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**Global Lessons**

Six tips to make your station grow, courtesy Walter Sabo and Dan Mason.

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**Radio Zips It**

Attorneys Harry F. Cole and Jeffrey J. Gee scrutinize the new indecency landscape.

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# Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

August 16, 2006

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**NEWS & ENGINEERING**

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▼ Eric Shoars looks through radio's glass ceilings.

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**DIGITAL NEWS**

## HD Radio Gets Alpine Demo

by Michael Hedges

**LUCERNE, Switzerland** Interest in HD Radio received a boost from Swiss broadcasters after a successful demonstration in and around Lucerne, a city in eastern Switzerland surrounded by a lake and, as is all of this country, ringed by mountains and prone to multipath interference.

The demo has implications for HD Radio in other European countries and for the U.S. rollout. The largest broadcast presence in the country, however, said it remains committed to Eureka-147 DAB.

Approximately 200 broadcasters, technical specialists and regulators from six countries attended two days of discussion and explanation of the in-band, on-channel digital radio system.

Swiss broadcaster and technical consultant Markus Ruoss, a European proponent of HD Radio, organized the HD Radio Days event, held June 28-29 and described as the first public HD Radio demonstration in Europe. (Also see sidebar story.)

See ALPINE, page 3 ►

## 'Storecasting' Adds Some Personality

*Demand for Non-Traditional Advertising Drives Growth of In-Store 'Radio' Services*

by Randy J. Stine

**NEW YORK** While the concept of an in-store audio business — music or messages broadcast over a store's sound system — is nothing new, the mechanics behind today's version is novel.

Grocery stores have piped in music at least since the 1950s, but nearly gone are

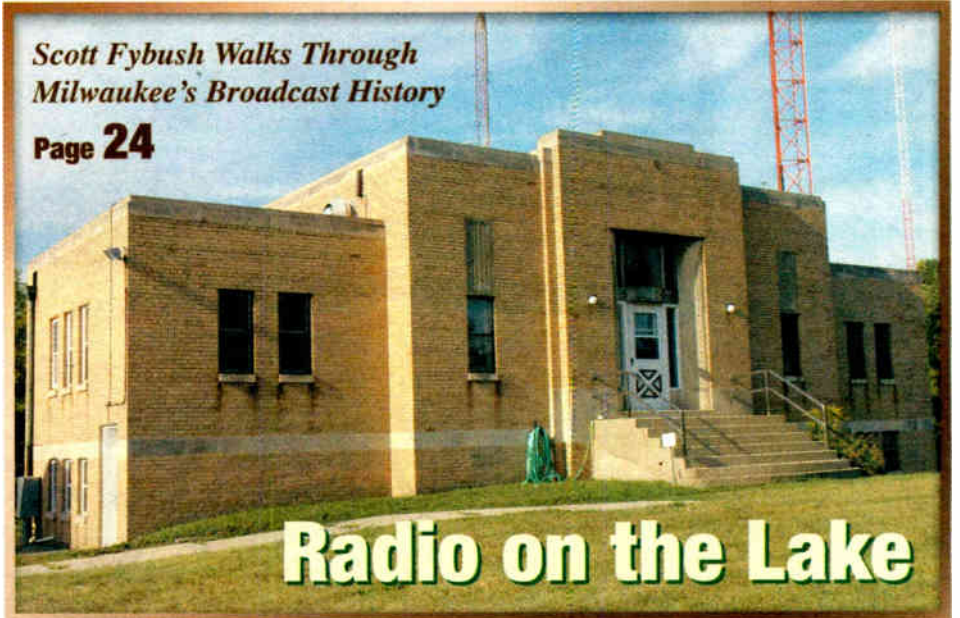
the days of looped music and canned messages, some so generic they could play in any store in any city.

Today's proliferation of new technology gives retail audio networks the ability to offer high levels of customization, with some companies even pitching their services as "in-house" radio stations. These

See IN-STORE, page 12 ►

*Scott Fybush Walks Through Milwaukee's Broadcast History*

Page 24



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# NEWSWATCH

## CRL Buys Autogram

**TEMPE, Ariz.** Processing manufacturer Circuit Research Labs, which also owns the Orban brand, has acquired Autogram, which has been making audio consoles for three decades. Terms were not disclosed.

The products will be sold under the name Autogram/CRL. Production, sales and service will move from Plano, Texas, to CRL's Marketing and Production facility in Benton, Ark. Autogram's founder, President Ernest Ankele, and his wife and partner DeLores will remain on a consulting basis for three years, CRL stated.

CRL CEO Jay Brentlinger said in the

announcement the company looked forward to "bringing new digital technologies into play" for the product line.

## Arbitron's 'eBook' Arrives

**NEW YORK** Arbitron has been testing a Web-based version of the "book" for a while and debuted it for radio subscribers in July to coincide with the release of Spring 2006 ratings.

The eBook is a Web-based, electronic replacement for the printed Arbitron Radio Market Report. Subscribers will

get access information for the new eBook in all 297 Arbitron Radio Metros. The company says advantages include faster delivery and easier access to information.

The eBook replaces Arbitron Advances; the audience research firm is eliminating that expense for those who paid for an early peek at the data. The eBook releases early in the delivery schedule.

## CBS Radio Cuts Jobs

**NEW YORK** CBS Radio has cut a number of positions at its 179 stations.

Reuters pegged the number at 115 positions eliminated out of a total of 8,500.

The cuts were expected as part of a previously announced CBS plan to cut costs as the group faces more competition for listeners from iPods and satellite radio.

In late May, CBS said it wanted to sell radio stations in 10 small markets and concentrate on holdings in larger markets. The company said that move is meant to "maximize performance" of the radio division.

In a memo to employees obtained by Reuters, CBS Radio Chairman/CEO Joel Hollander said while the cutbacks were painful, they were necessary. "There is increased competition for our listeners' attention, and we must deploy our resources wisely and aggressively if we are to succeed and grow."

## Karmazin Zings NAB Over Indecency

**NEW YORK** Sirius President/CEO Mel Karmazin told Newsweek in July the satcaster could be generating cash by the fourth quarter of this year. He also said he wouldn't have split Viacom into two separate units, Viacom and CBS; Karmazin was the man who originally combined them.

In a Q&A, he also expressed "disappointment" with NAB for asking the FCC to apply indecency rules to satellite radio.

"An organization like the NAB should be a proponent of free speech," Karmazin was quoted as saying. "There's certainly disappointment on my part and I know others who are saying, gee, that's not what the NAB should be doing."

See NEWSWATCH, page 10 ▶

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## What's Next and What Does It Mean?

Markus Ruoss, part owner of Radio Sunshine and a broadcast consultant, plans to continue operating the HD Radio field trial in Switzerland (see story, page 1) until fall 2007. He plans more comprehensive testing, especially with regards to coverage and interference, with an eye to convincing the Swiss government to approve IBOC, according to Perry Priestley, director of international business development for Ibiqity Digital.

Ruoss hopes to demonstrate the technology's technical feasibility under demanding frequency and topographic conditions over time, and to provide results for the use of radio operators and regulators.

"It allows us to do a benchmark test in Europe that will have credibility with other countries in that region," said Tim Bealor, vice president of RF systems for Broadcast Electronics, which also is sponsoring testing in Poland and France.

Ruoss and IBOC proponents are working with an alliance that represents commercial stations in Europe. The alliance lobbies governments on behalf of members. After Switzerland, they hope to turn their focus on neighboring Austria and Germany, working toward IBOC acceptance, said Priestley.

"The more countries that implement HD Radio, the more that will be interested," he said. More worldwide acceptance could someday lead to receivers that combine DAB, HD Radio and Digital Radio Mondiale capabilities, he said.

For now, some commercial broadcasters in Europe are interested in HD Radio because it's a way to implement digital in existing spectrum, Priestly and Bealor said.



Attendees heard HD Radio received from six car and two tabletop receivers, including what is believed to be the first public demo of the Polk Audio I-Sonic Entertainment System that includes HD Radio. IBOC monitors from ADA and Audemat-Aztec were also included.

For the Swiss demo, BE provided an FXi HD-R exciter and XPi HD Radio Data Exporter and Encoder, which are current- and next-generation HD-R FM signal generator technologies. The IDi 20 importer provided the ability to interface with Sunshine Radio's hard-based storage system so the station and its 12 translators and boosters could multicast. Text displays on receivers were generated from BE product from The Radio Experience for both the analog and digital channels.

The format of the main channel is pop music. Attendees could hear that in digital at 48 kilobits per second, as well as music on an HD2 channel at 32 kbps and news/talk on an HD3 channel at 16 kbps.

The event included regulators from European countries; auto manufacturers including BMW attended, as

well as receiver makers such as Sanyo, proponents said. BE fields several requests a month for demos or information about IBOC from other countries, representatives said.

Interference issues are a common question about IBOC from regulators in Europe. "They are concerned about bordering countries managing their spectrum," said Bealor. In HD Radio you're changing the spectral occupancy, the occupied bandwidth of an FM signal changes if you go from analog to HD because of the digital sidebands."

He has fielded several queries about how that works here and how stations may still be able to protect their first and second-adjacent channels.

On the bus, Ruoss gave attendees a visual and aural demonstration using a spectrum analyzer and letting attendees hear his station at the same time.

"He had an interferor on the bus, he would give you a visual depiction by moving that interferor in closer to his signal, so that you could see and hear the effects of an interfering signal," Bealor said. The interferor was a tunable FM signal source modulated with a 1 kHz tone.

"He would vary the frequency of that source until he started stepping on the upper sideband or the lower sideband and he would keep tuning it until he started interfering with the main analog carrier of his station."

Attendees heard HD Radio received from six car and two tabletop receivers. The latter were the Polk Audio I-Sonic Entertainment System and the Boston Acoustics Receptor HD. This likely was the first public demo using the Polk unit, due to arrive at U.S. retailers in August.

John Macdonald, BE's sales manager for Europe, the Middle East and Africa, said Ruoss was working on obtaining HD Radios to distribute to listeners.

— Leslie Stimson

## Alpine

► Continued from page 1

Radio Sunshine is primarily owned by Ruoss. The company purchased a Broadcast Electronics HD Radio system for field trials and operation in the Lucerne area. The system was installed in April.

Proponents said they IBOC system is attractive to private Swiss commercial stations that serve relatively small service areas that could not be covered by a traditional Eureka-147 DAB "pod" efficiently or economically.

The highlight of the HD Radio Days demonstration was a 60-minute bus trip through the mountains near Lucerne. The high-tech outfitting allowed



From left: Tim Bealor and John MacDonald of Broadcast Electronics, Markus Ruoss of Ruoss AG and Perry Priestley of Ibiqity

Because the demonstration followed months of field trials in the challenging terrain of eastern Switzerland, private broadcasters said they were satisfied that, as an alternative to the Eureka-147 digital audio technology and its derivatives, HD Radio is workable here.

Marcel Regnotto, representing Swiss media regulators, said in opening remarks that he didn't see any reason HD Radio can't work in Switzerland.

observers to hear the transmission quality of the three offered digital signals as well as watch digital displays of spectrum analysis.

One major technical consideration facing HD Radio in Switzerland is the 100-kHz signal spacing on FM, which is much tighter than most countries. By comparison, the spacing in the United States is 200 kHz.

See ALPINE, page 6 ►

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# Books for Every Radio Interest

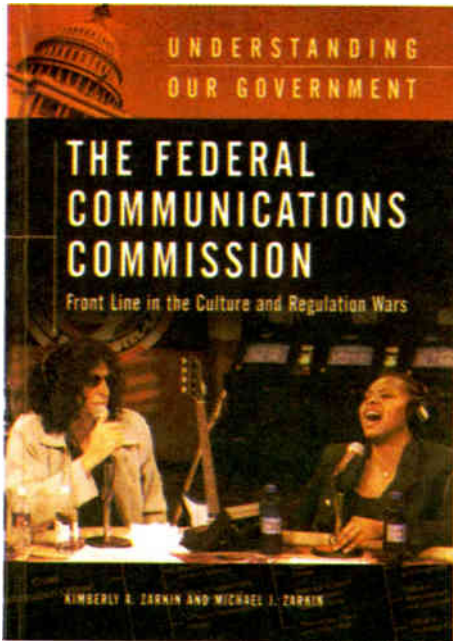
Before the last waves of summer vacation recede, let's surf through books that have crossed my desk recently.

Retail prices are listed; in all cases, by searching online I found these available for substantially less, in many cases even for new copies.

★★★

Who better to depict on the front of a book about the FCC than Howard and Robin?

"The Federal Communications Commission: Front Line in the Culture and Regulation Wars" is one in a series called "Understanding Our Government" from Greenwood Publishing Group.



Written by Kimberly A. Zarkin and Michael J. Zarkin, it's suitable for college or high school students researching FCC matters, as well as anyone who wants to learn more about the agency. The Zarkins are assistant professors at Westminster College in Salt Lake City — she teaches communications, he political science.

This is a 378-page reference volume, not a beach book; but it isn't heavy reading, and as the authors suggest in their preface (and the selection of cover art), the subject

material isn't all dry legal mumbo jumbo: "We believe that any thorough discussion of the FCC (and perhaps any administrative agency, for that matter) should include four interrelated components: people, policy, politics and procedures."

The hardcover book is divided into chapters that introduce the FCC, provide an overview of its organization and procedures, talk about its political environment and review notable controversies in broadcasting and telco. There are biographical sketches of all the commissioners who've ever served, a list of key Supreme Court cases and a chronology of events.

This will be a useful book if you are involved in teaching broadcast regulation or want to understand the workings of the commission on a broad scope. It retails for \$75, which to me indicates this is intended mostly as a textbook, a niche where publishers can get away with that kind of price. I found it for \$50, used, online.

★★★

Antiques and collectibles are the focus of the "Antique Trader Radio & Television Price Guide," which provides pricing information from auction and dealer sources. It includes 1,000 color photos and provides production details on radio consoles made by RCA, Emerson, Philco and many other famous names.

The radio listings cover models of the 1920s to '50s, "with special attention on the art deco designed Bakelite and Catalin models, the Cadillac of today's radio collecting market." Also covered are televisions up to the '70s.

Our friends at Antique Radio Classified reviewed the book recently and said other radio price guides on the market are more comprehensive. "But if you are a real TV enthusiast, this book is a must," ARC wrote.

The text is 272 pages and comes from Krause Publications. It retails for \$19.99.

★★★

Production rats will be interested in "The Focal Easy Guide to Adobe Audition

2.0," by Antony Brown, from Focal Press, with a cover price of \$24.95.

Radio World reviewer Paul Kimble recently described the Audition upgrade to V2.0 as "significant." This conveniently sized paperback book walks you through the system, with chapters on setup; the interface; importing, recording and playback; the Edit and Multitrack Views; looping content; restoration; surround sound; and other topics.

There's not a great deal of text; the author prefers to show. This is a book made up largely of color screenshots and computer commands, and that's a good thing. Brown lets you see just what you would on your own monitor screen.

★★★

Why should you let some outsider come in and win your boss over with the latest podcast buzzwords when you can do it yourself?

Focal Press provides a "hands-on" series for streaming and digital media professionals; and radio folks involved in such initiatives may benefit. There are three volumes to date:

"Hands-On Guide to Streaming Media," "Hands-On Guide to Webcasting" and "Hands-On Guide to Video Blogging & Podcasting."

The latter, for example, provides instructions on how to launch a podcast or video blog quickly; the basics of multimedia use in blogging and text-blog technologies; the uses of podcast and video blog technology in corporate, education, customer communication and entertainment settings; breakdowns of videoblogging and Podcasting buzzwords, tools, production techniques, and licensing; and case studies. These books retail for \$34.95 each.

## From the Editor

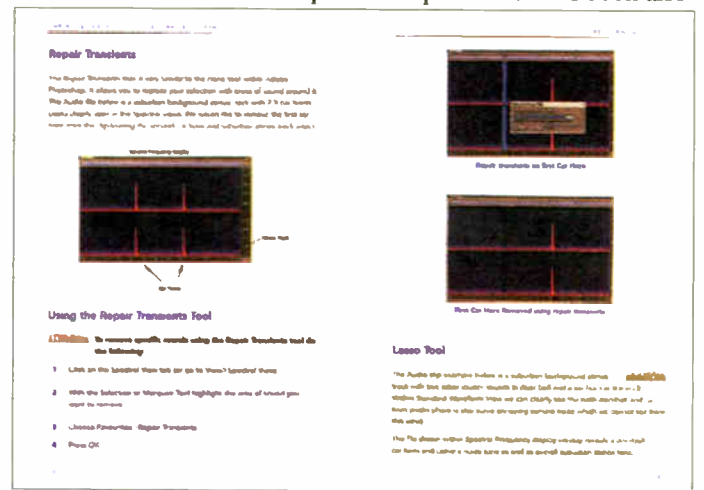


Paul J. McLane

★★★

And here's a quick nod to a book not about radio, but by a radio professional.

"Rated F" is a tale by Todd C. Noker, known to some as Nuke'Em. He's the program director at Salt Lake alt-rock station KXRK(FM); his second novel is about "movie sanitization" and the owner of an independent video store who edits films for family-friendly viewing. The situation leads, somehow, to death threats and a possible murder. It's a comedy about censorship and is a quick read. The book also



Fixing a transient in Adobe Audition 2.0

includes a brief interview with the author called "On Censorship, Satire and Smart Ass-ery."

Noker wrote the earlier "Path of Totality." His latest book retails for \$12.95 and is published by iUniverse Star.

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## APPRECIATION

# 'Leo Deters Was My Friend'

by Chuck Ramold

**OMAHA, Neb.** Something went terribly wrong, but what was it? That is the question that the Midwest broadcasting industry as well as the Occupational Safety and Health Administration is asking.

Here is how the news story might read:

*On Wednesday May 31 at 2:40 p.m., Deters Tower Service was repairing the strobe lighting at approximately the 1,200-foot level on the Iowa Public Television Tower near Oakland, Iowa, when Leo Deters, the 57-year-old owner of Deters Tower Service, and two of his crewmembers fell to their deaths. Jon McWilliams, 19, and Jason Galles, 27, had been above Deters on the tower, in the middle and top positions respectively. The last words by the crew via radio to the ground winch operator were "All is fine."*

*News of the accident reverberated throughout the broadcasting industry in an eight-state area, where Deters was known for doing business. Ironically, from the industry towers that Deters had maintained for 21 years, news of the tragedy was broadcast within an hour and half.*

*An OSHA report will take several weeks.*

As a broadcast engineer and radio/satellite contractor for nearly 26 years, I had the distinct honor of working with Leo Deters since the inception of his company. Deters Tower Service has been based in the Des Moines area for two decades.

Leo and his crew had an impeccable safety record. His thoroughness and cautious practice were respected. As a result his company was predominant, if not exclusive, to the 72nd and Crown Point television and radio tower farm in

Omaha, Neb.

Our first experience working together was in December of 1986 on a 100 kW upgrade of KESY(AM/FM), installing transmission line and a 12-bay antenna system to the KMTV tower site on the Crown Point antenna farm. It was extremely cold and windy, with heavy fog and drizzle nearly every day that month.

## Simple solutions

We finished the KESY project before Christmas, only later to call Leo back in June of the following year due to a reflected power complication. I remember two separate trips by Leo and his

closer to the outer edge of the coax, causing my reflected power to rise and fall erratically.

Leo replaced it out to the tower base with a standard rigid line, correcting the problem. It was on that day I realized I had a "MacGyver type" on my hands. He was a problem-solver with the commitment never to quit. That was his style, the optimist that he was.

And style he had; Leo was personable and secure with a charismatic grin, a smile that would make you take notice and react positively. He was confident but never arrogant. Leo respected his profession and what he did as much as the people he met.

**He was a problem solver and had the commitment never to quit.**

crew within that month using a time domain reflectometer to find the origin of the problem.

Leo, doing it by the book with thousands of dollars' worth of electronic gear on the first trip, decided on the second visit to pull out the garden hose from the transmitter building and proceeded to hook it to the water line. I remember being perplexed by what we were doing, watering down my transmission line on the south side of the white cement block building. He explained, "Since your problem is unstable and appears to only happen on an extremely hot day, I have a hunch."

His hunch proved to be right. Where the flexible transmission line egressed from the building to the tower, the dielectric had during the six-month period broken down into small pieces. This caused the center conductor to spiral around



Leo Deters in 1990

down the evidence and take numerous pictures while up on top, not only to prove the damage but to help you understand the reason it happened and prevent it in the future.

## Patient educator

I'm not sure if Leo ever realized it, but he was a teacher. Through him you would learn more about the business, you definitely learned about him and his crew. More important, you learned something about yourself. You learned what

See DETERS, page 8 ▶

## Colleague Recalls A 'Trusted Tower Man'

*Darwin Stinton is chief engineer for NRG Media LLC in Omaha, Neb.*

I met Leo Deters about 11 years ago while working for him as an engineering contractor for Calhoun Communications in North Sioux City, S.D. From that time, he always had a smile on his face and a sense of humor, zinging me by calling me Derwood instead of Darwin. Despite his name-calling I just really liked him and wanted to work with him at the job site.

Leo was a trusted tower man who could be hired to get the job done as soon as safely possible and done right. Leo was also adamant about making sure his employees knew how to safely climb and how to do their jobs — so much so that he almost always was seen working on the tower and not from the ground.

I think he climbed as often as he did because he just loved being up there on the tower and as high as he could get. I had, on occasion, the privilege to climb with him; and let me tell you it's scary but at the same time a hell of a lot fun and oh, what a rush.

Something that really is special to me, though, is he always asked about my little adopted boy Sammy and wanted to know how Sammy was doing. He even called me one Saturday morning while working in town to bring Sammy over for breakfast and to meet him.

He loved kids and he loved his children and grandchildren. I knew this because his smile would always shine through that thick beard of his.

Finally, Leo loved his beautiful bride Mary and three kids very much.

So Leo, till we meet again.

Peace, brother,  
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# Alpine

► Continued from page 3

Another consideration, immediately apparent from the bus tour, is the mountains.

## Multicasting feature

The first part of the tour demonstrated good digital reception in areas where the FM signal was unusable. Inside the coverage area, the system operated "perfectly," said Ruoss, even with a simulated interfering signal.

There also was a demonstration of the multicasting feature on the Radio Sunshine frequency rather than on a test channel. Echoing words used by U.S. proponents, Ruoss called multicasting

the "killer application" for HD Radio.

"Most of the members of our association are of the opinion that HD Radio is a very interesting opportunity for Switzerland, given its many and sometimes little stations," said Energy Zürich Managing Director Jürg Bachmann. The association is a group of 25 Swiss private stations.

"The possibility of making three, four or five programs on the same frequency and in digital quality without enormous investments is very attractive," Bachmann said.

The HD Radio demonstration featured digital broadcasts of Radio Sunshine, Energy Zürich and a speech-based service channel.

According to Bachmann, while multicasting is of interest, many smaller Swiss broadcasters would be attracted to

HD Radio primarily because of their need to go digital.

The relative costs of implementing HD Radio compared to Eureka-147 DAB also are attractive to small stations, he said.

## DAB strategy

Members of the commercial broadcast group held a private meeting following the Lucerne demonstration to discuss the various digital possibilities available.

Bachmann said private broadcasters continue to work with SSR-SRG Idée Suisse as part of the Swiss DAB Konsortium.

"It is important for us that there is not only one digital solution for radio," he said.

SSR-SRG Idée Suisse Coordinator

Marc Savary called the HD Radio demonstration "interesting" and "useful" but said the public broadcaster remains committed to Eureka-147 DAB.

"SSR-SRG's digital radio strategy is DAB development — phase one will cover the entire country by the end of 2008, phase two with the private broadcasters in German-speaking Switzerland and the third phase in 2009 for SRS-SSR multimedia programs," Savary said.

Normalizing Swiss digital development plans with recent International Telecommunications Union Regional Radiocommunication Conference RRC-06 conventions is necessary, said Savary, because negotiators are discussing phasing out the FM broadcast band in Europe.

**The high-tech bus allowed observers to hear the transmission quality of the three offered signals as well as watch digital displays of spectrum analysis.**

The FM band is not expected to be repurposed for more than a decade, said Savary. In the short term, he said, HD Radio might provide an "end of the shortage" of FM frequencies.

## Heavy investment

SSR-SRG Idée Suisse has invested heavily in DAB planning and infrastructure.

"HD Radio does not seem to be an attractive solution because, really, it is only digitizing current frequencies," said Savary. "Offers such as presented in Lucerne probably involve a reduction in quality and even transmission power."

Savary said that SSR-SRG follows the test with interest because HD Radio could offer "interesting and advantageous solutions" in outlying areas or mountains.

Those involved in the demonstration and field tests praised the Swiss media regulator, the Federal Office for Communications, known by its German acronym, BAKOM.

In remarks opening the discussions, BAKOM Director for New Media Marcel Regnotto told the audience that, from the regulator's perspective, facilitating new technical platforms should be the obligation of all regulators.

Technical papers on the HD Radio field trials will be submitted to BAKOM later this year, prior to full authorization. ●



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*Peter Greenberg—Host of the syndicated radio program Travel Today*

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<http://remotelroadcasts.blogspot.com>

## ⇒ Radio Free Asia—Live from the Himalayas



"The results [with ACCESS] were especially reliable considering that Dharamsala has one of most "problematic" Internet infrastructures that we have come across." — David Baden, Chief Technology Officer Radio Free Asia

For the complete story visit  
<http://remotelroadcasts.blogspot.com>

## ⇒ Ski Mountain Remote



This picture, really demonstrates what ACCESS is about. This product truly has the ability to cut the wires.

For the complete story visit  
<http://remotelroadcasts.blogspot.com>

## ⇒ JAMN 94.5—Walk for Hunger



"ACCESS was used on the air exclusively for JAMN945 at this one. It was all over EVDO with a tremendous amount of active cell phones in the area. The ACCESS was connected to the Verizon wireless Broadband ..

For the complete story visit  
<http://remotelroadcasts.blogspot.com>

Put Comrex On The Line.



# Deters

► Continued from page 5  
you didn't know; and he would present it in the way a father would teach a son.

He had a patience you had to admire. He never talked down to you, treating everyone with the respect they deserved. I once said to a colleague, "Leo is the kind of a guy who won't give you a chance *not* to be his friend."

Leo would never ask anybody to do what he would not do himself. At 57, his vibrancy and agility was that of a 35-year-old. Leo had a passion for his job as well for his life with family and friends. When arriving at job sites, he would ask about your family, knowing the names and ages of your children. I



The author took this photo in 2004 from the KMTV(TV) tower at Crown Point in Omaha, Neb. Deters was working on the KQKQ(FM) antenna and Stinton was at the top with him around 1,000 feet.

Photo by Darwin Stinton

## AM RF Systems...



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World Radio History

once jokingly accused Leo of having a book on all of his customers' personal information that he read prior to getting to the tower sites. But that was not necessary; he was simply involved in your life, as a family member would be.

Leo's time was valuable, but he would make some for you. Often when Leo traveled, he would call the engineers in the area for a get-together. No matter how busy you were, or whatever you were doing, Leo had a way of coaxing you down to the restaurant to reminisce.

I am proud to say Leo was my friend.

Good friends teach and learn from each other, understanding each other's imperfections. Leo taught me not to take life for granted. The lesson is to take the time to notice what is there, and missed often by our routine schedule.

Make time for family and friends first. If you promise something to someone, follow through with it. Leo's "signature" was his word; and it was priceless.

Since KESY in Omaha we worked together, installing installations at Omaha stations KQKQ(FM) and KVSS(FM), to numerous service jobs in West Point, Neb., at KTIC(AM)/KWP(N)(FM) to KOAK(AM)/KCSI(FM) in Red Oak, Iowa. I noted as we worked on these projects that Leo would never say "Goodbye," simply "See you next time."

I will always remember Leo when I see a tower. And at night, observing those beacon lights as they flash, I will recall him just winking that eye at me, not saying "Goodbye" but "See you next time."

*The author is owner/operator of Ramar Contracting, Omaha, Neb., and former chief engineer of KESY.*

### NEWS WATCH

## Radio Broadcast To Cell Phones In U.K.

**LONDON** Communications company BT says the European Telecommunications Standards Institute has approved a revised DAB standard that will allow radio, TV and other content to be broadcast to cell phones reliably using Internet-based technologies. The revised standard will underpin the BT Movio service — a broadcast mobile entertainment service set to launch in the U.K. in late summer.

As part of the revised EN 300 401 specification, the ETSI standard includes the capability to use IP to run on a DAB network, allowing audio, video and other data to be broadcast. BT believes a combination of 3G, WLAN, DAB, DVB-H and other technologies will combine using IP to deliver radio and TV to cell phones. The Movio system uses the new DAB standard with its "Enhanced Packet Mode" for improved robustness, but the codec used for IP-delivered audio and video content is Microsoft Windows Media Series 9, rather than the MPEG-1 Audio Layer II codec traditionally used by DAB.

By using the DAB network, BT Movio promises to offer access to the UK's DAB digital radio stations, in addition to mobile TV.



# Conserves AU.



HD Multicast, HD Surround, conventional stereo — Element handles them all. Upgrade your studios with confidence; you're ready for anything.



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And now, Axia has a cool new modular control surface: Element. Scalable from four to forty faders, you can build the ideal surface for every studio. Element's abundant outputs and flexible architecture can be switched between stereo and surround mixing. Its info-rich user display, built-in router control, and integrated phone and codec support simplify the most complex shows. You'll never outgrow it.

Like all Axia products, Element does more and costs about half what others try to charge for their "Trust us, this is better than Ethernet, would we lie to you?" stuff.

Element. Worth its weight in... well, you know.



[www.AxiaAudio.com](http://www.AxiaAudio.com)



## Newswatch

► Continued from page 2

In reply, NAB spokesman Dennis Wharton said, "NAB believes responsible self-regulation is preferable to government regulation in areas related to program content. However, if there is government regulation, satellite radio ought not get a free pass given the explicitness of its content."

### Wireless EAS Demoed

**WASHINGTON** A demonstration was held by the Federal Emergency Management Agency this summer of a project to

expand emergency alert messages to wireless devices.

The idea, reported here earlier, is to transmit the messages as text, audio, or video to receiving networks including terrestrial radio and TV, satellite radio and TV, cable and wireless devices such as cell phones or PDAs.

The project is in its pilot phase; the Department of Homeland Security, through FEMA, held a demonstration of the project at WETA(TV) in Washington.

### HD-R Needs Better Pitch

**ANN ARBOR, Mich.** Quality alone won't sell HD Radio. Industry needs to do a better job of explaining what HD

Radio is and its benefits to listeners. That's according to audience research analyst Mark Kassof.

In his "Slog," which he describes as an occasional or "slow" blog at [www.kassof.com](http://www.kassof.com), he states his research shows that of the 38 percent of 18-64s who have an awareness of HD Radio, most think they have heard of it, but are not sure what the label means.

"This thing is still in a diaper," Kassof quotes one of his clients involved with the technology as saying.

### News Roundup

**XM SATELLITE** realigned its marketing operations and created a dedicated automotive marketing group. It says 2006 is a staging year for volume growth in

2007-08, with annual factory-installations of its radios expected to double in the next two years.

**BOSTON ACOUSTICS**, maker of the sole tabletop HD Radio on the market, expanded and moved key personnel within its executive roster. The changes are meant to help BA grow distribution as it expands its product line in high-performance home entertainment.

**CRUTCHFIELD** dropped the price of the JVC KD-HDR1 to \$159, after a \$40 mail-in rebate. The in-dash unit includes a CD player with built-in HD Radio tuner and MP3/WMA playback.

**TIVOLI AUDIO** is incorporating HD Radio into its product line. The company says it's working with Ibiqity Digital on specs for an HD-R tabletop model that is multicast-capable. Boston-based Tivoli expects to introduce the product this fall. It did not announce price.

**AUDIOVOX** reported net sales for its first quarter of \$111.3 million, a 23 percent drop compared to the comparable prior quarter. The company cited satellite radio and portable DVD sales that were lower than expected.

Mobile electronics sales, which represented about three-quarters of net sales, were \$83.1 million, a decrease of 10.6 percent. Audiovox said lower sales of satellite radio products were largely responsible.

**EUREKA-147 DAB** technology in the United Kingdom is the impetus for a new podcast featuring songs from digital radio stations. The Digital Radio Development Bureau, which markets DAB in the U.K., says the free podcast is on the DRDB consumer Web site, [www.digitalradionow.com](http://www.digitalradionow.com), as well as Web sites of proponents like Xfm, Capital Radio and Choice.

**XM CANADA** has an agreement with telecom company Telus to offer subscribers satellite content over cell phones. Twenty XM Canada channels will be offered over some Telus cell phones for \$15 per month. Initially, the service will be available on the LG 8100 and Samsung A950 phones. The deal is similar to one signed last year between Sirius and Sprint.

**NAB** promoted Chris Brown to executive vice president of conventions and business operations. He replaces Jack Knebel, who retired. Brown joined in 1999 as senior vice president of conventions and expositions. Prior to NAB, he was vice president of conventions for the Personal Communications Industry Association.

**VNU** expected to close on its acquisition of Radio & Records by Aug. 1. That brings R&R under the same ownership as publishing rival Billboard. Terms were not disclosed. R&R operations will be integrated into the Billboard Music Group.

**THE SALE** of the Connecticut School of Broadcasting to a new investor group from founder Dick Robinson has closed. DLJ Growth Capital Partners, a private equity investment affiliate of Credit Suisse, partnered with Brian Stone and Scott Knight, founders and General Partners of Knightstone Media, to acquire CSB. Stone and Knight will now manage CSB. Terms of the deal, first announced in January, were not disclosed.

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**-Christian Vang Chief Engineer  
Clear Channel St. Louis**



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## In-store

► Continued from page 1

services also give advertisers another platform to place ads that can reach shoppers who are already in-store and ready to buy.

Venerable names such as Muzak, DMX Music and Music Choice still provide retail music services. But they face stiffer competition from companies that are offering sophisticated solutions to customers by delivering programming over the Internet rather than via satellite or FM subcarrier. Even Sirius Satellite Radio and XM Satellite Radio offer business music.

Retail audio suppliers say music helps businesses connect with customers and can even increase employee productivity. More important, they say in-store audio can help drive sales through messages aimed at people who are already at the point of purchase and help to defray system costs through advertising.

### Distinct store identity

The "Arbitron Retail Media Study" in 2005 reviewed America's awareness of retail audio broadcasting and the advertising it carries. While the most comprehensive analysis to date looked specifically at the value of retail audio in grocery stores and drugstores, many types of businesses view in-store audio as essential in creating a distinct identity for their stores.

"Customization is the one word we hear a lot. Retailers are beginning to think about forming networks of all their stores linked together. It is definitely becoming a more managed thing. It's clear that retail audio broadcasting as a national advertising vehicle is becoming is effective and becoming more effective," said Diane Williams, project manager for Arbitron's custom research business.

Parties interested in audience measurement of in-store advertising approached Arbitron about conducting the study,

advertisers] to utilize media that can put the advertising message in the 'window of opportunity preceding each purchase.'"

Rich Balsbaugh, CEO and president of Pyramid Radio Inc., an in-store audio network provider, said in-store radio is

Wijtkamp, president and chief operating officer, said the company's Intertain Media Inc. division hopes to launch its retail radio music service

# MUSIC CHOICE®

moving quickly from a background service to the foreground.

"In my opinion, some of the services were missing the boat. This industry needed more foreground music with personality and creativity. We have created a personalized in-store radio station with music, messaging and commercials. It's really about branding for each client," Balsbaugh said. "We bring their branding in-house with their own radio network."

### Satellite delivery

Balsbaugh, who owned Pyramid Communications before selling his 16 radio stations to Evergreen Media in 1996, says his new company's focus is on customization.

"We program it so that when a customer comes in the store we want it to sound like a radio station was built specifically for that store. Our networks do play commercials, either in-store vendors who want to affect point-of-purchase or even outside ads that do not conflict with in-store items," Balsbaugh said.

Pyramid Radio Inc. was launched in 2005; it has a strategic alliance with Muzak for content delivery via satellite, Balsbaugh said. "They handle the receiver installation and deliver our program-

ing in the United States later this year. It already offers its customized in-store Galaxie Music for Business programming in Canada.

"We see this as a very high-growth area for us. Everyone is trying to do more with less and certainly technologies that are Internet delivered and readily available are very cost effective," Wijtkamp said. "Retailers are increasingly looking to enrich their customer's store experience by creating unique environments."

Intertain, which focuses exclusively on retail, delivers its programming via IP network protocol and has a private Web site for customers to choose from 100 professionally programmed channels, which can be customized for specific regions or stores. Customers get a "laptop size" audio player that can go "in the back room," she said.

OMT, known for its iMediaTouch audio management product, entered the business music and message field when it acquired the assets of another company in 2003. It partnered with the Canadian Broadcasting Company to launch Galaxie Music for Business in 2005.

"The CBC provides us content and music and (Intertain) handles all other aspects of selling the service and advertising," Wijtkamp said.

### 'Play space audio'

Jeremy Rosenberg, senior VP of technology for Music Choice, another in-store audio network provider, says mass customization is available to its customers.

"Technology is allowing us to transform the media environment within businesses. It's allowed us to be more transparent and seamless in what we deliver," Rosenberg said.

Music Choice takes a slightly different bent than some others in the field. Company execs say the firm excels at long-duration listening. Music Choice specializes in "play space audio" geared for common areas, like malls or office waiting areas, Rosenberg said. It delivers audio content via cable, satellite and IP network technology.

"Technology allows our customers to use the product the way they want and create a specific shopping experience," Rosenberg said.

Barix Technology Inc., the US-based subsidiary of Switzerland's Barix AG, offers big-box retailers hardware for their



Music Choice execs say the firm excels at long-duration listening, specializing in 'play space audio' geared for common areas, like malls or office waiting areas.

background music needs. The company sells its Extreamer decoder and Instreamer encoder devices. Barix uses standard IP Network infrastructure for content distribution.

"Audio can now be easily delivered to stores via the Internet and also allows for local customized advertisements. Audio can be streamed from one central location to as many store locations as they want," said Johannes Rietschel, CEO of Barix AG.

Barix provides only the hardware solution and leaves content development and rights licensing to the clients or other third party services, Rietschel said.

Could broadcasters become more involved in storecasting or focus resources on launching such services?



Jeff Littlejohn, executive vice president of distribution development for Clear Channel Radio, said, "We currently do not provide those services. However, it's something we could do. We have looked at it."

Clear Channel is part-owner of Muzak, Littlejohn said.

### NEWS WATCH

**IBIQUITY** Digital has re-vamped its Web site, more clearly delineating information for broadcasters, automakers and manufacturers and updating the look of the site. In the automotive section, Ibiquty says Alpine, BeckerHarman, Clarion, Daewoo Electric, Delphi, Fujitsu-Ten, Hyundai Autonet, Mitsubishi, Panasonic, Pioneer, Sanyo, Siemens VDO, and Visteon are making HD Radio receivers for the OEM market.

Businesses should use [www.ibiquity.com](http://www.ibiquity.com), while the site links consumers directly to [www.hdradio.com](http://www.hdradio.com), administered by the HD Digital Radio Alliance.

**SIRIUS** Satellite Radio and trade publication Variety will establish a radio news bureau that provides entertainment news and industry gossip to Sirius' audience. Variety Radio News will broadcast regular reports on Sirius Channel 150 and will be based out of Los Angeles.

**Retail audio suppliers say in-store audio can help drive sales through messages aimed at people who are at the point of purchase.**

Williams said, to help determine how receptive Americans are to storecasting.

Americans "seem to like advertising if it is geared towards their interest at a specific time. More than 40 percent say they have made a purchase they were not planning on making after hearing a retail audio commercial or promotional announcement," Williams said, "while 57 percent of Americans believe it is an acceptable form of advertising."

It's that "point-of-purchase" immediacy that has caught the interest of in-store radio providers and media buyers, Williams added.

"Media buyers are starting to look at these in-store networks when they plan out their buys," she said, noting that Procter & Gamble Co. and Unilever have both stated they plan on spending more ad dollars on at-retail marketing.

The Arbitron report concluded, "As Americans spend more time with non-traditional media, it becomes important [for

ming. We provide the content."

A number of different packages are available to big-box retailers, Balsbaugh said, with Pyramid Radio becoming the "voice of the store" and offering compelling radio.

"This is a very high-growth area to the companies that can truly do things in a quality way ... not cookie-cutter stuff. This is very creative stuff. I'm talking real quality broadcasting with very good talent," Balsbaugh said.

Meanwhile, Muzak is still fighting the "elevator music" stigma that came from establishing a whole genre of music known as "elevator music." Today the company offers 80 music programs and custom channels and estimates it is heard in about 60 percent of the U.S. businesses that subscribe to music programming, according to the company's Web site.

Calls to Muzak seeking comment for this story were not returned.

At OMT Technologies, Marieke



# “Everything is bigger in Texas. Except equipment budgets.”

“I’d gotten the green light to build new studios for our South Texas radio cluster. We wanted the ability to **put any of our stations**

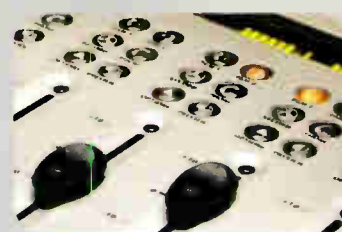


**on air from any studio,** so we started investigating networked audio.

“Also, management said we might add more stations to the cluster, so I needed a system that could be **easily and affordably expanded** later on.



“We looked at several systems. Some did what we wanted, but were very complex and required us to buy their expensive routing mainframe, whether we were building lots of studios or only a couple. That was completely outside our price range.



“Then we looked at Axia. They showed us how an IP-Audio system would let us **share audio sources, switch air studios quickly,** even **customize console settings** for individual jocks. And Axia **cost about half** what some companies wanted us to spend.

“Of course we were a little skeptical — **how often is the least expensive solution actually the best?**

“Then we learned that Axia’s Ethernet backbone scales, like a computer network. All we’d have to do to grow is connect more nodes and surfaces, maybe add another Ethernet switch. We didn’t have to commit to buying equipment for all of our studios at once .



“So we built one studio using Axia, and **it worked great.** Went together fast and smooth. A few wrinkles during installation were ironed out by Axia support right away. Those guys were amazing. It was like their entire team was there to make sure I was happy.



“**We liked Axia so much** we installed a second studio. Then a third. Then a whole second cluster.

My colleagues are so impressed with how well Axia works, they want it in their stations, too!”



— Jorge Garza, Univision Radio, McAllen, Texas



[www.AxiaAudio.com](http://www.AxiaAudio.com)





Radio World, August 16, 2006

Past columns are archived at [www.rwonline.com/reference-room](http://www.rwonline.com/reference-room)

# Hardware Store Finds Can Protect Test Gear

by John Bisset

Entercom Scranton's Ray Russ found a good use for the inexpensive tool cases that you find at Lowes or Home Depot.

You may recall that Bob Drazba, of the same

group, used these cases to organize and color-code his remote equipment. Ray discovered that these cases are deep enough to hold a Delta OIB-1.

The case has dividers that can be relocated or removed. Fig. 2 shows that the bridge fits nicely inside. The case keeps the bridge clean and protected; it has room for the leads, connector/adaptor and manual.

\*\*\*

Last column, we suggested taking the time to mark your AM coil clips with an indelible marker. The mark goes on either side of the clip, so if the clip falls off the coil, it can be reattached quickly. Not only should the coil clips and roller positions be marked; good engineering practice also leads to marking the position of variable vacuum capacitors, as seen in Fig. 3.

It goes without saying, but we'll say it anyway: The "reference" markings should be made when the AM parameters are in tolerance — normal operation. Also, don't attempt any work inside AM phasors or coupling networks until all power is off and interlocks are open.

We used to leave a door open on the transmitter, to ensure an interlock was open, to prevent any accidental switching. Disable the remote control, turn the

transmitter AC off, do whatever is necessary to prevent the transmitter from being switched on the air.

Bring a can of compressed air and clean out the dust bunnies in the phasor or coupling units while you're marking. Since you'll probably be doing this work at night, another trick is to walk around the coupling unit with the interior bulb or trouble lamp illuminated. As you walk around, look for light leaking out of holes or openings that need to be sealed with caulk compound. Sealing even the tiniest of holes will keep the network components clean, and discourage insects from adopting your network enclosure as a home.

\*\*\*

While we're speaking of AM transmitter site maintenance, if you maintain an AM directional antenna here's a worthwhile maintenance check, but it requires two people.

Again, with all power off, open the back of the phasor. With a bright trouble lamp, inspect the variable coil and capacitor couplings that connect the turns counter dials and cranks on the front of the phasor to the variable inductors or capacitors behind the front panel.

Mark down the starting number on the turns counter. While looking at the coupling, have your engineering partner slowly rock the control to the left and to the right.

What you are looking for is smooth control of the component as the crank is turned. The setscrews that hold these couplings can wear or slip over time, meaning the variable component may not smoothly track the turns counter.

For example, when the couplings slip, for every full revolution of the phasor crank, the variable component may only turn half or three quarters of a turn. Turn the control the opposite direction, and the slipping may be worse. In any event, it doesn't take long to render the turns counter indication worthless as you adjust these components.

Early in my career I found this out the hard way. It

See SMART LABELS, page 16 ►



Fig. 1: An inexpensive transport case for test equipment



Fig. 2: Valuable test equipment is kept safe using cases from Home Depot.



Fig. 3: Include vacuum variable capacitors in your AM component marking regimen.



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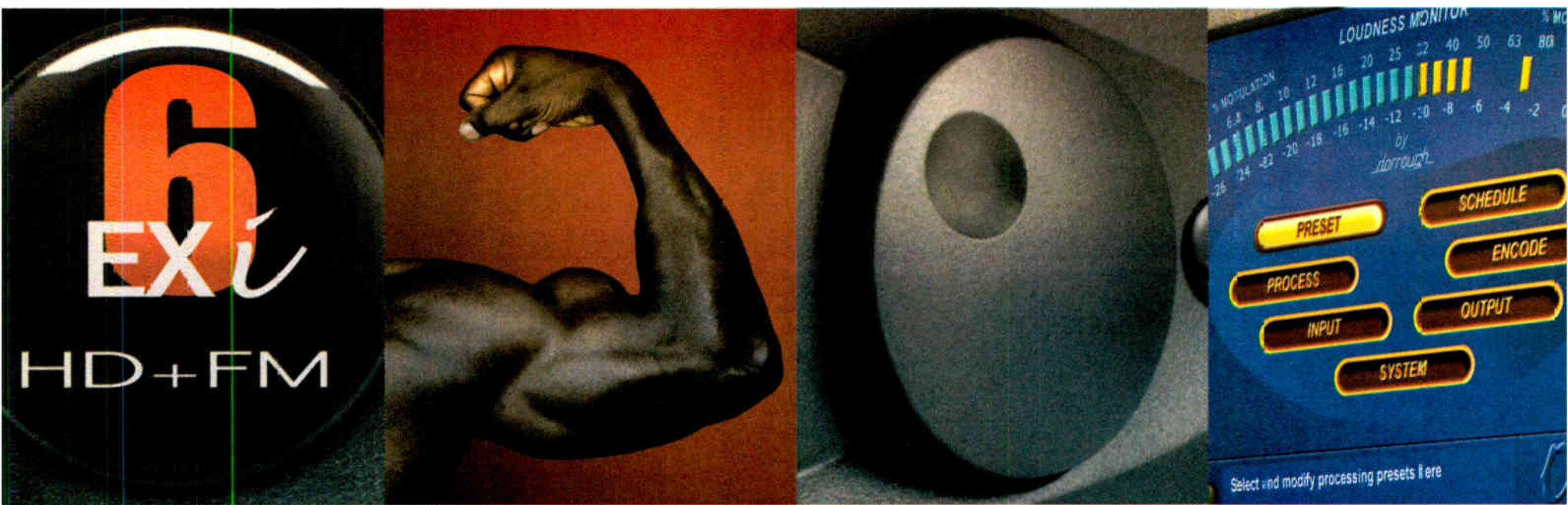
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# The Ultimate Upgrade.

Omnia-6 is the standard by which all other processors are measured. In the last few years, thousands of leading stations in the world's top markets have upgraded to Omnia. In fact, Omnia-6 has been so successful that some competitors have just given up; others are mere shadows of their former selves.

So why do broadcasters love Omnia-6? The *sound*. The clean, pure, crystal-clear sound (bone-shakingly loud, if you want) that's become the choice of #1-rated stations in New York, Los Angeles, Tokyo, Paris, London, Rome, Sydney and Beijing. The other guys tried to match its winning sound... and failed. So they've settled instead for trying to copy its innovative features.



Features that Omnia pioneered — like dual, simultaneous processing paths for HD Radio™ and conventional FM at no extra cost. The world's first non-aliasing digital clipping system, with composite clipping for the ultimate in competitive loudness. The high-precision Multi-Band Look-Ahead Limiter (invented by Omnia) for perfect HD Radio processing. The six-band limiter for conventional FM, with adjustable crossovers for surgically-precise control over your signature sound. An integrated Dorrough™ Loudness Meter. And of course, the groundbreaking 96 kHz, 24-bit platform that delivers full 20 kHz bandwidth for HD Radio broadcasts. Always innovating.

Which is why the **new Omnia-6-EXi** makes perfect sense. With **integral HD Radio Diversity Delay** that helps digital broadcasters eliminate analog connections to the HD exciter, ensuring independent analog and digital program streams. And the exclusive new **LoIMD Clipper** that actually **suppresses intermodulation distortion** to deliver audio that's cleaner, clearer and more detailed than ever — no matter how aggressive your processing. (If you already own an Omnia-6, don't worry — there's a low-cost upgrade to give your processor full-fledged Omnia-6EXi power.)

A lot of muscle? You bet. No wonder the competition is running scare





## Smart Labels

► Continued from page 14

took a couple of all-nighters — and the help of a consulting engineer — to get the parameters back to normal, because the turns indications meant nothing.

Once you get everything set, use Harry Bingaman's idea of attaching paper tags with string to indicate the turns counter location for each crank. See the July 19 *Workbench*.

★★★

Jon Bennett is an SBE national director and frequent *Workbench* contributor; he is the engineering manager of the Cox stations in Richmond, Va. He adds a couple of helpful ideas to the earlier "wall of punchblocks" in his rack room.

First, Jon has added a telephone "butt-in" set to his studio punch block frame. His engineering shop and rack room are locked, so there's no worry about the "butt set" growing legs. Its close proximity to program source wiring makes for quick verification of audio and subsequent diagnosis of any audio failure.

He also keeps a copy of the station's wiring documentation in a notebook stored in one of those clear-plastic, wall-mounted file folder holders. You can find them at any office supply store.



Fig. 4: Keep a butt set at hand.

They usually are secured with double-stick tape; however, a couple of toggle bolts will keep the heavier notebook from pulling the plastic off the wall. When everything's in its place, problems can be solved more efficiently.

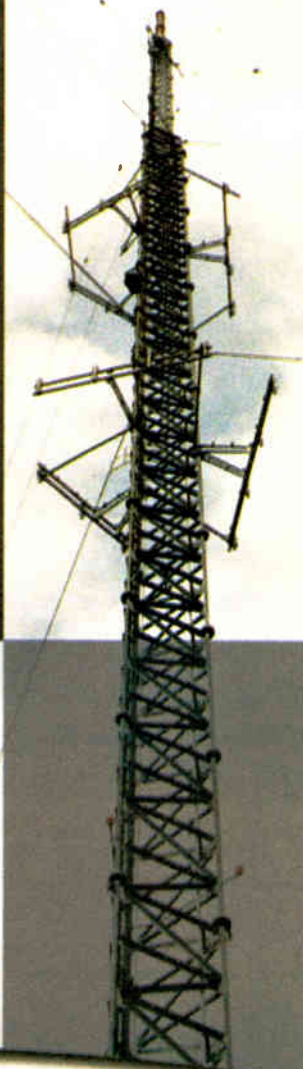
*John Bisset has worked as a chief engineer and contract engineer for 37 years. He is northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or jbis-set@bdcast.com. Faxed submissions can be sent to (603) 472-4944.*

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

## "Accountability is indispensable to us

when putting up a new tower. That's why we deal exclusively with Sabre for our broadcast towers. Their people have been in the industry for years, and have a broad-based knowledge on all types of towers. Their construction department handles turnkey projects with ease, eliminating the need to hire subcontractors and worry about who is taking responsibility. We choose Sabre because we like the people, the product and the pricing."

Leonard Stevens  
President  
Tower Economics



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# MusicEraser: Now You (Don't) Hear It ...

*Replace Licensed Music Used in TV Shows With Cheaper Music While Retaining Narration*

by Ken R.

Why would anyone want to make background music disappear from a soundtrack, leaving the announcer's narration intact?

The answer is found halfway around the world.

In Japan, Fuji Television had a problem. Programs the company produces, including dramas and documentaries, use original music licensed through JAS-RAC, which is an organization similar to ASCAP and BMI. When it is time for Fuji to re-purpose these programs for release on DVD, it does not want to pay the expensive music re-licensing fees required for use in different media.

Takashima gave us the voice minus the music and an alternate version in which our newly isolated voice track was mixed with different music. While the result was not perfect, it was quite good. There was a slightly hollow sound to the announcer at certain points, but overall it was clear. And when mixed with a new music track, the small faults were barely noticeable.

"This is cost-effective for the TV business in Japan," said Takashima. "But I am not sure how it would be used in the United States."

"Cost-effective" is a relative term. Japanese producers pay \$900 for the first processed minute of audio, and \$400 for each additional minute. Thus an hour-



Producer Wato Takashima operates the MusicEraser software and hardware for a client.

Their money-saving solution was to ask their technical division to create MusicEraser, a software package now controlled by MSS-New York Inc. and Kyodo TV, a production company in Japan. The process removes music used in TV shows and replaces it with cheaper buy-out ("blanket license") music, while maintaining the narration from the original show.

### Touch it up

MusicEraser is probably not a tool you'd use in radio every day, but it may be of interest to audiophiles and those working in specialty audio situations. Radio World contacted Wato Takashima, producer for MSS-New York, and asked if he would be willing to give us a demonstration of this new technology. He agreed.

We sent him an audio CD that contained two tracks: a voiceover mixed with music background, and the music track in the clear. Within two days we received a DVD of the MusicEraser results. By flipping the audio switch on our DVD player, we were able to compare our original sample with the processed version. MusicEraser performed pretty well.

long program could cost \$24,000 for complete music erasing and replacement. But Takashima said that compared to the cost of re-licensing original music in Japan, it is still a bargain. Fuji Television negotiated a lower price based on the volume of work it generates.

MusicEraser won top prize for excellence from the National Association of Commercial Broadcasters in Japan. MSS-New York does not sell this software for fear of piracy; anyone wishing to use the process must contact the company and have the work done in New York.

For more details, visit [www.mss-newyork.com](http://www.mss-newyork.com).

See an application for this product? Send us an e-mail to [radioworld@imaspub.com](mailto:radioworld@imaspub.com).

Ken R. is a frequent contributor to *Radio World*.

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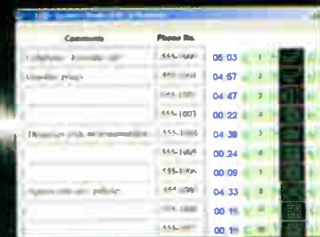
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## TECHNOLOGY FOR MANAGERS

# Radio and Mobile Multimedia

by Tom Vernon

As radio broadcasters become content providers for mobile devices, the need to think in terms of multimedia, rather than just audio, becomes increasingly important.

While the tiny display on most mobile phones might discourage long-duration viewing, wireless operators are anticipating a demand for material about breaking news and sports, as well as music videos. This demand is expected to escalate as more video-enabled handsets become available. Some analysts expect mobile to be the seventh mass medium after print, recordings, cinema, a radio, TV and the Internet.

The rollout of mobile video is expected to take place in two phases, Gerry Purdy, principal analyst for MobileTrax, said.

"First-generation video technology will entail narrowcasting, where a subscriber downloads content from the carrier's server. The fee structure is pay-per-download. Users are not able to store material for later playback." Verizon's V-Cast network uses this model.

Purdy said the second-generation video will be streaming in a one-to-many model, much like today's broadcasting. Initial offerings will be streaming only, after digital rights management issues are worked out, users will be able to record streams.

The second-generation model of "off-network" streams will be of particular interest to broadcasters, because with it, the cellular carriers will be using a conventional broadcast model for content distribution to subscribers, adding yet another competitor to the media jungle.

In some cases, the more conservative carriers have been slow to launch their own 3G content services, particularly in the United States. Several startup companies are partnering with carriers to deliver multimedia content to niche markets that the carriers themselves can't reach.

Known as Mobile Virtual Network Operators, or MVNOs, they offer upscale

mobile content such as music, videos and games, taking advantage of underutilized high-speed cellular networks.

There appears to be a demand for what the MVNOs are dishing up. In a recent survey by wireless research firm In-Stat, 80 percent of U.S. cellphone subscribers said MVNO-style targeted services sound appealing.

Answering the call are startup companies like Amp'd Mobile and Helio, along with established players like ESPN. All are targeting the tech-savvy, 18-34 demographic with a subscription-based busi-

See MOBILE, page 19 ▶

## Your Standard or Mine?

It seems that no new technology can evolve without a standards war, and mobile multicast media is no exception. Two key players have emerged: Digital Video Broadcast-Handheld, or DVB-H, and MediaFLO.

DVB-H was developed by Nokia and standardized by the European standards group ETSI. It will require a new chipset receiver tuned to whatever spectrum will be used for mobile video broadcasting. DVB-H delivers a downstream channel at high data rates that can be used either in standalone mode or as an enhancement of mobile networks. Battery life of the handheld is conserved by only switching on the front end of the receiver for short bursts of data, which are stored in a buffer. Material can be stored for later playout or delivered as live video streams. DVB-H is expected to be adopted by Cingular and T-Mobile, and is the most popular standard in Europe.

MediaFLO has been developed by Qualcomm, which has partnered with Verizon. Plans have been announced to launch a broadcast TV service in late 2006 or early 2007.

The technology was designed for efficient and economical distribution of the same multimedia content to millions of viewers simultaneously. The system is optimized for the best power consumption, frequency diversity and time diversity.

Both DVB-H and MediaFLO are "off-network" streams, with DVB-H operating in portions of the 174-230 MHz, 470-830 MHz and 1.452-1.492 GHz bands. MediaFLO will broadcast at 700 MHz, formerly UHF Channel 55.

Analysts say Verizon's backing has pushed MediaFLO into an early lead in the emerging U.S. market.

DVB-H and MediaFLO are not the only standards under consideration. Digital Multimedia Broadcasting, or DMB, is being developed in South Korea, and the Japanese are hard at work on ISDB-T, or Terrestrial Integrated Services Digital Broadcasting.

All of these standards enable a one-to-many architecture, much like conventional TV. Signals will be distributed over a parallel network, so not to disrupt voice and data traffic. Subscribers needn't worry about being victims of this standards war; both Samsung and LG electronics have already developed handsets that support both DVB-H and Media FLO.

— Tom Vernon

"At KPWR (Los Angeles), our CCA transmitter would occasionally trip breakers and go off the air without any obvious cause.

**PowerClamp solved our problem immediately.**"

Tom Koza, Chief Engineer

"At KBIG (Los Angeles) we had continuing problems of our transmitters throwing breakers, unexplainable input power glitches, and a host of other power line-related problems.

**Ever since we installed PowerClamp our problems just went away."**

Terry Greiger, Chief Engineer

"KYSR (Los Angeles) uses a pair of Continental 816 transmitters, which use internal SCR regulators to control the screen and plate voltages. When the voltage of one AC phase was high, the SCR regulators would kick in, generate harmonics on the AC power line, and knock the other transmitter off the air.

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Chuck Ide, Chief Engineer

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# Mobile

► Continued from page 18  
ness model offering music and videos.

Amp'd charges \$30 to \$200 per month, along with a one-time payment of \$99 for its own branded phone. Helio is expected to have similar charges, while ESPN charges \$35 to \$225 per month for its services, as well as \$200 for a branded phone.

## Content trends

As it stands, many carriers now have fat pipes in search of content. Amp'd has partnered with Verizon, while both ESPN and Helio are running on Sprint's high-speed network. The partnerships enable carriers to maintain their conservative image while reaching an edgier demographic. Amp'd Mobile's pre-launch slogan, for example, was "Try not to die, Amp'd Mobile is coming" while Boost Mobile's tagline is "Where you at."

Other MVNOs are targeting global markets. Virgin Mobile is aiming for growth markets like China, India and South Africa. Many carriers in Europe and Asia have bypassed MVNOs and developed their own multimedia content, although many of the European operations run on slower connections.

Analysts at the Yankee Group estimate that the global market for MVNOs will reach \$10.7 billion by 2010. Currently there are about 100 MVNOs in Europe, and about 20 in the United States, although a shakeout of the weaker companies is expected.

Purdy said mobile will be a brave new world for programming.

"Even if issues of handset battery life can be solved to enable longer duration



Coming soon, Nokia's N92 will allow subscribers to access live digital TV on the move.

streams, there will probably be a trend away from 30 minute and 1-hour programs. Broadcasters will experiment with new types of content with shorter duration. Instead of sponsored programs, we may see content with product placement."

All of this mobile activity is occurring at a time when terrestrial radio is struggling to counter the mass exodus of younger listeners to satellite radio, the Internet and MP3 downloads.

Clear Channel has responded by offering clips of programming over cell phones. In addition to portions of originally produced programs, local weather and traffic information will be available for download. There are no plans to offer wireless access to music. John Hogan, Clear Channel Radio's CEO said, "We have to fulfill our listeners' request for what they want, when they want it."

Tom Vernon wrote about Clear Channel's use of HBX Analytics in the July 19 issue.

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## We're Building The 2007 Source Book

Our editorial staff is at work on the 2007 Radio World Source Book & Directory, a convenient, comprehensive compilation of companies that offer products and services for U.S. radio broadcasters, with a special emphasis on technology suppliers that form the backbone of our radio world.



If there's a tool or solution you need, someone makes it. This directory will help you find them. Look for it in January.

Suppliers: Each year our staff makes multiple efforts to contact every relevant company known to us. If we've missed you, or if your contact information has changed, let us know. Write to [radioworld@imaspub.com](mailto:radioworld@imaspub.com).



IT SERVICE MANAGEMENT

# ITSM for Smaller Operations

by Bill Eldridge

Dear Bill,

I was looking over your articles on "IT Service Management" at the RW Web site. In the stories, obviously you're referring to a larger computer environment than my needs require. I'm not exactly sure what I'm looking for in an answer, perhaps just some advice, but I'm looking to start an online "Web radio station." When I finally, hopefully, put this thing together, I want it to be relevant, as far as technology goes, for

the longest time possible. Any advice you can pass my way would be greatly appreciated.

Thanks,  
Marty Eby

Hi Marty,

Well, when you're at the bottom, nowhere to go but up ... ;-)

First, I'd suggest reordering goals a little bit. I presume you're looking at a business case and a goal of keeping your

presentation relevant to your audience. "Radio" on the Internet is not precisely "radio," and so you get to enhance it in certain ways to your advantage and lose a bit in expectations.

(It's not quite like listening to the Cards on KMOX in your garage, but can provide something of the same delight, and you get to add related material links on your Web site that you wouldn't have with traditional radio.)

Go through the ITSM parts quickly.

*Service Level Agreement* — What are you promising yourself and your audi-

ence as key IT performance metrics? Uptime? Quick recovery? Large archives? Delightful programming? Niche/specialist information?

Big radio stations have to promise 99.999 percent reliability for their audience and advertisers — 5 minutes total downtime a year — but that reliability is expensive. Figure out what your appropriate guarantees are for the type of service you're entering, even if they're guarantees to yourself — presentation, content, quality, technical.

You can also scale up to them over time — just make it overt in your plans: "Would like to have RAID backup of archives by end of 2007, depending on evaluation of profit or my wife's paycheck."

SLAs need to address what kind of production capabilities you require as well — you walk into a studio, whether it's a laptop with a mic or not, and you need a certain kind of format, whether it's editing/production software, sound effects library, archive of material and ads, etc.

What are you promising yourself and your audience, including ease of use, fluidness of transition, etc.? If you're going to be in front of a machine for hours, figure out where your coffee machine will be — seriously — though make sure it doesn't interfere with other equipment. Make sure the room will be warm enough in your pajamas at 3 a.m., and consider other pertinent life support systems. A happy host is a good host.

Workflow should let people focus on the important part of what they do, with minimal distraction. It's hard to be funny while fumbling for a fader at the same time; do you have an appropriate outboard console attached to your computer, rather than relying on mouse clicks? Is the physical layout right, are the technical tools right? What are the basics for your performance?

*Financial Management* — Figure out where the technology lies in your planning, what you can afford and when (budgeting), how it impacts your regular broadcasting and emergency situations ("Oops, lost my main server — do I have funds to replace?").

Fix specific dates, perhaps the first of each quarter, to summarize and reevaluate financial issues if you don't have any pressing reason to check them more often.

*Capacity, Availability and Continuity Planning* — What are you offering, and how much disk space, network capacity, emergency preparedness do you require? Will more people be using the facility (meaning greater availability and capacity for certain production resources)? What spares do you need to keep going? Does your service need complete restoration, or can it limp along with a live mic or archives?

*Service Support — Change, Config & Release* — How are you tracking and maintaining your systems? Do you need info down to the chip level, or just to know "oh, my modem's out"?

Keep your records relevant: When did I buy this, who will replace it, what does it cost, when did I last modify it? For a small setup, this can be as low-tech as manila folders labeled "con-

See IT, page 21 ►

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# IT

► Continued from page 20  
sole," "PC," "codec" etc. Now that you're relying on your ISP's DSL connection to you, what do you do if they change something and your show can't go out? You want to add one itchy-bitsy program to your editing station, but it won't boot. Do you have a backout or backup plan?

(Speaking of which, hold a Disaster Day each year where you check your disaster plans. You may need an offsite copy of different records, software and tools — where "offsite" might mean "up in the bedroom away from your kids," a bank lockbox or at a friend's).

**Problems and Incidents** — Do you have a record of what happened last time it wouldn't boot? What the fix was? Any software required?

On my laptop at home, my DSL connection stops working every few months and I have to create a new one with exactly the same info. Now I have a crib sheet on my desktop with all that info available — cheesy, but it works well enough.

**These methods are not only for big operations — they just need to be scaled appropriately.**

If someone else will fix your box for you, no problem; just have an understanding ahead of time how long it will take, and what you'll do in the meantime, how much it will cost, etc.

Incident Management means getting back to an acceptable operating level, not "fixing the problem." What tools will be required to diagnose problems? (Perhaps survey the person doing it for you). External network problems when doing Internet streaming can be difficult to track. Has your audience increased to the point of causing server dropouts? Is your ISP having difficulties?

I've had providers continually lower my bandwidth until I noticed enough to scream — unethical, but common. Make it a point to periodically measure your access, and use your listeners to help you stay aware of problems.

For "trouble ticket," I'd recommend having some way of archiving comments and problems your users might have. Is sound quality acceptable? Do you need multiple bit rates? Do you need to support more formats? Could your Web site be better designed for its function? Can people easily get to your old programs and related material? Do you have transcripts or even sketchy outlines of shows as reference?

It's also sometimes hard for audio people to evaluate appearance and visual workflow properly — at least I have those faults — so audience and expert

feedback can help.

Observing someone else as they click through your site can be illuminating as well; what we think is intuitive might not be to others. A feedback "system" could be as little as a special e-mail address if you're getting one e-mail a month, or a blog, or a trouble-ticket package like Bugzilla or DotProject

Again, everything should follow your business model. If you expect advertisers, your model should be serious enough for their expectations. If you're playing music 24/7 but a 3 a.m. outage for an hour is no big deal, fine; you've acknowledged the level up front (though with some head scratching you might figure out a workaround that gives you better reliability with little additional expense or effort).

It's a good idea to keep a Quality Log

that you update on say the 1st and 15th of each month. What's working well, what could be improved, etc. Try to include one small improvement in each cycle to make this is an active process. As a result, you'll have a noticeably better setup at the end of the year.

When you fix something, you should make an entry in your incident log, which could be the same as your quality log. Enter as much info as needed to understand the problem later. If you don't have time to do it thoroughly, at least write down the basics even if on a Post-it that you attach to your log for later. When you do your bi-weekly review, update missing info. If you find you forget, come up with a better way to write down details that fits your memory. Obviously computer entries are easier to search later, but you have

to realistically allow for your own personality and habits.

So to answer one of your questions, no, these methods are not only for big operations — they just need to be scaled appropriately.

Cheers,  
Bill

The five-part series "IT Service Management" is archived at [www.rwonline.com](http://www.rwonline.com).

Bill Eldridge is a musician and engineer who has worked in studios, the Internet and radio broadcast for 20 years. He lives in Prague and is involved with mobile phone video streaming and project management. Write to him at [dcbill@volny.cz](mailto:dcbill@volny.cz).



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FIRST PERSON

# Competence Can Make You Look Good

*An Engineer Can Feel Like an Electronic Paramedic, Facing Cabling Catastrophes Left by Predecessors*

by Ron Pesha

Despite their reputation, rats are neat, domestically caring creatures. The wiring I found in station after station could be described as "rat's nests," but this would be an insult to these family-minded rodents. Photos I took at other stations were returned marked "unprintable." Jumbled, convoluted lines on the negatives resembled light leaks drawn on film from pinholes in an old bellows camera, but were actually the wiring.

Sometimes an engineer feels like an electronic paramedic, facing cabling catastrophes and the make-do mends of those who came (and left) before him.

Some technicians are not only disorganized; they save everything. At one Kansas station, I found a workbench so piled with castoffs that they flowed over the edge onto the floor — sort of a Horn of Plenty, but of junk rather than fruit.

In the vacuum-tube days, technicians often saved weak tubes. Sometimes a mark on the carton end clued the contents. Other times, no indication at all. We know the parts supply hasn't been kept up when we find a Sylvania 12AX7 in an RCA tube carton.

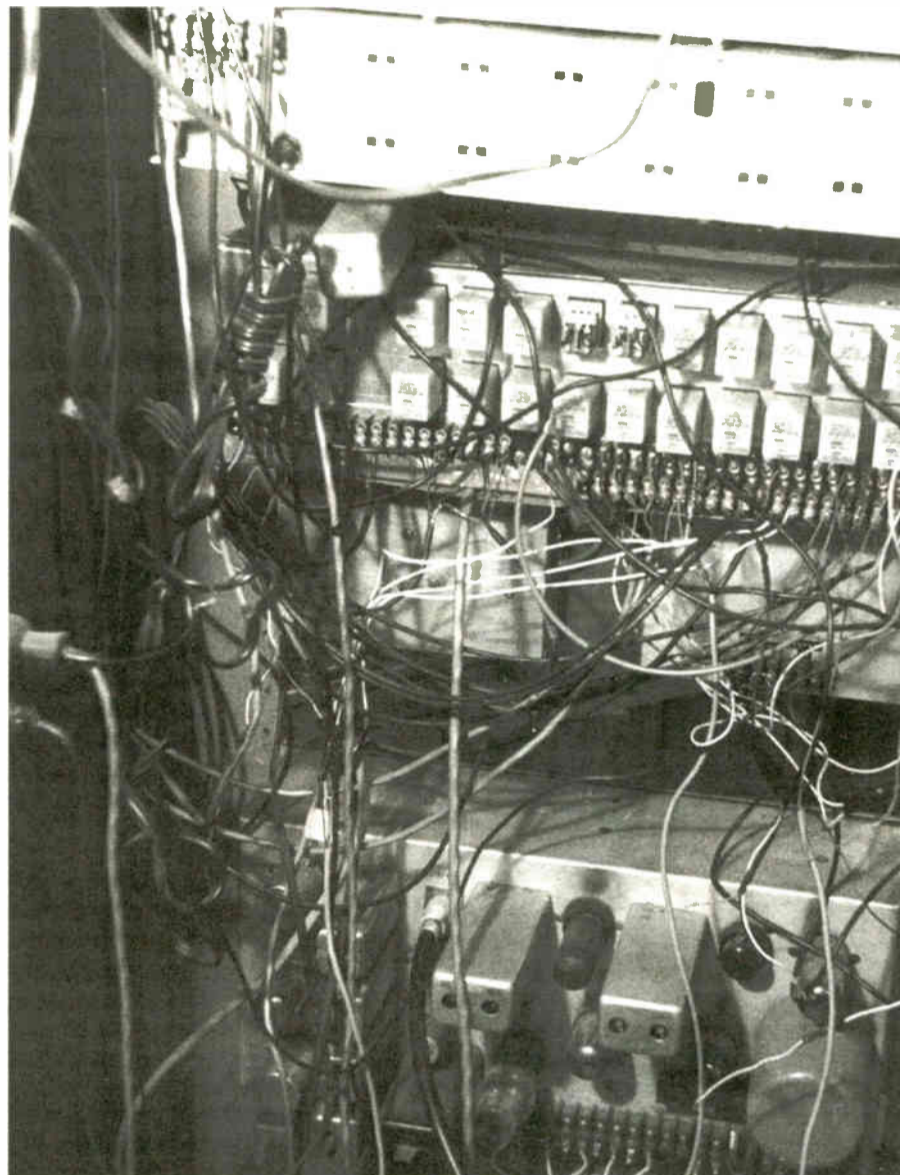
The base ammeter at a Nebraska 5 kW AM, which had operated without an engineer for some time, barely made 2,200 watts. "I'll replace the final," I said to my new manager. The ceramic tube in the transmitter was the best of all four on hand!

My high-school friend Ray Bedard worked in broadcasting for many years. He told me about finding an STL link with the coax shield and center conductor reversed.

For decades traditional American fairness has encouraged companies to hire older workers, the returning veteran, the handicapped. These honorable efforts leave out one large group of workers: the incompetent. Broadcast engineering has a long, hard-earned reputation for hiring them.

Think I'm kidding? A northern Arizona station operated its remote transmitter from a downtown studio. Forty years ago, remote units required two telephone lines, one for control and the other to return analog meter read-

ings. Line surges from springtime lightning discharges slowly shorted diode after diode at the transmitter-side unit. The person who preceded me obviously



had lacked the ability to pinpoint the problem, and left town with the transmitter control inoperative. The 6 a.m. sign-on announcer would simply wait for a hastily installed time switch to turn on the transmitter.

At the beginning of my career in 1959, a CBS affiliate in a city of 60,000 operated at 250 watts. Someone had installed a 300-watt light bulb inside the

20-year-old Western Electric transmitter as a dummy load. With the tower just outside, the front-panel RF ammeter served for the base current reading. A big knife switch after this meter selected between load and antenna.

You get the picture. Half an hour after sign-on time, the morning DJ awakens

the dummy load position and turn the transmitter back on. "What happened?" asked the announcer. In my deepest, most authoritative voice, I respond, "Just had to make a technical adjustment."

My sense of competency multiplied, I joined a Colorado mountain Class IV built in a house; the control room had been the dining room. The transmitter, with its pair of 810s in the final, projected through the wall, its rear accessible via the large, intact kitchen.

My hat flew off like Donald Duck's when I first entered that kitchen and saw the full-length rear door wide open! Someone had defeated the interlocks. The plate transformer and mercury vapor rectifiers sat on the transmitter floor. And

**Broadcast engineering has a long, hard-earned reputation for hiring the incompetent.**

the owner's dog habitually wandered about the station. I corrected things speedily. Dogs lack the curiosity of cats, but still, that plate supply would fry any nine lives simultaneously.

A dozen years later, I had a chance to put competency and experience to work again. A major West Coast metropolitan FM station, equipped with a stereo production room, heard frequent complaints from sponsors. "Many listeners hear the music bed, but not the message," the sales manager explained. "Especially in cars. But not always."

Auto stereo remained new and rare in 1970. I realized that some, not all, of the cartridge players in the control room had been wired with one channel improperly phased, canceling the sum center. I repaired that in minutes and became a hero to the programming and sales staff.

Nothing like being competent.

The author is retired from 17 years in commercial radio/TV and 22 years teaching broadcasting at the college level. Reach him at rpesha@ainop.com. 🌐

## Goodbye Iceland

On June 1, all outlets of the American Forces Radio and Television Service at the U.S. Naval Air Station in Keflavík, Iceland, ceased operation.

The closure is part of the relocation of U.S. military troops from Iceland, scheduled for completion before year-end.

U.S. Forces Radio in Keflavík first went on the air in 1951 and played a major role in the broadcasting history of the country. Until the 1980s, the station was the only radio alternative to the Icelandic national broadcaster, Ríkisútvarpið (RÚV).

Despite its low power of 250 W, the station provided excellent AM reception across southwestern Iceland, including the capital, Reykjavík, and enjoyed enormous popularity among several generations of young Icelanders.

In 1983, RÚV established a second national channel for youths in hopes of regaining this listener group. However, only with the establishment of private commercial stations in the country in 1985 did young listeners start to turn away from AFRTS.

AFRTS was also a welcome source for news in English for tourists. Even though the BBC World Service was relayed on FM in Reykjavík for a number of years in the 1990s, the steadily increasing number of foreign visitors lacked a radio channel with local news in foreign languages.

The newly founded Tourist Info Radio on 103.3 MHz is providing this service in Reykjavík and the vicinity.

— Bernd Trutenau

## WE GIVE YOU WITHERS

**Name:** James G. Withers

**Occupation:** Radio station owner

**Certifications/Honors:** Lifetime General Radiotelephone License; past speaker/panelist at NAB, TAB and Digital Hollywood

**Hero/Mentor:** Robert Shrader, author, "Electronic Communications." Without that book I would never have passed my Second or First Phone.

**Favorite Station Growing Up:** WIL, St. Louis — Dick Clayton, Gary Owens, Ron Lundy. Best group of Top 40 jocks, ever.

**Most Memorable Broadcast:** Engineering a live audience, two-way, four-station lash-up for a Bill Clinton Town Hall meeting from KDFW(TV)

**Favorite Saying:** The only thing in life that's not for sale is your character.



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## TRAVELS WITH SCOTT

by Scott Fybush

In the inaugural installment of "Travels With Scott" (RW April 12, and archived at RW Online), I explored some of the fabulous sites that the Los Angeles radio market has to offer.

L.A.'s a great town, but the local definition of "history" there would seem to consist of "whatever hasn't been torn down yet and replaced with a strip mall." So for our sophomore outing, how about a look at a market where the history is alive and well — albeit with a healthy respect for the state of the art, too?

### Radio City

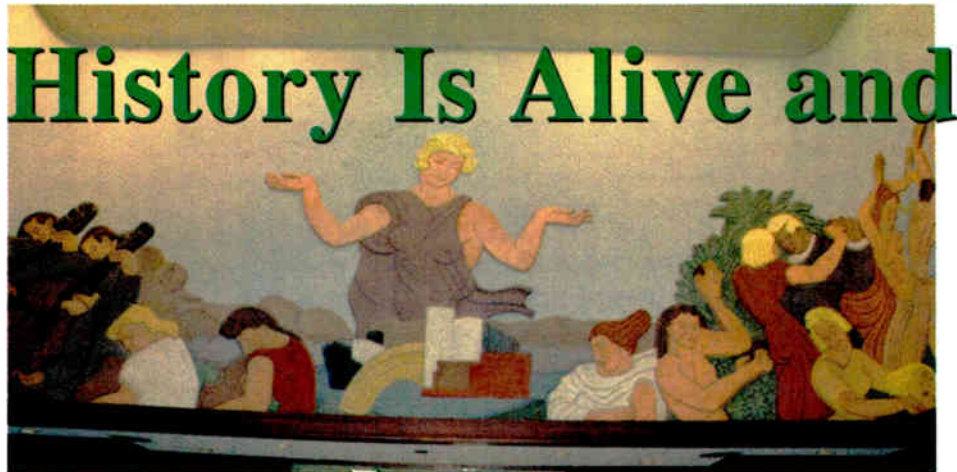
That would be Milwaukee, Wis., a city that I'd heard lots of good things about long before I finally pull into town one sunny Wednesday afternoon in August 2005.

The first destination on the agenda is also probably the most historically important broadcasting facility in town: "Radio City," the venerable headquarters of Journal Broadcast Group, WTMJ(AM), WKTI(FM) and WTMJ(TV).

A relatively bland facade and an unfortunate portico installed in the late '80s now obscure the classic Art Deco lines that made the building an instant Milwaukee landmark when it opened its doors in 1941.

WTMJ was one ambitious regional broadcaster back then. Its AM station was already a dominant voice, and it had been experimenting with television for over a decade at its facilities in the Milwaukee Journal building downtown.

Despite the "Radio City" name, the building was designed from the start for both radio and TV, though the interrup-



WTMJ Lobby Mural



Studio of WTMJ(AM) with Kent Aschenbrenner at right.

tion of World War II would keep commercial TV from signing on there until 1947, when WTMJ took to the air as Wisconsin's first TV station.

I head inside the building with Kent Aschenbrenner, Journal's regional director of engineering. The Deco legacy is much more easily spotted, from the murals that line all four walls of the lob-

by to the tile hallways that lead back through the original building, which was constructed around a large audience studio for WTMJ radio.

That space is now occupied by studios for WTMJ(AM) and WKTI(FM), with big glass windows looking out into the halls, but Kent is happy to show a fellow history buff some of the corners upstairs that once served as viewing galleries for the original auditorium studio, as well as the storage room in a back corner of the building that was once the studio for WTMJ's early FM operations. (The station was a pioneer on that band as well; as early as 1942, it had a 50 kW low-band FM signal on the air from a standalone transmitter site in Richfield, Wisconsin.)

The "Radio City" building added a distinctive feature during a renovation in 1967: a "TV studio in the round," with prominent windows facing the front lawn and busy East Capitol Drive outside. That exterior detail was also obscured in the

1989 renovation, which added office space at the front of the building that's now the Journal Broadcast Group corporate headquarters, but the round studio is still there, home to WTMJ(TV)'s newscasts.

### Music in the glow

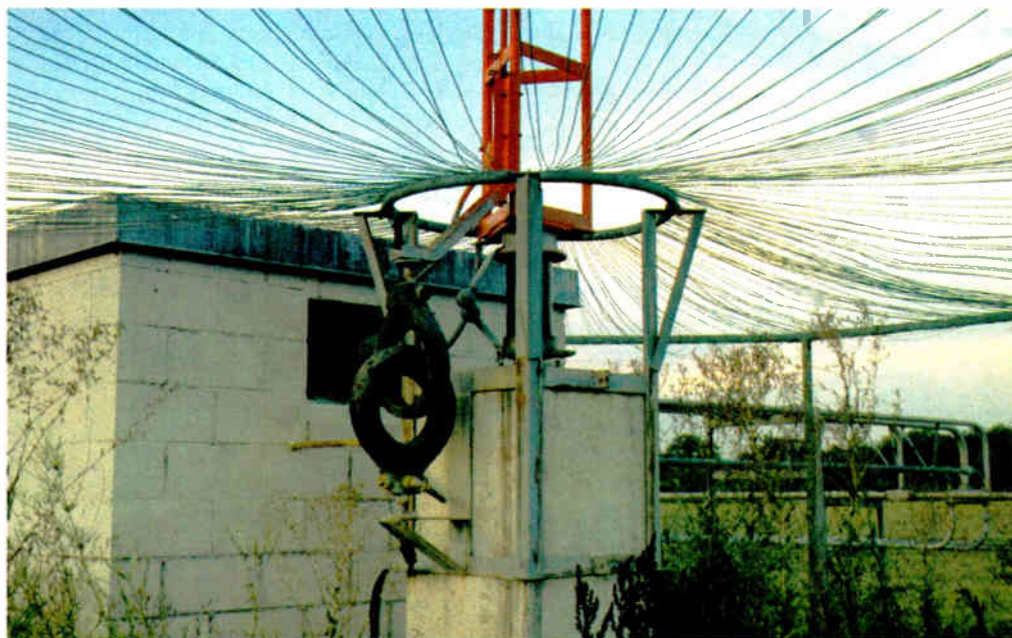
WTMJ's Radio City is hardly the only historic site to be seen in Milwaukee. Over on the western edge of town, Clear Channel's six-station cluster sits at the base of the five-tower WOKY (920) array, and just a few miles away in Hales Corner, Entercom's three stations occupy a modern building next to the five towers of what's now WSSP (1250), the station long known as WEMP.

It's not the modern building that grabs my attention here, though. Across the parking lot, Chief Engineer Chris Tarr unlocks the door to the other building on the property. This Art Deco gem still houses the transmitters for WSSP and sister station WMYX (99.1), including a lovely old RCA. It has seen a lot of history along the way.

The 1250 facility was WMAW when it signed on out here after World War II with a seven-tower array, but soon changed calls to WCAN. Station owner Lou Poller soon embarked on a quixotic adventure in early UHF television, running a CBS affiliate on Channel 25 for several years before CBS itself entered the ether, as the late '50s brought several new VHF. Poller ended up selling the 1250 license to the ow-



Exterior View of WTMJ's 'Radio City'



One of the nine tower bases of WISN.

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# milwaukee



The venerable 1250 (former WEMP) transmitter towers.

market on a rival UHF facility. That didn't last long enough to town. And after fighting CBS in court, owners of WEMP, which had been operating as a 250-watt signal on 1340. More on that in a moment. Aside from the transmitters for 1250 and 99.1, the old WMAW-WCAN-WEMP-WSSP build-



Tubes aglow in an RCA BTA-5T.

ing is used mainly for storage now, but Chris has some big plans to change that. Somewhere on his long-term "to do" list is a project to clear out the building's main room, a high-ceilinged space that's ringed by the glassed-in transmitter rooms.

If all goes well, this space will eventually be used as a live performance space for Entercom's two FMs here, WMYX and WXSS (103.7), with bands playing in the glow of the RCA tubes.

### Time capsule

From the Entercom facility, Clear Channel's Kent Winrich leads our little group south to Racine County and his big AM gun.

WISN(AM) began as a regional signal on 1150, but then it upgraded in the '50s to 50 kilowatts day, 10 kilowatts night on 1130. That's a crowded channel in the upper Midwest, with big signals from



WRIT(FM)'s former studio and current transmitter site, left untouched since the studio moved out west.

Detroit, Milwaukee and Minneapolis all using tight directional patterns to aim their power north after sunset.

In WISN's case, that means nine towers, which make a striking sight as dusk falls.

Before it gets completely dark, though, there's one more big AM site to see down here. A decade ago, WTMJ(AM) left its longtime transmitter site in Brookfield, west of Milwaukee, and built a new six-tower array in Racine County. Taking advantage of the rules change that removed the 5 kW power limit on the former "regional" channels, WTMJ became the first of those stations to boost day power to 50 kW, sending a commanding signal over most of eastern Wisconsin. (It runs 10 kW at night.)

So what about that 1340 facility? After WEMP moved to 1250, new owners turned 1340 into WRIT, a screaming top-40 rocker. The old WRIT building and self-supporting tower still stand on Milwaukee's west side. Many additions and renovations later, it's now home to Saga's cluster of five stations.

1340 now programs black gospel as WJYI, and the cluster also includes a rare commercial classical station, WFMR(FM), which makes for a pleasant diversion from the usual fare elsewhere on the dial.

The WRIT calls, meanwhile, landed on the FM dial a few years back, on what's now a Clear Channel oldies station at 95.7. Its studios are now with the rest of the Clear Channel cluster out at the WOKY site, but its transmitter remains at the former studio site on West Capitol Drive, just a mile or so from WTMJ's "Radio City."

In its own way, the WRIT site is as much a broadcasting time capsule as Radio City. When the new studios were ready, the staff just picked up and left. So today, the old WRIT studios sit quiet and dark as an inadvertently-preserved relic of radio just before the computer age, carts in the rack, carpet on the walls and rotary-pot boards patiently waiting for another screaming jock to talk up the hits.

There are many more Milwaukee pictures, and a curious diversion into the city's unusual early TV history, in my Tower Site of the Week archives at [www.fybush.com/siteindex.html](http://www.fybush.com/siteindex.html).

Frequent RW contributor Scott Fybush is always on the lookout for interesting "Travels with Scott" destinations. Contact him at [scott@fybush.com](mailto:scott@fybush.com).

Share your thoughts on Milwaukee radio history and facilities. Write [radioworld@imaspub.com](mailto:radioworld@imaspub.com).



The main room in the old WEMP transmitter building, someday to be a performance studio.



The night phasor network for WISN(AM)'s nine-tower array.

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FIRST PERSON

## Global Strategies for Your Station

Six Tips From Around the World to Make Your Operation Grow Now

by Walter Sabo

International radio stations are at the cutting edge of winning new dollars and listeners by using the Internet and digital tools.

Dan Mason and I are partners in Sabo Mason International. We travel the world working for client stations and looking for investment opportunities. Sabo-Mason International Initiatives is focused on finding the latest technologies to grow your business.

Radio stations in the United States could benefit from many of the on-air, promotional and Internet strategies used by operators around the globe.

### Drag and drop

These are the three top tactics stations used successfully by stations elsewhere that should be adopted by U.S. stations — fast.

**1. USE THE INTERNET.** Stations in the United States are years behind their global neighbors in using the Internet to build a community of listeners.

Three Web sites are worth your immediate attention: Those of Radio 538 in the Netherlands, at [www.radio538.nl](http://www.radio538.nl); Fox FM in Melbourne, Australia at [www.fox.com.au](http://www.fox.com.au); and BBC Radio 1 — a hits station, not one of those boring, serious stations — at [www.bbc.co.uk/radio1/](http://www.bbc.co.uk/radio1/).

Radio 538's site has a feature that lets listeners drag and drop digital files of songs they've recorded directly into an application. The station then plays those songs in competitions for prizes. No mailing, FedExing or faxing. Just drag and drop — a direct instant connection

between listener and radio station.

Digital robots are a dynamic feature of the Radio 538 site. Each radio personality is made into a bot that captures and recreates their persona. Answers to frequently asked questions are pre-recorded by the radio personality and spoken by the bot. Listeners come to the site, look for their favorite personality and then share the Web site experience digitally with that personality.

Radio 538 has created a cartoon character called Nozman who is referred to on the air but exists only on the site. His daily adventures bring viewers back day after day.

**Radio stations in the United States could benefit from many of the on-air, promotional and Internet strategies used by operators around the globe.**

The potency of the site is that it enhances the relationship with the radio station; it isn't merely a fancy program guide. The site works as a self-contained entertainment package. The digital universe is also a prime source of revenue

for Radio 538. They sell ringtones, share text revenue and much more, all low-cost profit generators.

A common characteristic of great radio stations is that they are a true reflection of the city they serve. Fox FM's site is 100 percent market- and format-specific. Look at the homepage and you will instantly know what's hot in Melbourne and on the radio station. Site visitors quickly grasp the mood of the city, get the information they need and sense the energy and appeal of the station.

**Best feature: Hitword.** Whatever you hear on Fox FM, you can learn more about it just by typing in one word in the Hitword box. Immediately you're taken to the information about the contest, host, advertiser or community information you are seeking. It's super-fast and saves browsing page after page for one piece of data.

**Bonus feature:** Take a look at Fox FM's fun contest, Selfish Sex.

### Sense of urgency

BBC Radio 1 is the hip, cool radio station in London. Two of the many unique aspects of its site are a 24/7 multi-camera webcam system that actually works, and an extensive archive of shows. (By the way, the cameras reveal that the prestigious BBC allows food and beverage in the studios, right on the control board.)

The archives hold shows from the prior week and serve as a dynamic promotional tool. *The archive listings cross-promote.* They say, "If you enjoy this show, we recommend you try this other show."

Archiving is an image-enhancing feature because it signals that a station's shows are worthwhile, keepers, not disposable. It builds the image of radio

being on the same level of entertainment with TV or films.

Radio 1 makes a very big deal of the weekends. They have a separate staff of top hosts starring on weekend programs. Weekend shows have special features and their own contests. The weekend package is prominently promoted in its own section on the Web site called "48-Hour Party People." After looking at the weekend section of the Radio 1 site, you will want to hear the weekend programming.

All of these sites claim a full list of delivery platforms. You'll see how to get their shows on iPods, ringtones, phones, Web sites. This reach is supported on the air. Radio 1 has frequent production that

See TIPS, page 28 ▶

### What Is Hitword?

From the Web site of Fox FM in Melbourne, explaining a feature of its Web site:

Some things weren't meant to be said on radio. "[www.visitmybusinesshere.biz.net/freeoffer](http://www.visitmybusinesshere.biz.net/freeoffer)" is one of those things; so too is "SMS the first four digits off your barcode and the word 'dingy' to 132 8876. Costs 80 cents plus call costs higher from mobiles."

So we've created Hitword. It's a simple and easy way for you to follow up on the stuff you've heard on the radio that interests you. Whether it's entering a competition, or following up on an ad that appealed to you. All you have to do is come to the station home page [and] enter the hitword you've heard. Then you'll be taken on a magical ride straight to what you need to know.

No wasted searching. No sifting through annoying paid sponsor links, just the info you're after in a flash.

We hope Hitword makes your life a little bit easier, it's been designed to.



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# Tips

► Continued from page 27  
says, "On the Internet, your iPod, your cellphone and at 97-99 FM"

The sites communicate a sense of urgency, a call to action. Every element drives listeners to enter a contest now, to listen to the next show, to plan their weekends around the station.

This sense of urgency and currency is lacking in almost every Web site based in the United States.

**2. DIGITAL RADIO IN EUROPE.** There is constant whining in the United States about the need for younger demos. (Tip: Let's start calling them "younger people.")

Adrian Sarbu owns the first commercial

three-hour show (not "shift") and are encouraged to perform in other media. Each show has a real producer and production assistant. The result is no lazy breaks. Listen for yourself live on Sirius Channel 11 or streamed from the Radio 1 Web site.

### The other way

Here are three action steps stations around the world can learn from the United States.

1. *Taking a company public is very risky.* Once a company puts a majority of its equity into public stock, its only measure of success is quarterly bottom-line performance.

This results in false economies such as moving eight stations into one building, eliminating dozens of live on-air shifts or treating entire days as throwaway time

business while cashing out a minority percentage. That's the strategy adopted by the Slaight family of Standard Broadcasting of Canada.

2. *Respect the tastes of the audience.* No entertainers are as effective at responding to the needs and interests of their audience as North American radio program directors. Their discipline and humility are unmatched by their peers in any other medium in any country.

North American radio programmers invented music research and, more important, they follow it. They pay rigorous attention to popular trends and mirror them. In other countries there is still considerable self-indulgence on the part of programmers and owners. Too many play what pleases them, ignoring the audience.

The result of this discipline is that 92 percent of all North Americans, meaning people in the United States and Canada, listen to the radio every week, the highest in the world. No one makes people listen; they listen because they like the programming. (It's all about programming.)

3. *Format competition is good.* Many countries still have government-dictated format rules and restrictions. Owners have to ask the government for permission to change formats. Sometimes certain formats can only air on AM or FM. In some countries, two stations can't air the same format in the same city.

If you think this sounds like an easier life, consider what happens when you go to get a state-issued driver's license. Interaction with the government is never a good thing to bring into your daily life.

Protection of formats means fewer formats. If a station's format is protected, its staff may miss big opportunities. U.S. programmers are always searching for new trends because a new format may go on the air across town — they don't want to be surprised. Or they may spot a trend

and jump on it early, profiting from the first-mover advantage.

But with government format protection, there is no need to keep the radar on high alert, trends are missed, profits are lost. We've found major cities in Europe, for example, with no Lite FM station or Talk stations but home to many marginal performers simply because they are format-exclusive with no competitive pressures.

Rather than take the typically wimpy route of complaining, broadcasters in those countries should say, "No more." Throughout the history of mankind, government control of the arts on any level has never proven to be a good idea. It's important to note that the countries with the least government control of broadcaster commerce and content are those that used to be part of the Soviet block. Romania, Poland and Slovakia have no rules regarding content. After years of 100 percent government censorship, they know that any censorship is unacceptable if a democracy is to thrive.

Internationally, radio is far ahead of U.S. stations in the adoption of new digital technology for reaching their listeners and delivering their entertainment offerings. Monitoring the deployment of those digital strategies is Sabo-Mason's priority. U.S. stations can teach the world how to build systems to reflect a local market's needs and tastes.

Walter Sabo is chairman of Sabo Media and partner in Sabo Mason International Initiatives. He is former vice president of ABC Radio Networks, executive vice president in charge of the NBC-owned FM stations, and director of the ABC FM radio network. Dan Mason is a consultant to companies such as First Media, Ibiquity, CBS Radio and many others. He is former COO of Infinity Radio, president of CBS and Group W Radio and president of Cook-Inlet. Contact them via [www.sabomason.com](http://www.sabomason.com).

## Archiving is an image-enhancing feature because it signals that a station's shows are worthwhile, keepers, not disposable.

radio group in Romania. He's planning to win young listeners by giving his digital station to them. He is putting a studio in a high school in Bucharest and letting students broadcast whatever they want. The radio station becomes a part of the students' daily landscape.

U.S. broadcasters should use HD Radio for truly new formats, not just re-labeling existing formats. Does it really make sense to let the people who spent the last decade mocking and squandering the value of radio programming make the decisions about what entertainment is offered on the new HD stations? Go to where young people go, give them a mic and get out of the way. Learn what they want and air it. That's how FM gained traction in the '60s.

**3. CLAIM YOUR POWER.** When asked if the government challenged broadcasters regarding content — i.e., indecency — radio executives in Athens, Greece, told us it is not a problem: "Talk radio put the government into power."

Greek owners (there are more than 50 stations in Athens alone) never let the government forget that it was radio's collective endorsement of the leadership that got them elected. They take no nonsense and tolerate no government rules that they believe harmful to their profitability.

Certainly the conservative government of the United States should be sending thank-you notes to the hundreds of talk stations that air 24/7 what is essentially an ad for the Republican party.

International stations claim their ability to motivate the public. They are proud. The Australian radio broadcasters actually stage a nationally broadcast annual awards show on the scale of the Emmys to recognize their best radio broadcasters and executives. Black tie, big dinner, major production.

The on-air hosts of BBC Radio 1 are treated like stars. They work at most a

(think Saturdays and Sundays).

The joke now is that Wall Street analysts say U.S. radio is vulnerable because it is "under-invested." Analysts fear that stations don't spend enough on research, development or product.

They're right. But those analysts caused the problem when radio companies first went public and Wall Street demanded "synergistic economies of scale" and "cost containment," when all they should have wanted to know was how radio stations were going to make better and better audience-grabbing shows.

The smarter operational way to go public is to retain majority control of the

## The New Latino Urban Format

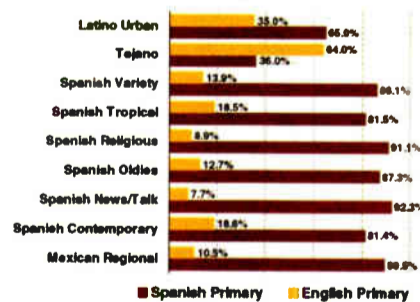
A recent Arbitron study took on the subject of the "Latino urban" format, which incorporates the musical trend of reggaeton, Latin hip-hop and the Latino rap sound.

"Over about two years, the format has gone from fringe music at Latino radio stations to the core sound of several new major-market radio stations," Arbitron wrote. "It is showing promise and popularity among the urban youth demographic." Images from the study are shown at right.

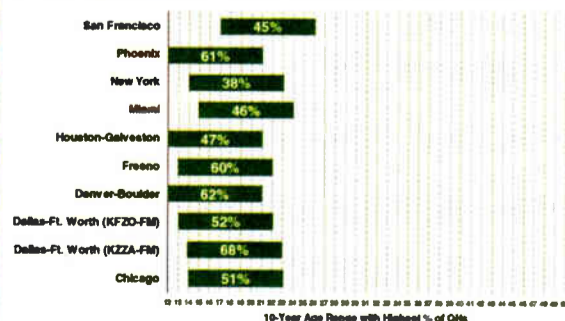
Among the conclusions:

- Latino urban reaches a young Hispanic audience that appeals to more English-dominant Hispanics than most other "Spanish-language" formats on the radio.
- The Latino urban format is typically strongest during evenings and weekends. "As these new stations are able to build new morning shows or sign proven morning talent from other stations in the market, this may change."
- Latino urban is driven primarily by its strong cume audience. Maintaining that broad appeal will be key to its success, Arbitron found.
- The format is competing for listeners with formats that Spanish radio previously has not duplicated as highly. Among the top duplicated formats are CHR and urban.
- The format has the strongest performance among Latinos when they are away from the home, contributing to its healthy weekend and evening drive dayparts.

### How Does the Latino Urban Language Balance Compare to Other Spanish Formats, Nationally?



### The Real Core of Latino Urban 10-Year Age Range and Percent of Audience in Those 10 Years



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# Put Your Team on the Street

As I passed the promotion director in the hallway, I could tell something was wrong by her expression. I asked if she wanted to talk. She nodded and followed me into my office.

"We had our weekly Street Team meeting and it didn't go too well," she said. "They had a list of demands beginning with a pay raise. What should I do?"

I gave her the answer she already knew: "Time for a new Street Team."

## The right reasons

A "Street Team" usually is a group of college kids who work part-time representing a radio station at that station's appearances and at community events.

Street Teams are much like the product sampling teams enlisted by manufactured goods companies to give away samples of their product. The concept is that if you try the product, you may like it. The hope with a radio station Street Team is that these good-looking, energetic kids will get you interested in listening to and being involved with a station.

While there is no empirical evidence that Street Teams actually work, there are enough success stories about increased

\$7 to \$10 an hour will do the trick. Remember, these should be people who want to learn about media at this point in their development.

## Control the party

So why did the Street Team in my story revolt?

Some of its members had been on the team too long. After a period, this job wears out its players. The hours eat into a young person's social life; the money stinks; you have to lug sound equipment and hang banners; and you often have someone not much older than you telling you what to do.

The key is to notice which members are

going sour. It's not hard; just keep your ears open and listen for the chief complainers. If they don't respond when you ask them to stop the griping, it's time for them to move on.

The longer a member has been on a team, the more likely that they will become leaders — and if they're negative, they can poison the whole bunch.

After a member has been on the team for nine months or so, evaluate whether or not their enthusiasm remains strong. You should be gradually encouraging the very best members of the team to find other jobs — either part-time or full-time in media — and say goodbye to the rest.

See STREET, page 30 ▶

## Promo Power



by Mark Lapidus

## The ideal candidate

is considering a career in media and wants the job because it opens a door for them. Applicants looking for concert tickets, T-shirts and access to stars should not be your first choice.

recall for diaries that their use has become standard operating fare. And even if Street Teams do nothing for ratings, they can make money by charging clients for appearances and promoting these happenings on the air.

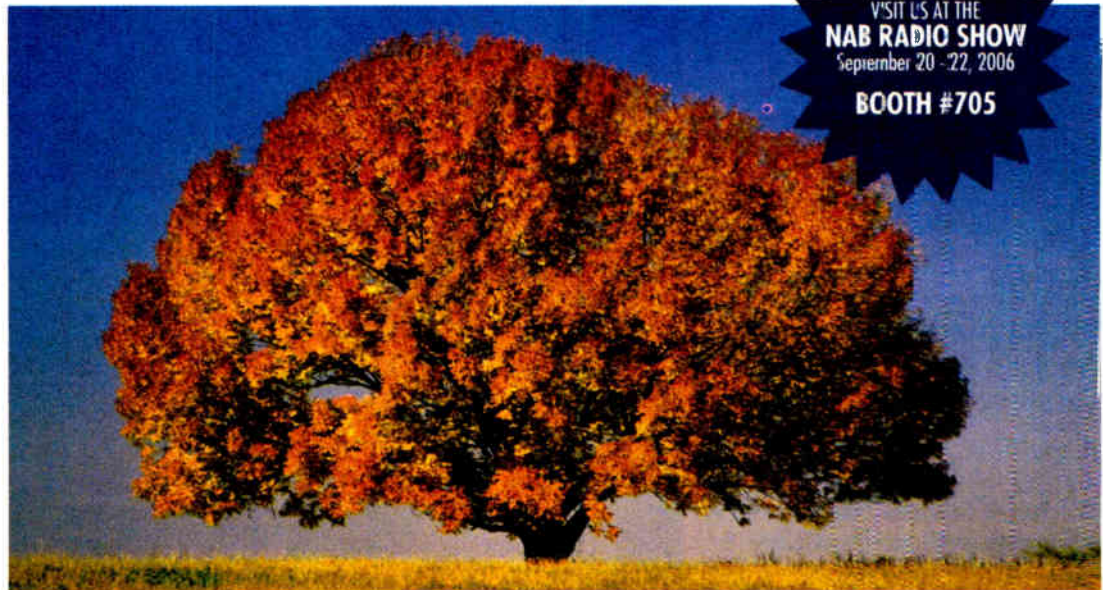
Let's explore the best approaches for building and maintaining Street Teams and discuss maximizing their use.

Recruiting the proper talent for a Street Team begins by advertising the openings on your own station and/or Web site. You want kids who love your radio station.

During the interview ask them in-depth questions about the station and find out why they want to join you. The ideal candidate is considering a career in media and wants the job because it opens a door for them. Applicants whose first answer concerns free concert tickets, T-shirts and access to stars should not be your first choice.

A decent size for a team is around 10 people. That might sound like a lot, but even if you use only three at a time, or as many as six for something big, consider that some will not be available and some will resign without notice. You're not paying them unless they work anyway.

What should you pay them? Typically



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COLE'S LAW

# Increased Indecency Fines Take Effect

by Harry F. Cole and Jeffrey J. Gee

Being indecent has become obscenely expensive.

President Bush recently signed the Broadcast Decency Enforcement Act, increasing the potential fines for broadcasting indecent material by a factor of 10. The former max — a mere pittance at \$32,500 per violation — is history. Now you're looking at a much heftier \$325,000 per violation, up to a limit of \$3 million per day.

This massive increase in potential fines, along with an aggressive (and unpredictable) enforcement stance by the FCC, should inspire every broadcaster to review its programming and operations policies to minimize the risk that a stray off-color remark paints their balance sheet red.

Meanwhile, "indecency hawks" now have a solid majority on the FCC, with newly-minted Commissioner Deborah Taylor Tate quoted in several publications as calling for more legislation and regulation to reduce inappropriate content and promote quality children's programming.

The commission's zeal for bringing the regulatory hammer down on perceived indecency was also evident in the agency's super-fast action flatly denying CBS's appeal of the Super Bowl/Janet Jackson fines — the FCC's order was adopted and released barely a month after CBS filed its petition for reconsideration.

If you missed the point back in March, when the commission issued a flurry of indecency rulings, it should be clear by now: Unless and until the courts tell the commission it can't, the FCC is determined to use its regulatory power to impose six-figure fines. And since Chairman Martin has long advocated doling out separate fines for each separate utterance of a profanity, fines could quickly hit the million-dollar mark for a single broadcast if a majority of the commission comes around to his way of thinking.

These developments have left broadcasters scrambling for ways to protect themselves from potentially devastating liability. Unfortunately, there is no one simple answer.

## Back and forth

Although the politicians and "family-values" activists would tell broadcasters to "just say no" to indecent programming, local broadcasters know that, for many reasons, it's not that easy. The FCC's decisions over the past two years have made it extraordinarily difficult for broadcasters to determine the line between distasteful and unlawful.

While the FCC's rules restrict programming that is obscene, profane or indecent, broadcasters generally don't even come close to "obscenity," which involves Really, Really, Really Bad Stuff. But that still leaves "indecency" and "profanity," neither of which may be broadcast between the hours of 6 a.m. and 10 p.m.

While the concept of "indecency" has been with us for more than three decades, albeit in varying forms and subject to varying enforcement protocols, "profanity" is a relative newcomer. It popped onto the FCC's radar screen in March of 2004, in the wake of *L'Affaire Janet Jackson*.

Despite the traditional religious connotations of the term "profanity," religion doesn't enter into the FCC's use of that word. Rather, as far as the commission is concerned, language must have a sexual or excretory connotation to be legally profane.

In its most recent decisions, the FCC suggested that profane words are those that are "so grossly



offensive as to constitute a nuisance." The FCC has singled out the "S-Word" and the "F-Word" (and their many variations) as presumptively profane except in "unusual circumstances." Recent court filings, however, suggest that the FCC may be further refining its definition of profanity in the near future.

Meanwhile, the precise definition of "indecency" remains elusive. According to the FCC, broadcast indecency involves "language or material that, in context, depicts or describes, in terms patently offensive as measured by contemporary community standards for the broadcast medium, sexual or excretory organs or activities." But as we have repeatedly seen, that definition affords broadcasters little useful notice as to how the commission will rule in any particular case.

The FCC's historical approach to the so-called "F-word" illustrates this. While use of that word has normally been, er, discouraged, it was not absolutely prohibited, George Carlin's suggestion to the contrary notwithstanding. In October of 2003, the FCC's Enforcement Bureau said as much when it declined to issue a fine for Bono's excited use of the term when his band won a Golden Globes award.

But then came Super Bowl 2004, and the bureau's decision was reversed. As a result, the commission seemed to say that you could never, never, ever drop the F-bomb on the air.

But then came Veterans Day 2004, when a number of TV stations wanted to broadcast "Saving Private Ryan," uncensored, in honor of the troops. Although the commission declined to give the green light on that before the broadcast, after the

See INDECENCY, page 31 ►

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## Street

► Continued from page 29

A Street Team is best maximized when it's in front of — or mingling with — a large potential target audience, or if it's making money for the radio station. It's a home run when you accomplish both.

Be careful not to squander your part-time budget in sending out teams to small events. At most, an hour or two is sufficient for most appearances. If the team is around too long, their effectiveness in making an impression becomes counter-productive.

If a promotion assistant or director is unable to accompany the team, they must have explicit instruction about their mission and they need multiple cell phone numbers of managers they can call if any issue arises.

Most teams drive themselves in station vehicles; remember that these folks are young and not necessarily as responsible as they think they are. Provide adequate guidance for each car, SUV, van, Hummer

or whatever it is they take. It's really not a good idea to put a 20-year-old in a \$60,000 car without first showing him or her the basics of operation.

Remind your team to keep the vehicles presentable, even if they're slobs with their own cars. Not only do these cars not belong to them, they are representing your radio station. Your team members must remember that, as cool as it is to be working at a radio station, they are at work and not at a party.

Oftentimes these enthusiastic young folks are blasting the radio as they drive. They likely think this is a good idea because they're driving a logo-swathed station vehicle with its own music blaring, like an audio/visual billboard or something. But just as occurs in "real-life" driving, I know of several station vehicle accidents caused because the team driver didn't hear another driver honking or yelling — and suddenly there's your billboard, all bashed up. Whoa! Talk about a bad impression on the street.

The author is president of Lapidus Media. Write to him at [mlapidus@cox.net](mailto:mlapidus@cox.net).

Comment on this or any article. Write to [radioworld@imaspub.com](mailto:radioworld@imaspub.com).



# Indecency

► Continued from page 30

fact it said there was no problem with it. (In fact, in his separate statement, then-Chairman Powell seemed to suggest that it would be almost impossible to accurately depict the horrors of war and the courage of our fighting forces *without* using the F-word.)

But then came the June 2006 decisions, which seem to take us back in the opposite direction.

While the commission claims to take "context" into account when deciding whether any particular material is or is not indecent, that, too, affords limited guidance. Partially clothed people rubbing against one another may be perfectly acceptable ("Buffy the Vampire Slayer") or not ("Without A Trace"). World War II soldiers under enemy fire may use the F-Word with impunity ("Saving Private Ryan"), but Cher may not (2002 "Billboard Music Awards"). Oprah may discuss teen sex parties on her program, but don't depict such parties in prime time ("Without A Trace"). And we would certainly never recommend that a morning DJ do so either.

## No cure-all

As a result, local broadcasters must take a multi-tiered approach to avoiding indecency fines.

For starters, live broadcasts of any kind should be avoided wherever possible. Various FCC decisions have criticized stations for not employing available technology to delay, dump, bleep or otherwise delete offensive material. Radio stations should seriously consider instituting a delay on all live programming, particular call-in and talk programs.

While no particular amount of delay is required by the FCC, the delay should be sufficient to allow a responsible station employee adequately to consider the programming segment and take the necessary action.

Bleeping profanity and digitally obscuring offensive visuals will suffice in some cases, but it is not a cure-all. The FCC has fined stations when the "bleep" did not completely eliminate an offending word. And on the TV side, in more than one case the FCC has found that pixilating or otherwise obscuring nude body parts — i.e., the visual equivalent of "bleeping" — does not insulate stations from liability if viewers can determine that a performer has exposed herself in a sexually provocative way. "Dumping" suspect programming in its entirety is a surer fix, although a far more disruptive one for audience and staff alike.

With respect to programming provided by broadcast networks or syndicators, it is important for stations to carefully review their contracts to understand who will bear the risk for indecent programming.

Ideally, programming contracts should state specifically that the programming will not include any material that violates FCC rules, including indecency restrictions. Moreover, broadcasters should seek contract provisions that require the programmer to indemnify the broadcaster for any liabilities for indecent material in the programming — that is, the programmer should be made responsible for paying any fines and other costs that result from its programming.

If the programmer cannot be made

responsible for its programming, a broadcaster's options for shifting liability away from itself are very limited. General liability insurance almost certainly will not cover FCC fines.

## Liability

Moreover, despite what some stations may believe, it does not appear that general "errors & omissions" coverage carried by most broadcasters will cover losses incurred due to FCC fines for indecent programming. Indeed, at least one insurance industry insider suggested to us that losses for indecency violations are completely uninsurable due to the uncertainties involved. Station managers should review their insurance policies carefully to understand what is and is not covered under their current policies and discuss the possibility of additional cov-

erage with their insurance agents.

Finally, station managers need to develop a formal policy on programming and ensure that every employee with any connection to programming understands that policy fully. This policy should include a description of the FCC's indecency standards, along with examples to illustrate the kind of material that will be unacceptable. The policy also should make clear the station's technical and operational procedures for screening and editing potentially indecent programming.

The bottom line is that each employee should have a clear understanding of his or her responsibilities with respect to such policy. To reinforce this understanding, some stations have their employees sign statements that they have read and understand the station's policy

on indecent programming.

To the extent stations have contracts with their on-air talent, such contracts should include specific provisions that the on-air talent will not violate the FCC's rules or the station's policies with respect to indecent programming.

While indecency restrictions have always been a fact of life for broadcasters, increased enforcement actions and vastly increased fines should give even experienced broadcasters pause. If you have not recently reviewed your policies with your staff, now would be a good time to do so.

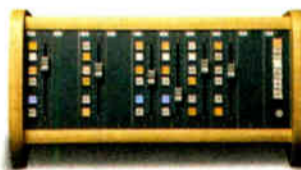
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# Radiothon Has Unintended Consequences

by Ken R.

Six years ago when WTMX(FM) in Chicago joined the Children's Miracle Network, its goal was to raise some money for a local hospital. Hundreds of other stations set out to accomplish the same thing in their own markets. But something else happened to the people at "101.9 FM, The Mix" that was unexpected. The 36-hour Radiothon has had a deeper personal impact for many who work there.

"You give up your time and your airwaves for these kids, but your station and your listeners benefit too," said Program Director Mary Ellen Kachinske. "Parents whose children perished because of disease or accidents came back and shared their stories with us, and that probably helped someone else survive. Most humbling is that the doctors and the people that work at the hospitals came up to us and thanked us. They were so grateful for everything we did. We're on the air for 36 hours but they are there working every day."

"Our participation made us all feel like we made a difference and it just makes all the annoying little problems in our lives melt away."

## The bucks start here

In August of 2005 WTMX presented a check for over \$2.1 million to the charity, the result of not just the 36-hour Radiothon but an entire year of effort. A year of producing audio montages featuring morning talents Eric Ferguson and Kathy Hart interviewing children and doctors. A year of locating sponsors willing to do more than just buy commercials. (One car dealer donated a Toyota.)

In six years, the station has raised more than \$8.4 million for the hospital; the money has been used for "pediatric research, patient care, education and advocacy." After each of the annual Radiothons, the WTMX staff has taken a short break and then started over preparing for the next year's event. This year's event was scheduled for Aug. 11-12.

In April of this year, when the NAB Crystal Awards were announced in Las Vegas, three of the 10 stations given awards for service to the community were owned by Bonneville International, including WTMX. The station also was the 2005 Children's Miracle Network Radiothon Station of the Year.

The Children's Miracle Network is a charity based in Salt Lake City. Its 170 hospitals in the United States and Canada treat 17 million children every year for any and every disease. More than 150 TV stations and 250 radio stations were involved in fund-raising for it in 2005.

It might be surprising to learn that during each Radiothon, WTMX plays music and commercials between the more emotional live interview and pre-produced segments featuring co-hosts "Eric and Kathy."

"People need a mental break," said Kachinske. "But our sponsors are very important to us. Food clients donate lunch, extra money for engineering and everything else is paid for by Foresters, a company which offers financial planning and investing services. It underwrites all of the Radiothons associated with the Children's Miracle Network by paying for broadcast lines, rental of phones and other expenses."

Each summer the entire Radiothon is streamed online as audio and video at [www.wtmx.com](http://www.wtmx.com), so the public can see co-



Eric Ferguson, far left, and Kathy Hart, right, pose with kids from Children's Memorial Hospital

hosts Eric and Kathy, a team now celebrating 10 years in the morning slot at the station. But many other people behind the scenes also help make the event possible. These include morning show Executive Producer John "Swany" Swanson and Creative Services Director Steve McKenzie.

"They take the stories from Eric and Kathy's interviews and weave them together with songs that are appropriate and meaningful," said Kachinske. "Jessy Ferdman, our promotion director, works

with the hospital to schedule interviews and she also involves our clients who want to participate."

## View inside

Radiothons are planned carefully. The president of the Radiothon division of Children's Miracle Network is ex-radioman Robert Lind.

"We raise about \$50 million a year nationally, and the important thing is that every dollar goes right to the local hospitals," he said. "My staff of 10, our travel

and all our expenses are underwritten so we never send anyone a bill. Our sponsor, Foresters, does get some on-air branding, but they literally write the check to pay for all these services. None of the money collected during the Radiothon goes to WTMX or any other station."

Lind said Children's Miracle Network provides participating stations with guidance and ideas, but the real work is done locally.

"Eric and Kathy broadcast from the lobby of Children's Memorial Hospital in Chicago, so they have access to hundreds of children, doctors and nurses," he said.

Co-host Hart is not immune to the emotional tug of the Radiothon.

"I think about those families often and have gotten to know some of them," she said. "We keep in touch with a variety of events throughout the year or via e-mail. Seeing how strong these families are inspires me to love life, let the little things go and appreciate every minute I have with my family."

Ferguson sees his participation as more than just another part of the job.

"I am stunned and humbled by the outpouring of support from our listeners. It is really a special 36 hours," he said.

On June 12, NAB presented WTMX with its Service to America Partnership award for the station's participation in this annual event. For more details on the Children's Miracle Network Radiothon, visit [www.cmn.org/radio](http://www.cmn.org/radio).

Ken R. is a frequent contributor to Radio World.

# Public Podcasts Bumped Around

## iTunes Closes Public Radio Category, Shifts NPR Content to Themed Areas

by James Careless

Apple's iTunes podcasting directory at [www.apple.com/itunes/podcasts](http://www.apple.com/itunes/podcasts) has deleted "Public Radio" from its list of categories. By doing so, iTunes removed a quick, easy and obvious way for National Public Radio and its member stations to reach listeners on its site.

iTunes listeners now must browse for public radio podcasts based on categories such as News & Politics, or by clicking on the Public Broadcasting button on the iTunes main page. By doing so, listeners are taken to a page on which NPR is listed along with the BBC and CBC Radio (Canada). However, it's not quite the same as having Public Radio front and center for everyone logging onto the iTunes podcasting site.

## Same content

Asking about the impact, Radio World sought an interview with an Apple iTunes executive. A company spokeswoman replied via voice mail, "We have simply changed the category navigation structure to make it easier for people to find stuff that they were looking for, so the content remains the same."

Apple alerted NPR and public stations of the category deletion before it happened, said Maria Thomas, vice president and general manager of NPR Digital Media.

How might this affect how people access NPR podcasts on iTunes? "We won't know that," Thomas said. "We don't get user data from iTunes, and they don't share that data with us."

iTunes' decision to remove its Public



Radio category underlines a simple truth, said Richard Winefield, vice president of interactive and educational services at KQED in San Francisco: "In the digital content world, the aggregator is king."

The experience points up that content aggregators such as iTunes can juggle categories to best meet the needs of their users as they see them — and perhaps deplete a podcaster's audience by making these podcasts harder to find.

Is this a serious problem? It depends on how much NPR relies on iTunes for its podcast listenership. At present, the impact of the change hasn't been felt, at least not to an extent that it can be identified and calculated.

The fact that iTunes dropped a category may be insignificant. It does point up the power of aggregators to decide who gets exposure. Such power is familiar in the grocery retail trade, where competing manufacturers not only fight for shelf

space but pay grocers to ensure prime placement before consumers. It's the reason a popular product may have only the most marginal of display space and quantity, while a not-so-favored competitor may dominate the aisle.

As with real estate, online "location" is precious. Perhaps the industry will find itself debating how and whether aggregators demand some form of compensation for preferential placement on their sites. An NPR spokeswoman told RW that the network has never paid or been asked to pay a premium for placement on iTunes.

For her part, NPR's Maria Thomas isn't crying over spilt milk when it comes to the change at iTunes. In fact, she's trying to put a good face on the situation.

"One of the problems with the old Public Radio category is that there were a lot of podcasts in there that weren't from public radio at all," she said. "If you understand how the process works, it's up to podcasters to decide which category they fit into, with no policing done by iTunes to ensure that their choice is actually right."

"As a result, the Public Radio category often included podcasts that weren't public radio as we would define it," she said. "As well, there was a lot of smut that got in there, which we saw as polluting our brand."

On a larger scale, the reminder that iTunes and other aggregators can change the degree of exposure a podcaster gets means it's up to the content producer to promote themselves. In the case of NPR, "Public radio will now need to rely as we always have on the quality of our content," said KQED's Winefield. "Moreover, we cannot rely on the public radio label to draw users to us. They're going to have to know us and to love us, to be motivated to search out our podcasts."



PRODUCT EVALUATION

## AirTools 6200 Has Split Personality

*Symetrix Processor Offers 256 Memory Locations, Dual Mono, Stereo Modes*

by Charles Dubé

Considering the popularity of the venerable Symetrix 528E and 422, and evolution into DSP technology inherent in the Symetrix 628, I suspect Symetrix thought hard about where to take its next generation of microphone processor. With a portfolio of great-sounding and affordable equipment, perhaps making one that is

ment that's geared to better critical listening. When you see the graphic interface that Designer offers, you'll understand how easy it is to modify settings and have before you a well thought out representation of your signal paths. In this day of waveform editing and laptop studios, most will feel at home here.

The signal flow through the dual processor is shown in the top half of the

Some knowledge of audio basics will be helpful for making good choices in tailoring sound; the 6200's manual offers some advice here. Filters can be selected for various slopes: 6, 12, 18 or 24 dB/octaves, along with "peak" versions for a sharper response. A four-band parametric EQ can boost or cut as expected; the DSP's group delay advantages come to mind.

The Shelving Filter provides an easy-to-use, general EQ feature that can, for instance, cut rumble. Dynamic range is controlled by the Compressor/Expander function, which might reinforce a voice



even more flexible was the next big step. The AirTools 6200 by Symetrix is designed to meet a myriad of needs.

The AirTools 6200 is a single rack space dual digital voice processor that can act as two separate units — electronically, if not physically — in the "dual mono" setting, or as an interactive stereo processor. The rear features two analog inputs, two analog outputs, as well as two AES outputs (configurable).

AES input is available by way of a HomerLink CAT-5 connector on the rear panel. Symetrix offers the accessory model number 810HLSY adapter cable 18-inch AES (XLR)-to-HomerLink cable for digital audio or sync input into the 6200.

### Control by Designer

The building blocks of the 6200's DSP signal chain are recognizable via the 6200's Designer software, compatible with most post-Windows 98 PCs. The limitations in navigating through a menu of settings using a rotary encoder, a couple of momentary switches and a small blue LCD display as found on the 6200's face are overcome with Designer.

You can control the 6200 via a LAN (i.e., switch), direct via USB or RS-232; handy for making adjustments outside of the studio, perhaps even in an environ-

ment that's geared to better critical listening. When you see the graphic interface that Designer offers, you'll understand how easy it is to modify settings and have before you a well thought out representation of your signal paths. In this day of waveform editing and laptop studios, most will feel at home here.

Each stage can be turned on or off independently. Various frequencies and amplitudes can be modified by sliding virtual pots, direct entry of numbers into windows, or by clicking on points in the graph itself and dragging them to desired positions. Input and output levels are adjusted using controls, and metering, on the left and right sides of the screen in a logical fashion.

When selecting the stereo mode, the settings of Program One are copied to Program Two. The 6200 can then be used as a stereo program processor. The mic pre-amplifier stage can handle signals from as low as -80 dBv up to peaks of +24 dBu, giving it a versatile range of input capability. In the dual mono mode, two separate microphones can each be sweetened accordingly, even in different rooms.

that is simply too variant in its proximity to the mic capsule. If you like your new settings, be sure to save them. If you dislike the changes, blow them out and start from scratch. The 6200 encourages the user to "play."

The sound quality was certainly on par with its lineage, if not better. The amount of flexibility available here may be too much for some applications, but it's good to know you have it at your disposal, and you don't lose anything by having them around. The signal is modified by complex algorithms as opposed to routing through multiple analog stages, which can add noise and various distortion products.

The 6200 offers 256 memory locations, which will save levels for the various stages, including inputs and outputs. You can save settings for one Program path alone, or two for a stereo application. Each location is named with up to 20 characters, so each talent can have their own individual setting easily recalled.

### Product Capsule:

**Symetrix AirTools 6200 Digital Voice Processor**

#### Thumbs Up

- ✓ Flexible, detailed software control (Designer) with great graphics
- ✓ A veritable audio toolkit
- ✓ Dual processor configuration
- ✓ Personally configurable ("programs")
- ✓ Wide range of input/output levels
- ✓ Well-written manual

#### Thumbs Down

- ✓ Requires a fair amount of audio knowledge to appreciate fully
- ✓ Front-panel controls limited
- ✓ No AES input
- ✓ Premium price

PRICE: \$2,099

CONTACT: Symetrix in Washington state at (425) 778-7728 or visit [www.symetrix.com](http://www.symetrix.com).

In addition, the 6200 can be set up to respond to MIDI commands via the Air Tools RC-1 MIDI controller. Hardwired pinouts allow for an old-fashioned mechanical bypass switch to be employed should this be desired, and up to two parameters can be programmed to be controlled by 10 k-ohm analog pots. The AES output can interface with consoles as a 1/2 dual mono pair, as opposed to stereo AES. Splitting the different Programs to different console inputs is easy.

To accommodate an interface to Symetrix's HomerLink system, which is designed to transmit four mono-bidirectional AES audio channels to devices up to 100 meters apart over CAT-5 cable, the 6200 contains an RJ-45 designed for use as a HomerLink output or sync input. In addition, TC89 or TC90 time code can be fed to the 6200 to drive the unit's real-time clock.

Charles Dubé is chief engineer at WFCR(FM), Amherst, Mass.

PRODUCT GUIDE

## NexGen Digital 2006 Now Available

Prophet Systems released NexGen Digital 2006, the most recent version of its automation software, which the company says adds features requested by NexGen users such as better sounding and easier to produce podcasting content.

Users can burn podcasts straight to audio or data CD using Podcast Wizard and Podcast XLR8R. Additionally, users will be able to pre-schedule podcasts to be automatically created and transmitted.

NexGen 2006 also eases automated backup of station content in the case of both internal disasters such as inexperienced users, and external ones such as extreme weather.

Prophet says users also can restore voice tracks and entire logs, and that the VoiceTRAC feature has been enhanced to ease the identification of voice tracks, as well. Titles now include station, date, hour and position within the hour. If stations have to do retakes on voice tracks, NexGen 2006 lets users undo and redo them instead of trying out multiple takes.

NexGen Digital 2006 is available now.

For more information, contact Prophet Systems in Nebraska at (877) 774-1010 or visit [www.prophetsys.com](http://www.prophetsys.com).

### Product Showcase



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If you are interested in purchasing this limited edition Heil Classic Pro broadcast microphone, visit [www.musiciansfriend.com](http://www.musiciansfriend.com) and place your order while this commemorative microphone is still available. You won't believe the price! Just think of what a great promo piece this will make at your next remote event. Not only does it look authentic, it sounds fantastic.

**All you need to do is register online at [radioworld.com](http://radioworld.com). The winner will be selected in a drawing held in Dallas at the NAB Radio Show on September 21, 2006.**



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## USER REPORT

# VMG Pairs SPL MixDream, MixDream XP

by Tom Gioia & Andy Snitzer  
Principals,  
Visionary Music Group

This user report originally was to appear in the *Consoles, Mixers and Routers Buyer's Guide*, July 5.

**BERGEN COUNTY, N.J.** In July 2004, Visionary Music Group ([www.visionarymusicgroup.com](http://www.visionarymusicgroup.com)) upgraded to a Pro Tools|HD system. As we marveled at the editing, recall and mix control, we

separate individual outputs from their DAW and sum them to stereo in the summing device rather than in the DAW. Many pros mixing on consoles or through summing devices feel there is increased headroom, depth, more separation and bigger stereo field. We were skeptical at first, but decided to evaluate a system ourselves.

After considering several units we decided on the SPL MixDream system to evaluate. We tested two Apogee DA16x digital-to-analog converters and a SPL

encing it first hand.

As we listened back, it became apparent that the more we split out tracks in the DAW and summed in the analog domain, the better our mixes sounded.

The most striking effect was the

Also notable was the depth, width and height we regained in our stereo field — our soundstage became bigger, deeper and wider. The MixDream also has a set of Lundahl transformers that can be switched in or out. Having the transformers in the path extended the feel of the low end and warmed everything up nicely when pushing the levels.

We recommend the SPL MixDream

## The MixDream has a set of Lundahl

transformers that can be switched in or out.

Having them in the path extended the feel of the low end, and warmed everything up nicely when pushing the levels.

still felt something was missing in our final mixes.

Since its inception in 1994, VMG has composed and produced hundreds of songs featured on network television. Visionary began expanding into music production in 2001. Production partner and Pro Tools specialist Andy Snitzer (who's worked with Paul Simon, Bon Jovi and The Rolling Stones) brought his expertise to the team in 2003.

Fast forward to April 2006, after mixing hundreds of pieces of music "in the box" — mixing in the DAW without a console — we felt things were slightly lacking. After speaking with mastering engineer Andy VanDette from Masterdisk NYC about our mixing concerns, he recommended a mix summing device.

Mix summing units allow the user to

MixDream and MixDream XP. This system would allow us 32 channels of analog outs from our Pro Tools HD system to be summed in the analog world of the MixDream.

### 'Large-console mixing'

We had just completed mixing a CD we produced for singer-songwriter Matt Colligan that was ready for mastering. We re-routed his mixes out of the Apogee converters, through the MixDream summing system, and bounced back into Pro Tools for a stereo mix.

The first thing we noticed was the gain makeup needed. We were adding as much as 8 dB of gain on our faders to get our stereo mix close to the 0 dB mark. Many pros using the system talked about the increased headroom; we were experi-



Tom Gioia and Andy Snitzer in front of Visionary Music Group's MixDream system.

"mono" tracks. On the SPL MixDream units, inputs may be switched to mono only, having them in the center of the stereo field. We set up lead vocals, bass, kick and snare switched to mono. Normally mixing in the box, you would send any signal going to the center of the stereo field to your DAW's main left and right outputs, and pan it center. Sending them to the MixDream in mono brought an unbelievable amount of focus to these parts; they seemed to jump out to the front and center of the mix.

and MixDream XP units for producers and studios seeking professional large-console mixing results. It is a fraction of the cost and size of a large console, and yields all of the sound qualities. The MixDreams coupled with the Apogees brought back the sonic attributes to an analog mixing console, and allowed us to keep the recall and mix tools we love in our Pro Tools system.

For more information, contact SPL USA in California at (866) 4 SPL-USA (477-6872) or visit [www.spl-usa.com](http://www.spl-usa.com).

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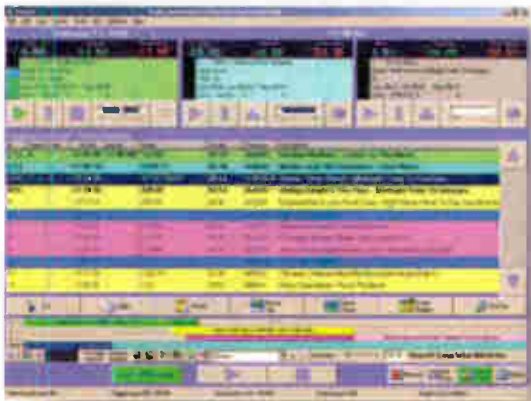
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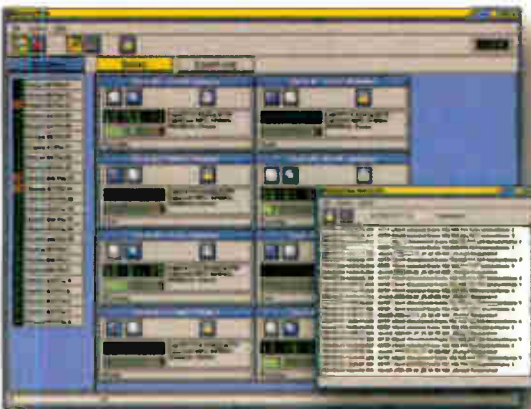
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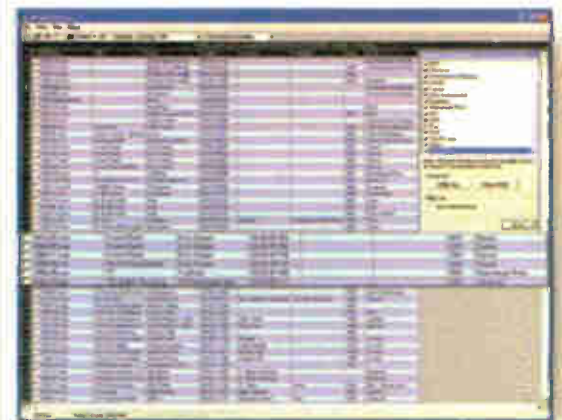
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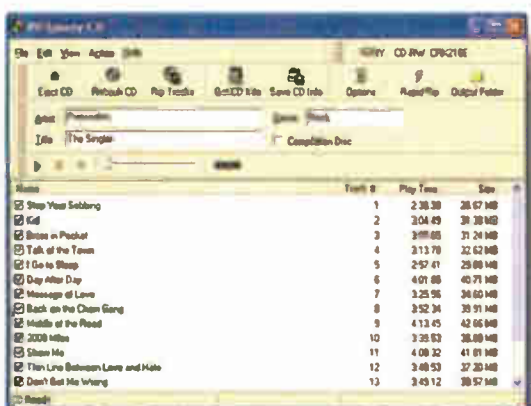
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## PRODUCT EVALUATION

# Sennheiser's Take on Evolution Flexible

*System's Comander, Battery Life, Tx Options Let Talent 'Work the Crowd' During Remotes*

by Paul Kaminski

My test of the Sennheiser Evolution EW145 G2 series system, which consists of a receiver with handheld transmitter, began as a solution to an issue we had at American Legion Post 758, Johnson City, N.Y.

Polka broadcasting legend Bill Flynn was scheduled to conduct a remote broadcast from our Post Home on his local Sunday morning program on WCDW(FM), Susquehanna-Binghamton.

We wanted him to have maximum flexibility to roam the 40-x-60-foot hall to speak with Legionnaires and patrons during our monthly pancake breakfast, as they donated batteries that would be sent to troops in Iraq. Being tied down to one spot with a wired microphone wouldn't give us that flexibility.

A few days before our remote, we received the system. The Evolution EW145 G2 receiver has more than 1,440 UHF frequencies on which a user can get clear sound. Operators can use the Auto-Scan feature to find an open frequency, or can input one manually. That flexibility can pose a problem if frequencies are not coordinated among multiple system users so that interference is eliminated.

A call to Chapter 1 of the Society of Broadcast Engineers and its Frequency Coordinator Gino Ricciardelli put us on the right track. I told Gino what I was going to do and what frequency I planned to use; he said that frequency would pose no problem or interference.

If you have ever had a strange signal come up on your wireless receiver, you'll appreciate what SBE does with frequency coordination. It's always better to coordinate, even for relatively simple remotes like ours.



## Product Capsule:

**Sennheiser Evolution EW145 G2 Wireless Microphone System**

### Thumbs Up

- ✓ Easy install
- ✓ Multiple outputs (XLR & 1/4-inch) at mic and line level
- ✓ Long battery life for handheld; AA alkalines less expensive than 9Vs
- ✓ Pilot tone squelch keeps channel quiet until Tx is turned on
- ✓ Good S/N
- ✓ G145 supercardioid element reduces feedback

### Thumbs Down

- ✓ One-piece transmitter can drop and crack on hard surfaces

PRICE: \$835

CONTACT: Sennheiser USA in Connecticut at (860) 434-9190 or visit [www.sennheiserusa.com](http://www.sennheiserusa.com).

ters. If you are using multiple Evolution wireless systems, you can program labels for the LED displays to identify the specific channels being used.

How durable was it? Operator headspace caused me to drop the transmitter by accident, which cracked the case as it fell from a ladder used so I could adjust levels on the receiver. The audio stayed clean with no distortion. You wouldn't know the transmitter was dropped unless you saw the case; you could not tell from listening.

My preference would be to opt for a plug-on transmitter, as our TV news brethren use on their wireless systems. In most everyday routine situations, the integrated microphone and transmitter system will work fine.

Flynn's system for remotes doesn't normally include a wireless.

"When you are in one spot, people you might want to talk with might not be able to come to your position if you're tied down. I was able to walk and talk spontaneously and comfortably all over the room, which made the broadcast more entertaining," he said.

The broadcast was entertaining enough that our Legion Post collected over 2,000 AA alkaline batteries that day.

The list price for the Sennheiser EW135 G2 system is \$835. We've seen an Evolution system advertised for under \$500. The flexibility, sound quality and relative ease of operation for the money makes this a good value from a dollar-and-cents perspective.

From the operational side, the system helps the talent to be less concerned about being close to the remote mixer/phone setup (because of the microphone cord), and it helps the talent to be less restricted and more comfortable, and to interact better with the crowd at the remote.

Comfort and interaction are intangibles, but if your station has air talent with the ability to work a crowd, like Flynn, remotes with such air talent are easier to sell. Easier sales translate into increased sales and a quicker payback for the expense.

Paul Kaminski is news director for the Motor Sports Radio Network and second vice commander of Frank A. Johnson American Legion Post 758.

E-mail him at [motorsportsradio@msrpk.com](mailto:motorsportsradio@msrpk.com).

The operator's manual for the EW145 G2 was easy to understand, making the installation as easy as connecting a mic with a long cord to a mixer, once we found out how to set levels and find channels. The evolution receiver fit nicely in a corner of our hall, and gave elevation to the diversity receive antennas for maximum range. A remote antenna harness assembly is available and fits like rabbit ears mounted on the back of the unit. A long XLR cable connected the system with Flynn's CellJack remote setup.

### Roam if you want to

The Evolution system is equipped with XLR-M and 1/4-inch outputs so the receiver output connects to both a remote system and, if necessary, a house PA system or mixer. The user menu has a choice of levels for the XLR output; we chose to keep the XLR output at mic level. Pilot Tone squelch keeps the channel mute until you turn on the transmitter.

The on-board compander gives the system good dynamic range, which is important when you feed audio into a narrow bandwidth system, like a cell phone circuit or dial-up telephone line. On a full-bandwidth system — 7 kHz audio response or better — it sounds like a wired mic.

Our handheld transmitter had the supercardioid microphone element, which was designated as an EW145 G2 system. The EW135 G2 has a cardioid business end. The super cardioid mic element helps if the talent works near PA speakers and there's a house mix involved (or in instances when the talent brings a boom box to monitor and leaves the sound up). Two AA alkaline batteries powered the transmitter during the four-hour remote.

The system also has options for a body pack transmitter and plug-on transmit-

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STEREO AUDIO ROUTING SWITCHER



### SS 16.16

The SS 16.16 provides audio routing of 16 stereo inputs to 16 stereo outputs. This type of routing allows any one stereo input to be assigned to any/or all stereo outputs. The SS 16.16 may be controlled via front panel encoder controls and/or a multi-drop RS-232 serial port. A 40 x 4 LCD back lit display provides for input descriptions and macro setup. Additional features: headphone amplifier with front panel jack and level control, front panel monitor speaker with mute switch and level control, internal audio activity/silence sensor with a front panel ACT indicator and rear panel open collector, and a 16 GPIO port. FREE Windows NetSwitch remote control software, which supports Serial, USB and Ethernet with the optional ESS-1 Ethernet to serial converter, is available for download. Installation is simplified with plug-in euroblock screw terminals.

STEREO SWITCHER



### SS 16.4

The 16.4 provides matrix audio switching of 16 stereo inputs to 4 stereo plus 4 monaural outputs. Matrix switching allows any/or all inputs to be assigned to any/or all outputs. The SS 16.4 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 or RS-485 serial port along with 24 GPIO's and input expansion port. Installation is simplified with plug-in euroblock screw terminals.

AUDIO CONTROL SWITCHER



### ACS 8.2

The ACS 8.2 provides matrix audio switching of 8 stereo inputs to 2 stereo plus 2 mono outputs. Any input assigned to output one has fading capabilities. Matrix switching allows any/or all inputs to be assigned to any/or all outputs. The ACS 8.2 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port along with 16 GPI's, eight relays, eight open collector outputs, and input expansion port. Installation is simplified with plug-in euroblock screw terminals.

STEREO SWITCHER



### SS 4.2

The SS 4.2 provides matrix audio switching of 4 stereo inputs to 2 stereo plus 2 mono outputs. Matrix switching allows any/or all inputs to be assigned to any/or all outputs. The SS 4.2 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port along with 16 GPI's, eight GPO's, and input expansion port. Installation is simplified with plug-in euroblock screw terminals.

DUAL STEREO AUDIO SWITCHER



### SS 8.2

The SS 8.2 provides crosspoint switching/routing with 8 stereo inputs, 2 stereo plus 2 mono outputs. 3 switching modes, I/O trimmers, internal silence sensor, selectable headphone and powered speaker level controls and outputs. LED VU meters, 16 GPI's, eight relays and eight open collector outputs. Multi-drop RS-232 and RS-485 serial ports, plug-in euroblock screw terminals and input expansion port.

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## ◆ READER'S FORUM ◆

Continental  
Waveform

For the past several months, I've seen the spectrum analyzer waveform, provided by Continental Electronics, on the front page of Radio World (as on the cover of the May 10 issue). It attempts to persuade readers that the company's 816HD-25 is capable of meeting or exceeding the NRSC-5 hybrid emission limits, and that's supposed to be a big deal.

I recognized the screen trace as coming from an Agilent E440x-series spectrum analyzer, because I have an E4401B unit myself and have used it to provide several stations with proof that their HD systems are operating legally, according to the FCC rules 73-317, where emissions from 120-240 kHz away from the carrier frequency need to be at least 25dB below the analog carrier level.

Several items in the Continental screen image are worth pointing out.

**I was able to observe at least one local station that already meets the NRSC-5 emission mask the same way Continental did ...**  
**So what's the big deal?**

— Bob Meister

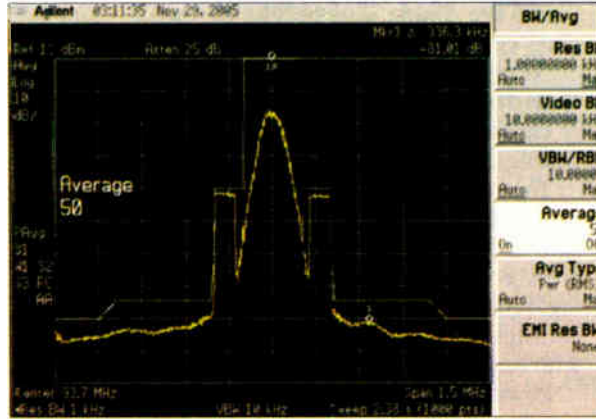
First, the reference level for the trace (top line) is +11 dBm. The top of the carrier signal is about 17 dB lower, at -6 dBm. This is quite a healthy signal, one that likely came from the transmitter itself, or a very close antenna, possibly in the same building as the transmitter.

Second, the trace has been averaging for 31 scans. Each scan takes 2.38 seconds. This means the sample has only been averaged for about 74 seconds, or just over a minute. And it's just that — an average. The FCC emission limits are usually obtained using the maximum or peak-hold capability of the spectrum analyzer. Averaging puts a whole new

twist on the displayed information.

Third, the NRSC-5 mask itself seems to require that the digital sidebands be 40 dB lower than the analog carrier. The FCC's limit is only 25 dB down, but of course they aren't expecting digital sidebands to be there; that's just the limit for all other emissions.

The NRSC-5 mask seems to indicate the analog carrier peak is about 15 dB below the actual maximum limit imposed by the mask, which puts the digital sidebands about 25 dB below the analog carrier level. If an HD station actually set their analog carrier to reach the maximum limit of the mask, the digital sidebands would have to be 40 dB lower, which would be 1 watt for a 10 kW transmitter. Maybe I don't understand what the mask is trying to accomplish.



NRSC-5 mask, my noise level would have been about 75-80 dB below the reference level at the top of the screen. If I had a stronger signal, I could have gotten the noise floor down at least 90 dB.

The point is, I was able to observe at least one local station that already meets the NRSC-5 emission mask the same way Continental did, in non-laboratory conditions. So what's the big deal?

Bob Meister  
Hamden, Conn.

*RW asked Continental Vice President of Engineering Dan Dickey to reply to Bob Meister's question:*

Our market research indicated that many engineers took for granted that a simple, single amplifier transmitter was not practical at powers above 7 kW. The ad was designed to show that the 816-HD transmitter will deliver more than 20 kW and meet the NRSC-5 spectral mask.

The spectrum analyzer we used is an Agilent ESA Series 4402. The RF sample is taken from the transmission line at the

output of the transmitter. The reference level is determined by measuring the amplitude of the unmodulated FM carrier. The reason the reference level and the top of the FM carrier are not the same is because the transmitter is being modulated.

The measurement is averaged over several sweeps. The resolution bandwidth of the analyzer is set to 1 kHz. For a significant portion of the averaging period, the carrier is not within the center 1 kHz of the channel because it is constantly deviating.

Averaging 38 sweeps is less than the 50 Ibiqity recommends, but is sufficient to demonstrate good performance.

Averaging digital signal spectra is not only common, but a necessary practice. The peak-to-average ratio of the HD Radio digital signal is approximately 6-10 dB and the peaks occur at random times. Averaging allows comparison of the power ratios between the analog and digital signals.

The power ratio between the analog carrier and the digital sidebands is specified to be -20 dB. The digital power is evenly divided between the upper and lower sideband, so the ratio of the power contained within one group of digital sidebands will be -23 dB relative to the analog carrier power.

The digital power in one sideband is evenly dispersed across a 70 kHz bandwidth. When averaged using a 1 kHz measurement bandwidth, the following conversions apply:  $-23 - (10 \times \log(70000)) + (10 \times \log(1000)) = -41.45$  dBc. This says that the digital sidebands should reappear at approximately -41.45 dB relative to the unmodulated analog carrier reference level, which agrees closely with the measurement in the advertisement.

## Correction

On page 18 of the July 5 issue, the Web address for D.A.V.I.D. Systems was listed incorrectly. The company's Web address is [www.davidsystems.us](http://www.davidsystems.us).

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## ◆ READER'S FORUM ◆

### 'Change for the Sake of Change'

I was surprised that Paul McLane allowed the name-calling in Ed Montgomery's guest commentary, "IBOC Naysayers Fear Change" (May 24). Radio World has always been, at least prior to this, a professional journal.

Change is good, as long as the benefits outweigh the negatives, and the change is demand-driven. Let's review these positives and negatives as they apply to AM IBOC.

On the positive side, it is claimed the recovered audio will be superior. I have heard IBOC on an expensive IBOC receiver, and while it is better, I was disappointed it wasn't better than it was.

Next on the list is multiple audio sources being transmitted by one station running IBOC. This may or may not be a plus to an already financially strapped broadcaster. Adding audio streams does cost money.

Ed claims, "The primary service is the area that needs signal free from most

daytime transmission.

Add the possibility of an out-of-phase co-channel skywave interfering signal at night, and one can see how the few benefits quickly dissolve.

Now, consider the on-air problems. Due to the buffering delay of the digital component, monitoring off-air would not be effective if the broadcaster is running live. Live cutaways or remote broadcasts would be nightmarish.

The remaining analog component is limited to 5 kHz, rendering a sound quality similar to that of a telephone. But it too would have to have the same delay as the digital signal, or else reception in other than primary service areas where Ed claims nobody "needs" to listen would be hectic, when the receiver switches from digital to analog or vice versa.

IBOC is change for the sake of change. It does not address the problems AM broadcasters face. It does grease the pockets of Ibiqity, and probably the FCC as well.

I found it ironic that in the same issue there was an article about WJBC(AM) winning the NAB's Marconi Radio Small

**IBOC is a spectrum hog that requires three times as much space as analog signals, and with only a slight gain in audio quality.**

— Paul S. Lotsof

noise with a good-fidelity stereo signal, at a minimum. The IBOC system can deliver that." It may be able to. But for that matter, so could C-Quam or Kahn stereo, and without interference.

Let's look at the negatives. The first and most obvious is the interference. While Ed decreed, "Few people have a need to listen to a station a time zone away anymore," his simplistic view disregards a dangerous aspect of this interference.

Consider a broadcaster who monitors a station for EAS in a town 40 miles away. This station is on 1570 kHz, and is not broadcasting IBOC. But in the opposite direction there is a station 30 miles away on 1560 that *is* broadcasting IBOC. The sideband interference from the IBOC broadcaster probably would keep the EAS receiver from properly decoding alerts.

IBOC is financially undesirable from the standpoint of a smaller market broadcaster. Initially, the broadcaster has to pay a licensing fee to Ibiqity. This alone will be a hardship. Then the reliable Gates transmitter will have to go, as it is not capable of accepting the square wave modulation. Add the necessary exciter costs.

Next, if the station is not broadcasting from the transmitter site, a new digital compatible STL will need to be ordered. And if the broadcaster is running directional, he may have to have his antenna phasing system redone because the tilt introduced by the much wider signal would cause the IBOC decoding to be false. This could total as much as \$100,000. And this is aimed mainly at

Market Station of the Year award ("Bloomington's WJBC: Life Begins at 80"). WJBC is a 1 kW non-directional on 1230. Their most recent Arbitron had a 12+ share of 15.9.

It's not the medium, it's the message.

Jerry Arnold


Director of Engineering  
WPRS(AM), WACF(FM),  
WMGI(FM) and WWSY(FM)  
Terre Haute, Ind.

Montgomery's main point seems to be that anyone who disapproves of IBOC opposes progress. He starts out by recalling the early days of automobiles when horse enthusiasts expressed their disdain for the newer form of transportation.

To continue his analogy a bit further, suppose Ford's first cars were so wide that they required three lanes of traffic. Suppose further that Ford had so much money he was able to convince the highway officials his invention was a wonderful thing. Would the horse advocates have had any right to demand that the car go back to the drawing boards and be replaced with something that didn't hog so much road?

IBOC is a spectrum hog that requires three times as much space as analog signals, and with only a slight gain in audio quality. A few years of delay would be a small price to pay to get a digital system that doesn't cause interference, and which uses spectrum resources efficiently.

Paul S. Lotsof  
Manager  
KAVV(FM)  
Benson, Ariz.



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## GUEST COMMENTARY

# Glass Ceilings: Treat the Problem

by Eric Shoars

Glass ceilings are barriers that prevent women from achieving executive positions. Those ceilings remain as powerful now as they were 20 years ago when the term was coined by the Wall Street Journal.

Glass ceilings have sparked discussion and debate as to their causes, effects and possible solutions. However, I have found that the flaw with the debate and efforts to break through glass ceilings is that, 20 years later, the focus remains on the effects of glass ceilings and not the problem. It is akin to treating a headache with an aspirin. The symptom is being treated rather than what is causing the headache itself.

My own two decades in the radio industry have provided me with the opportunity to see how powerful glass ceilings are. Radio's power positions are male-dominated; 85 percent of those power positions are held by men. There are many extraordinary women in my industry who have been unable to achieve power positions because they are women.

This led me to conduct a nationwide research project on the issue of glass ceilings. I wanted to learn more about how women are being held back and how glass ceilings are overcome.

## Beyond flat

In my research I have found that people hold two primary assumptions about glass ceilings:

- all glass ceilings are the same, and
- by addressing issues such as disparities in the number of women in executive positions and inequities in pay between men and women, we can start to elevate women to a level playing field with men.

Illustrations of glass ceilings in books and magazine articles traditionally have shown these ceilings as flat. This is the modern equivalent of saying the world is flat.

If we take the ceiling metaphor to its logical conclusion, we must accept that just as ceilings in houses can be flat, vaulted or cathedral in shape, so too can glass ceilings in business have different shapes. This would explain why glass ceilings vary from organization to organization and industry to industry.

Some women think glass ceilings aren't as much of a problem because, in their industry, the ceiling is higher. Women in other industries may hit their ceilings right away.

The continuing challenge is that glass ceilings are invisible; it is difficult immediately to recognize the shape and location of ceilings from industry to industry. If we understand all the factors involved and use them as guideposts to diagnose industries and individual organizations, we can better

"see" the shape and height of those glass ceilings.

## Gender

Gender is a factor in creating glass ceilings, but not the only factor.

Too much of our focus on glass ceilings is on male vs. female as their causation. Research has shown that there are six factors (or panes) in constructing, reinforcing and deconstructing glass ceilings. Each of the factors interacts with each of the corresponding factors.

Power positions and gender construct glass ceilings. Organizational culture and societal roles reinforce glass ceilings. Feminism and mentoring deconstruct glass ceilings.

## Constructing

Power positions are executive positions in upper levels of businesses such as vice president, president, CEO and the board of directors. If men who occupy those power positions do not believe women have the necessary aptitude for executive positions, women will not be promoted when vacancies occur.

Gender in the business world reflects that the gender in power (men) has control over the destiny of the gender seeking power (women) and exercises it accordingly to keep the out-group from becoming part of the in-group.

## Reinforcing

Organizational culture reinforces the attitudes — spoken and unspoken, written and unwritten — of those in power positions and can be passed down from generation to generation like an organizational heirloom. An organization's culture can mirror general society and its assumptions and attitudes.

For example, societal roles say that women can cook and men grill. Organizational culture makes similar assignments: men in the boardroom, women are in middle management. As organizational culture reinforces power positions, and societal roles reinforce gender assignments, glass ceilings are strengthened. However, there are two forces that counteract and deconstruct the constructing and reinforcing factors.

## Deconstructing

Feminism has been characterized as looking through the lens of gender and seeing how it matters. Feminists are challenging people in our society to look through the lens of gender and seeing how women in business matter, particularly in executive positions.

Mentoring has been a recommended strategy to assist women past the invisible barriers that hold them back. However, research shows that female-centered mentoring (women mentoring women) is more effective than male-centered mentoring.

This is not to say that men cannot mentor women: they can. However, the advantage of female-centered mentoring can be summed up in one word: balance. Women are better at helping other women in providing perspective on balancing life issues at home and at work. Male mentors may be able to sympathize with the challenges women face on a daily basis but female mentors can

empathize with their protégés. They've been there, done that.

## Mentoring and advocacy

However, when the mentoring relationship ends, the protégé has new knowledge and skills but is in no better position to break through glass ceilings. The protégés lack the means and connections among key organizational decision makers to rise to the positions to which the protégés aspire.

Therefore, mentors must be *advocates* for their protégés. It is imperative for women in executive positions to become champions for their protégés and actively participate in the deconstruction of glass ceilings. The deconstruction of glass ceilings is a grassroots effort. We cannot depend on legislation or mandates to level the playing field for women.

## Radio's glass ceilings

The group Mentoring and Inspiring Women has issued a report regarding the percentage of women managing radio stations that provides insight on radio's glass ceilings.

The report states that, of the 120 groups owning 12 or more commercial radio stations, 18.5 percent (890) of the 4,814 stations owned by these groups

**Only when we recognize the systemic nature of glass ceilings and how they are constructed, reinforced and deconstructed can we make progress in achieving parity for women in the business world.**

are managed by women. Entercom (24 percent; 1,155), Clear Channel (20 percent; 962) and Citadel (19 percent; 914) were above the industry average, while Cumulus (17 percent; 818), and Infinity (15 percent; 722) were slightly below.

However, the more telling number is this: 42 groups, including Jefferson-Pilot, Greater Media, Nassau Broadcasting, New Northwest and Midwest Family, *have no female general managers*. Thirty-five percent of these 120 radio ownership groups have no women in those positions. That number reflects the consolidated ownership groups and doesn't take into account the nearly 7,186 remaining commercial radio stations in the United States.

These numbers give us a clear indication of the height of radio's glass ceilings.

According to the January 2006 MIW Gender Analysis, female general managers have risen from 11.1 percent in 1995 to 14.8 percent in 2006, while female program directors have risen from 8.2 percent in 1995 to 8.8 percent in 2006.

MIW spokesperson Joan Gerberding states, "If station managers had this little amount of growth in their revenues over a 10-year period, they would not keep their jobs. Yet we accept it in areas

of diversity growth. Now on the bright side, since 1995, there has been a 21 percent increase in female general sales managers. In fact, women account for nearly one-third of all general sales managers of all radio stations in the country. Clearly we (women) can bring the money in." [Ed. Note: MIW does not currently report on female engineer statistics.]

## The future

Glass ceilings will remain as powerful as they are as long as men and women alike focus on their effects rather than their cause. Glass ceilings are not uniform in shape, and gender is not the only factor in creating glass ceilings. Only when we recognize the systemic nature of glass ceilings and how they are constructed, reinforced and deconstructed can we begin to make true progress in achieving parity for women in the business world.

For the radio industry, there are some key components to get more women through glass ceilings. The first component is to recognize that grassroots initiatives work better than global initiatives. That is, we cannot rely on governmental legislation nor FCC mandates to solve the problem. We must solve the problem from the bottom up — one organization, one company, one industry as a time.

Second, informal mentoring programs should be encouraged by organizations. Promising executives should be identi-

fied and selected for mentoring. Women mentors are more effective for women protégés than male mentors, though any mentoring will be beneficial. Moreover, the mentors must take an active role post-mentoring to act as an advocate for their protégés to help them continue on a fast track to power positions.

In the bottom-line world of consolidated radio, it is in the best interest of the industry actively to recruit more women for power positions above the level of general sales manager. Women not only show value to the company, but they *create* value for the company. As radio seeks to increase profitability, revenue and value for its ownership groups and shareholders, we must recognize that women must be part of that process at the highest levels of our industry.

Radio has traditionally sought external partnerships to increase its relevance, vitality and growth. It is time for the industry to seek internal partnerships with the women in radio to help lead radio into its next Golden Age.

Dr. Eric Shoars holds a Ph.D. in organization and management from Capella University in Minneapolis, Minnesota. He has done research on glass ceilings and female-centered mentoring and is writing a book on his findings. Contact him at [eshoars@rconnect.com](mailto:eshoars@rconnect.com).

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◆ READER'S FORUM ◆

**Continental  
Waveform**

For the past several months, I've seen the spectrum analyzer waveform, provided by Continental Electronics, on the front page of Radio World (as on the cover of the May 10 issue). It attempts to persuade readers that the company's 816HD-25 is capable of meeting or exceeding the NRSC-5 hybrid emission limits, and that's supposed to be a big deal.

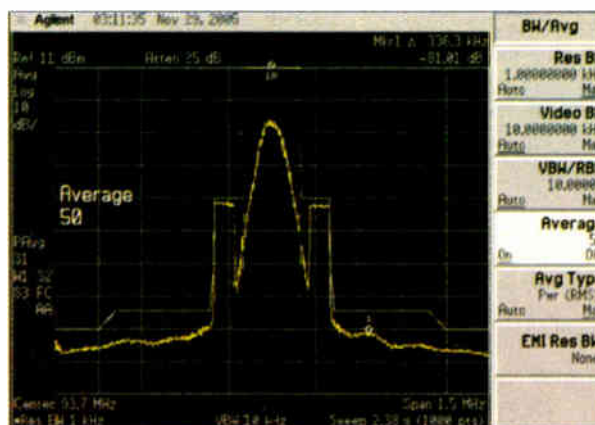
I recognized the screen trace as coming from an Agilent E440x-series spectrum analyzer, because I have an E4401B unit myself and have used it to provide several stations with proof that their HD systems are operating legally, according to the FCC rules 73-317, where emissions from 120-240 kHz away from the carrier frequency need to be at least 25dB below the analog carrier level.

Several items in the Continental screen image are worth pointing out.

twist on the displayed information.

Third, the NRSC-5 mask itself seems to require that the digital sidebands be 40 dB lower than the analog carrier. The FCC's limit is only 25 dB down, but of course they aren't expecting digital sidebands to be there; that's just the limit for all other emissions.

The NRSC-5 mask seems to indicate the analog carrier peak is about 15 dB below the actual maximum limit imposed by the mask, which puts the digital sidebands about 25 dB below the analog carrier level. If an HD station actually set their analog carrier to reach the maximum limit of the mask, the digital sidebands would have to be 40 dB lower, which would be 1 watt for a 10 kW transmitter. Maybe I don't understand what the mask is trying to accomplish.



NRSC-5 mask, my noise level would have been about 75-80 dB below the reference level at the top of the screen. If I had a stronger signal, I could have gotten the noise floor down at least 90 dB.

The point is, I was able to observe at least one local station that already meets the NRSC-5 emission mask the same way Continental did, in non-laboratory conditions. So what's the big deal?

Bob Meister  
Hamden, Conn.

*RW asked Continental Vice President of Engineering Dan Dickey to reply to Bob Meister's question:*

Our market research indicated that many engineers took for granted that a simple, single amplifier transmitter was not practical at powers above 7 kW. The ad was designed to show that the 816-HD transmitter will deliver more than 20 kW and meet the NRSC-5 spectral mask.

The spectrum analyzer we used is an Agilent ESA Series 4402. The RF sample is taken from the transmission line at the

output of the transmitter. The reference level is determined by measuring the amplitude of the unmodulated FM carrier. The reason the reference level and the top of the FM carrier are not the same is because the transmitter is being modulated.

The measurement is averaged over several sweeps. The resolution bandwidth of the analyzer is set to 1 kHz. For a significant portion of the averaging period, the carrier is not within the center 1 kHz of the channel because it is constantly deviating.

Averaging 38 sweeps is less than the 50 Ibiqity recommends, but is sufficient to demonstrate good performance.

Averaging digital signal spectra is not only common, but a necessary practice. The peak-to-average ratio of the HD Radio digital signal is approximately 6-10 dB and the peaks occur at random times. Averaging allows comparison of the power ratios between the analog and digital signals.

The power ratio between the analog carrier and the digital sidebands is specified to be -20 dB. The digital power is evenly divided between the upper and lower sideband, so the ratio of the power contained within one group of digital sidebands will be -23 dB relative to the analog carrier power.

The digital power in one sideband is evenly dispersed across a 70 kHz bandwidth. When averaged using a 1 kHz measurement bandwidth, the following conversions apply:  $-23 - (10 \times \log(70000)) + (10 \times \log(1000)) = -41.45$  dBc. This says that the digital sidebands should reappear at approximately -41.45 dB relative to the unmodulated analog carrier reference level, which agrees closely with the measurement in the advertisement.

**I was able to observe at least one local station that already meets the NRSC-5 emission mask the same way Continental did ... So what's the big deal?**

— Bob Meister

First, the reference level for the trace (top line) is +11 dBm. The top of the carrier signal is about 17 dB lower, at -6 dBm. This is quite a healthy signal, one that likely came from the transmitter itself, or a very close antenna, possibly in the same building as the transmitter.

Second, the trace has been averaging for 31 scans. Each scan takes 2.38 seconds. This means the sample has only been averaged for about 74 seconds, or just over a minute. And it's just that — an average. The FCC emission limits are usually obtained using the maximum or peak-hold capability of the spectrum analyzer. Averaging puts a whole new

I set up my analyzer to match the settings used by Continental, then connected it to an outside 150 MHz vertical antenna (that was all I had available). I tuned it to one of the local stations broadcasting HDFS with two transmitters and two separate antennas. I saved the image when the same number of averaging cycles had passed. I added the NRSC-5 mask to the saved image after the fact; I didn't want to take the time to set up the mask in the spectrum analyzer.

I did have to use the analyzer's built-in preamp to get enough signal on the display, and there are at least two other stations (400 and 600 kHz higher) being picked up over the air, but for the most part, the signal seems to meet the NRSC-5 mask. This was done six miles away from the transmitter, in a real-life, less-than-ideal setup. There's not much I can do about other signals that raise the noise floor.

With the amount of gain I needed to view the signal and align it with the

**Correction**

On page 18 of the July 5 issue, the Web address for D.A.V.I.D. Systems was listed incorrectly. The company's Web address is [www.davidsystems.us](http://www.davidsystems.us).

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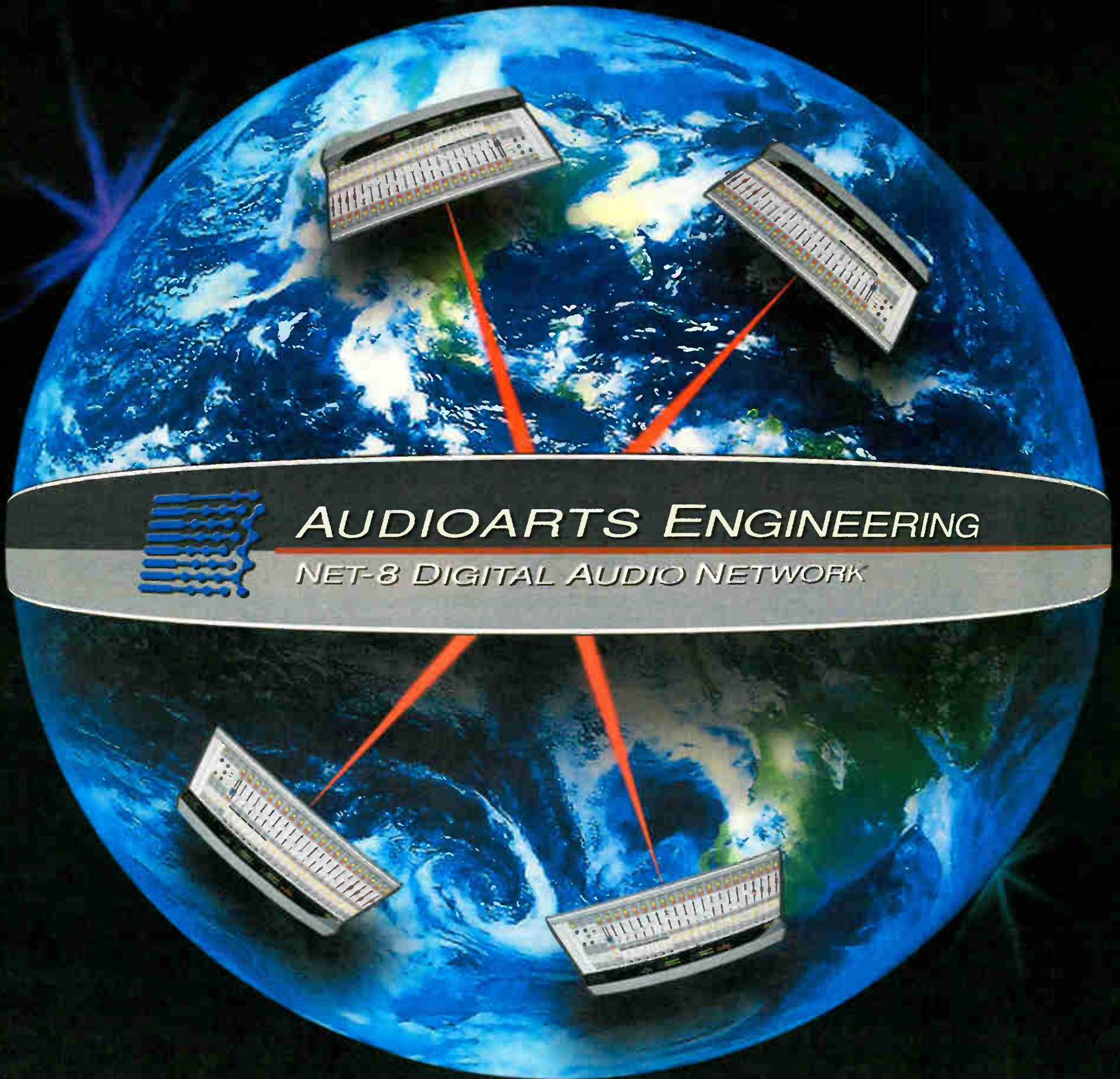
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