another third were on the physics and about a third dealt with the regulatory issues of DAs. The last area was a surprise to me, as I assumed — always a dangerous thing to do — that the test would cover mainly the practical and the physics.

The essay question required drawing. Nerve damage — from playing guitar in the style of The Who to work my way through college — has made my handwriting and drawing horrendous. This is a man who is a firm believer in CadCam; AutoCad has made me a Rembrandt. Without a drawing board or ruler, MacGyver style, I used a quarter to make my boxes and the edge of a credit card as a ruler, and I got through.

If they can read it, I think probably I got most credit for the essay.

The test was open-book. The three I took in were an earlier version of "Directional Antennas Made Simple" by Jack Layton; the "Directional Antenna Handbook" by Robert A. Jones; and John Battison's directional antenna portion of "Broadcast Antenna Systems Handbook," published by G/L Tab Books. Further, a most valuable review of the subject is had with a reading of Cris Alexander's multiple papers on AM antennas. Go to *www.crawfordbroadcasting.com*, click on Engineering and scroll down to the engineering papers archive.

It would have been nice to have the FCC regs as one of those open books. My work lately has been mainly on fixing and designing DAs and so my recollection of specific regulatory issues is a little vague. If I failed, there's the culprit.

A notoriously bad test taker, I usually need a few tries to get through anything. However my wonderful mother instilled in me that there is no embarrassment in failure as that is the most powerful motivation to grow in skills. There is only an embarrassment to not try again or not try at all.

A Supreme Court justice once said that a law untested is not a law. Similarly an expert untested is not an expert. If you think you know something about DAs, take the exam and get certified.

We'll let you know if I passed.

Charles S. Fitch, W2IPI, is a registered professional consultant engineer, member of AFCCE, senior member of SBE, lifetime CPBE, licensed electrical contractor, former station owner and former director of engineering of WTIC(TV) in Hartford, Conn., and WHSH(TV) in Marlborough, Mass.

World Radio History

WIRED FOR SOUND

A Star Glimmers in the Night

by Steve Lampen

We've talked about how balanced lines reject noise because the two wires are as close together as possible. Besides bonding pairs, as in some UTP computer/data cables, there is another technique that actually puts the two wires in the *same place*.

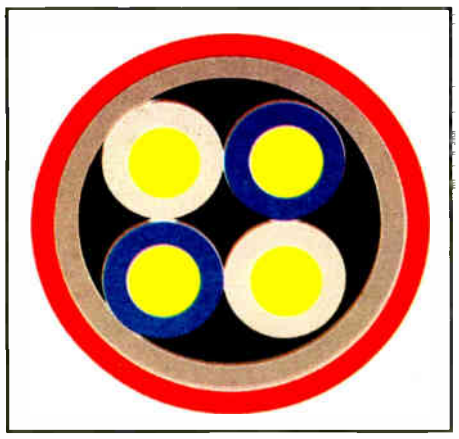


Fig. 1

Yes, I know, boys and girls, that certainly sounds impossible. But it's done all the time, and it works well in rejecting noise. It's called the "star-quad" design and is most commonly used in microphone cables, although there are multiquad snake cables available.

Fig. 1 shows a generic starquad construction. It consists of four conductors spiraled together. This is the only construction that will have a noise-reducing effect. Two twisted pairs, or four random conductors, will not have this effect.

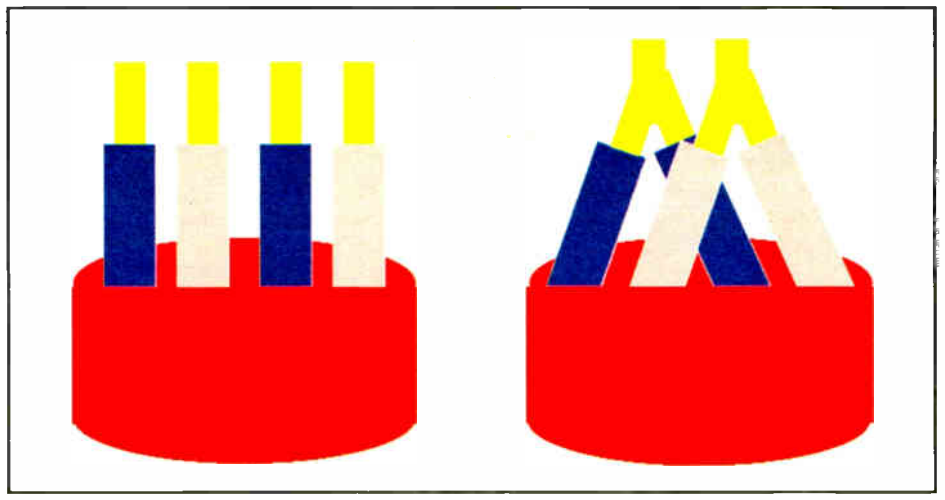


Fig. 2

If you've not used starquad, you might wonder how to wire up a cable. It's really simple. Fig. 2 shows how you combine the conductors from four into two. (You already know that "standard" mic cable has two conductors with a shield around them.)

Specifically, in an XLR, the shield would go to Pin 1, the two wires (from the combining step described above) go into Pin 2 and Pin 3. The secret is to combine the wires *opposite each other* into the two conductors.

In Fig. 1, for instance, you would combine the two light conductors into one and the two dark conductors into one. Most starquad cables are color-coded so you know which to combine.

Think about the four spiraled conductors. You will see that this approach puts the two (combined) conductors in the same place.

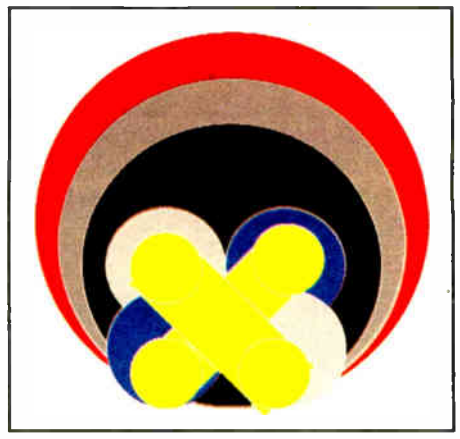


Fig. 3

Fig. 3 attempts to show this.

Sound vs. light

Because both conductors are in the same place, any noise that hits these wires will be close to identical by the time it reaches a transformer or active balanced circuit. The ability to cancel out noise is dramatic. This approach is effective especially at low frequencies, say 50 Hz or 60 Hz power. So if you have to run mic lines near power or lighting cables, starquad would be a good choice.

Some makers of starquad cables add a stripe or other marker onto one conductor of each color so that you can use it as a four-conductor shielded cable. Of course, once you use it as a four-conductor cable, it has no noise reduction properties.

Because most starquad cables are limp and flexible mic cables, they can make great remote control cables. There are even some miniature starquad cables made of special alloy conductors for added strength. This type often is used as *headphone* cable thanks to its ruggedness. Of course, there's no noise rejection needed in this use, and none provided.

The noise rejection is really thanks to the fact that this is a balanced line cable. And the amount of noise rejection — called "common mode noise" because it is common or the same on both conductors — is only as good as that of the devices at each end. If those devices have good CMRR — common mode rejection ratio — noise will be rejected. In fact, this is true in any balanced line circuit.

My friend Bill Whitlock of Jensen Transformers has a great definition of a balanced line. It is "a two-conductor circuit in which both conductors and all circuits connected to them have the same impedance in respect to ground and to all other conductors."

So you can see that every part, from source to destination, can have an effect on the "balance" of a balanced line and its ability to reject noise.

Steve Lampen's latest book "The Audio-Video Cable Installer's Pocket Guide" is published by McGraw-Hill. Reach him at shlampen@aol.com.

MILESTONES

This Pot Reserved for Marti Remote

by Charles S. Fitch

Looking backwards, things are always clearer.

In the 1950s and '60s, any DJ, any radio engineer, anyone who ever spent more than a minute in the air studios of radio stations knew there were many "conventions." No matter where you were in the world of radio, a few things would always be in the same place. And way over on the right of that line of rotary faders on the control audio board would be a pot earmarked for remotes.

Before satellites, most programming came from stations' studios. Anything else from the outside was considered a remote source, such as the network that arrived on a dedicated telco circuit and programming from nearby, local locations.

Those local, normally live/real-time remotes came into the station by two methods: wire and radio.

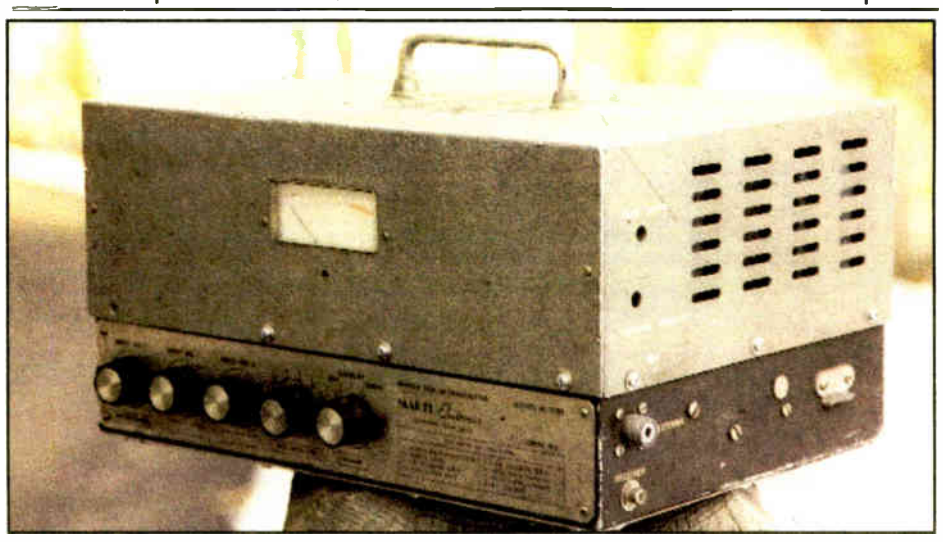
The wire connection might be provided by the local telephone company; or perhaps it was installed by the station. Unintentional grounding of the wires was a problem, so audio board makers of that era provided at least one channel, always on the far right, that had an isolation transformer on it to break up those "ground loops."

Wire remotes from the phone company were expensive, required considerable advance order time and were limited to areas reached by telephone circuits.

Radio remotes provided many advantages to stations including reduced origination cost to the sponsor, great flexibility (no place is beyond radio), "just-in-time" implementation and, usually, better audio fidelity.

See MARTI, page 20 ▶

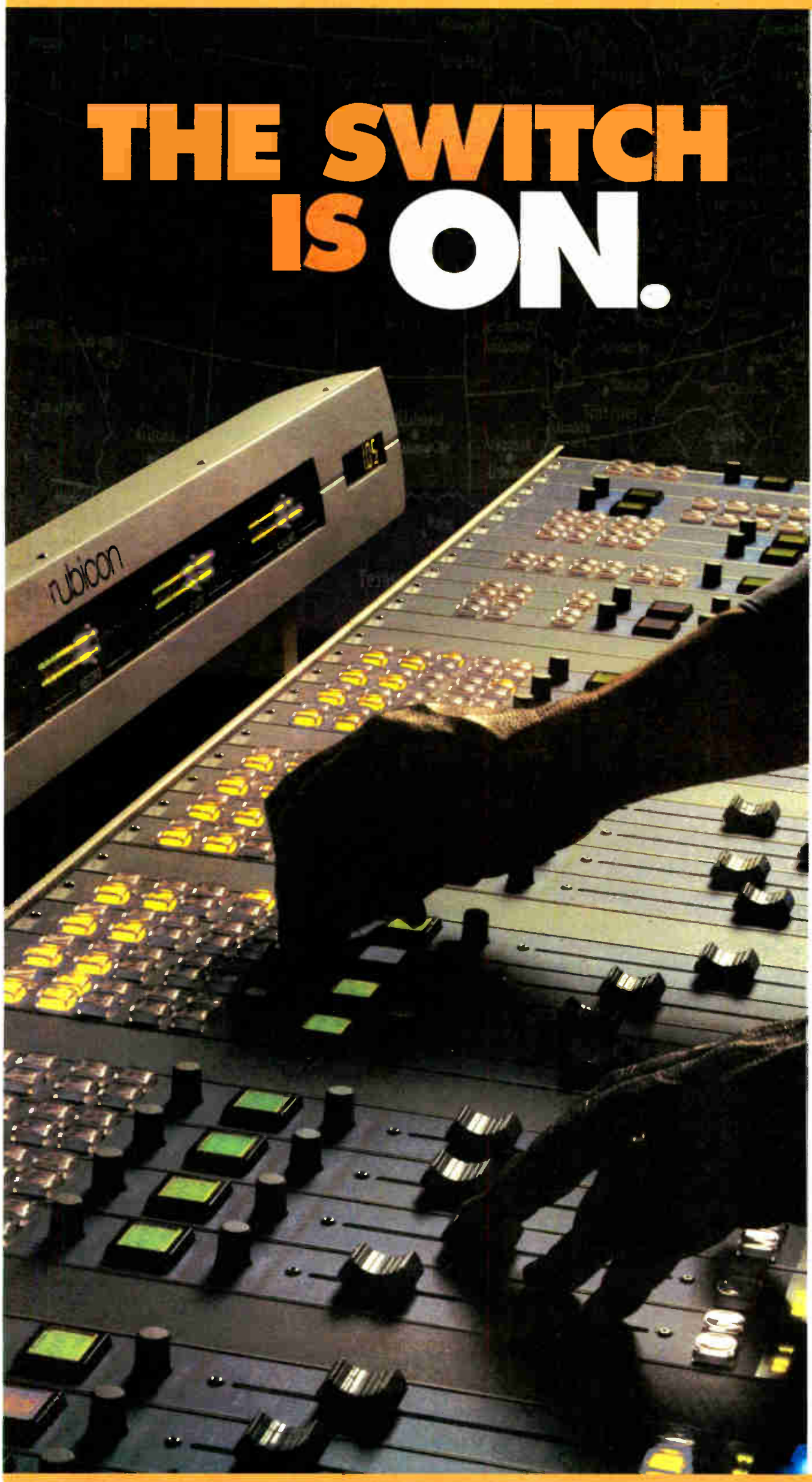
This 160 MHz remote unit, a T/R type designed to work with a receiver for two-way communications, has been refurbed and modified to add an input transformer, selectable mic level switch and headset output.



A more recent RPU shows wear and tear. This model had solid-state circuitry all the way to the modulator of the tube transmitter. Output power was 20-30 watts continuous duty.

World Radio History

THE SWITCH IS ON.



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World Radio History

Marti

▶ Continued from page 18

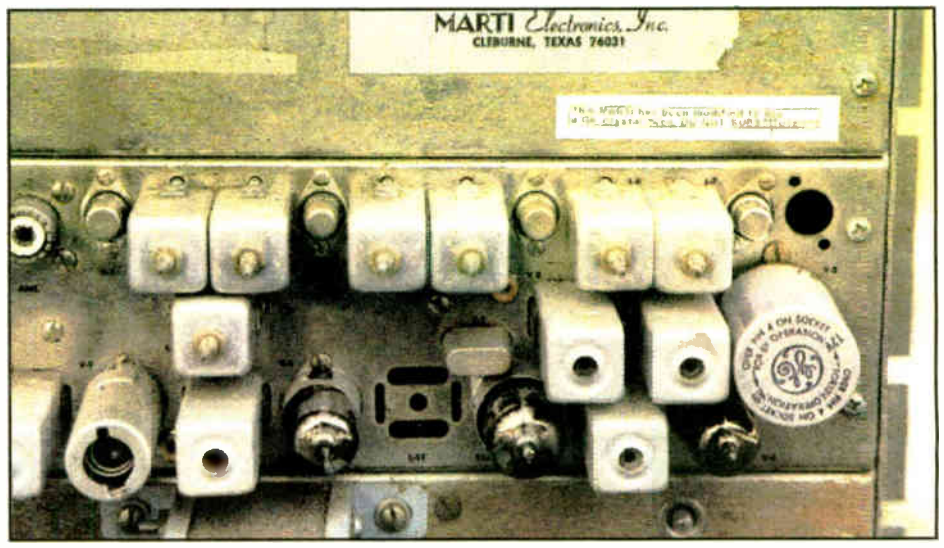
The most common remote radio system, almost unique in its function, was the Marti. This product dominated the radio remote arena; can you name a competitor that came close? The Marti was cost-effective, reliable and versatile, a most useful programming tool. For many years, a radio remote was called either a telco or a Marti remote.

(The most unusual remote I've encountered was the broadcast of an automobile destruction derby. One would think this would be a visual event. However it was sold out, from a pre-event show to a post-event wrapup. It shows that radio can cover just about anything.)

FCC Part 74 gives broadcasters in the United States the use of several bands of frequencies to support program goals. For the most part, remotes such as sporting events, grand openings, breaking news, press conferences, etc. are best handled in the 160 and 450 MHz segments. Marti introduced equipment for both.

The transmitters were designed to run on both car DC power and plug-in AC and could be carried and set up by a "one man band," the remote technician. Marti radio remotes could provide even the smallest station tremendous program choices and profit opportunities such as community concerts and church services.

The brand name is still used, now a trademark of Broadcast Electronics. The original company was founded by George Marti, whose story has been told in these pages. His earliest remote pickup or RPU systems were tube-type, similar to the two-way radio equipment being manufactured at that time but with increased audio bandpass.



Close-up of an early tube-type base receiver. Bad crystal ovens were a problem for a time, as shown by the white note.

Other than dedicated news vehicles that used omni-directional (normally whip) antennas, most temporary remotes set up a directional yagi on a stand aimed in the clear at the input receive antenna. Because UHF and VHF signals obey essentially line-of-sight physics, to achieve the widest coverage and best signal strength, most stations mounted their receive antennas on one of their towers as high as possible.

Marti RPUs continue to be offered and used, although the introduction of various types of codecs over the past two decades has changed the way remotes are done at many stations. But no matter the specific station configuration, if you worked in radio during a certain era, you probably remember that at the end of the line, just above that far right pot on the audio board, was a switch with a label that said "Marti Remote."

Please share your Marti experiences past or present. E-mail radioworld@imaspub.com.

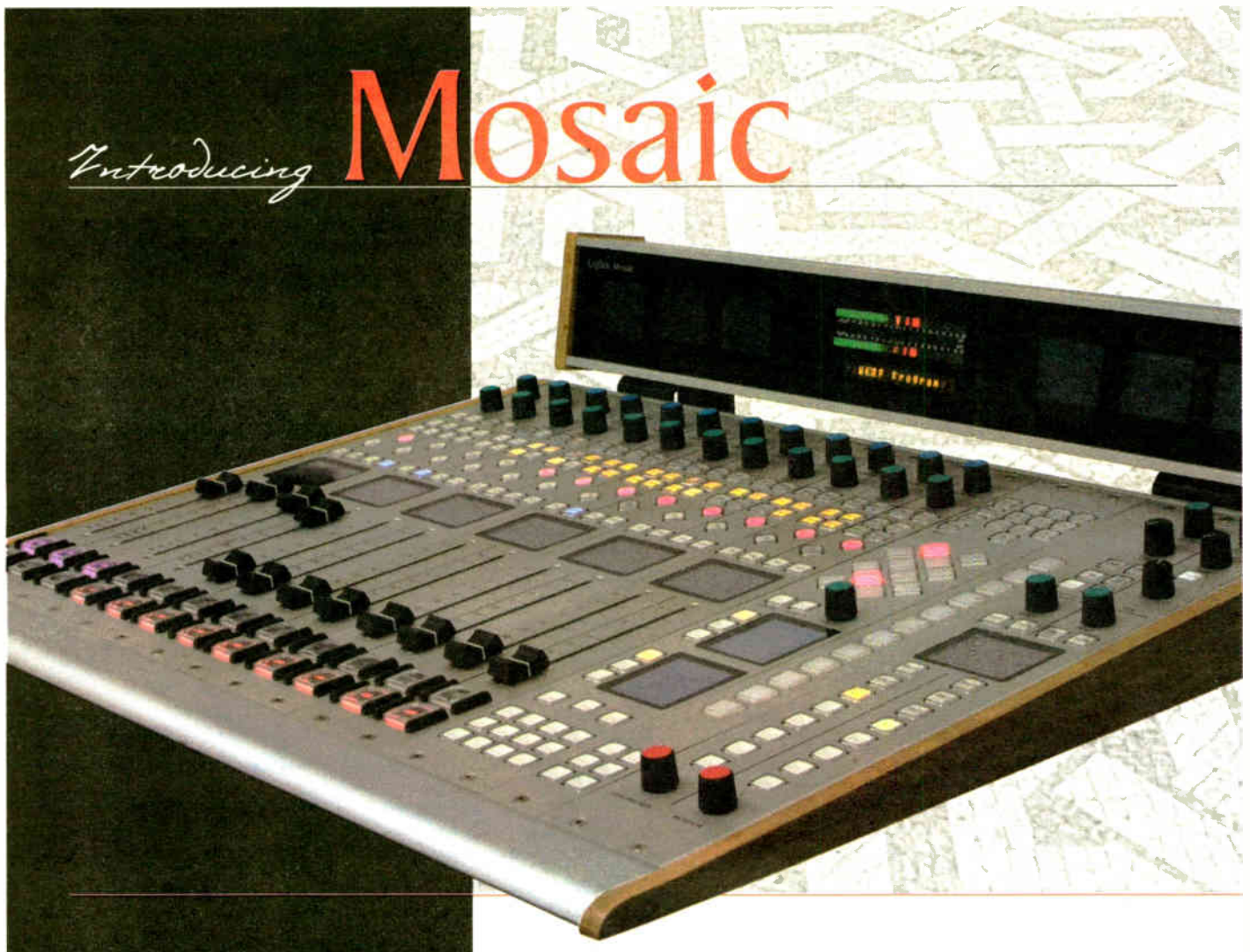
How to Submit Letters

Radio World welcomes your point of view on any topic related to the U.S. radio broadcast industry.

Letters should be 100 to 300 words long; the shorter the letter, the better chance it will be published in full. We reserve the right to edit material for space. Longer commentaries are welcome but may not reach print as quickly.

Include your name, address and contact information, as well as your job title and company if appropriate.

Send letters via e-mail to *radioworld@imaspub.com*, with "Letter to the Editor" in the subject field; fax to (703) 820-3245; or mail to Reader's Forum, Radio World, P.O. Box 1214, Falls Church, VA 22041.



Art meets technology in the latest digital console from Logitek. Like its namesake, the Mosaic uses individual pieces (modules) to make up a work of art for your facility.

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- 16-character names allow clear and complete source identification for fader and meter inputs
- Full color LCD screens—at least one on each module—provide meters, clocks, timers, delay information, text messages, downloaded bitmaps, etc.
- Programmable backlight colors in ON/OFF buttons alert users to operational conditions or separate faders by source type
- Dedicated LCD screen and controls above each fader give local access to all channel functions

The Mosaic is available now.
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Tell us about your job change or new hire. Send news and photos via e-mail to radioworld@imaspub.com.

Dave Morgan

Dave Morgan was named director of engineering for **Sinclair Communications'** Norfolk, Va., five-station cluster. He had been operations manager. **Joe Hardin** continues as chief engineer.

Don Spragg

Don Spragg joined **Continental Electonics** as engineering product manager. He was director of radio RF products and programs for Harris Broadcast.

James H. Young, chief engineer and chief operator of Cleveland's WCPN(FM), retired after 22 years with the station. He says he'd like to pursue a lifelong interest in cinematography, field audio recording and digital post-production. Young also is exploring opportunities in transmission systems design and radio production consulting in the Midwest.

Hester Furman, former music director of WNYC(AM-FM) Radio and former music consultant to WQXR(FM), was named music director of WQXR.

NextMedia Group appointed **David Smith** as VP/GM of its North Dallas Region radio station cluster. He had been VP/GM of the company's Saginaw/Bay City/Midland, Mich. cluster.

Harold S. Lewis was promoted to VP/GM of **The Weather Channel** radio and newspaper syndication business, responsible for The Weather Channel Radio Network and weather products and services for newspapers. He had been VP, product development for eLaunchpad in Atlanta.

The Bayliss Foundation elected new directors to its board: **Ginny Morris**, president of Hubbard Radio; **Lew Dickey**, president and CEO of Cumulus Media; and **George Pine**, president and COO of Interep.

Jones Radio Networks promoted **Jessica Sherman** to senior director, affiliate marketing for JRN's News and Talk division. She joined the company in 2004 and most recently had been product manager for progressive talk personality Ed Schultz.

AZCAR Technologies Inc. appointed **Bill Crowther** to chief operating officer. He had been chief financial officer for BBB/SCI, a Canadian consulting firm.

AP Radio added **Jon Belmont** and **Steve Knight** to its news team. Belmont was at ABC News Radio for 19 years as an anchor/reporter and came to AP from WTMJ(AM) in Milwaukee, Wis. Knight joins AP from CBS News Radio, where he also served as anchor/reporter.

Four radio industry executives have been added to the Associated Press Broadcast Advisory Board. **Ken Beck** of Entercom; **Rick Feinblatt** of Greater Media and **Carl Gardner** of Journal Broadcast Group joined. **Don Benson** was appointed to replace Jefferson-Pilot Communications' President of Radio Clarke Brown, who is retiring.

NPR legal affairs correspondent **Nina Totenberg** received the Carr Van Anda Award from the E.W. Scripps School of Journalism at Ohio University.

Beasley Broadcast Group appointed **Natalie Conner** to GM of WXTU(FM), and **Lynn Bruder** to GM of WRDW(FM). They assumed the GM positions from Dave Donahue, who resigned from the position at both stations. Conner has been with the company since 1992, most recently as VP and director of sales for WXTU and WRDW. Bruder had formerly managed the Radio One Philadelphia cluster.

Peter Kosann

Peter Kosann was appointed co-chief operating officer for Westwood One. He joined the company in 1999 as senior vice president, affiliate sales, after having been worldwide manager for media distribution at Bloomberg LP.

Dr. Michael J. Easley was named president of Moody Bible Institute. He succeeds Dr. Joseph M. Stowell, who served as MBI's president for 18 years.

NPR reporter **Daniel Zwerdling** received the Investigative Reporters and Editors (IRE) award for radio, for his two-part series "Abuse of Immigrant Detainees." The award will be presented at a June 4 luncheon at the IRE Annual Conference in Denver.

Arbitron upped **Carol Hanley** to senior VP of sales, U.S. media services division, which includes radio, advertiser/agency, outdoor and product/customer services groups. ... **Scott Musgrave** was appointed senior VP, marketing, U.S. Media Client Software. He had been senior VP and GM for Arbitron Radio. ... **Joan Gerberding** was promoted from VP, sales, Arbitron Outdoor to VP of the division.

World Radio History

Streaming Audio for Internet Radio

by Tom Vernon

Streaming media burst on the Internet landscape during the dot-com boom of the late 1990s. Broadcasters saw the potential for the new medium, and Internet radio was born.

A flagging economy after the dot-com crash, along with legal and copyright issues, dampened much of the initial excitement, causing many of the early adopters of Webcasting to pull the plug.

Today, interest in Internet radio is returning, and podcasting has burst onto the scene. Many broadcasters are ready to get into the game.

Money

Scott Farr, president and CEO of OMT Inc., which makes the iMediaTouch product line, describes two main reasons for the renaissance of Internet radio.

"Today there is a lot more clarity regarding the legal issues of Webcasting. Licensing issues and fees from RIAA are well defined, as is the AFTRA issue regarding additional talent fees for Webcast commercials."

A second reason is the change in bandwidth availability and cost.

"There has been a dramatic reduction in the cost of bandwidth, both for commercial users and consumers," he said. This combination creates a wide-open landscape.

"When you see some of the more conservative players like Infinity getting on board, it suggests that there is revenue to be made with Webcasting, and the risk factor is low."

Terrestrial broadcasters taking the plunge onto the Internet may need to purchase content substitution software. These programs usually work in conjunction with a station's automation system, and can substitute commercials, liners or music on a station's Internet feed. They also encode and package programming for live Internet program distribution. Stations can start their research by asking their automation suppliers to discuss their options; many offer streaming-oriented services.

Farr notes that as stations are considering live streaming over the Internet, they should also consider podcasting.

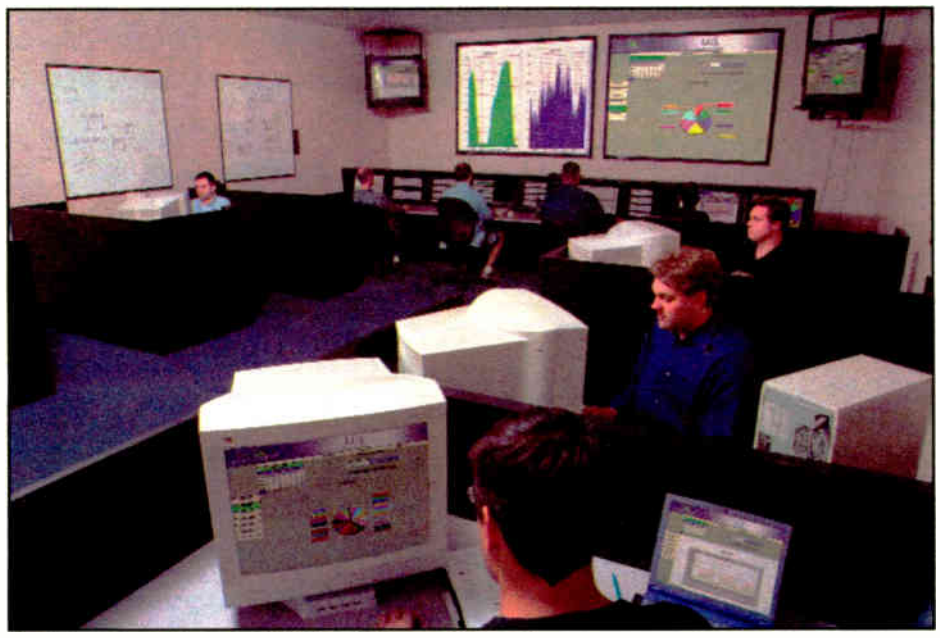
"This is a rare opportunity and challenge. The fact that the number of subscribers has reached 8 million so quickly reveals the enormous potential out there."

Farr said streaming and podcasting can use the same source content, but require different packaging techniques. Streaming requires an encoder, which encodes and packages the program content for live Internet program distribution. Podcasting requires recording the program on an encoded format like MP3; a special XML tag in RSS (Real Simple Syndication) is added which allows the user with podcasting software to subscribe to the content. When new programming is uploaded, subscribers are notified automatically.

Thinking big

Choosing a content delivery network to distribute your stream is one of the factors for success. Mike Sawyer, vice president of marketing for Limelight Networks, listed several points to consider.

"Experience in the online streaming space is vital. First-time users will have many questions, and need authoritative answers." He argued that local ISPs who offer a number of services may not have the specialized knowledge that a content delivery network has.

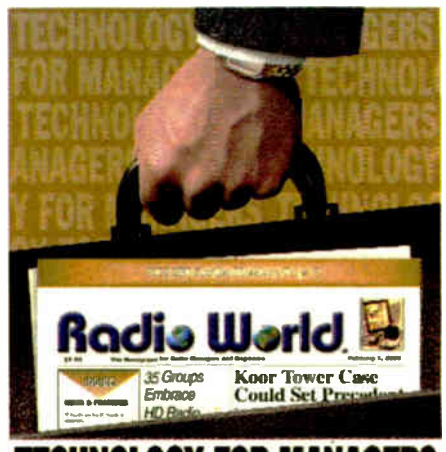


A promotional photo from Limelight Networks, which provides services including live and on-demand streaming media.

First-time streamers also should consider the geographic diversity of each potential provider.

"As broadcasters seek to reach beyond the coverage of their terrestrial signal, they should look for a provider who can deliver the Internet signal to a global audience." The ability to scale up quickly for a large volume of listeners is especially important for all-news stations, where a breaking story may instantly attract worldwide listeners.

Users should expect real-time reporting of audience of statistics, such as number of listeners per daypart, average length of time listened, etc. Sawyer said reporting from a content delivery network is based on actual use, rather than the estimates employed by terrestrial rating services.



Pricing varies with the level of service provided, but A.J. Mc-Gowan, Limelight's solutions engineering manager, said that for small-scale operations, it can be as low as a flat $300 per month. "For that rate, a small user would probably get more high-bitrate streams from a network such as Limelight than from a local ISP."

Stations need to make arrangements to get their Internet stream to a content delivery network. This feed, known as the seed stream, can be sent to the network via DSL or T1 lines.

Costs

While costs can vary significantly with the scope of operations, broadcasters need to look at three areas.

While the price of bandwidth is falling, it is still the most significant expense in streaming media operations, according to Farr. After that are the labor

See STREAMING, page 24 ▶

Podcast Push

Podcasting, less than a year old, has had a rapid impact on consumer behavior and even radio programming. We reported about the trend in the Feb. 2 issue; stories elsewhere in this issue continue our coverage. But are you just getting caught up on what podcasting is all about?

Podcasting is "a way of publishing files to a Web site that allows users to subscribe to the site and receive new files as they are posted," according to the online resource Wikipedia.

"Most podcasts are spoken word audio created by individuals, often on a particular theme such as technology or movies. Because new files are downloaded automatically by subscribers, podcasting allows individuals to have a self-published, syndicated radio show," it continued.

"Users subscribe to podcasts using podcast reader software, which periodically checks for and downloads new content. It can then sync these to the user's portable music player, hence the portmanteau of Apple's iPod and 'broadcasting.' However, podcasting does not require an iPod: any digital audio player or computer with the appropriate software can play podcasts."

Podcast page for KCRW(FM) in Santa Monica, Calif.

Wikipedia notes that podcasting can be thought of as an audio magazine subscription, in that a subscriber receives programs without having to get them, and can listen to them at leisure. "It can also be described as the Internet equivalent of timeshift-capable digital video recorders (DVRs) such as TiVo, which let users automatically record and store television programs for later viewing."

Many early podcasting initiatives are aimed at returning control of the media to "the people." OurMedia *(www.ourmedia. org)* is a free repository for rich media. Podcasters are free to register and upload their creations. OurMedia is an open-source project still in the alpha stage. While it is a storage solution today, long-range plans are to develop the service into a registry; 13,000 members signed up with OurMedia in its first four weeks of operation.

NowPublic *(www.nowpublic.com)* is a news and journalism site that houses videos and stills under a creative commons license. Files that are posted by "citizen journalists" may be downloaded and shared among bloggers. NowPublic has the look and feel of a media asset management system, where users can search by topic, media, reporter or location.

While much of the podcasting activity is still at the grassroots level, networks and radio stations are coming on board.

NPR, for example, is providing podcasts of selected shows, including "All Things Considered," "Morning Edition" and "Fresh Air." In April the BBC announced it would distribute 20 of its programs as podcasts. WNYC in New York City podcasts "On The Media," "The Leonard Lopate Show" and "The Brian Lehrer Show." WGBH Boston has several programs available for download, including "Greater Boston's Beat the Press," "Jazz From Studio Four" and "The World."

Bridging the worlds of podcasts and formatted radio, Infinity said it would launch "the world's first podcasting radio station" this month, called KYOURADIO.COM. Its content is to be created by listeners and aired on an AM station in San Francisco as well as streamed online.

Users can upload their podcasts at *www.kyouradio.com*, where they will be "eligible to be selected for broadcast." Programming will be determined by listener interests and feedback and evaluated on daily.

Wired magazine reported that Infinity "does not plan to assert ownership claims on content submitted by podcasters, who will remain free to publish their podcasts" elsewhere. The Infinity experiment promises to be watched closely in radio circles.

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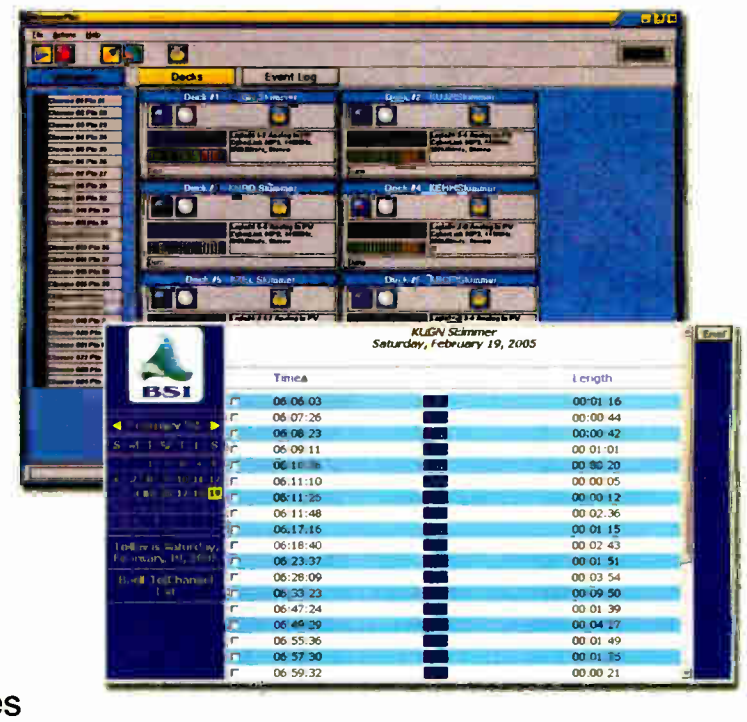

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FIRST PERSON

Development Prompts RF Move

Bumped by a Golf Community, Legacy Station WOR(AM) Embarks on an RF Rebuild

by Thomas R. Ray III

The author is corporate director of engineering for Buckley Broadcasting/ WOR Radio.

This is the first in a series of occasional articles about a project that is at once an engineer's dream and nightmare: rebuilding the transmitter facility of legendary radio station WOR(AM) in New York City.

The task is expected to take approximately 16 months. It is a dream because not every day do you get to put together a 50 kW facility from the ground up and "do it right" — whatever that means. It's a nightmare because WOR is an 80-year-old station with a strong history. It was an instrumental player in the golden age of radio. It has its own section in the Library of Congress.

We can't screw up.

History

WOR signed on the air Feb. 21, 1922, from the Radio Department on the upper floor of L. Bamberger's Department Store in Newark, N.J.

WOR is an 80-year-old station with a strong history. It has its own section in the Library of Congress. We can't screw up.

The original intent of the station was to help Bamberger's sell those new-fangled radios. There was only one other station in the New York area at the time. On Christmas morning of 1922, people whom Santa graced with new radio sets were greeted by music transmitted by Bamberger's transmitter in Newark.

After the Christmas season, it is reported that Louis Bamberger contemplated turning off WOR, as the stock of radios was sold out and there was "no longer a reason" to keep WOR on the air. Luckily, station employees were able to talk him out of turning in the license; and WOR turned into a major force in the development of the fledgling broadcast industry in the United States.

After WOR's first 500-watt transmitter, a 5,000-watt station was built up the street from Bamberger's in the mid-1920s. In the early '30s, WOR built a transmitter site in Carteret, N.J., with a power of 50,000 watts. This facility boasted one of the first directional antenna systems in the country.

In the late 1950s and early '60s, electrical interference was causing trouble for WOR's signal in Manhattan. A decision was made to purchase 47 acres of land in Lyndhurst, N.J., approximately 12 miles north of Carteret.

The Carteret facility utilized a three-tower inline array, producing a figure-eight pattern, one lobe heading towards Philadelphia and the other towards Manhattan. The new facility would incorporate a three-tower dogleg array, with one lobe towards Philadelphia, the other bent to aim directly over Manhattan and Long Island.

This system gave WOR the most signal concentration of any New York AM station in Manhattan. It is still in use.

We have now embarked on the building of WOR's fifth transmitter site since 1922.

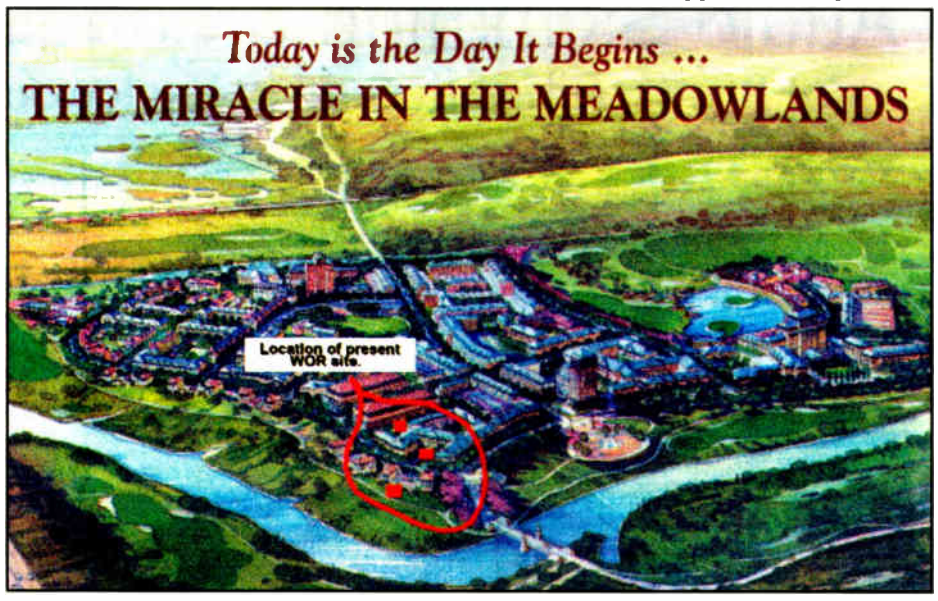

Fig. 1: The 'Miracle in the Meadowlands' meant problems for WOR.

One fine day in 1999, I received a registered letter from the Hackensack Meadowlands Development Commission, informing us of a zoning meeting having to do with redevelopment of the area where WOR's transmitter is located. The letter and accompanying map stated that WOR would be affected.

HMDC — now the New Jersey Meadowlands Commission — is the governmental authority in the area governing land use, development, preservation and regeneration of the Meadowlands areas. It appeared that the commission had made a deal with a company known as ENCAP, the business of which is redeveloping old garbage dumps into useable, golf-oriented resort areas.

The land WOR occupies is an old garbage dump.

I attended a meeting at the NJMC offices where the plan was unveiled. Buckley Broadcasting stated unequivocally that we supported the plans to develop the area and clean it up — providing, of course, that the WOR facility be left alone.

We were to lose a portion of our property located a good distance to the north of the antenna field; while we weren't interested in giving up *any* property and said so, losing that part would not jeopardize the operation of WOR.

Many months went by. We heard nothing. None of the other AM facilities in this area at this time had received any word that their land would be acquired. Then we received a letter telling us that NJMC intended to take our entire piece of property by eminent domain. It was time to call in the lawyers.

Negotiations

We met with representatives from NJMC and ENCAP — "we" being myself, our attorney Jim Burke and our RF consultant, Tom Jones from Carl T. Jones Corp.

Our mission at this meeting would be to inform NJMC and ENCAP that, unlike most of the other businesses in the area to be affected, WOR was not a warehouse. We couldn't simply pull up stakes and shuffle off to Buffalo. There were FCC and FAA regulations to consider. There was zoning to consider — who the hell wants three 680-foot towers in their backyard? And we needed about 40 acres in a particular orientation to make it happen.

WOR could have chosen to fight the taking of our transmitter site by eminent domain; and the chances were that we could win the battle. However, there would be costs involved, both legal and, since the entire area were being cleaned, environmental; we would need to clean up our little cesspool. Price tag? About $80 million. It would be cheaper and much better for WOR to build a new facility.

NJMC had found an RF consultant who informed them that we could move the facility for about $3.5 million. I can tell you that his estimate was very short.

Now, my position from Day One has been that we have a completely functional, operating facility. If we were to move, I wanted to start with a completely functional, operating facility. I did not want to get involved with moving a transmitter — our auxiliary transmitter is 35 years old and not worth moving, nor would it survive a move — generator or anything else.

ENCAP told me that they would not pay for two transmitters. I told them otherwise.

NJMC produced maps with several proposed locations for the WOR facility. One was located between two elevated spurs of the New Jersey Turnpike and one elevated railway — not acceptable. Two were too small. The last site looked promising until we mapped it and learned we would be too close to Teterboro Airport and would have to reduce tower height severely. To produce the same signal level over Manhattan would have required seven towers, completely unacceptable. It was back to square one.

Next time: negotiations and the search for land to relocate the WOR facility, and what I learned about the New Jersey eminent domain laws as pertains to businesses. After reading the next article, you may find yourself looking at local laws and putting together a plan in the event you come up against such an issue.

Streaming

▶ Continued from page 18

costs to package or repurpose media. Hardware costs for devices such as encoders and Internet audio processors, Farr said, are typically the least significant expense.

First-time streamers tend to make many of the same mistakes, which can be avoided with some thought and planning. Farr stresses the importance of not relying on the IT staff alone to shape policy and direction. It is important to get all the stakeholders at the table and listen to all opinions in order to create a realistic vision for a station's streaming initiative.

Mc-Gowan said many terrestrial stations fail to consider the need for ad replacement software. Not having appropriate bandwidth or a reliable connection for the seed stream to the content delivery network is another common mistake. "Users don't necessarily need DS-3 or a T1 line, a quality DSL connection will work just fine," he said, "but dialup phone connections are totally inadequate."

Even more important, smaller operations shouldn't make the mistake of thinking that streaming is too difficult or expensive. The days when encoding software required an IT degree to set up and had to run on high-end PCs are long gone.

"Once someone gets started, they discover streaming is a lot easier then they expected." Mc-Gowan said once an account is provisioned with a provider, the stream can usually be available in about 10 minutes.

Streaming allows a station to extend its brand beyond the area in the terrestrial coverage map. Making money with streaming may take more planning and forethought than setting up the equipment.

Success often involves thinking out of the box. Terrestrial radio stations have made money with a business model that involves selling advertising time. Streaming and podcasting don't have to work that way, and probably shouldn't.

"The success of Sirius and XM satellite radio, as well as Napster and Rhapsody on the Internet, demonstrate that the consumer is demanding subscription-based services, and is willing to pay for them," Farr said. "The only question is, are broadcasters willing and able to comply?"

Tell us about your streaming and podcasting experiences. Write to radioworld@imaspub.com.

Tom Vernon is a frequent contributor to Radio World. He wrote about WXPN(FM)'s new facility in the March 22 issue.

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Broadcast Tech Tip # 1111

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World Radio History

The Big Picture

Photo: Gary Hayes, BBC

by Skip Pizzi

The New Convergence: Broadcast + Telco

Future Receivers May Incorporate Broadband Wireless and Broadcast Services in a Single Device

by Skip Pizzi

Last time we discussed how the radio industry must cope with both incremental and disruptive change simultaneously. Part of the latter includes the potential for dramatically changing business models engendered by the ongoing transition to digital broadcasting.

The biggest challenge for broadcasters is adapting to any business that does not maintain the fundamental premise of zero marginal cost per additional end-user, which the broadcast model has always observed. In other words, once a broadcasting transmission system is built, there is no incremental cost to the service provider as audience grows. Listeners buy their own radios and can tune to a station with no impact on that station's facilities or operational costs.

While this approach offers very low cost per listener, its inherently unidirectional, point-to-multipoint service structure implies that little or no personalization or interactivity can be offered. Those features are the primary appeal of online services, of course, but with them come an incremental cost per user that runs contrary to the broadcast business model.

Such is the conundrum that broadcasters face when contemplating addition of online services to their operations.

Converged devices

For radio broadcasting, online services have been strictly differentiated from on-air services for consumers because they each use different receivers. Most online listening is done on a personal computer, and few of these have AM/FM reception capabilities.

The near future may change this, as new portable devices debut with both digital broadcast and wireless broadband capabilities. Think of these as cell phones with digital radio and/or TV — the so-called "converged device."

For the converged device to gain traction, broadcasters and wireless telcos both must mutually benefit.

This is not altogether new; a few cell phones have already included FM receivers, but these have not been widely deployed. The reason for their lack of success is fairly simple: Wireless service operators don't like these phones because they get nothing out of the additional FM tuner capability, and in fact may *lose* something since whenever users are listening to the radio they aren't making calls.

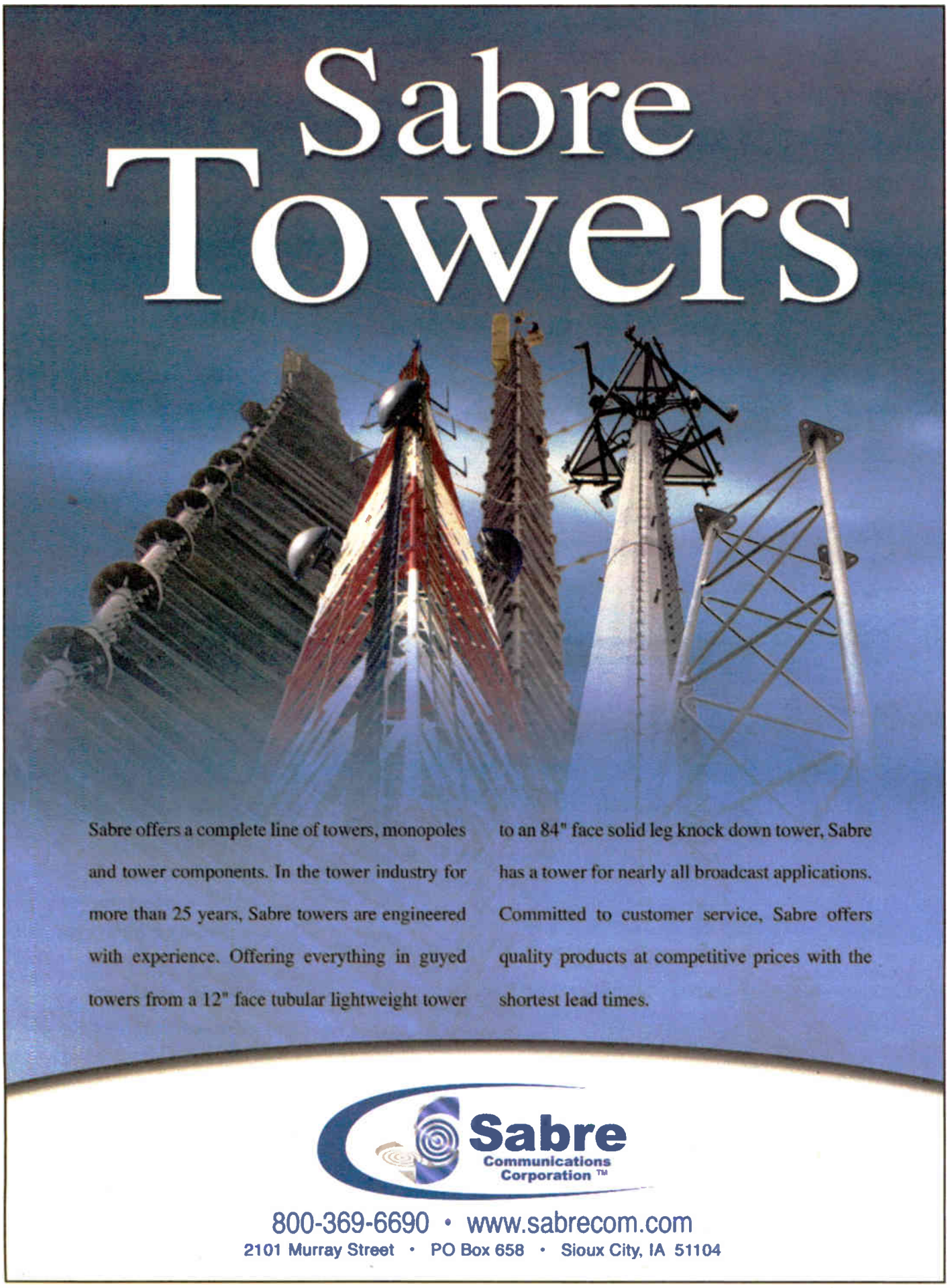
For the converged device to gain traction, both broadcasters and wireless telcos must mutually benefit. Such a process should play toward optimization of both industries' divergent business models. For example, if a listener likes a song he hears on the radio, while he's still listening to the radio, he can order the song for download to the converged device's memory via the wireless broadband link. The cellular operator makes a sale, and the broadcaster gets a piece of the action, all while the user is engaged with the broadcast side of the device.

The station could also invite listeners to send in requests via SMS, again stimulating use of the wireless operator's network; and so on. The two technologies and businesses could work together in synergistic ways: Broadcast reception capability motivates the user to "take the phone out of the pocket," which is the wireless operator's greatest obstacle to increased revenue. The interactive capability of the wireless phone adds new functionality to the broadcaster's service, which provides significant and timely value to an otherwise increasingly old-school medium.

The two services could also interact in deeper ways. Consider that the wireless broadband device might serve as a radio-like receiver for a broadcaster's online streaming offerings, placing them at near parity with on-air channels. Or the converged device could also gather content via ancillary data carried in digital radio broadcasts.

Finally, any such downloaded content to the portable device can be synched to a PC

See CONVERGED, page 27 ▶



World Radio History

Converged

▶ Continued from page 26

or to an entire home media network when the phone is next re-connected (via USB dock, WiFi, Bluetooth, etc.), reversing the more traditional flow of content *from* the PC or network *to* the portable device. In this way, the user no longer needs to be sitting at a computer to purchase digital media content for a home media ecosystem, thereby increasing revenue opportunities for online content providers.

The converged device therefore allows broadcasters and wireless operators to both move forward while still doing what they each do best, and not trying to force-fit their services into one other's business models.

While the scenarios above may sound quite appealing, they depend heavily on harmonious cooperation of all players involved — broadcasters, wireless network operators and converged-device manufacturers. Such an arrangement is unprecedented, but not inconceivable.

Perhaps the biggest question in this context is, "Who will control the device?" Broadcasters, wireless operators and consumers will all have to feel adequately empowered in this respect for the converged-device scenario to be successful. Terrestrial broadcasters have already had a taste of this, in sharing space on a dial they once unilaterally controlled with satellite radio service providers on today's AM/FM/satellite-radio receivers. Meanwhile, consumers are becoming familiar with such processes as they adapt to devices that combine portable media players with cell phones.

So it may be wireless network operators who have the toughest time coping with this new reality. They are used to having unilateral control of the device, particularly in the U.S. market, where most cell phones only work within the network of a single service provider.

Consider also that as services continue to proliferate, no single platform will enjoy the aggregation that existed in earlier times. This could mean that the critical mass that enabled a given medium's success may evaporate as time goes on. Even though clever silicon can make the user believe that he or she is connected to a unified whole, the service networks seemingly connected in transparent fashion must all still operate as separate businesses, and each must remain viable in its own right.

Put another way, what made broadcasting great was compelling content, which takes substantial revenues to produce. The aggregation of audiences to a single or small number of platforms (e.g., AM and FM radio) made this a workable proposition. Will any new platform be able to amass the same commercial engine that can drive production of equally desirable content? Additionally, as technologies and audiences diverge, will incumbent operators retain the requisite agility to adapt, or will they be replaced by new (and less satisfying) services?

Only time will tell if audiences of tomorrow look back on the current day as the last golden age of radio, or a hopelessly antiquated predecessor.

Skip Pizzi is contributing editor of Radio World.

Still Cool

In the June 8 issue, we'll report on the winners of this year's "Cool Stuff" Award. Here's a final look back at last year's winners:

AKG C 414B-XLS/C 414B-XLII Mics

Armstrong X-1000B AM Transmitter

Audemat-Aztec Navigator 007 FM Field-Strength Meter

AudioScience ASI8702/03 Eight-Channel Tuner Adapter

Broadcast Electronics Big Pipe Media Transport System

Broadcast Tools DMS-III Digital Monitor & Switcher III

Burk Technology ARC-16 Web Interface

Comrex STAC Studio Telephone Access Center

D&M Professional Marantz PMD670 Solid-State Recorder

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Henry StudioDrive Integrated PC Studio System

MicroGen Electronics TS9000 FM Broadcast Analyzer

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World Radio History

WNYC Explores Podcasting

by James Careless

Every week, 11,000 people download the podcast file for NPR's "On The Media," a weekly talk show produced by WNYC, New York Public Radio, a flagship NPR station.

In the same time period, about 4,000 people download segments from WNYC's "The Leonard Lopate Show" and about 2,500 download segments from "The Brian Lehrer Show." These downloaders then listen to their shows when they want to, on their iPods or desktop PCs.

To reach this on-demand audience, WNYC has had to do "very little," said Mikel Ellcessor, WYNC's director of programming operations.

"We already encode all of our programs for on-demand listening, so all we had to do was make certain they're available as an RSS attachment," he said, using the common acronym for Really Simple Syndication.

"Our listeners then select the programs they want to be automatically downloaded to their own computers, using RSS software that they can get free our site, if they don't already have it."

Radio time-shifting

WYNC's decision to offer podcast downloads is based on a simple understanding: Today's listeners live in a very "time-poor environment," as Ellcessor puts it.

"We are all pressed for time, and often can't be next to the radio when our favorite shows are on," he said. "This is why a technology like podcasting makes real sense for listeners and broadcasters alike: It allows you to 'time-shift' programs so that you can hear them when you want to." (The concept took another twist when Infinity recently announced it would allow listeners to "program" an AM station in San Francisco by submitting their podcasts.)

Time-shifting is a concept familiar to VCR and TiVo personal video recorder users: They record the TV shows they like when these shows are broadcast, then view these shows at their convenience. However, it wasn't until the advent of podcasting that this on-demand became readily available for radio shows.

"As someone who bought a TiVo PVR six months after the product was launched, I've been an on-demand consumer for a long time," said Ellcessor. Having read about podcasting on some radio blogs last year, "I brought the idea in-house last Thanksgiving," he said. "Everyone grasped its possibilities immediately: We went from talking about podcasting to launching it in just six weeks."

Listener response

"On The Media" was launched as WYNC's first regular podcast on Jan. 7 of this year, followed by "The Leonard Lopate Show" on March 7 and "The Brian Lehrer Show" a week later.

"We started at zero downloads, and then just kept seeing more people take programs on every single week," said Ellcessor. "The audience just keeps growing."

The only kind of programs that WYNC won't podcast are those which contain music. The reason is royalties; by steering clear of music podcasts, WNYC avoids the legal wrath and monetary demands of the RIAA and its rights holders.

To serve its podcasting audience further, WYNC has started offering its own "Podcast Picks." These are podcast feeds from other broadcasters, which Ellcessor thinks could be of interest to WYNC's listeners.

Included are local programs produced by KCRW Los Angeles, shows created by independent radio producers and specific programs from CBC Radio in Canada as well as the BBC.

"If you think about the stress of living in today's demanding 'attention economy,' it's really valuable having someone else sift through the thousands of podcasts out there on your behalf," Ellcessor said. "WYNC has always done this kind of 'sifting' for our on-air listeners. Now we're doing it for our on-line listeners as well."

Results

Based on its download numbers, WYNC's decision to offer podcast is paying off.

"For us, it's another way to meet listeners where they are," said Ellcessor. "Not only does it

allow us to reach more listeners at virtually no extra cost, but it also helps to build stronger relationships with these people. We're very excited about this because it allows more people to access more media and that's a very encouraging sign for our democracy."

Moreover, "We have been getting great feedback from our podcast downloaders; both in quantity and quality," said Ellcessor. "The response has been terrific."

Whether this trend will continue to grow will be seen. At present, WNYC intends to stand pat and consider its next podcasting moves. "We now want to pause and listen to our listeners; read their e-mails and see what they think," says Ellcessor. "We'll look for some pointers from them, and then make our plans accordingly."

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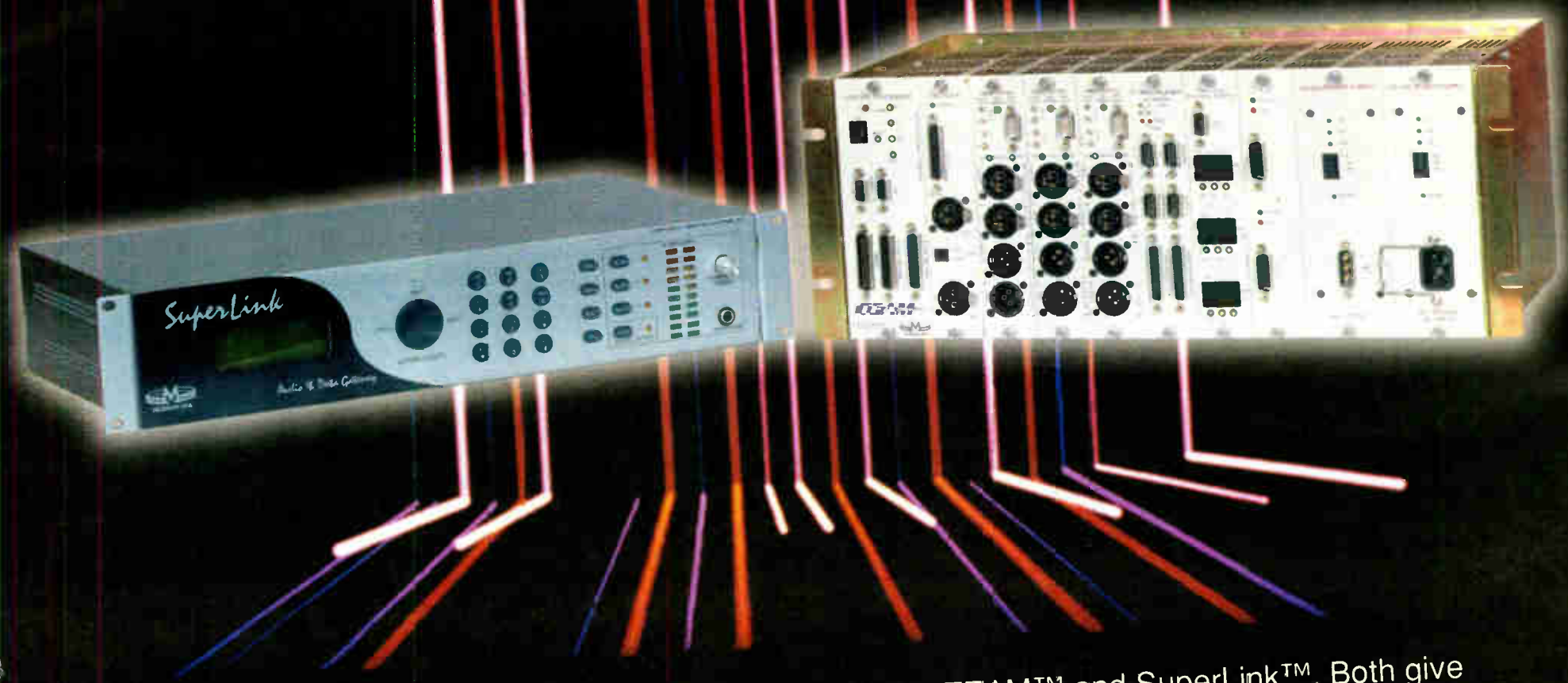

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World Radio History

Sea-Based Remotes Get Easier

Summer Is a Good Time to Plan
A Winter Remote Aboard a Cruise Ship

by James Careless

In the warm summer months, station planners may start to think about cold-weather promotions. How about a Carribean cruise? If your listeners can't afford to take such trips, their favorite morning show might.

Throw in a Cruise Contest Giveaway for the listeners courtesy of a local travel company and you have the makings of a winning radio promotion.

The only tricky part is getting the radio remote audio back to shore, so that your station can air it.

Sea-based remotes

Staging a cruise ship remote is technically no different than a remote anywhere else at the production end. A package of microphones, speakers, mini-mixing board and audio codec are taken to and set up on the ship, usually in a public area where seating is available for the passengers/studio audience. Back at the station, some form of connection such as a Switch 56/ISDN bridge and an audio codec are needed to receive the remote transmission, and decode it for porting into the main studio console.

The tricky part — and the element that sets water-based broadcasting apart from land-based remotes — is the signal path between ship and station. Unless the ship is close enough to shore to use line-of-sight wireless transmission, the only way to get the signal to the station is by satellite.

Because ships have access to the INMARSAT constellation of satellites for ship-to-shore communications, a ready-made path does exist for cruise ship remotes. The catch is that most such links are only 64 kbps, typically divided into eight 8 kbps voice channels. The ship's captain is unlikely to turn all of these channels over to a broadcaster (or anyone else), so radio engineers must find another way to get their remotes to air.

The live alternative

For broadcasters for whom nothing less than live will do, Carnival Cruise Lines has put together a complete "Satellite Radio Broadcast" package.

Carried via MTN, Carnival's satellite services provider, the package provides the remote site with two Netstar 500 audio codecs (for primary and backup) and enough satellite bandwidth to carry mono (128 kbps) or stereo (256 kbps) program streams.

The streams are fed via the ship's Ethernet LAN from the codecs to MTN's own INMARSAT shipboard uplink (separate from the regular satellite voice channels), and then to MTN's Florida Miramar earth station. The radio production studio calls up the earth station using a mono or stereo ISDN landline, allowing it to connect directly to the remote transmission. As

Courtesy Carnival Cruise Lines

Photo: Linda Roberts

'Hey Coach' takes a cruise. From left: Former Alabama and Oakland Raiders quarterback Ken 'Snake' Stabler, host Tom Roberts of the Crimson Tide Sports Network and producer/engineer Tom Stipe.

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well, MTN providse a talkback channel, so that the station can relay information to the remote hosts and producer in real time.

"Most of our ships' lounges are wired for Ethernet, so any one of these sites could be used for a radio remote," says Stephen Varma, Carnival's supervisor of information systems, fleet operations. "We can also add additional cabling to let you broadcast from the pool, if you like."

The upside of Carnival's satellite radio package is the convenience it offers broadcasters. You just book with Carnival at least one month in advance, and bring your personnel and equipment; they'll do the rest. The downside is the cost; stations should expect that a stereo remote broadcast will cost $2,500 per week for the hardware, $4,464 per week for satellite bandwidth and the ISDN landline connection, and extra costs for satellite technician support and ISDN dialup costs to MTN's Florida number, among other expenses. You have to book at least a week's time.

DIY

For stations willing to do their uplinking, bringing your own portable earth station along can help cut costs. It's not a new idea; in fact this was the strategy used by Los Angeles' KOST(FM) in 1996, when they sent the KOST morning show aboard the Princess Cruises ship Sun Princess, as was reported in Radio World at the time.

Rather than pay someone else to transmit the show via satellite, chief engineer Marvin Collins, now retired, brought along a Lynxx Mobile Earth Station to send out the show via a 64 kbps INMARSAT satellite path.

Unfortunately, the Lynxx wasn't designed to compensate for the rolling and shifting of the Sun Princess in the waters off California. To compensate for this motion, Collins had to track the satellite antenna manually to keep the morning show on air. Fortunately, his Sony Pyxis GPS receiver helped Collins determine the ship's position and heading, allowing him to stay aimed at the right satellite.

"With the exception of someone shutting a metal door on our power cable causing a ground fault that put us off air one day, and losing the link briefly the next when we steamed underneath the Vincent Thomas bridge, we had no real problems maintaining the link," Marvin Collins says today.

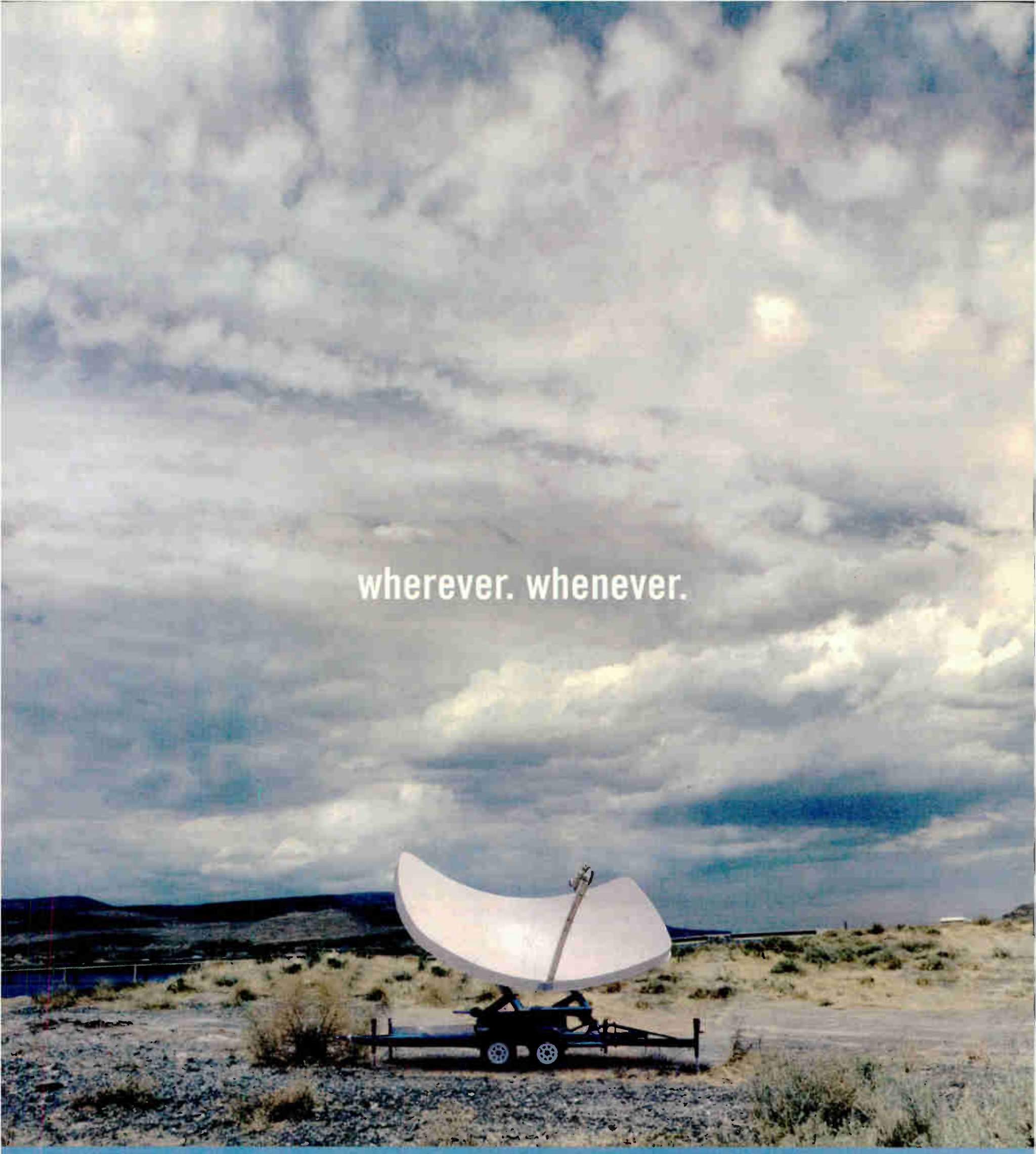
"If I were to do it again, the only thing I would do differently is to have a 128 kbps path back to the station, rather than the 64 kbps path we actually used. We could have used the extra bandwidth for better audio quality and a talkback circuit."

Inexpensive alternative

If the cost of a live shipboard remote is prohibitive, and if your program doesn't have to be live, you can record it on

See CRUISE, page 32 ▶

World Radio History



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World Radio History

MSpot: Pay Radio for Cellphones

by James Careless

With many cellphones capable of receiving multimedia Web content, it was only a matter of time before someone offered satellite-quality pay audio to cellular subscribers.

A content provider with the unlikely name of MSpot is providing 13 channels of commercial-free audio — eight music and five talk — to Sprint Wireless subscribers. For $5.95 a month, Sprint multimedia handset owners can plug a pair of earbuds into their cellphones and get unlimited access to hiphop, rock and country music channels, among others, plus channels dedicated to NPR, the Associated Press and other content providers.

"Since audio doesn't require much bandwidth for streaming, we don't have to wait until high-speed EVDO wireless networks are deployed to distribute MSpot," said Daren Tsui, the company's CEO. "In fact, we can serve the majority of the U.S. cellular population today."

The mobile entertainment firm is based in Palo Alto, Calif. It was founded by Tsui and Edwin Ho in November. The company does not reveal its revenues or projections. Tsui said feedback from Sprint "is that they are very happy with our initial subscription growth."

Other cell radio projects have recently hit the headlines. In the UK, Virgin is offering free Sydus software downloads on its Web site. "Download the free software now, by visiting our WAP site on your mobile phone," says the Virgin installation guide. "Install it, then look for the Virgin Radio logo on your phone.

The legendary Virgin Radio is available in stereo, along with our two digital stations, Virgin Radio Classic Rock and Virgin Radio Groove."

Meanwhile, Clear Channel is planning to start offering radio programming for cell phones by the end of the year. "We're talking to a lot of (U.S.) cell phone providers," Radio CEO John Hogan told Reuters.

But MSpot got lots of national headlines with its Sprint deal last month.

How MSpot works

The MSpot Radio service starts with a "big collection of servers," Tsui said. "These are connected to high-bandwidth feeds from NPR, AP, the Sporting News, MarketWatch and AccuWeather, which we program into separate audio channels." Meanwhile, "we have a large database of music WAV files, which we program into eight music channels."

Once assembled, MSpot Radio's 13 channels are fed directly to Sprint, which distributes them nationwide as part of its Sprint Vision package. Priced from $15 to $25 a month, Sprint Vision also carries video clips from ABC, Fox Sports and TV shows such as "Trading Spaces," "American Chopper" and "Kenny the Shark." The MSpot Radio package costs $5.95 a month extra on Sprint, currently MSpot's sole wireless carrier.

At the receiving end, MSpot's service is accessed directly through a Sprint Vision subscriber's multimedia handset — at present, either a Sanyo MM-5600 or Sanyo MM-7400.

"Both of these handsets come with pre-installed media players, so all the subscriber has to do is scroll through a series of menus to get to the audio feed they want," Tsui said.

Worth noting: MSpot may be geared to delivering continuous audio, but subscribers can also select the specific news, weather and sports clips they want. Meanwhile, although MSpot has yet to offer local news and live traffic, "we do have local weather through AccuWeather," Tsui said. "This is because AccuWeather offers local coverage for over 80 metro U.S. markets, plus a number of regional and national forecasts."

For those broadcasters who belong to MSpot's channel lineup, the advent of "Cell Radio" is nothing but good news.

NPR Online Vice President/General Manager Maria Thomas said, "Working with MSpot, we can give people up-to-the-minute news and the most popular NPR stories of the day, whenever and wherever they want."

As for local broadcasters who find themselves competing against MSpot? For this group, the severity of the MSpot challenge depends on a few factors.

In the car during morning and evening commutes, it appears MSpot will appeal to those who want commercial-free music, and have some sort of interface device to feed MSpot's audio into their car radios. Those equipped with cassette players can always plug a conventional cassette-to-CD adaptor into their cellphone and transport the audio this way. However, those with AM/FM/CD players will have to use external low-powered FM retransmitters, like the $69.95AC/DC portables sold by C. Crane and others.

However, if these same commuters want up-to-date traffic and weather reports, they'll have to stay tuned to over-the-air local radio. The only exception will be those large U.S. markets where XM and Sirius satellite radio offer local traffic and weather updates.

Meanwhile, those wanting a wider range of commercial-free channels will likely turn to XM and Sirius, especially when they can hear them using in-dash AM/FM/satellite radio receivers that don't require cassette/CD adaptors or external FM retransmitters.

A further impediment to MSpot is cost; the $5.95 per month is in addition to Sprint Vision's $15-$25 monthly rate. (The actual MSpot price could be as low as 95 cents, if the Sprint subscriber applies the Vision plan's $5 monthly programming credit to this service.)

Until this changes, and until MSpot finds its way onto other cellular carriers, the service's market penetration is likely to be limited. Of course, the same was once said about satellite radio: Now XM and Sirius combined have over four million U.S. subscribers, and counting.

"It blows my mind that nobody has launched something like MSpot yet," said Daren Tsui. "In the future, we are planning to expand our music channels to 20 or more," he said. "We are also creating a Java version of MSpot that can be heard on older cellphones capable of playing video games."

Cruise

▶ Continued from page 30

board as a series of audio files, then e-mail files back to your station via the ship's Internet café.

"Cost-wise, sending back sound files can be the difference of two hour's upload time at 75 cents a minute, vs. $15,000 for a live broadcast," says Carnival's Varma. Clearly, this is a much less expensive alternative.

The University of Alabama's Crimson Tide Network, which feeds a weekly show called "Hey Coach!" to about 60 Alabama radio stations, recently used the e-mail approach to do a remote on the Carnival Cruises' ship Carnival Glory.

"I mixed the show much as I would a garage band," says CTN producer Tom Stipe. "We fed audio from our portable mixing board into a laptop computer, where I converted it into a series of MP3s. I then took the laptop to the ship's Internet café, and emailed them back to our studio."

Granted, this approach was time-consuming.

"We spent all night Sunday and most of the day Monday sending those large audio files back via satellite," Stipe says. Still, the shipboard version of the show, recorded before an audience of 300 Alabama fans, sounded great when it went to air, and at a cost far below $15,000.

Shipboard remotes are within the reach of most radio stations. If yours should happen to require the presence of a radio executive such as yourself on the trip — for purely administrative reasons, of course — so much the better.

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World Radio History

PSAs: Where Have They Gone?

Promo Power

by Mark Lapidus

It's taken me quite some time to realize it; but I miss something that I used to hear on nearly every radio station in America.

I must confess — I know this will come off a bit oddly — that I miss local public service announcements. Sure, I'm aware that PSAs still air on plenty of radio stations, but the sheer quantity is not what it was 10 years ago. Even the quality of those that air seems to have devolved.

Also, while it would seem natural for news and talk stations to air PSAs regularly, somehow syndication and the desire to maximize every second have pushed these announcements off the air.

While it's easy to blame deregulation for PSAs turning into MIAs, the true choice of whether and when they air is at the local station level.

Special someone

For decades, PSAs had a slot on the programming clock, often in every hour of the day. While it may make sense to only air PSAs during those times when you deliver more information, such as morning drive, perhaps you could consider adding them back into your weekend programming as well.

This would give your (often content-challenged) part-timers something localized to talk about several times a show. It will also make your radio station sound like it's really being broadcast from the town in which it is located.

Am I merely waxing nostalgic? Or have we sacrificed needed community information in our effort to de-clutter stations? As always, the answer comes back to content.

We know that not all public service announcements are created equal; yet those stations that do carry PSAs often treat them that way. If a public service announcement is about something too narrow or general or it's just boring, it is a waste of time, and your station is better off playing another song or doing another news story.

What every station needs is somebody who cares about the welfare of the community and has the ability to match the right information to the lifestyle of the specific audience who listen.

I am not suggesting we create full-time public service director positions, unless you have the ability to do this at a cluster level. Instead, draft a member of the air, programming or promotion staff who has the potential to really care. If you're just assigning this as one more duty for someone, you'll get material on the air that will sound uninspired.

The special someone you choose to handle your PSAs needs to take the leadership role, doing more than gathering what your station receives in the mail, editing copy and putting it in the control room. Your PSA director should be seeking PSAs proactively. He or she should comb local newspapers and look at local Web sites for interesting material. Make sure the non-profits know they can send you material; put a "how to" on your station site.

And here's something you haven't heard in awhile: How about actually telling your audience, on the actual radio, that you accept PSAs?

We often wonder how we can touch more people so that they'll remember us when it comes to filling out a ratings dairy. People love to hear about events with which they're involved talked about on the air. Could your PSA director or an intern call the person who sent the PSA, to let them your station received it and that you'll be broadcasting that information tomorrow morning?

Finally! A radio station is actually calling them to tell them that they're doing something nice for them instead of just telemarketing about yet another contest.

Another way to package PSAs is by putting them together in recorded calendar form. This too was done on radio for decades, but the practice has nearly disappeared.

Here's an example: "Hi, it's Johnny & Fred from the 'Q Morning Show.' Here's the Q Weekend Calendar. The Cold Harbor Literary Festival is tomorrow noon to 5, with lots of kids' authors, a cartooning class and bake sale. ... See 'Alice In Wonderland' at the Puppet Theatre this Sunday at Franklin Baptist Church. Admission is a can of food for the homeless shelter. ... The Smith Brother's Circus is at the Fair Grounds this Monday through Wednesday. A portion of the proceeds is for the Women's

See PSAS, page 34 ▶

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World Radio History

COLE'S LAW

The FCC Erects a Red-Light System

Simple in Theory, the New Debt Check Could Complicate Your Next Application

by Harry Cole

If you should ever find yourself in need of a reason, any reason, to pay your annual regulatory fees and other routine financial obligations to the FCC, look no further. The FCC has kindly provided the "red-light" system, a new patch of regulatory traffic control with potentially ominous downsides.

The red-light system materialized in the fall of 2004. It is intended to provide the commission with a mechanism by which to ensure the collection of reg fees and the like. As you know, the FCC has been collecting annual regulatory fees for years from all of its licensees. For even longer, the commission has been requiring the payment of filing fees in connection with most routine applications.

Of course, in the conventional commercial universe most of us inhabit, a company keeps track of any debts owed to it and takes reasonably timely steps to collect those debts. Apparently, the FCC was not living in that particular universe for the first 10 years or so after reg fees were imposed. In 2004, it decided to tighten up its collection processes.

Actually, the FCC didn't decide that on its own; rather, Congress had told it to do so eight years earlier, in the Debt Collection Improvement Act of 1996. But the FCC waited to see how other government agencies tackled the debt collection process. Those agencies — the Department of Justice and General Accounting Office — adopted new rules in 2000. Two years later, the FCC finally figured it might be time to do something, so it proposed new debt collection rules, including the red-light system. And a mere two years after that, the new rules were finally in place.

In principle, the system is a simple concept. Before the commission will take any action on any request for authorization, it will check to make sure that the applicant has paid all outstanding debts to the feds.

If that check reveals any unpaid debts (not including fines or forfeitures, which are not subject to red-light consideration), the application will not be granted unless and until all debts are paid. When a debt surfaces, the applicant is notified and given 30 days in which to make appropriate arrangements — either to pay the debt, or advance a good-faith challenge to it. Absent payment or a challenge, after 30 days the application is dismissed.

Just common sense, right? Oops, we forgot to mention that, if an application happens to get granted by mistake (i.e., should the FCC overlook an outstanding debt), the grant is subject to rescission at any time once the mistake comes to light. That, of course, undermines the notion of "finality" that many folks, including lenders, rely on to be sure that, once the FCC has acted, it will not be able to pull the rug out from under the unsuspecting beneficiaries of that action.

Still, you say, it should be relatively easy to know whether all debts have been paid even before you file your application. Doesn't the red-light system merely impose the relatively minor additional chore of confirming that you're all paid up?

The answer is, technically, yes. But the question assumes that it is quick and easy to get a definite, take-it-to-the-bank determination that you are in fact paid up. As it turns out, that would be an invalid assumption.

The 'red-light' system is a new patch of regulatory quicksand with significant potential downsides.

The potholes

The problem is that the commission's records concerning who has paid and who hasn't may not be as complete and accurate as we might like. And while the FCC's staff appears to be trying to make the system work smoothly and reliably, there are discomforting glitches.

For example, Team Cole's Law recently dealt with an individual who owned several separate entities, each of which was a broadcast licensee. He wanted to sell all his stations.

First step: Run a red-light check. You do this by going to *https://svartifoss2.fcc.gov/redlight/login.cfm* and entering the FCC Registration Number (FRN) and relevant password for the entity you're checking on. (Be sure to have your FRN and password handy; you can't get anywhere without them.)

We did this and found that the FCC thought that all but one of the entities had delinquent debts. But the last entity, the one showing no debts according to the FCC's records, had already received, from a collection agency, a dunning notice about a delinquent FCC debt. And of the debts the red-light system did flag, at least one had been paid three months earlier.

Second step: Pay the debts you know you owe. The red-light system does provide a relatively easy way to pay recent debts. You do this by credit card online, following prompts provided by the red-light system when your number comes up red.

But we found that the simple online payment option works for recent debts, not for older (two or more years) debts that the FCC has already referred out to the Department of Treasury for collection. Those have to be paid to the Treasury, which means you have to reach out to them. And that problem is further complicated by the fact that, in the case of older debts, Treasury may have in turn referred them out to collection agencies (we discreetly refrain from referring to them as "leg-breakers"). If you fall into that last category, you have to pay the collection folks, not Treasury.

Third step: Confirm that your payment has been received and recorded. If you pay online to the FCC, this step is a piece of cake. But if your debt has already referred out to Treasury (or, worse, to a collection agency), good luck.

Team Cole's Law was unable (and not for lack of trying) to get anyone at Treasury or its collection agent to provide written confirmation of payment, even though we were assured that their records did indeed reflect payment. It appears that the collection agents report only to Treasury, and Treasury reports only to the FCC.

If you're nice and ask the right questions, Treasury should at least provide you with one or more tracking numbers from its system, which you can then report back to the FCC so that they can call Treasury and confirm the payment. But one person at Treasury told us that Treasury holds onto the payment for three weeks or so before notifying the FCC, presumably to make sure the check clears.

If you are patient, lucky enough to get in touch with helpful Treasury folks, smart enough to ask the right questions, careful enough to take detailed and accurate notes of your conversations and determined enough to make repeated phone calls, you should be able to marshal enough information to clear the red light.

In our experiment, it took approximately six to seven weeks of phone calls and e-mails to get everything cleared up. That includes not only the four or five weeks to get to a point where the FCC folks confirmed, by e-mail, that all was in order, but an additional two weeks before they got the system to give us a green light.

But wait, there's more. About eight weeks after the FCC's system showed green, we got a letter from the commission advising that one of the entities that had been cleared still had a delinquent debt. But the debt that was referenced in the letter was one that had been paid off, as confirmed by Treasury and the commission two months earlier.

We e-mailed the staff for clarification. We got a voice message back a week later advising that everything was cleared up. The message offered no explanation for the letter, nor have we received any response to our request for written confirmation that this matter has really been cleared from the books.

Keep a record

In addition to this direct, personal interaction with the red-light system, Team Cole's Law has heard numerous similar stories from credible sources. Those stories include reports of multiple inaccurate red-light readings, i.e., licensees being red-lighted when they had in fact paid all debts in a timely manner.

The moral here is to pay your reg fees and application fees on time; keep detailed, easily retrievable records of your payments; and always expect the unexpected.

The FCC is entitled to impose such fees and will continue to impose such fees, and it only makes sense that the FCC should be able to withhold services from folks who choose not to pay. But it is clear from our own experience that the FCC's record-keeping processes may not be completely accurate, and its ability to update and correct its own records may be far from optimal. As a result, don't be surprised if your red-light checks produce false positives and false negatives.

This is especially important if you plan on filing applications in the foreseeable future and need prompt, favorable action on those applications. The last thing that you want in that case is to find out that the FCC thinks, rightly or wrongly, that you — or another party to the application like, say, the buyer or seller — have delinquent debts and are therefore subject to a red light which would halt processing of the application.

If you have any questions about the red-light system or its potential impact on you, consult with your communications counsel.

Harry Cole is a member of the law firm of Fletcher, Heald & Hildreth, P.L.C. He can be reached at (703) 812-0483 or via e-mail to cole@fhhlaw.com.

PSAs

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Center of Athens. ... If your community group has an announcement for the Q Calendar, e-mail it to us at Q-Care at Q-97 Dot Com. And that's the Q Community Calendar on Q 97!"

While public service announcements are designed to be short, I ask you to consider broadcasting at least a few "town meeting" type of shows a year — not just to give your station visibility, but to give something back to the city you serve.

Get a few community groups together and talk about key issues with a live audience. It's amazing but those types of shows actually can turn out to be entertaining if done correctly.

It's good to be altruistic. Positive behavior nearly always makes good things happen for people and organizations.

The author is president of Lapidus Media. Write to him at mlapidus@cox.net.

World Radio History

BUSINESS DIGEST

No More 'Free Re-Use' at AP

If you are an AP member and you also use AP material on your Web site, you'll have to pay extra.

The Associated Press said its board of directors in April approved a new online licensing structure to cover use of AP content on newspaper and local radio and TV station member Web sites.

Starting next year, all members who use AP content in their online operations will begin paying a license fee, it stated.

"Previously, AP newspaper and local radio and TV station members had been allowed to repurpose for the Web the AP materials received for their print publications and on-air broadcasts at no additional charge," AP said in the announcement.

"While ending this 'free re-use' policy, AP intends to couple this paid online license with an annual assessment increase that is smaller than the yearly average for the past decade," it stated, attributing to Burl Osborne, chairman of the AP board and publisher emeritus of the Dallas Morning News.

AP representatives planned to meet with members to discuss the new structure. It takes effect next Jan. 1. The method of determining the fee hasn't been set yet.

Microsoft Deal Puts Old-Time Radio Online for 99 Cents

A deal by Microsoft brings together old-time radio and new-time downloads.

Microsoft's MSN Music arm signed a deal with MediaBay to make "golden-age" radio programs available online for purchase and download.

The archive includes 1,400 shows including "The War of the Worlds," "The Adventures of Superman," "Gunsmoke," "The Shadow" and "The Jack Benny Show."

Shows from RadioClassics are available for download from MSN Music at *http://music.msn.com*. Most shows are 30 minutes and will cost 99 cents to download. The content is categorized by genres including comedy, westerns, sci-fi, superheroes and radio drama.

Rob Bennett of MSN Entertainment also noted MSN's recent agreements with Smithsonian Folkways Recordings and the Monterey Jazz Festival and said these moves demonstrate "MSN Music's commitment to preserving America's cultural heritage."

Study: Clutter Battle Has a Way to Go

"'Less is More' may be top of mind for broadcasters, but listeners have not perceived a reduction in commercial loads on radio. In fact, listeners still perceive more commercials on radio than two and five years ago, not less."

That's one of the conclusions of Paragon Media Strategies, which said it surveyed listeners on the topic. The comment was released by the company's CEO Mike Henry. He said radio listening among younger listeners, under 25, has been most affected by a perception of increased commercial loads.

"The good news is that it is this same group, the under 25 listeners, who say they would listen more to radio if commercial loads were noticeably reduced."

But he said most listeners "simply don't care" if a station plays :30 vs. :60 commercials if the total commercial air time is the same.

"For the minority of listeners who do care, the appeal of :30 commercials is dependent upon the placement of that :30 commercial in the context of other commercials aired around it. When filling one minute of time, two :30s are slightly preferred over one :60 commercial.

"However when filling five minutes of time, :60s are preferred by a 2:1 margin."

Rat Patrol

WRAT(FM) apparently has a few fans stationed in Iraq.

The Greater Media station, based in New Jersey, circulated these photos, sent in by Lance Corporal Michael Goldfarb and showing a Humvee near the Euphrates River sporting a bumper sticker for 95.9 The Rat.

"The station is proud to be able to give our soldiers a little home away from home," the company's Lindsay Warren said.

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World Radio History

Hogan: Less Really Is More

This spring, Clear Channel posted the following Q&A with its Radio CEO John Hogan on its Web site.

Q: What drove your decision to launch "Less is More"?

A: Radio needed to change commercial programming to correct three things:

• the excess ad inventory created during the Internet advertising boom;

• the fact that television and other media went to short spot lengths years ago; and

• the reality that radio ads haven't kept up with the creativity that's been infused into commercials on other media

All of these are straightforward to fix and the fixes were overdue.

Q: What has been the response of listeners?

A: Really terrific. First we had anecdotal evidence (e-mails and calls to stations) that listeners just love it. And now we've got several independent studies that confirm the obvious: people prefer fewer, shorter commercials and they remember entertaining and informative ads no matter what the length.

Q: How about advertisers?

A: It's been equally great. We've sold more commercials of shorter lengths this year than ever before and the month-to-month trends are increasing as well.

Q: We've heard local advertisers are embracing "Less is More" more quickly than national advertisers. Is that true? And if it is, why?

A: It's definitely true. And for one big reason: local advertisers demand clear and immediate proof of ROI — and then act on it. They spend their own money to make their cash registers ring. That said, we're seeing a couple of dozen forward-thinking national advertisers who have been quick to embrace Less is More as well. We've talked about the enormous success Fox Entertainment had with its exclusive campaign of :30s supporting the season premiere of "24"; and we announced the campaign that Disney launched in February. Hyundai is using 30-second spots throughout 2005. We literally have hundreds of examples from large, medium and smaller markets.

Q: Radio is a cutthroat industry but in recent earnings calls and at industry and financial conferences, a number of radio executives have praised "Less is More." Are you surprised by the industry's reaction?

A: Not at all. We're all in the same business and this is clearly the right thing to do. Listeners win; advertisers win; and the industry wins. And it was time for the industry to come together. As I travel around the country, there's a growing sense that Less is More, coupled to our other programming initiatives, is driving a renaissance of some of the best that radio has to offer. It's a terrific time.

Q: There are still some radio executives and Wall Street analysts who are skeptical that "Less is More" will work. What do you say to them?

A: Look, it's easy to sit on the sidelines and criticize those who are leading change. What's much more important is jumping in to solve a problem. That takes courage and commitment and those are the people we're engaging with. That said, we have noticed that several of the prominent doubters have begun saying, "Well, so far, we've been completely wrong." We expect you'll see more folks change their position as the weeks move on. All you have to do is listen to a Clear Channel station today to notice the difference.

Q: Exactly how are advertisers seeing increased value in a Less is More environment?

A: It's ultimately about improving return on investment. Advertisers are increasing both their reach and their frequency with the same investment. Today, ads on Clear Channel Radio stations are more exciting, more compelling and more effective. This is a real, measurable increase in value for advertisers.

Q: You recently announced you are making progress is developing a marketplace for 30-second spots. Can you give us an update?

A: Sure — we're seeing positive momentum and sequential growth in the appetite for :30s. We sold significantly more :30s in January and February than we sold in January and February of last year. Importantly, we sold more :30s in February this year than we did in January of this year. The pricing on our premium positions, the first in pod or island positions, is up for :30s and the pricing of our :60s and :15s is up as well. We expect to see these trends continue as we move through the rest of the year.

Q: Was "Less is More" connected in any way to the emergence of satellite radio?

A: Not at all. Less is More would have happened with or without satellite radio — if anything, it's more in response to competition from television than from other radio options. To suggest that the improvements we're making to radio are a reaction to satellite radio is nonsense.

Q: You formed a "Creative Services Group" to help agencies and advertisers create higher quality radio commercials. Why?

A: Selling with sound is a special talent. Not every agency has people who know how to do it — and there are a significant number of local and regional advertisers who don't use agencies. One of the reasons radio is such a high-impact medium is that it's an audio medium.

What's your opinion about efforts to reduce ad clutter? Write to radioworld@imaspub.com.

News, Talk Stations Did Well in Fall

Katz Media Group said news and talk stations were big winners in fall of 2004, with total shares up 10 percent year-to-date. In releasing its National Format Averages and Share Trends report, it said "overwhelming" presidential election coverage likely boosted listening.

Also up was listening on younger-formatted talk stations, which the company attributed to news that Howard Stern would be joining satellite radio. Rock formats have not done as well, with alternative/modern rock and AOR seeing the biggest share declines.

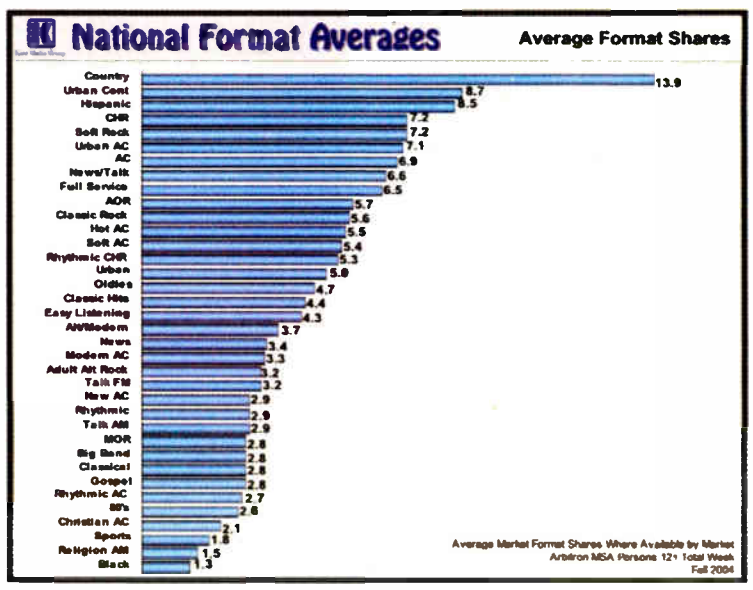
The format to watch, said author Lisa Chiljean, is Hispanic, which saw the second-biggest increase, up 8 percent.

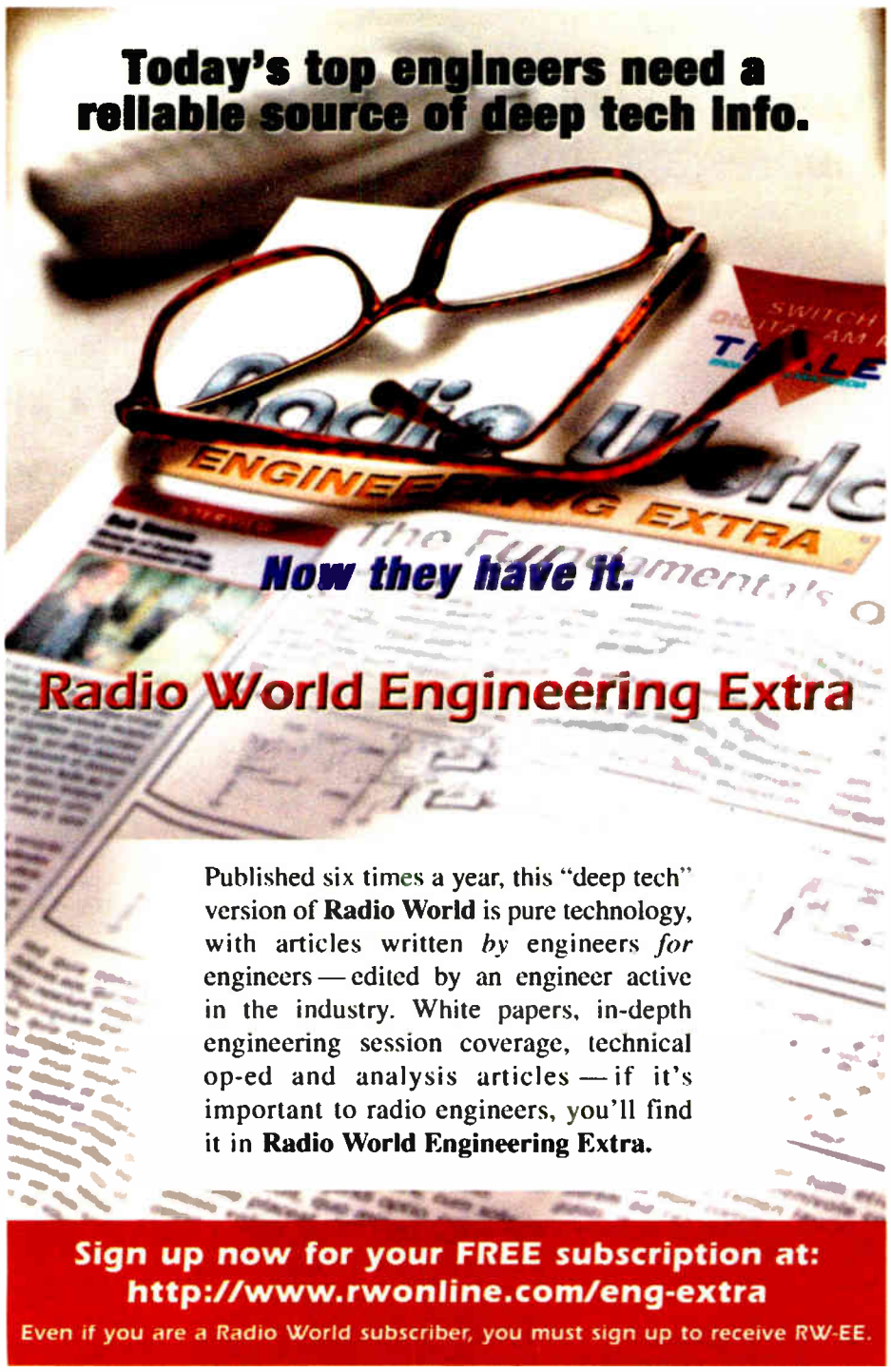
"In just the past year, 44 stations in the database we use to create this report have made the switch to Hispanic — the biggest year-to-year jump in nearly 20 years," she said in the announcement.

Country has been the most popular format for a decade.

Radio had its highest average market format shares format shares for persons 12+ since spring of 2000. "Interestingly, total shares this fall are 7 percent higher than they were during the Fall 2000 election campaign, 27 percent higher than Fall 1996 and 11 percent higher than Fall 1992," it stated.

Katz Media Group, a sales and marketing firm, is a subsidiary of Clear Channel. For detailed results from the study contact Lisa Chiljean at *lisa.chiljean@katz-media.com.*



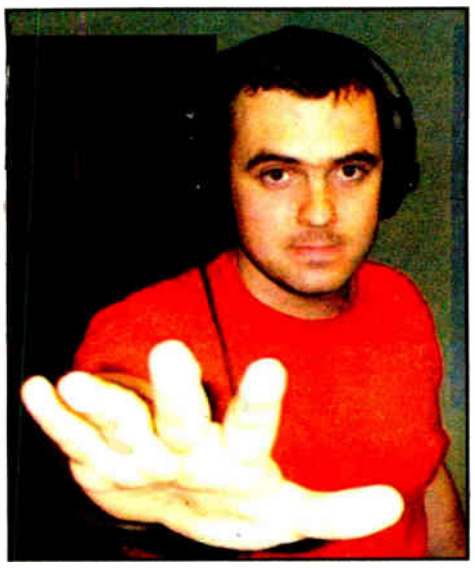


World Radio History

Emmis Acquires Slovak Station

by Nada Muster

Many international companies have found the Slovak Republic to be a home for profitable enterprises with long-term prospects for growth. U.S.-based Emmis Communications, recognizing this environment, recently said it would buy private radio market network Rádio Expres.



Martin Fencak hosts the 'Expres Music Show' featuring two hours of European hits every Wednesday evening.

Slovakia joined the EU in May of last year. Part of Czechoslovakia until the early 1990s, the country now has a population of about 5.5 million. It is between Hungary and Poland, adjacent to the Czech Republic and Austria.

The broadcaster, headquartered in Bratislava, airs popular music, news and entertainment over 32 stations nationally.

Profitable business

Emmis bought Rádio Expres and an affiliated tower company for $14 million, taking over from key shareholder and parent company D. Expres. The sale made it possible for the seller to pay off all original Rádio Expres investors — including the European Union and several western European banks — as well as to turn a profit. "We are satisfied with the purchasing price," said D. Expres General Manager Václav Mika.

> **Emmis said the deal grows its international holdings 'in one of the world's hottest economies.'**

Emmis International President Paul Fiddick stated that Slovakia fits the group's strategy because it presents an opportunity to "leverage" other international Emmis successes in one of the fastest developing economies in the world.

When Emmis announced the planned purchase, the sub-headline of its press release was "Addition Grows International Holdings in One of the World's Hottest Economies."

The parties signed a buyout agreement on Jan. 11; the deal was expected to close in the spring. It was subject to approval by the Slovak media regulator.

Established in 2000 as a six-frequency company, Rádio Expres quickly grew profitable. Some here considered the station was regarded as the most innovative in the country. A November poll by the media research department of a public broadcaster showed that Rádio Expres was the most popular private station in the country.

Rádio Expres traffic reports gained a large audience, as did its format of popular music, news and entertainment.

At the beginning of 2004, the founders decided the time had come to sell. Emmis beat out French company Lagardère Active Radio International for the buyout.

Emmis Communications is an Indianapolis-based firm with radio, television and magazine publishing operations. Its portfolio includes nine FM stations in Belgium and a 59.5 percent interest in Hungarian station Sláger Rádió.

Rádio Expres listeners should notice no difference in the programming despite the change in ownership, participants said. According to Mika, the Emmis management style is similar to that of D. Expres.

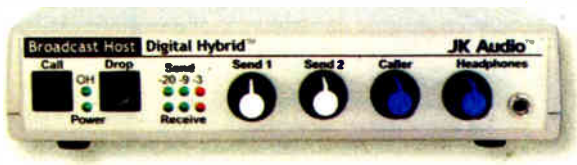
For its part, Emmis said it had no reason to change the "winning formula" of Rádio Expres, whose 95 employees are staying on after the acquisition.

Rádio Expres focuses on weather, traffic and news for foreign tourists, whose numbers have been on the increase in the Slovak Republic. Its main target audience is, however, the active 20- to 40-year-old population with a dynamic lifestyle.

Nada Muster reports on the industry for Radio World from Vienna, Austria.

PBX Interfaces (Between handset & phone)

PBXport New in 2005, this professional digital hybrid provides talk show quality caller audio from any PBX phone system. PBXport allows you to send mic or line level signals through the handset cord of any telephone system and return only the caller's voice, ready for broadcast.



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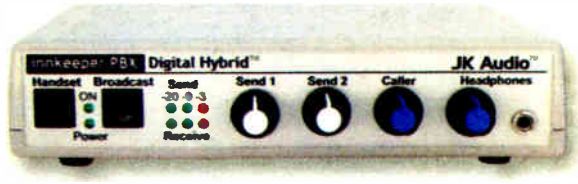

innkeeperPBX Connect this digital hybrid between the base and handset of any telephone system. Turns every news/sports desk into a live interview studio.

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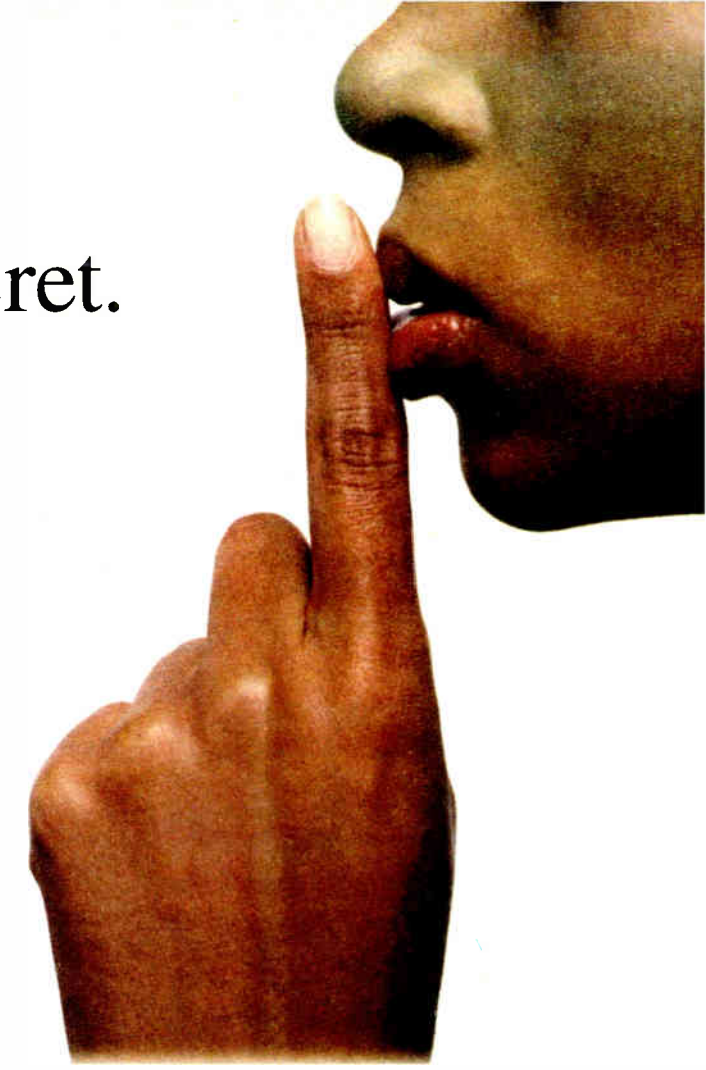
World Radio History

Our client list is secret.



Every day, more than 750 broadcasters rely on TWOx12 twelve-line phone systems to insure their critical talk radio programming. Two advanced digital hybrids deliver the best caller audio possible, thanks to our famous Digital Dynamic EQ. Status Symbols visual call management (a Telos exclusive) helps producers screen calls easily, without guesswork.

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World Radio History

Studio Sessions

Radio World — Resource for Radio On-Air, Production and Recording — May 25, 2005

Product Guide

Inside

PRODUCT EVALUATION

DigiLogger Records 16 Sources

Prophet Systems' Software Logs Multiple Stations, Offers Archiving Routine and Interfaces to NexGen

by Edward C. Dulaney

It seems inevitable that the FCC will soon be requiring all broadcasters to have in place some form of audio logging software or other means of recording programs. Like it or not, broadcasters need to adapt to these changing climates in a way that makes sense, both financially and practically.

Here at Crawford Broadcasting Co. I have had a chance to examine thoroughly the latest offering from Prophet Systems Inc. Its DigiLogger software is designed for all levels of broadcasters — from single-station operation to large clusters. The package is sold as a software solution, and runs on a standard PC architecture using the Windows XP operating system.

Crawford Broadcasting is no stranger to Prophet Systems' products. Our company standardized on its NexGen broadcast automation packages many years ago. It seemed logical the company that made our automation system would also be the best candidate for supplying us with a logging system.

DigiLogger, in the base configuration, will record one stereo input in one of three user-selectable formats. The default is to record it as a 128 kbps MPEG-1 Layer 3 audio file. However, a Windows Media Player format and raw PCM format are selectable as well.

Prophet Systems is testing other encoding schemes, which may be included in future releases of the software, including Ogg Vorbis. In the default configuration, each hour of recording consumes approximately 70 MB of disk space per station.

The package I received came with the DigiLogger software, a PC and a Layla audio interface. The Layla is a nice device, with up to four stereo inputs available, enabling it simultaneously to capture the audio from four sources. We are utilizing all four inputs for our four Denver stations.

The system we received did not work out of the box. The first unit I received had software issues. Prophet Systems performed a software upgrade that fixed the initial problems, but created new bugs. I decided to ship the package back to Prophet Systems, where they spent some time working everything out.

I received the new unit, which came with the latest version of the Layla3G audio interface. Though after using it for about 10 minutes, I was able to crash the system. Another call to Prophet Systems was made, and they sent down the programmer who designed the software, Dustin Bond, to assist me in getting the DigiLogger to operate properly.

Bond worked for a couple of hours on the code, making a few tweaks and patching a few holes. By the time he had departed that afternoon the software was operating flawlessly.

We must note here that the DigiLogger was still in the beta stage when we received it. The bugs we unearthed in Denver have been fixed, and we will continue to assist Prophet Systems in the testing of the software.

From a user standpoint the DigiLogger interface is lacking in some areas. It's not that intuitive and has a cumbersome interface, which makes navigation difficult. The Web interface, used for playing back audio recorded on the DigiLogger, is somewhat better in its design.

Both user interfaces are scheduled for an overhaul, and the second version of the software is expected to be a vast improvement over the initial release.

Another problem is with the help file, which does not offer much information on the operation and configuration of the DigiLogger. Bond informed me that Prophet is developing a much better online help system for the product.

One particularly nice feature is the way DigiLogger interfaces to the NexGen automation package. If you use NexGen, you will be pleased to know that DigiLogger can take entries from the NexGen database,

See DIGILOGGER, page 43 ▶

Product Capsule:
Prophet Systems DigiLogger Software

Thumbs Up

- ✓ Can log multiple stations
- ✓ Supports both compressed and uncompressed audio formats
- ✓ Interfaces well with NexGen automation systems

Thumbs Down

- ✓ Poor user interface
- ✓ Inadequate user documentation
- ✓ Runs on only Windows XP

Price: $495

CONTACT: Prophet Systems Innovations in Nebraska at (877) 774-1010 or visit www.prophetsys.com.

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World Radio History

PRODUCT EVALUATION

Edirol R-1 Grabs Clean Sound

by Carl Lindemann

The Edirol R-1 Wave/MP3 portable Compact Flash recorder combines great audio quality and functionality packaged into the right form factor at an affordable price. The *continuing* drop in CompactFlash card prices makes this even more attractive. Though not without a few shortcomings, this is a breakthrough product.

Outward appearance

The R-1 is a comfortable palm size (about 4 by 5 by 1 inches), in between the too-small pocket MiniDisc recorders and too-large pro recorders. At about the size of a paperback book, the controls, monitor/display and a pair of integrated microphones comfortably fit on the front.

Three rows of buttons plus a jog wheel manage the functions. The familiar "transport" functions are handled with three buttons on the bottom row — stop, pause/play and record. The mid row controls playback with buttons to skip forward and back track-to-track, repeat A-B and to run at full or half speed. The top row is divided between audio effects and managing menu and display options. Two other buttons enter/exit the menu options with the jog wheel flipping through various choices.

A rear view of the Edirol R-1

One side of the unit has separate 1/8-inch mic and line in jacks alongside a mic type switch, a level knob and a USB 2.0 connector. The top has the power on/off switch, an external AC power connector, a hold switch, volume control and a 1/8-inch headphone jack that also doubles as a S/PDIF optical out. The bottom has the CompactFlash compartment. The two AA batteries go in the back.

In the past, I've felt overwhelmed by the menu options and advanced editing functions on some static RAM recorders. But the R-1 sticks to the knitting; it's just a recorder designed for sound gathering. With a little experimentation, I managed to walk through the palette of basic options without having to refer to the manual. Later, I only looked to it to figure out some of the added pro audio sound processing features.

Initiating the R-1 to do the basic work — start recording, set levels and save the file — was self-explanatory. There aren't a lot of menus to figure out or navigate. Part of the simplicity comes from sacrificing editing capabilities. The R-1 is really just about grabbing sound cleanly and efficiently leaving the post work to a DAW.

Getting started

The user's first decision is the recording quality. The R-1 offers nine format/quality choices from 64 kbps MP3 stereo through 24-bit uncompressed WAV. There is an option to operate in mono, but this does not record an actual mono file. You get the same sound on both channels. This misses a major advantage of mono in doubling recording times. Here, going mono still yields a two-channel recording with no savings in file size.

Playing with the settings, I found that 192 kbps MP3 was as good as I needed for recording interviews with a beyerdynamic MCE50. Going uncompressed or even to MP3 320 kbps was overkill. For music recording, the higher quality may be great, but for typical sound outside the concert hall or studio, 192 kbps yields over 5-1/2 hours of recording on a 512 MB card.

This longevity goes well with the battery life, too. A pair of high-capacity 2200 mAh NiMH rechargeables powered almost 4.5 hours of recording. Duracell alkalines fared worse with just 2.25 hours. With other IT devices, if you yank the batteries in the middle of a recording without saving it, it's lost for good. A nice feature of the R-1 is that as the batteries were about to die in the middle of endurance testing, it shut down and saved the file.

Setting levels entailed reading the large, albeit uncalibrated, LCD meter that could be backlit as necessary. There is no automatic level-setting feature. Of the numerous audio processing options, the limiter was useful in keeping it from clipping. The internal stereo mic was surprisingly good — if you let the unit sit. Otherwise, handling noise was problematic.

The "hold" switch locks out most controls to protect settings while recording. Still, the level control and on/off switch will operate even with this safety on. It's not foolproof, so you need to make sure you don't jostle the levels, or worse, the power switch in the middle of a recording. Unlike the automatic save with dying batteries, if you turn the unit off while recording, the file is gone forever.

For the deskbound, it comes with an AC adapter. Also, the USB 2 cable makes it easy to transfer files to the DAW. Windows XP identified the R-1 immediately as an external storage device. The high-speed transfer lets you dump hours of audio in a few seconds, but the process is slow if your computer only has USB 1.

So what's not to like about the R-1? The 1/8-inch jacks are no substitute for XLRs. Fortunately the mic input doesn't have the annoying "plug-in power" found in consumer units that contaminate dynamic mic recordings.

Overall, the plastic unit is pretty sturdy except for the flimsy battery compartment and awkward CompactFlash cover. In fact, the battery cover comes off completely and could get lost. It would be nice if it had a strap to give an added level of protection to keep it from dropping.

The R-1 retails for $550, and is available from broadcast and music retailers as well as online e-tailers. The company's Web site has a list of Edirol resellers.

Despite some shortcomings, this is a terrific field recorder. If you take it for a test spin, you won't ever be happy working with cassettes, DAT or MiniDisc again.

Carl Lindemann is a frequent contributor to Radio World.

Product Capsule:
Edirol R-1 Wave/MP3 Portable CompactFlash Recorder

Thumbs Up

- ✓ Great sound
- ✓ Great size
- ✓ Easy to operate
- ✓ Good battery life

Thumbs Down

- ✓ Plastic case, flimsy battery/memory compartments
- ✓ No strap
- ✓ No automatic levels
- ✓ 1/8-inch jacks instead of XLRs

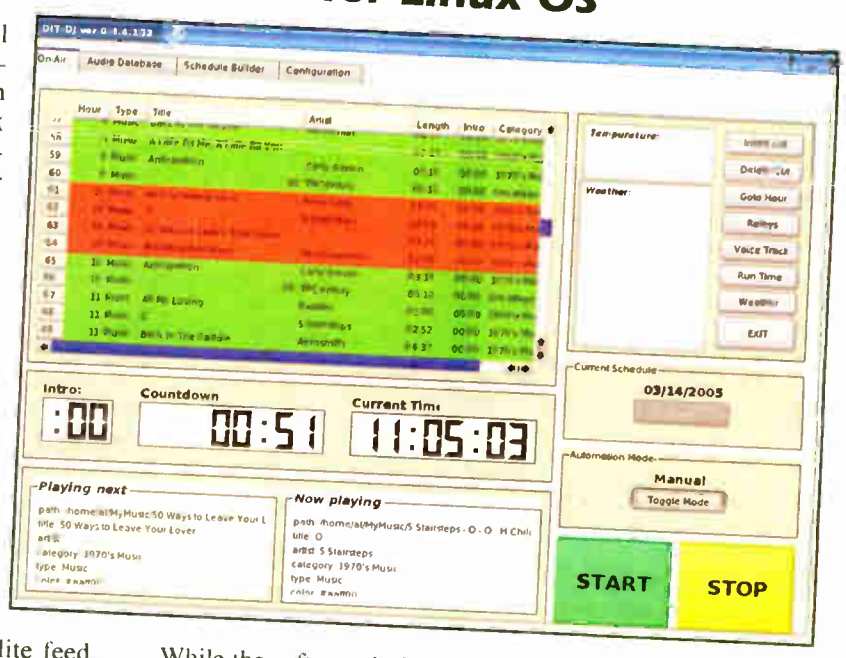
Price: $550

CONTACT: Edirol Corp. in Washington state at (360) 594-4273 or visit www.edirol.com.

PRODUCT GUIDE

Company Intros Automation for Linux OS

Montana-based software developer Digital Development Corp. says it has created automation software for radio "in the spirit of open source." It is a system written to run on the Linux operating system; it schedules music, joins satellite feeds, voice tracks and allows for announcer assist.



Digital Development Corp.'s background is in software for livestock auction markets. President Al Sargent spent 15 years in radio during the 1960s and '70s before selling an FM station in Hardin, Mont. He said the advent of LPFMs sparked an interest to do an open source piece of automation software to accommodate those stations.

He says as development continued, the capability of the software grew and it now features most of the functionality of commercial software on the market. It includes an open source editor, detects and plays MP3 and WAV files and allows for setting intro marks, ending cue positions and voice track ramp up times.

Using a relay card, the software will join a satellite feed, such as network news or a satellite format. Inputs on the relay card to allow for automated remote broadcasts of ballgames and special events without an attendant at the station.

Sargent cited advantages to using Linux, including a reduced susceptibility to viruses that are prevalent on the Web.

While the software is free, he said, it is being distributed at a price of $69 to cover CD duplication, postage and handling.

The company is working on software upgrades that allow for time and temperature announce.

For more information, contact Digital Development Corp. in Montana at (406) 665-3348.

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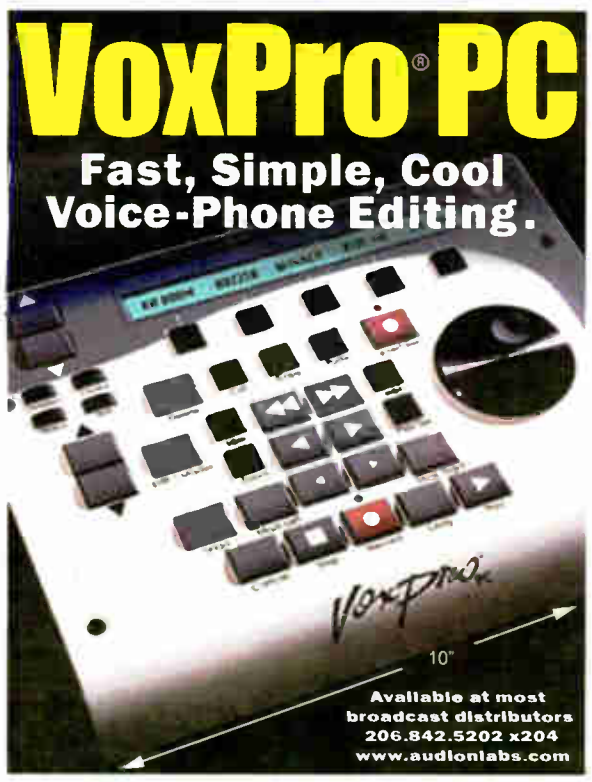

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World Radio History

Vinyl Restoration Reconsidered

Preservation Has Evolved to Include Restoration Software for Transfer to Hard Drive, Clean Up

by Tom Vernon

Vinyl is dead, they say. Long live vinyl.

A music affectionado will tell you that first compact discs, and later MP3 files have replaced those bulky 33 RPM records. But vinyl is the medium that refuses to die. Some audiophiles prefer the analog sound of their records, others hold on to their collections because some material will never be transferred to digital format. A frequent complaint is that some of the transfers from vinyl to CD are of inferior quality.

Aiding the vinyl preservation movement is audio restoration software, which allows badly scratched, battered and otherwise unlistenable recordings to be transferred to a hard drive and electronically cleaned up, if not to like-new condition than much better than before.

Tracer Technologies recently outlined its new approach to vinyl restoration in a white paper, "The New Way." It suggests that vinyl records are best transferred to computer via a flat preamp at the highest possible sample and bit rates. Digital audio software is then used to apply the proper equalization (see article, page 44). The paper prompted a closer look at just how far digital advancements have come in this process.

Up until now, the philosophy of restoration has been similar to copying a computer disc. Once the scratches and pops were taken out, you ended up with the same sound the record's producer heard when the tracks were first laid down. But upon closer examination, it is being discovered this is far from the case.

Today the question boils down to whether you want to hear the audio exactly as it was recorded on the record, or the audio the original mastering engineer created. Several factors create a listening experience that can be quite different from the sound of the original master recording.

No piece of audio equipment is perfect. Every cartridge, preamp, power amp and speaker contributes distortion and noise, and has some variation from a ruler-flat frequency response. Expensive gear may have fewer deviations from perfection, but they're still there. Even identical pieces of equipment can have different sounds, depending on age and any repairs or abuse to which they have been subjected.

Optimal spectral balance

No record is perfect, either. Even if the master recording is flawless, which is unlikely, there are differences in the record manufacturing process, types of vinyl used and age and wear of the record. Audiophiles have long discussed the existence of regular and high-quality divisions of recording companies.

Our ears are imperfect, and our tastes are different. Loss of high-frequency hearing is usually a part of the aging process. Each of us also has a different idea of what constitutes the optimal spectral balance for music. Some, for example, have a fondness for extreme bass.

If all of this isn't enough, consider the imperfections of the listening environment. Irregularly shaped rooms, windows, curtains and carpet combine subtly to color the sound coming from your speakers. No wonder the sound you hear is so different from the original master.

Unless you own a high-tech laser turntable, it makes more sense to do a restoration and transfer material to CD or DVD, rather than risk further damage by repeated playing. If you want to recreate the sounds on the recording master, rather than simply restore the sound on the record, different tools and techniques are required.

First, a fully flat recording from the turntable to computer is made using a preamp with no RIAA equalization. Even the most expensive phono preamps suffer from significant variations from the RIAA curve. Problems include quirky frequency and phase calibration due to resistor and capacitor tolerances. Stray capacitance contributes crosstalk, and analog EQs also generate significant harmonic and intermod distortion due to nonlinearities in opamps or other active devices.

Add to this the fact that RIAA EQ for left and right channels is slightly different due to component tolerances, and it's clear that the turntable preamp itself is a significant source of response error.

The 21st-century way of doing RIAA EQ is by using a mathematically precise RIAA curve generated in the restoration software. The difference in sound between analog EQ and that done in the software is often dramatic.

For pro audio applications, it is best to use a non-RIAA preamp with balanced outputs in conjunction with a sound card with balanced inputs. The sound card that comes bundled with many computers may not be up to the task of transferring quality audio. Often intended for game sound, many of these cards have unbalanced inputs which can add significant noise to transfers.

Next, all frequency response anomalies in the phono cartridge, preamp and sound card are eliminated by playing back a test record of pink noise or discrete tones and using the restoration software's EQ to get a truly flat overall system response. In the days of yore, getting a flat response was a laborious trial-and-error task of soldering resistors and capacitors to the phono input

See VINYL, page 43 ▶

"AudioVAULT Version 9.0 is Ready To Go!"

With twenty years of engineering experience between them, Kim and Lori know when software is ready for delivery. Heading up our AudioVAULT test department, they put every aspect of Version 9.0 through the most rigorous evaluation, so you're assured this version of AudioVAULT is as reliable and robust as its predecessors. Among the more than three dozen enhancements are dual network support for redundancy, server failover without program interruption and more flexible station-wide play while recording. And as is always the case with AudioVAULT, your pager is less likely to go off at night—thanks to Kim and Lori.

BE

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World Radio History

DigiLogger

▶ Continued from page 39

and display them in the Web interface. What this means is you can play back audio from any spot that aired once the DigiLogger has finished recording. Imagine how much easier it will be to prove to a client his "After Christmas Sale" commercial really did run on the day after Christmas.

A downside to the NexGen log files is that the export times, which indicate the time the spot actually played on the automation, are real-time entries. For stations using a profanity delay, the spot times listed on the screen in DigiLogger would be wrong by the same amount that the on-air signal is delayed. Prophet Systems is pondering a work-around for the issue.

In addition to these features an archiving routine is available that will permit the user to select a limit for the length of time that audio is stored in the default format before being converted to a lower-quality format for long-term storage purposes. The archival routines also have the ability to move the audio files off the local DigiLogger computer and on to another system — perhaps a larger server — where they can be stored for as long as necessary.

Overall I would say I am mildly pleased with the DigiLogger package. For a first release of the software it's not bad. And if all the changes Prophet is working on are implemented, I'm convinced it will become one of the best audio logging packages available.

DigiLogger software retails for $495 for a single station. Each additional station will cost $250.

As a whole, the DigiLogger system is an excellent value for the money. And, considering the cost-effectiveness of computer-based logging, as opposed to the "old-school" method of tape archiving, a system such as DigiLogger would easily pay for itself within the first few months of operation.

The software runs on Microsoft Windows XP only, and will not operate on other platforms. A system with a moderate to large capacity hard drive is recommended, as the audio files the software creates will consume quite a bit of space.

Ed Dulaney is the chief engineer for Crawford Broadcasting in Denver.

Vinyl

▶ Continued from page 42

to arrive at the proper cartridge loading.

Without having access to the original master tapes, this is about as close to the original sound as we're likely to get. Using the audio enhancement tools in the software, the tracks can be tweaked until they sound best on your equipment and to your ears.

As long as we've come this far with the technical quality, it's best to record to DVD standards with a high bit width and sample rate, say 24 bits at 192 kHz.

The state of the art for digital sound and audio restoration continues to evolve. With new hardware and a fresh outlook, PC-based restoration tools can be used to get closer to the original sound on the master recording, and make further refinements to customize sound to a user's individual taste.

Tom Vernon is a multimedia consultant working in Philadelphia, and a frequent contributor to Radio World. E-mail him at TLVernon@blazenet.net.

PRODUCT GUIDE

Netia Radio-Assist 7.5 Has On-Air Module

Netia says it designed its Radio-Assist 7.5 data distribution system in response to the trend in radio of establishing centralized sites that communicate and exchange data with local sites.

The Air-DDO on-air broadcast module can be configured as required and simultaneously takes up to four on-air outputs and a PFL playback. Four on-air supports are available: the air-playlist, which displays the sounds scheduled in chronological order; the air-cartstack, which allows access to a range of various sounds; another cart stack system dedicated to jingles or stingers; and a playout reserved to top-priority items.

The playlist can be broadcast on two, three or four channels.

The presenter has access to ergonomic tools such as general drag and drop; sound cueing; looping of intro and sequence; intro/outro, counter/countdown and scroll bar display; and automatic sound linking (cut/mix).

Several functions can be accessed at once via tabs, including record, production, cueing and scheduling. Monitoring and recording functions, such as Recorder, Snoop and Voice Over, are available as background tasks.

Air-DDO is linked to the scheduling workstations and keeps track of changes made to the playlist in real time. Refresh is displayed automatically. The operator is warned by a visual alarm. Additionally, the Air-DDO workstation has access to a scheduling tab and the program can feed a stream of on-air monitoring information to an intranet site.

For more information, contact Netia in New Jersey at (973) 575-9909 or visit www.netia.net.

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Only PORTADISC has the strength, sound quality and features necessary for the most demanding portable recording applications.

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PORTADISC is the only MD portable with a USB interface for transferring audio to and from computers. So a PORTADISC and a laptop with the appropriate software is all you need to record and edit finished pieces in the field.

USB

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The PORTADISC portable MiniDisc recorder combines exceptional sound quality, a rugged, dependable MD drive and a full complement of professional features including a 6 second pre-record buffer, 40 second memory buffer and lockable controls. Comprehensive connectivity includes balanced

XLR Mic/Line inputs, RCA/phono line outputs and coaxial and optical digital I/Os. An On-board sample rate converter is included and Mic inputs feature switchable attenuation, bass

Comprehensive Connectivity

An intuitive menu structure makes it easy to configure the PORTADISC for your precise requirements. There are five user programmable set ups so you can switch quickly for different recording applications. The large illuminated display also provides clear metering, margin indication and track, time and battery information while working in the field.

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5 User Set-Ups

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HHB FIRST WE LISTEN

World Radio History

PRODUCT EVALUATION

CTP1000-B Restores Vinyl via PC

by Read G. Burgan

Tracer Technologies' CTP1000-B preamplifier is something of an enigma: a phono preamplifier without any phono equalization.

Why a phono preamp without the traditional RIAA EQ? It's part of an overall philosophy that Tracer detailed in a white paper titled "The New Way."

Essentially the paper suggests that the best way to transfer vinyl records to computer is through a flat preamplifier at the highest possible sample and bit rates, then using digital audio software to apply the appropriate equalization and other restoration tools (see article, page 42).

In keeping with that philosophy, Tracer introduced the CTP1000-B as a high-quality preamp with no equalization. It is actually a mono amplifier. Tracer calls the unit a "monoblock" preamp. When you purchase it you get two of the mono amplifiers, one for each channel.

Specifications for the unit are impressive and include a frequency response of 10 Hz to 100 kHz +/- 1 dB, total harmonic distortion less than 0.004 percent, channel separation greater than 80 dB and a signal to noise ratio of -83 dB.

Each preamp comes in a black plastic case that is approximately 6-1/2 inches long by 4 inches deep by 1-1/2 inches high. On the top is a rocker-style switch that selects between the phono and auxiliary inputs. The back has a set of phono and auxiliary inputs, a set of outputs along with an on/off switch, a mini-jack for a 9-volt power supply and a ground lug. On the bottom is a sliding door for a 9-volt battery.

Tracer does not provide an external power supply and recommends using a 9-volt battery to achieve the best possible noise specifications. Tracer estimates the average life of a 9-volt battery at 180 hours.

Only the phono preamp is active, providing 40 dB of gain. The auxiliary input is a straight pass-through. And only the left inputs of each preamplifier are active. The right inputs aren't used — hence the need for two preamps for stereo.

Although the outputs of each preamp are labeled "left" and "right" as in a conventional preamp, that is not how they are wired. Rather, the output of each preamp is balanced. To make this work, each preamp's left output provides the signal to the tip and each right output provides the connection to the sleeve.

Tracer provides a special patch cord for each preamp with two RCA phono plugs on one end and a stereo mini-plug on the other.

Tracer calls the CTP1000-B a 'monoblock' preamp.

It meets its intended purpose of providing a high-quality preamp for interconnecting a turntable to a computer sound card. If you want to do high-quality digital audio restoration, the CTP1000-B will help you do just that.

An adapter is provided for converting each patch cord mini-plug to a standard TRS RCA phone plug. A short ground strap also is included to tie the two preamps and your turntable to a common ground.

How well do the preamps work? I connected the input to a Technics direct-drive turntable model SP-10MK2A equipped with an SME model 3009 tonearm and a Stanton 600 series broadcast cartridge. The output was connected to a Waveterminal 192X sound card. For testing purposes I used Sonic Foundry's Sound Forge 7.0 digital audio software with recording parameters set to 96 kHz sampling/24 bit rate in stereo.

The sonic quality of the preamp proved to be excellent. With no record playing, there was essentially no noise discernible to my ears even when listening by headphones.

When playing a record, the music was clean and transparent. Of course to hear the music properly, I had to apply a graphics equalizer tool set to the RIAA equalization curve to restore the original flat sound.

The preamp's specifications rate the signal to noise ratio at -82 dB. With the phono cartridge plugged into the preamp, but with nothing playing and using the Spectrum Analyzer tool of Sound Forge, I measured a maximum noise floor of -93 dB. That measurement also includes any additive noise from the phono cartridge, tone arm and cabling, which suggests this is in fact one quiet set of preamplifiers.

The preamp does not include an RIAA equalization option, which seems to suggest it would not be appropriate for on-the-air use and limited to production studio applications where it could be connected to a computer sound card as intended.

However, if one uses Tracer's DC-Six digital audio editing software, one could readily use this preamp on the air too. How? The DC-Six software includes a Live Preview mode, which allows the user to apply the various digital audio filters and tools in real time. By using DC-Six and including the parametric equalizer tool with the proper RIAA equalization curve, the preamp can play records in real time.

And by adding pop/click and broadband noise filters, one could end up with a digitally restored sound direct from a turntable.

Based on my tests of this unit, I believe it meets its intended purpose of providing a high-quality preamp for interconnecting a turntable to a computer sound card. If you want to do high-quality digital audio restoration, the CTP1000-B will help you do just that.

There are a couple of changes I think might improve the product.

First, I wish Tracer had combined the left and right preamps into one case. The company does have a model that combines both preamps in one case, but the channel separation is 20 dB less and the outputs are not balanced.

Second, even though 9-volt batteries provide a good source of power for the units, I wish the CTP1000-B provided an optional external power supply. Let's face it, with all the things one has to be concerned about, wondering if the batteries in the preamp are still good shouldn't have to be one of them.

Aside from those two caveats, I recommend the Tracer Technologies CTP10000-B phono preamp as an excellent unit for the computer restoration of vinyl recordings. The unit is available directly from the company for $229.

Read Burgan is a freelance writer and a former public radio station manager, specializing in digital audio restoration. He can be reached at (906) 296-0652 or via e-mail at rgb@chartermi.net.

Product Capsule:
Tracer Technologies
CTP1000-B Phono Preamplifier

Thumbs Up

- ✓ Excellent specifications
- ✓ Quiet in operation
- ✓ Good quality sound
- ✓ Easy to set up and use

Thumbs Down

- ✓ No external power supply

Price: $229

CONTACT: Tracer Technologies in Pennsylvania at (866) 260-6376 or visit www.tracertek.com.

PRODUCT GUIDE

OMT Module Sends Station IDs, Song Info

OMT has announced an iMediaDataCast RDS Titling Module for its iMediaTouch digital audio delivery system.

It enables users to provide listeners with expanded "Now Playing" information and customized radio promotion data on FM radios supporting RDS encoding, so radio stations can extend their branding efforts.

Users can send various messages to RDS-compatible radios including stations IDs, commercial branding and song information.

For more information, contact OMT Technologies at (204) 786-3994 or visit www.imediatouch.com.

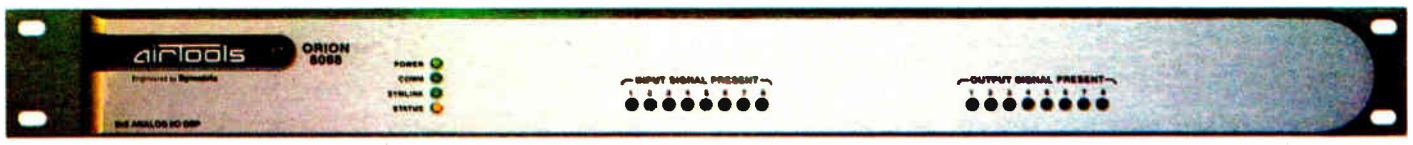
World Radio History

PRODUCT GUIDE

Symetrix Expands AirTools Line

Symetrix has added the Orion 8x8 analog I/O DSP to its Air Tools Studio Matrix series of modular audio DSP. It says the line offers products for automatic gain control, compression, filtering, equalization and mixing. Additionally, some 60 processing modules for logic and dynamic logical control are featured.

The company says Orion is suitable for applications within a broadcast facility, and its release coincides with the version 2.0 upgrade of the Studio Matrix Designer application for design and control of audio systems. The software is based on SymNet Designer for installation sound. It makes available virtual versions of audio devices, such as mixers and parametric and graphic EQs, by dragging them out onto the software's grid area. Audio pathways are created between them by drawing lines onscreen and connecting inputs to outputs.



The Orion hardware has eight line-level analog inputs and outputs, which the company says provides utility when approaching applications such as gain control of satellite chains, equalization and filtering of telephone hybrids, news and production room applications and management of multiple microphone signals in a talk studio environment.

Orion uses a pair of Analog Devices 66 MHz SHARC processors to create virtual audio pathways and processing modules that replicate dedicated hardware devices. The Studio Matrix Designer application is used to create these signal routes and processing chains on a Windows PC. Parameter settings can be assigned to 1,000 onboard preset locations and recalled via RS-232 commands from the station's automation.

Orion units can be used singly or in groups. The company says networking multiple units yields a larger processing system. Audio routing between units is handled via the SymLink bus, an interconnect that supports the exchange of up to 64 channels of audio and control over CAT-5 cable.

For more information, including pricing, contact Symetrix Inc. at (425) 778-7728 or visit www.symetrixaudio.com.

Harris StereoMixer digital Aimed at Smaller Stations

Harris is hoping to bring its PR&E VistaMax line of digital on-air consoles to smaller markets and studios; with that goal, it introduced the StereoMixer digital. The board supports analog and digital inputs and outputs, which the company says allows stations to transition to digital at their own pace.

The VistaMax platform streamlines network audio management by allowing stations to connect sources and destinations to the system over the shortest path, reducing standalone routers, distribution systems and long multipair bundles.

"The StereoMixer digital breaks the price point or digital consoles in smaller studio applications," said Rich Redmond, director of broadcast systems for Harris' BCD Radio Broadcast Systems unit. It aims at smaller-market stations that have been seeking a cost-effective, digital platform; and offers a suitable amount of mixing busses, logic and mix minus capabilities for telephones, he said.

The unit is compact in size, and is available in tabletop and rack-mount versions.

For more information, contact Harris at (513) 459-3400 or visit www.broadcast.harris.com.

Axia iPlay Monitors Off-Air, Program Channels

Axia Audio is out with Axia iPlay, a software-based IP-Audio monitoring program that lets Windows PC users select and listen to audio sources available to their Axia network.

Axia IP-Audio networks convert analog and digital sources into uncompressed, real-time PCM audio and distribute it to the broadcast plant via switched Ethernet.

iPlay allows users of desktop and laptop computers connected to an Axia network to choose and play an available stream, without external audio inputs or adapter boxes.

The company says OMs and PDs can use iPlay to monitor off-air or program channels; GMs and sales staff can audition commercials from their offices; and engineers have instant access to feeds.

For more information, contact Axia Audio at (216) 241-7225 or visit www.axiaaudio.com.

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World Radio History

Trust — But Verify, Bleep and Log

by Paul McLane

Rarely has radio seen so much attention to controlling just what goes over its airwaves and other distribution channels.

Even as outlets for radio programming multiply, debate over the content of traditional AM and FM channels has been great thanks to high-profile indecency cases. Observers expect the regulatory scrutiny to continue, and possibly increase, under a new FCC chairman and given the conservative mood on Capitol Hill.

Clients and financial analysts are watching, too. New tracking technologies have made it easier for third parties to monitor what actually aired, in response to calls for "accountability" in ad management.

Everyone, it seems, is listening more closely. The impact of these trends is felt among suppliers of systems that schedule and monitor programming. These include traffic and billing systems, music scheduling, verification products, logging and program delays.

Many were represented on the NAB show floor.

Keep it clean

Eventide was at NAB, talking with attendees about its familiar "Dump" button. The company takes credit for inventing the first profanity delay 28 years ago, and has updated its line.

It now offers 40 seconds of delay, analog and digital audio with 20 kHz response and a 24-bit design. The products allow the user to control delay and provide multiple opportunities to edit and enter or exit a program. The delays offer storage for fill material and remote options.

For stations converting to HD Radio, Eventide delays have a fixed delay to match the analog and digital streams.

ENCO Systems, also at the show, offers the Guardien system, which it displayed last year in prototype form. The system recognizes words and deletes or bleeps them before they can air. The company is not shipping Guardien yet.

For logging, monitoring and alert, Pristine Systems offers the Blackbox. This image shows eight record channels; the program can record up to 16 channels and play back simultaneously.

Log it

To keep track of what actually aired, OMT Technologies was offering iMediaLogger Version 2.5. Enhancements include an easier-to-use GUI; a Web server that can be configured for access through corporate firewalls and Internet routing devices; the ability to split stereo devices into left and right; and greater compatibility with recorded files and third-party audio editors. The company says the logger is appropriate for perpetual logging, mic skimming and "best-of" recording.

Pristine Systems showed its Blackbox, described as a digital audio logger, monitor and alert system for radio and TV. It offers up to 16 stereo or 32 virtual mono channels of logging and lets the user choose from a variety of WAV audio devices and AM, FM, and TV tuner boards. A "Virtual Radio"-style player allows switching between multiple stations during playback as though listening to a radio in real-time.

Also offering logging is Sonifex. Its Net-Log four-channel audio logger is now fitted with a 200 GB hard drive; larger drives are available. The logger has been enhanced with the option to record using G.729 as the recording algorithm.

"For spoken-language recordings, the amount of data required using G.729 can be reduced by a factor of between 3 and 6," the company states. "This enables much longer recordings to be made on the internal disk, lower network traffic when archiving to a server and almost instantaneous playback across the network."

The Telos Systems ProFiler enables radio stations to make MP3 audio logs of daily programs. It comes with a Telos balanced input PCI audio card bundled with CD-ROM software to record, manage and play archived audio files. The recording software runs under Windows 2000 or NT4; playback software runs under Windows NT, Win98 or greater.

Telos says the record mode can be set for logging, skimming or a combination of the two; logged audio may be auditioned remotely via LAN, WAN or the Net.

Prophet Systems offers logging; its DigiLogger allows the user to retain as much of a station's audio as needed using compressed or noncompressed audio formats.

"Because of this flexibility, you can use DigiLogger to record airchecks, recycle promotions and save entire shows," the company states. DigiLogger can be configured to work with most analog or digital audio sources, including automation systems, satellite receivers and switchers.

Energy-Onix promoted Documentor, a multi-channel audio logger it says can be used with LAN systems to drive 10 computers at once. It automatically deletes recording after 90 days, with longer storage options available; it comes in two to 24 channels.

French company WinRadio Software offers WinLogger software in version 2.2 for archiving of audio and video. According to the company's Web site, the standalone WinLogger can record

See LOGGING, page 47 ▶

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World Radio History

Logging

▶ Continued from page 46

listener calls, export to CD-ROM and handle other specialized broadcast applications.

Scheduling and more

In music scheduling, RCS Inc. is noting its 25th year and was at the show with its popular Selector system. The company also offers Linker promo scheduling that tracks promos, jingles, liners, PSAs and non-music, non-traffic elements, including affidavits for sponsored promos and a script manager.

Media Monitors, another part of RCS, went to NAB with its AirCheck and PaperVue ad tracking systems. The company has had success in the past year at signing high-profile broadcast and financial users. The company identifies spots and ads on radio and in newspapers and provides same-day, online reports. AirCheck tracks radio spots and songs in top U.S. markets; PaperVue shows newspaper print ad sizes and page numbers.

It recently announced the addition of new advertiser data that will be offered to subscribers. Clients are now able to view the name of the ad agency of record for advertisers, as well as target demo for a particular spot or campaign.

Executive Vice President Joe McCallion said, "Now, besides offering 'in-context audio' to our customers, we will be listing ad agencies handling the creative, plus published targeted demos for selected spots and ads. This will make it easier to run comparative analysis on a specific campaign across one category, a specific advertiser or an ad campaign."

WireReady NSI offers WebReady, an automated Web publishing system. The company says it reads traffic and program logs and manages real-time updates to a Web site to coincide with over-the-air broadcasts. It also interfaces third-party electronic newsroom systems to an existing Web site.

In spot delivery, DG Systems promoted DGConnect, which it describes as an improved online order entry and order management product for advertisers and agencies. The Web portal is said to make spot distribution more flexible and easier; it allows users to upload spots, choose or create destination paths, attach traffic instructions and distribute media electronically to destinations on DG's digital network. The system will also confirm delivery at the station through a new media server, the DG Spot Box.

And on the related topic of content shifting is Audio Time Manager, the first product from 25-Seven Systems. The ATM, it says, lets stations delay the start of live programs, then catch up to real time seamlessly. It can create extra breaks to add content, commentary or more inventory.

The system uses time compression algorithms and a Time/Rate Management Calculator. It helps stations accommodate school closings, traffic updates, jury verdicts and weather advisories. The company says ATM is an improvement over other time-based audio compression products because it "does not remove important content, change pitch, damage inflection or create annoying artifacts."

This story first appeared in the NAB Daily News and is © NAB.

PRODUCT GUIDE

Omnia EXi Line Targets HD Radio Upgrades

Omnia Audio has a series of audio processors for stations upgrading to HD Radio: Omnia-6 EX*i* for FM, and Omnia-5 EX*i* for AM and FM broadcasters. The company says the EX*i* processors simplify the HD Radio audio chain and add tools for HD broadcasts, while increasing the clarity and listenability of conventional broadcasts.

Added features include a Diversity Delay method, which protects the broadcast signal of HD Radio for AM and AF; and the new LoIMD Clipper, which reduces the intermodulation distortion that is created when using moderate to aggressive clipping to create competitive loudness.

"As more and more stations ready for HD Radio, there's growing concern among engineers about the technical complexity and reliability of the system," said Frank Foti, Omnia's president, in the company's literature. "The biggest issue centers around the insertion of the required 'diversity time delay' — the process that synchronizes the analog and HD Radio signals in the receiver."

EXi processors incorporate Diversity Delay into the audio processor, moving it out of the HD Radio exciter. Foti says this improves system reliability because the HD Radio system is isolated from the conventional path.

For more information, contact Omnia at (216) 241-7225 or visit www.omniaaudio.com.

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The 'Bridge' hardware ... supplied by Arrakis contains the audio sound cards, routing switchers, and control logic so that the PC requires NO special hardware or setup. This means that the PC can be off-the-shelf, and unmodified so that it is easily serviced locally. The Xtreme 'Solutions' program is per workstation for complete redundancy and backup. Imagine an AM/FM combo with production room for only $300 per month. With more than 15 years of automation experience and thousands of Arrakis automation systems in the field around the world, Arrakis can provide you with the solution that meets BOTH your business AND technology needs.

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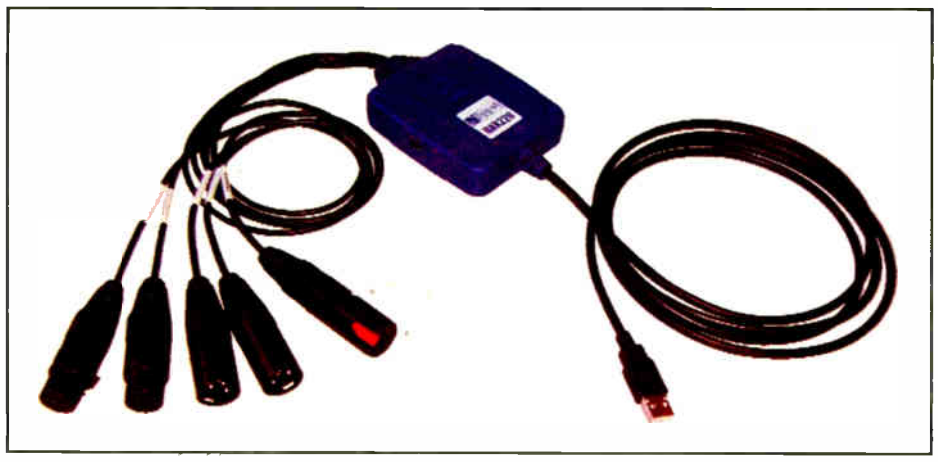
World Radio History

Audio Editors Grow in Power

by Brett Moss

It's like déjà vu all over again. Year to year, DAWs and other audio editing products just keep getting cheaper and more powerful.

Whether you are looking for a system that integrates with your current digital network platform or a standalone audio editing system, bang-for-the-buck or return on investment has never been better.



The Digigram UAX220 is an audio interface for broadcast that connects to the computer via a USB port.

Many were shown at last month's NAB convention. Here's a taste.

Ambitious

For radio applications, many digital audio workstations are overkill. High-end and specialized users, however, found much to explore.

The full-featured programs, or rather program suites, from the usual DAW suspects such as Digidesign, Steinberg, Sony, Adobe, Apple et al, are geared more toward multitrack, heavily processed audio, music creation and video support (audio follows video). The "latest" from these companies don't usually affect most radio broadcasters, but might be of interest to production houses and broadcasters with ambitious production needs.

Sony offers a new Sound Forge, 8.0, and version 5 of Acid music creation sampler. Yes, they are bigger and better, and Sound Forge comes down a bit in price, but the key features are VST-compatibility for Sound Forge and VSTi-compatibility for Acid.

The Mac OS X-only Peak from BIAS is a full-featured DAW program new in its 4.1 version. BIAS also offers SoundSoap 2 and SoundSoap Pro, noise removal programs. SoundSoap 2 is probably more applicable to radio broadcasters with its "one-click" noise reduction. Pro is more expensive but more extensive.

Adobe Audition showed its latest, version 1.5. SADiE has a new member of its "BB" family of pared-down workstations aimed at radio broadcasters. The BBs also have a little controller.

In the way of "newsroom" software suites, Prophet Systems exhibited NewsGen. Part of the much larger package is a full-featured standard multitrack DAW module complete with processing.

On the software tool front, Soundminer's latest version of its asset manager and CD Ripper (Mac) is 3.1.3.

Looking towards hardware, Digigram was at NAB with its UAX220, which it says combines Digigram sound quality and the convenience of USB audio. It is a professional audio interface for broadcast that connects to the computer via a USB port. The company's VX822v2 adds features to its VX822, including DirectSound and ASIO drivers for audio applications like live-assist, production or logging.

AudioScience is bringing out more audio cards. Designed for broadcast networking duties, new are the ASI6044 and ASI6416. The 6044 is capable of simultaneous recording and playback with four stereo channels of MP3, Dolby AC2 or standard PCM. The ASI6416 is a CobraNet card designed for up to eight stereo or 16 mono streams of simultaneous recording or playback.

The latest chips from Intel and AMD, along with the Serial ATA (SATA) hard-drive interface standard, have made way for DAWs with power that rivals a supercomputer from a decade ago. Considering you can get a box that does real-time video editing for less than $5,000, those with audio-only requirements can get a lot for very little.

In fact, with software creeping up in price, the possibility that software may become your greatest expense is rearing its ugly head. The number of independent DAW builders, at least those that come to NAB, looks to be shrinking but there should be a few around offering great deals. And those looking toward video, such as Laird Telemedia, often offer custom high-powered DAWs with a choice of preloaded software platforms.

As one can figure, hardware storage displayed at NAB is even greater and cheaper than last year's "infinite storage for pennies" benchmark. The new SATA standard is taking over, and bringing with it faster drives and greater throughput.

Needless to say, drive capacities also are larger. LAN and SAN arrays now bring terabyte (1,000 GB) capacities within range of mid-level budgets — a lot for a single station but just right for production houses, network facilities and HD producers. Storage companies such as StorageTek and QualStar tend to aim at the video market or other large storage customers, but smaller operations such as Studio Network Solutions eagerly work with audio clients.

Peripherally speaking

Peripherals for DAWs, particularly control surfaces, are areas that are growing within new products.

Tascam is continuing development on its FW family of small mixer/audio interface/control surfaces, the latest being the FW-1082 and FW-1804. Both offer mic preamps, digital converters, motorized faders and a FireWire port to deliver audio to a DAW. Both also ship with Steinberg Cubase or Cubasis software.

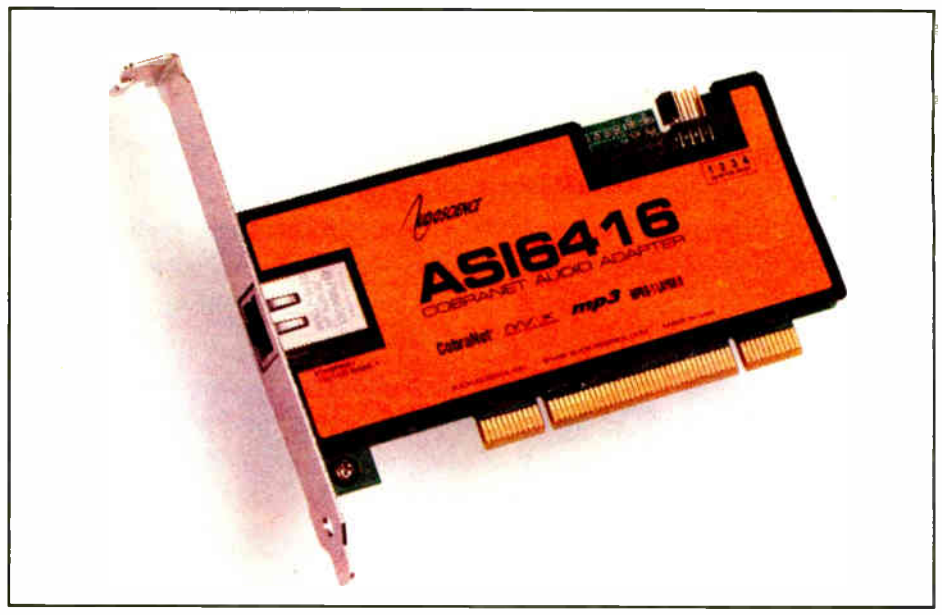
Another new controller, or return of an older controller, is the Red Rover. A product of Syntrillium before it was acquired by Adobe, this little USB-based controller, is now available from ADS Technologies. It is available by itself or bundled with Adobe Audition software.

A strange phenomenon that might affect more well-heeled radio broadcasters has emerged. Larger console makers, seeking refuge from that rapidly compressing market, have sped up the transition of turning traditional consoles into jumbo DAW hardware control surfaces.

Euphonix showed its System 5-MC, a marriage of the System 5 digital console with an onboard DAW interface. The interface is based on the company's EuCon protocol, compatible with apps such as Steinberg's Nuendo and the Merging Technologies Pyramix system.

Solid State Logic's new AWS 900 console was developed to work with DAWs. Besides being a small SSL console it is compatible with most major DAW platforms. At the higher end, Fairlight has been turning its consoles into audio and video control surfaces, and looking more toward the film and post markets.

This story first appeared in the NAB Daily News and is © NAB.



The AudioScience ASI6416 is a CobraNet card for up to eight stereo or 16 mono streams of simultaneous recording or playback.

PRODUCT GUIDE

Digigram Has Multichannel Sound Cards for VX Line

Digigram has made available three multichannel sound cards for its VX range: the VX882HR, with 8/8 I/Os, analog and digital; its sister model VX881HR with digital I/Os only; and the VX822v2, featuring 2/8 I/Os, analog and digital.

The company say low-latency WDM DirectSound, WAV and ASIO drivers make the trio compatible with most pro audio software for broadcast, production and post-production, theatrical playback and sound design.

The VX882HR with four balanced analog and AES/EBU stereo I/Os and digital-only VX881HR benefit from the characteristics of Digigram's HR series, such as 24-bit/192 kHz converters, 66 MHz/64-bit PCI interface, hardware sample rate converters for simultaneous recording of digital signals with different sample frequencies and short-length PCI format.

Both are available with a breakout cable or box. The BOB8 has analog and digital inputs and outputs on its front panel, in addition to LTC and video inputs.

The VX822v2 features four balanced analog stereo outputs and one balanced analog stereo input with 24-bit/48 kHz converters, four stereo AES/EBU outputs and one stereo AES/EBU input, as well as Word Clock and AES/EBU house clock sync inputs.

For more information, contact Digigram at (703) 875-9100 or visit www.digigram.com.

The VX882HR with its optional BOB8 breakout box

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NEWS MAKER

Fritts Outlines Challenges for NAB

The following is an excerpt from NAB President/CEO Edward O. Fritts' opening remarks at NAB2005. In his speech, he outlined four major industry issues he feels will require "immediate attention," expressed his faith in the next generation of digital broadcasters and thanked his colleagues and family as he prepares to embark on his latest journey — retirement.

© NAB

Eddie Fritts speaks at NAB2005.

My friends, through the years I have walked miles over the floor of this convention.

I've walked miles through the corridors of Congress and the FCC.

At state association meetings all across the country, I've walked miles from banquet table to banquet table and from conference room to conference room. I've been in numerous countries around the world and I'll let you in on a secret. It's apparent to me that our system of free over-the-air radio and television is the envy of the world. ...

What if...

At my first NAB convention as president, Sen. Bob Packwood, then head of the powerful Senate Commerce Committee, bellowed from his podium, "The NAB can't lobby its way out of a paper bag!"

His statement had a ring of truth. It was a wakeup call to broadcasters, and I took it as a personal challenge. Working with you, through the years, we energized our grassroots and educated policymakers on the unique value of free, over-the-air broadcasting.

Eventually, we proved Sen. Packwood wrong, and I would submit that both broadcasters and the American people are better off because of the successes we have gained.

Think what broadcasting would be like today if we had not taken Sen. Packwood up on his challenge. Where would local television's future be had we not won must-carry-retransmission consent rights mandated in the 1992 Cable Act? Or the right to put local TV signals on satellite as authorized by the Satellite Home Viewer Improvement Act?

What future would we have if Congress had *not* mandated the transition to digital and HDTV?

In radio, 10 years ago, 60 percent of all radio stations were losing money. Where would radio be if Congress had not changed the outdated ownership rules? What if Congress had not rolled back the FCC's initial low-power FM plan and allowed hundreds, if not thousands of new low-power stations to create technical interference for radio listeners?

Remember the old three-year license terms. Where would we be if Congress had not extended terms to eight years?

And where would NAB itself be had we not turned our finances around? After the bruising 1992 Cable fight, NAB had but $1 million in the bank in reserves. Today, we have $80 million in the reserves and we haven't increased station member dues in more than a decade.

As we review those great accomplishments, I like to refer to a journey traveled together — united as one industry. Our success is due in great measure to the partnership we formed with individual broadcasters, our terrific state associations and the NAB.

Crossroads

So where do we go from here? Well, we certainly can't rest.

As always, we have dozens of important issues on the horizon, and over time, we will deal with those as in the past. However, there are four major issues that I believe require more immediate attention.

1) The rewrite of the Telecommunications Act; 2) The final steps in the digital television transition; 3) radio's transition to HD Digital Radio; and 4) dealing with the issue of indecency.

These major issues arrive at a time when both the congressional oversight committees and the FCC are themselves in a bit of a transition. As you know, in the Senate Commerce Committee, Chairman John McCain is out and Chairman Ted Stevens from Alaska is in. His co-chair is Senator Inouye from Hawaii. On the House side, Congressman Joe Barton from Texas has replaced Billy Tauzin as our new chairman.

The FCC itself is in somewhat of a transition as Michael Powell is out and Chairman Kevin Martin is in. But with the announced departure of

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NAB

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Commissioner Kathleen Abernathy and the fact that Commissioner Michael Copps is seeking appointment, we will see two and possibly three new commissioners in the near future. In the near term, that creates a degree of uncertainty.

Let's discuss the issues. First, the rewrite of the Telecom Act: It's been a decade since the 1996 Telecom Act was implemented. I know Chairman Stevens and co-chair Inouye, along with Chairman Barton in the House, want to rewrite it. Some have said this could be "the mother of all legislative battles," as it has the potential to re-shape every communications company on the globe.

Because of the complexity and enormity of this endeavor, many predict it will take months, if not years to finalize a package. I happen to believe we have both challenges and opportunities — but make no mistake, the stakes are high.

Also in Congress, there is a move afoot to prematurely turn off analog television service as early as Dec. 31, 2006. This could disenfranchise millions of Americans from access to their local TV stations. We have been in close contact with our grassroots and members of Congress on the importance of a smooth DTV transition. There are approximately 1,500 stations on the air in digital but only a small percentage of DTV sets in the marketplace.

Broadcasters are doing their job, but it's easy to understand why a premature cutoff of analog broadcasting could lead to total marketplace confusion. I think it's safe to assume it will be many months before final legislation on this matter is considered.

The third element we mentioned is HD Radio, better known as digital radio for terrestrial stations. It will bring CD-quality sound to FM stations, AM stations will be the equivalent of today's FM stations, and with expanded bandwidth HD Radio will be able to provide exciting new services to our listeners. It received another boost last week when the National Radio Systems Committee adopted an industry standard. This will help accelerate the rollout of digital radio services.

So for all my reporter friends who are buying the smoke and mirrors hype of satellite radio, let me respectfully suggest you start paying attention to HD Radio.

One of the real front-burner issues in Congress is pending legislation regarding indecent programming. Our position is clear: We believe that responsible industry self-regulation is far preferable to government regulation when it comes to program content. There are serious First Amendment concerns in this area. But I must ask: If Congress decides to regulate broadcasters for indecency, does it make any sense for cable, satellite TV, satellite radio to get a free pass?

All of these issues present enormous challenges and great opportunity. However, they will not be easy fights. And, as you've heard me say many times before, broadcasters need to speak with a single, united voice.

When my predecessor delivered his farewell address to this convention back in 1982, he said — and I quote — "The hardest part of my job is keeping all you bastards in the same boat." End quote. Now 23 years later, most of you own your own boats and my biggest problem is keeping you sailing in the same direction. But let's never forget that when broadcasters are sailing in the same direction, we are a powerful armada.

When I think back on my two decades at NAB, I'm most struck by the extraordinary changes in technology we have witnessed and numerous additional technologies that are on the cusp of implementation. All of these technologies are digital.

Through the years, the NAB team has fought to establish a governmental framework that will allow local radio and television to prosper in the digital world. We have kept the barbarians from the gate, and provided our member stations with the digital weapons to go forth upon the field.

If you would allow me, I want to offer a little tough love here. NAB can prevent — and has prevented many bad things from happening to you in Washington. But we cannot stop the inevitable advance of technology, nor do you want us to.

We have set the public policy stage in Washington, and ensured that this industry has a vital part of the digital era, for now and into the future. And I'm convinced that just as a generation of Bill Paleys and Stan Hubbards emerged in the analog broadcast world, so too will a new generation of broadcasters emerge to seize the digital world.

Let's never forget that when broadcasters are sailing in the same direction, we are a powerful armada.

Utilizing cell phones, the Internet and countless wireless devices, broadcasting can and must be part of the technological platform of the future. The key is to take local content that we provide, digitize it and distribute it in new ways that are copyright-protected. Our future is in combining the domestic with the digital, and to continue our tradition of leading-edged localism. In my mind, it is that commitment to community that will always set us apart.

I think of the coverage of the Florida hurricanes last summer, when residents credited radio and television stations with saving lives and leading the disaster relief efforts. Or the hundreds of millions of dollars raised by U.S. broadcasters for victims of the horrific Southeast Asian Tsunami. Localism and public service are our franchises, and ours alone.

In farewell, ladies and gentlemen, let me say it has been the thrill of a lifetime to represent you these many years as your NAB president.

I want to thank the many NAB Boards of Directors with which I've served. I have such affection for the richly talented men and women on the NAB staff in Washington.

I also have great appreciation for the state associations. They are the backbone of the NAB.

Let me thank you, the rank and file broadcasters — you are truly the lifeblood of the industry. You make a difference every day in hometowns and hamlets all over America.

We have labored in the vineyards together. The old spiritual says, "I'm gonna lay my burden down, Lord." Well, I want to assure you that my laboring days are not over, and that I am committed to working for our broadcasting family.

But on behalf of Martha Dale and the Fritts family, thank you all for the warm memories, and the fascinating life you have afforded me.

You will forever have my deepest gratitude and my enduring best wishes.

Bayliss

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agreed to participate are Arbitron Inc.; Bonneville; Clear Channel; Cumulus; Emmis; Inner City Broadcasting; Infinity; Morris Radio; Greater Media; and Regent Communications. These companies will pay $5,000 per intern to the Bayliss Foundation to develop and coordinate the internship program and interact with the universities.

Over time, the term "Bayliss School" will grow in meaning and prestige, creating an awareness of the radio industry on campuses and fostering healthy competition among students.

Scholarship recipients will continue to be chosen by the scholarship subcommittee of the Foundation's board of directors. Executive Director Kit Hunter Franke and I will personally work with the presidents and deans of the universities, who will, in turn, encourage professors to select the students who are their schools' stars in radio.

This way, we will be able to reach junior, senior and graduate students — and deliver the message that radio is a great career choice — at the time those students' career choices are being made. We believe this internship program addresses our industry's needs and forms a lasting partnership at the classroom level that will identify and attract the next generation of broadcast superstars.

This project is the first coordinated effort in the radio industry to work with leadership at top universities, and it's going to be a success. It forms a crucial partnership between education and industry at a time when graduating classes have myriad career choices. It also gives the industry a shot in the arm and a boost along its path to the future.

I'm joined in this effort by the Bayliss Broadcast Foundation's board of directors, which includes Alice R. Bayliss; Brad Bedford of Arbitron Inc.; Bishop Cheen of Wachovia Securities; John David of the NAB; Lew Dickey of Cumulus Media; Skip Finley of Inner City Broadcasting; Gary Fries of the RAB; David Kennedy of Susquehanna Radio; Gary Krantz of Air America Radio; Herb McCord of Granum Communications; Virginia Morris of Hubbard Broadcasting; Barry O'Brien of Pro Media; Stu Olds of Katz Media; George Pine of Interep; George Reed of Media Services Group; B. Eric Rhoads of Radio Ink; Ron Rodrigues of Media Arts & Sciences, Peter Smyth of Greater Media Radio; and Bill Stakelin of Regent Communications.

Carl Butrum, top left, and several 'Bayliss School' deans. Top: John Soloski, dean, Univ. of Georgia; Tom Pearson, provost, Monmouth Univ.; Chuck Salmon, acting dean, Michigan State Univ. Bottom: Manjunath Pendakur, Ph.D., professor/dean, Southern Illinois Univ.- Carbondale; Michelle Clark, dean, Univ. of Southern California; Sonja Williams, chair RTVF dept.; Don Swanson, chair, Monmouth Univ.; Ron Graves, development officer, Southern Illinois Univ.- Carbondale.

Oh, yeah, you say, that's the crowd that gets together every year and "roasts" each other in New York. Well, that crowd has a lot of fun. (If you've missed our annual roasts before this, visit our Web site at *www.baylissfoundation.org* to make sure you're on the mailing list for the next one.)

But the board also does a lot of work and raises money, which goes to fulfill the Bayliss Foundation's mission statement: to attract the best and brightest of today's university students to the radio industry; and to make sure the message the radio industry is sending to today's universities and today's students is a positive one.

Carl Butrum is president of the Bayliss Broadcast Foundation.

World Radio History

GUEST COMMENTARY

Bayliss Launches Internship 'Alliance'

by Carl Butrum

Radio is a $20 billion business that is not attracting its fair share of bright, talented young employees. The John Bayliss Broadcast Foundation aims to change this situation by initiating an internship alliance between leading universities and broadcast companies.

We've discovered that 90 percent of students who ponder a career in radio end up in a different field. For 20 years, we've awarded scholarships to deserving broadcast students at a number of schools across the nation in an attempt to lure the best and the brightest into the radio industry. But scholarships by themselves are no longer enough.

Radio's recruitment efforts pale beside those of Wall Street, the banking industry, the legal profession, the computer and electronics industries and other forms of media. We want to coordinate not only our scholarship efforts but also our recruitment efforts, by working with universities to actually open the doors of the industry for exceptional students — to usher them into the real world of radio before they decide to go elsewhere.

You might argue that internships already exist, in that companies get free help and a student gets hands-on experience.

But how focused are radio's existing internship programs? The company gets someone to finish a pile of work no one else has time to do; the student ends up doing summer grunt work for nothing; and the student can list the internship on a résumé.

How many of these internships are truly successful, either for the company or for the student? What effort is made to match the student with the company, or the company with the student?

Radio is a $20 billion business that is not attracting its fair share of bright, talented young employees.

The Bayliss Broadcast Foundation plans to step in and become a broker of sorts for these internships, making sure the companies get more than just an office assistant — and the students get more than just an unpaid summer job.

Yes, this plan is going to cost the companies. Not only will they pay a finder's fee to the Bayliss Foundation, which will become a focused, dedicated talent agency for the radio industry, but also the companies will pay the students for their work. The corporations we talked to have agreed to this, despite previously enjoying free intern help, because they know Bayliss interns will be handpicked and matched to their corporations' needs by radio industry professionals.

In turn, the fees paid by the companies to participate in this partnership will go back into the Bayliss Foundation's scholarship fund. Eventually, a set number of scholarships will be endowed, ending the Foundation's yearly scramble to match existing funds with deserving students. It's a win-win situation.

Since the Bayliss Broadcast Foundation was created in 1985 to honor the memory of radio executive John Bayliss, its board of directors — made up of some of the best in the business — has awarded 300 scholarships to students from more than 80 schools. The Foundation does track the careers of many of these students, and recently instituted the Bayliss Horizon award, which is given yearly to a scholarship recipient who has succeeded in the industry after graduation.

Sadly, not all of our scholarship recipients continue in radio. Instead, they branch out into the beckoning and continually changing world of other media. Thus, a focus was needed.

Rather than continue to "broadcast" its scholarship applications, the Bayliss board decided last year to narrow its focus to students at 10 to 12 universities that emphasize radio broadcasting in their offerings. The Foundation will award one $5,000 scholarship and 10 internships to students at each participating school.

The schools that have agreed to partner with us and become "Bayliss Schools" are listed in the box on this page.

The companies that have eagerly

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'Bayliss Schools'

At this time, the schools that have agreed to become "Bayliss Schools" are:

Emerson College
Howard University
Ithaca College
Michigan State University
Monmouth University
Northwestern University
Southern Illinois University-Carbondale
Syracuse University
University of Georgia
University of Southern California

FMeXtra: New Technology Facing a Rising Tide

Amid the honeymoon excitement on the part of stations newly wed to HD Radio, another digital radio technology celebrated its coming-out at NAB.

FMeXtra from Digital Radio Express uses the standard subcarrier region of the FM spectrum to create a digital audio or data service. With demo radios on the floor, and no need for an FCC rulemaking to allow its use, this concept seems ready for the marketplace. We welcome the new technology and the possible benefits it can provide to stations.

Digital Radio Express, in developing this system, makes the case that analog FM transmissions are still the dominant form of radio broadcasting. Given that literally billions of analog radios are in use, and only a tiny fraction of new radios being sold include the HD Radio receiver technology, DRE argues that analog radio is not going away any time soon. By maintaining compatibility with the HD Radio system, there is room for FMeXtra to provide its own niche digital services now. Many participants at the NAB Broadcast Engineering Convention seemed to agree.

For stations offering foreign-language services on their subcarriers, FMeXtra claims to improve the quality and coverage area by using digital transmission techniques. For public radio stations, FMeXtra could be used to provide a reading service, it says; ancillary data rates of up to 64 kbps for graphics or traffic reports can be delivered on a standard FM stereo signal.

After the NAB convention, Radio World took some heat in some circles for not awarding this new technology a "Cool Stuff" award.

Those awards are decided by radio engineering judges, not by those who produce this page. However, it's reasonable to note the reservations about the long-term viability of the FMeXtra technology. HD Radio now has hundreds of stations on the air and broadcasting, with hundreds more committed to conversion. It appears there is a strong momentum for Ibiquity's version of digital radio among major groups and noncoms. The use of multiple audio channels is being embraced as part of the HD Radio system; and receivers are being produced that can provide similar services to what FMeXtra would.

Finally, we must not forget that the final step for HD Radio is to move beyond the hybrid mode and use the analog portion of the FM spectrum for expanded data and audio channels. It is in this final phase of digital broadcasting that coverage and data rate improvements promise to provide the payoff that moves radio away from analog broadcasting. FMeXtra only has a short time to prove its viability, at least in the U.S. marketplace, before it will have to face off with a technology that is gaining ground and with which it would be incompatible in an all-digital future.

Nevertheless, FMeXtra deserves a close look.

— RW

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LOTS More!

Our Generation-5 provides your operators with a straightforward traditional control surface coupled with all the benefits of digital technology. It gives you the flexibility of system-wide source, mix and destination control (any signal any*where*), a powerful mix-minus section and a complete event store, name and recall system. One wire from this surface can control THOUSANDS of wires in your technical operations center.

And while the G-5 *feels* like an analog console, its DSP-based mixing engine keeps your digital sources digital while converting analog sources to switched digital, eliminating crosstalk and noise. It can furnish remote and telcom functionality on any input fader without fear of feedback—a real plus in back-to-back daily operations. Its built-in graphic displays keep operators on top of things with just a glance. And since the entire system is software based, you can accommodate any format with a press of a button.

Like all our Generation Series consoles, the G-5 has complete failsafe options available, such as automatic fail-over DSP and CPU cards and redundant power supplies. We can even provide scheduling software and studio mounted satellite cages that can be configured to mix independently from your main routing system.

*At **WHEATSTONE** we've built and sold over a thousand digital audio consoles.* The G-5 is a culmination of all that experience. *Benefit from our expertise — choose **WHEATSTONE!***

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