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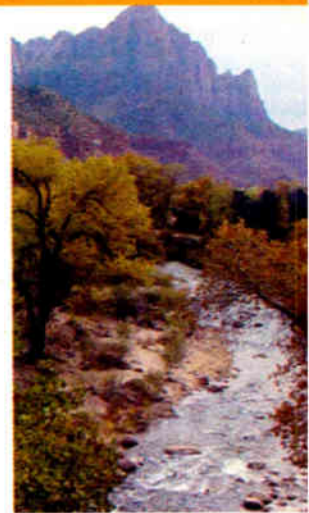
555

**In the Clear**  
 The Kahn Power-side  
 tops Jerry Smith's list.

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**Radio in 'Utah's Dixie'**  
 New listeners arrive every year in  
 small but booming St. George.

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# Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

March 1, 2006

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Special Supplement  
 Coming in March:  
 'HD Radio Technology Report:  
 The Power of Multicasting'

## Engineering 'Co-Op' Crystallizes

by Leslie Stimson

Radio engineers have been known for their collegiality and willingness to help each other in times of crisis. But they don't typically share information about the strategies of their employers in a formal way.

Now that the executives and programmers of top radio groups have come together to promote HD Radio, though, their engineers have their own subgroup, an engineering "co-op" for the top technical staff of entities that belong to the HD Digital Radio Alliance.

The nine radio groups that belong to the alliance are represented, on average, by two engineers each. The co-op also includes engineers from the ABC clusters in Minneapolis and Los Angeles, which have also joined the alliance.

Gary Kline, Cumulus vice president of engineering, is chairing the cooperative.

"I'm just trying to get everybody on the same page," said Kline, who added that the co-op formed at the suggestion of Cumulus Executive Vice President John Dickey. The development of the alliance

See CO-OP, page 14 ►

## Life on Expanded Band Is (Pretty) Good

by Randy J. Stine

**WASHINGTON** It's been nearly 20 years since the FCC began proceedings to expand the AM band with hopes of easing interference among existing stations, and the results appear close to meeting the commission's original goals, according to industry experts.

This year is the deadline for most stations operating on the expanded band to decide whether to stay there and give up their original frequencies, or give up their expanded-band slot and remain on their old frequencies.

The majority of stations authorized to move to the AM expanded band have done so and are now operating with new and improved transmission facilities, a source close to the commission said. At least several expanded-band stations say their improved signals have resulted in additional revenue for them despite their location higher on the AM dial.

Originally, 710 radio stations expressed interest in moving to the expanded AM band. The FCC ruled 88 stations were eligible to apply for construction permits in 1997 after the commission released its third and final allotment plan following several appeals. Of the original 88 stations, only 66 elected

to file construction permit applications, with the FCC issuing 65 CPs.

Now, 56 stations are operating in the expanded AM band (see chart, page 12).

See AM, page 10 ►

## Beyond Audio

By 2009, nearly 40 percent of the world's population will own a cell phone. How can radio exploit that?

Page 30

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## NEWS ANALYSIS

# Monitoring Seen as Key in RCS Sale

by Randy J. Stine

**WHITE PLAINS, N.Y.** Media tracking, spot verification and enhanced ad insertion capabilities appear to be among the reasons broadcast group owner Clear Channel purchased software and products supplier Radio Computing Services, observers say.

The sale closed in January; no purchase price was disclosed.

The acquisition, which followed closely the separate Google/dMarc deal, appears to give Clear Channel market traction to diversify its product line of advertising vehicles in the fast-moving

environment of marketing technology.

The moves could allow Clear Channel eventually to mirror Google's process of selling airtime via the Internet and automating the ad insertion business, observers predict.

The companies did not address specific reasons for the purchase in announcing the sale and declined comment on how Clear Channel's business plan benefits from having RCS in its portfolio.

## Current management stays

"Clear Channel will continue the current business and support RCS in maintaining their high standards and high level

of expertise in meeting the needs of radio, television, the Internet and other media," said Jerry Kersting, chief financial officer of Clear Channel Radio.

Current RCS management is expected to remain in place, Kersting said, with company founder Andrew Economos serving as a consultant to Clear Channel.

RCS was founded in 1979 and has a product line that includes the Selector music scheduling system, Master Control digital automation system and Media Monitors, a wholly owned subsidiary that uses an electronic fingerprinting technology for spot verification. RCS has approximately 7,000 worldwide customers.

RCS launched Media Monitors and its AirCheck software as a broadcast monitoring and verification service for radio, advertising agencies and private media investment companies. The company delivers continual broadcast data via the web of nearly 1,000 radio stations in North America. It also sells newspaper ad tracking information.

This is not the first time Clear Channel has purchased a company in its broadcast supply chain. It owns Prophet Systems,

**Broadcasters and other companies like Microsoft and Yahoo! are digging for ways to more efficiently deliver advertising messages.**

— Ron Paley,  
OMT Technologies

which makes a digital audio management platform, and has its own in-house music scheduling software called MusicGen, leading some radio suppliers to speculate that Clear Channel pursued RCS to obtain Media Monitors and its ability to identify on-air spots and songs and provide same-day online reports to clients.

"I think it's the monitoring part of RCS  
See RCS, page 8 ▶

## THIS IS THE NEXT BIG THING:



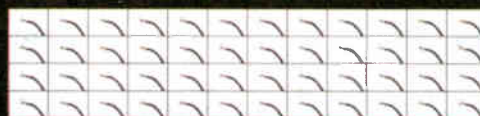
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# XM to Add 5.1 Surround Sound

by Leslie Stimson

This month, XM Satellite Radio plans to begin broadcasting two of its channels in 5.1 surround sound; that number may grow in the future. The satellite company also is using the "HD" moniker in its surround marketing.

Listeners can hear the surround broadcasts on existing mono, stereo or matrix style receivers. The new offering is called XM HD Surround, with discrete channels of digital audio encoded and decoded with Neural technology.

XM will broadcast the free-form music channel Fine Tuning and the classical channel XM Pops in XM HD Surround. Masiello said XM would promote 5.1 on the two channels and brand those differently.

The satcaster also will broadcast additional shows and live music performances at its studios in surround.

## Receiver makers

XM said it tested Neural for more than two years as well as other surround technologies that Tony Masiello, XM's senior vice president of operations, declined to identify.

Dolby declined comment about the Neural/XM plans for this story.

SRS Labs said in a statement: "While SRS did not participate in any trials at XM, we are glad to see that XM is moving ahead with surround broadcasting. Their new channels should work well on the millions of SRS Circle Surround Auto-enabled vehicles already on the road. XM is joining the ranks of TV and radio broadcasters using pure, two-channel compatible surround systems that are easy to deploy and available now."

The MPEG system, a joint effort by Agere Systems, Coding Technologies, Fraunhofer IIS, Philips and other companies, was not tested. A Fraunhofer spokesman said the group expects to finalize the standardization of MPEG Surround this July. MPEG has demoed the system with Eureka-147 in a car and conducted demos with HD Radio, according to the spokesman.

Of Neural, he said, "They understand audio and compression. It was a natural," said Masiello. "All these manufacturers — Onkyo, Denon, Yamaha and Pioneer — made the decision. They did extensive listening tests with Neural and chose it," he said, referring to receiver manufacturers that plan to include Neural surround sound technology in their products this year.

"Neural Audio takes great pride in being a partner for XM who has a proven track record for industry firsts and technical innovation for digital radio," said Geir Skaaden, Neural Audio chief executive officer. "Other digital broadcasters will now have to seriously consider the implementation of 5.1 as part of the digital business plan if they want to stay competitive in providing services that consumers want. In addition, leading receiver manufacturers are also seeing the value proposition of providing 5.1 to their customers via radio broadcast."

Neural believes the choice by XM and receiver makers is informative about what broadcasters may be looking for when they select a surround system.

Neural Co-founder and Chief Scientist Robert Reams said, "These manufacturers had access to all the other technolo-



XM's Tony Masiello and Neural Audio's Robert Reams and Geir Skaaden with the Pioneer VSX-816, a Neural Surround-enabled home receiver that supports XM including the surround broadcasts.

gies to try them out also.... Neural comes out on top on all counts and it's doable. It works with legacy infrastructures, including XM's because Tony's got 400 terabytes in servers, which he's not looking forward to re-tooling."

A discrete surround system, such as MPEG, also does not require a large capital outlay, said a spokesman for Omnia/Telos.

XM uses a customized version of Coding Technologies' aacPlus audio encoding with Neural Audio optimization. CT-AacPlus is a combination of Advanced Audio Coding — including the work of AT&T, Dolby, Fraunhofer and Sony — with Coding Technologies' Spectral Band Replication technology.

Neural said it created a custom version of its process for XM. Its designed to enhance the CT-aacPlus results by optimizing temporal and spectral elements prior to encoding, and by improving sound-stage clarity and increasing intelligibility.

Neural said its "stereo transcoder" algorithm preserves imaging and spatiality of stereo and surround-sound content on XM, so listeners who have matrix-style surround sound receivers, including Dolby, can experience the surround sound.

Another factor in choosing Neural, Masiello said, is that it works with legacy infrastructures, and XM could leave its 400 terabytes of storage equipment in place.

"I can use my existing infrastructure. It gets downmixed to stereo, and I can still use the same Klotz boards, the routing switches, the servers, the Dalet players ... nothing in my plant changed."

Reams said, "Channels have been set up. The data is allocated. The content is ready to go."

Denon, Onkyo, Pioneer Electronics (USA) Inc. and Yamaha will introduce home theater systems that can also receive XM/Neural HD Surround and analog AM-FM in 2006. The receivers are due to arrive at retailers in March.

While Onkyo, Denon and Yamaha are offering home units, Pioneer has said it would extend the surround capability for its OEM and aftermarket auto lines, said Geir Skaaden, Neural Audio's CEO.

At CES, Pioneer introduced the VSX-816, a home A/V receiver that includes the Neural Surround feature. The unit receives XM when paired with an XM

Satellite Radio Connect & Play antenna and XM subscription service.

The VSX-816 is set to retail for just under \$300.

"We expect a couple million receivers, by next year, to have Neural surround in them," said Skaaden.

Both XM and Sirius each devoted a channel to surround sound experimentation a while ago, as RW reported.

## New Year's 5.1

Separately, Neural helped NPR air a portion of its New Year's Eve broadcast in surround sound. NPR used the Neural 5225 Surround Sound System to provide 5.1 surround sound for a live broadcast from historic Tipitina's Uptown Nightclub in New Orleans for NPR's Annual New Year's Music Special, "Toast of the Nation." The broadcast marked the first live national music broadcast from New Orleans since Hurricane Katrina and featured a number of local artists.

The 12-hour broadcast began in New Orleans, and this portion of the broadcast was recorded in 5.1 surround sound.

New Orleans Venue Producer Mike Pappas used Neural Audio's 5225 DownMix to capture live musical content in 5.1 and downmix it for transmission to NPR headquarters in Washington where it was broadcast to the NPR audience. Listeners with surround sound systems in their home and car could hear the broadcast in surround and those with analog receivers heard the show in analog.

The 12-hour special, offering jazz and blues was NPR's 26th. It began at Tipitina's and featured performances from Washington; Boston; New York; Portland; Sanibel Island, Fla.; and Columbia, Mo.

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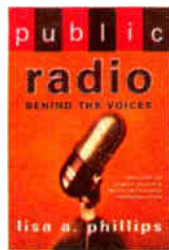
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# Radio From Cover to Cover

We're overdue to go sniffing along my radio bookshelf.

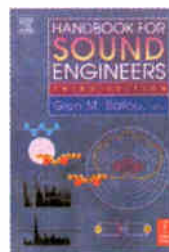


*"Public Radio: Behind the Voices"* — Author Lisa A. Phillips gives public radio junkies a series of brief personality sketches. The upbeat tone of her work, due in stores in May, is heralded by its cover, which promises "profiles of public radio's most treasured personalities."

If you can imagine nothing better than to curl up for a late winter's evening to pore over anecdotes by and about Carl Kasell, Michele Norris, David Dye, Nina Totenberg, Tavis Smiley, Michael Feldman and pubcaster superstars like Garrison Keillor and Bob Edwards, this one's for you.

The author, now a journalism teacher, worked at six public stations and is a self-described fan of public radio; her book, while a pleasant one for devotees, is not going to unveil any seamy underbellies. Still, it's cool to learn, for instance, that Cokie Roberts, Nina Totenberg and Linda Wertheimer were once dubbed "The Fallopian Jungle" by an allegedly "daunted" male staff member.

Hardcover, 334 pages, \$25 retail, published by CDS/Perseus.



*"Handbook for Sound Engineers"* — One of those books that really hurts if you drop it on your toe even though it's a paperback. The third edition was published in 2002; now that edition is out in soft-

cover. The 1,550-page handbook is edited by Glen M. Ballou, a former governor/convention chair for AES; it aims to be the most comprehensive reference work available on sound system engineering.

Chapters deal with topics like fundamentals of audio and acoustics; psychoa-

coustics; acoustical noise control; small- and large-venue acoustics; electronic components, transformers, tubes, heat sinks, wire and cable and fiber optics; electroacoustic devices including mics, speakers and loudspeaker clusters; electronic audio circuits and gear, including power supplies, amplifier design, preamplifiers, mixers and attenuators; recording and playback systems, both analog and digital; design applications including DSP technology, grounding, system gain structure and surround sound; and test and measurement.

It's loaded with graphics, schematics and other useful visuals for serious audio professionals. It's not a radio-specific book, but it offers tons of audio crossover material, including theory, and has a place in the radio technical reference section of your bookshelf.

Softcover, 1,550 pages, \$79.95, published by Focal Press.

*"This Business of Broadcasting"* — One in a series (the others look at television, music marketing/promotion, advertising and so on), this text was released earlier as "Making It in Broadcasting," which sold 35,000 copies. Leonard Mogel writes a guide to the industry "for job seekers and working professionals alike," although as with many such books, the former are more likely to benefit than the latter.

Eight chapters specific to radio look at our medium's history; profile four large commercial broadcasters; explain job titles and formats; and discuss the industry advertising model. Thirteen more chapters are devoted to television. Several others explore how to find a job in broadcasting.

Don't expect a lot of depth here. For instance, the job discussion for radio engineers occupies less than one page; and Mogel's list of useful radio publications is pretty much limited to programming magazines. But the next time someone asks you how he or she might learn about the radio business or find a job, you can refer them to this for a useful

bird's eye view.

Hardcover, 352 pages, \$27.95, published by Billboard Books/Watson-Guptill.

*"Serving Their Communities: 50 Years of the New York State Broadcasters Association"* — I'm not usually a fan of anecdote compilations, which too often are light on editing and heavy with photos of people at conventions standing around with drinks in their hands.

This book could have fallen into that trap but avoids it. Instead I found it hard not to sit right down and start flipping.

New York's broadcast history is so full of big personalities — Carol Reilly, Greg Gumbel, Don Imus, Marty Beck, Richard Foreman, Bill O'Shaughnessy, Howard Stern, Marion Stephenson, so many more; and Stephen Warley has done a good job of stitching together many pieces and personalities to provide a flavor of radio and TV in the Empire State, seen through the prism of the NYSBA and its annual meetings and executive conferences.



Don Imus, right, arrived in New York in 1971. He is shown with WNBC's Bob Sherman.

Hardcover, 242 pages, \$29.95, published by the New York State Broadcasters Association and distributed by Fordham University Press.

Also of note:

*"Stepping Out in Cincinnati: Queen City Entertainment"* — Not a radio book, but written by former radio engineer

## From the Editor



**Paul J. McLane**

Allen J. Singer, whose work has appeared in the pages of Radio World. It's part of the great "Images of America" Series you've seen in bookstores. Photos include some of early radio studios, orchestras and announcers. \$19.99, published by Arcadia.

*"The Radio Funny Book"* — Bob Doll is droll. The former announcer, group head and station owner offers a pleasant, short read about radio on the lighter side. Read it in one or two sittings and leave it around for the next station visitor to get a chuckle from chapters like "What Do Those Letters Mean," "Radio Announcer Test" and "Man on the Street Flashbacks." \$13.95 plus shipping; published by Infinity Publishing; order at [www.buybooksontheweb.com](http://www.buybooksontheweb.com).

*"Radio: The Book for Creative Professional Programming" Fourth Edition* — The jacket says it aims to be a "guide to success for anyone interested in a career in radio," but as the main title suggests, it would be more accurate to have said "anyone interested in a career in radio programming and promotions." Most of the content has to do with formats, branding, research, that kind of thing. An updated edition of an earlier work, this would be most helpful to a student or perhaps an engineer interested in switching to one of these other departments at the station. Written by Steve Warren. \$34.95. Published by Elsevier Focal Press. 🌐

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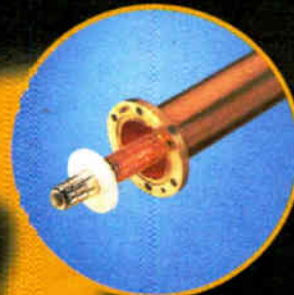
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# Authorize Low-Power AM Radio

*Leggett Says the Social Benefits of LPAM Broadcasting Are Numerous*

by **Nickolaus Leggett**

The author is one of five petitioners who have asked the FCC to establish a low-power service for AM stations. Comments on RM-11287 were filed in the fall.

There are numerous reasons the FCC should proceed to establish a low-power AM radio broadcasting service. LPAM provides an effective method for investing in the development of people and their local neighborhoods.

## Community building

Many underprivileged neighborhoods would benefit from the establishment of a local low-power AM broadcast station. These neighborhoods have many people who are isolated from the nation and the opportunities that it offers. Local civic

will decline with unpleasant political and social consequences.

LPAM is an ideal environment for recruiting and training new talent for broadcasting. LPAM is appealing because it is real broadcasting to a real audience with content that makes a difference.

LPAM is accessible so that young people (and seniors) from the neighborhood can create program content and get it on the air. Many of the participants in LPAM will continue with an interest in getting further into the broadcast industry and making their mark.

Many of these people will develop their own innovative program content that will help broadcasting as a whole to advance beyond its rather static current content. In addition to training programming and broadcasting talent, LPAM will train technical talent for broadcasting.

**LPAM is appealing because it is real**

**broadcasting to a real audience with content that makes a difference.**

and church groups could set up low-power AM broadcasting stations to reach out to these people and include them in a growing community.

The local LPAM broadcasting station would allow youth and citizens at large to appear on-air with their own music, poetry, theater, commentary and political observations. This would show people that there is more to life than the crime and hopelessness so common in the ghettos and barrios.

The station could support day-to-day notifications from the community watch, neighborhood associations, and local governments.

Community listeners would be able to listen to their LPAM station with the inexpensive pocket radios that they already own. Similarly, the LPAM station would use simple amplitude modulation technology that can be inexpensive and affordable.

## Diverse political commentary

LPAM offers the opportunity for a more diverse political discourse than that offered by mainstream broadcasters. The mainstream media serve up political material ranging from the center to the right wing. But what about left-wing political ideas? These are missing from much of the big media. LPAM could restore a broad range of political discussion similar to that in present-day Europe or America of the past.

In addition, LPAM would support political discussions of very local issues such as cattle prices, off-road vehicle access to a near-by national park, hunting seasons, neighborhood crime rates and the school board election.

In the long run, if political commentary is restricted to just broadcasting elites, the basic legitimacy of America

People will grow in their knowledge of broadcasting technology and develop a thirst for more such knowledge. Many of these people will be from an amateur radio background.

## Emergency coordination

As Hurricane Katrina has shown us all, local coordination and communication during an emergency is very important. Many full-power broadcast stations ran into trouble during Katrina.

The LPAM stations use simple low-power technology that can be easily operated during an emergency from available sources of electricity such as car batteries, lantern batteries, portable generators, solar cell arrays, etc. When the LPAM stations' antennas are blown away, simple wire antennas can be put up quickly to replace them. If necessary, LPAM broadcast stations can be carried to higher ground or to an intact building to continue operation.

In the future, there will be more Katrinas such as an intense earthquake in California, a pandemic or terrorist attacks in major cities. LPAM can provide continuous local service to coordinate the specific community responses to such events.

## School integration

Local middle schools, high schools and colleges can operate LPAMs; developing content for their own real radio station. By taking the responsibility of operating their facility, students would have an opportunity to learn and grow. This service would be similar to the Class D (low-power) educational FM stations that were once common on college campuses.

Students around the nation could take command of their own radio stations to broadcast school-related sports, plays and concerts, plus local government meetings



Nick Leggett

and model car races. Students could air radio emissions from Jupiter obtained by the school's Project Radio JOVE radio telescope, a NASA education and outreach project involving high school and college students in planetary radio astronomy.

## Return of classical music

Some of the non-commercial stations have decided to drop much of their classical music programming. LPAM can step into this gap and provide such material.

While AM's fidelity is not as good as FM's, it is still a lot better than providing no classical music at all. These stations could also include specific instruction in classical music appreciation using commentary illuminating specific pieces of music.

LPAM can provide programming in various foreign languages. This would serve local language groups that are too

small for conventional broadcasting.

This type of service would be useful in multicultural areas. A single LPAM broadcast station could serve several language groups at different times of the day. Stations could offer a show providing text content for the blind transmitted by audio tone Morse Code.

The local hobby shop, laundromat or used bookshop, for example, cannot afford any advertising at all on the full-power radio broadcasting stations. These small businesses would certainly be able to afford LPAM advertising rates if LPAM

**LPAM is an ideal environment for recruiting and training new talent for broadcasting.**

stations are permitted to be commercial. This would allow local businesses to connect with their community and give locally owned businesses a better chance to compete with the big chain stores.

Leggett is one of the original petitioners for establishment of LPFM service. He is a certified electronics technician (ISCET and NARTE) and an Extra Class amateur radio operator (N3NL).

RW welcomes other points of view. 🌐

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## NEWS ANALYSIS

# Audio Flag Meets Resistance

*RIAA Pushes for Marker While  
CEA Warns of HD-R Receiver Chill*

by Leslie Stimson

**WASHINGTON** As it did in the House, an audio "broadcast flag" proposal may fade away in the Senate.

House Commerce Committee Chairman Sen. Ted Stevens, R-Alaska, began a hearing on the issue in January with a promise to push the issue for TV and radio. But by the end of the hearing, he was less sure a measure could be passed if it includes audio; and he urged industry representatives to resolve the issue on their own.

As of early February, a meeting to do just that had not been scheduled among the Recording Industry Association of America, the NAB task force on the issue and other interested parties, according to an NAB spokesman.

Record labels are losing money because of illegal music distribution on the Internet, and the RIAA wants Congress to mandate that industry or the FCC develop and implement an audio broadcast flag rule. Such a measure would affect both satellite radio and the fledgling HD Radio.

A "flag" is a method of marking a signal to limit copying, uploading and other redistribution of digital content.

Opponents, including some manufacturers and consumer groups, say flags restrict the legal home use of commercial material. CEA warns that any hint of uncertainty in the market could cause manufacturers of HD Radio receivers to pull back on their product introductions.

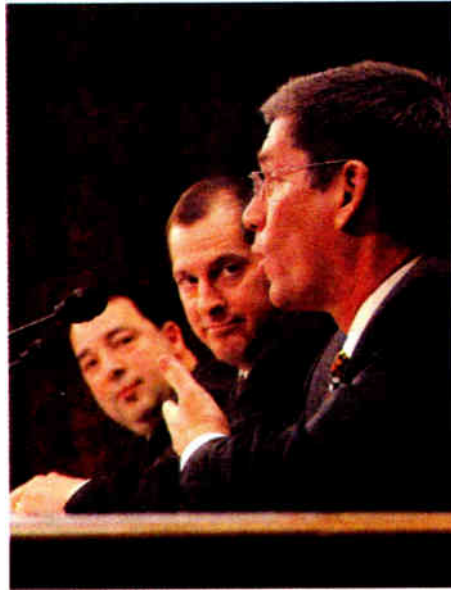
## Narrow scope

The RIAA and NAB agree that source encryption is not the way to stop redistribution of digital content over the Internet, though the RIAA floated such a proposal earlier and NAB opposed it (Radio World, Feb. 15, page 21). But they do not agree on how to accomplish the effort.

Dan Halyburton, senior vice president/general manager group operations for Susquehanna Radio and head of a new NAB task force on the flag issue, told lawmakers on the Senate Commerce Committee he believes NAB could be part of a multi-industry effort to solve the issue if the scope was defined narrowly.

The office of committee member Sen.

Gordon Smith, R-Ore., circulated a draft bill in advance of the hearing calling for establishment of a federal advisory commission on digital radio. One of its purposes would be to develop a proposal on



Dan Halyburton, right, testifies about the audio broadcast flag as Gary Shapiro, center, and Mitch Bainwol look on.

not a Pod, it's the mothership."

A flag would work to prevent digital music piracy and would not affect legacy devices, said Bainwol.

But Shapiro argued that the RIAA is trying to eradicate the rights of consumers to make recordings at home for private use.

## No standard

"I'm not sure what an audio flag is," said Shapiro, arguing that no audio equivalent of the video broadcast flag exists and no technical standard for an audio flag has been brought to a standards-body or CEA for discussion.

By contrast, he said, discussions about the video flag were open to various interested parties when consensus was being formed, and the concept was developed over several years.

The RIAA, Shapiro argued, has "all but ignored" seven years of HD Radio proceedings at the FCC until now.

"The RIAA is trying to limit the use of satellite radio and HD Radio. Americans have the right to record off the radio at home," said Shapiro, who said the bill under consideration restricts home recording. "Having been emboldened by a legislative victory over legitimate pirates, the RIAA is now going after ordinary consumers."

The RIAA will get royalties from satellite radio companies and manufacturers of new portable satellite radios due on the market later this year, said Shapiro.

At CES, XM and Sirius both told Radio World that products are made so the recorded and stored content stays on the device and cannot be re-distributed.

Stevens asked Bainwol, "If I take something off these radios and use it at home on my iPod, are you trying to restrict that?"

Bainwol said listening and time-sharing is fine, but that programming the device to record and store without listening to the material in order is different.

so-called "secure moving technology," to prevent copyrighted content stored on terrestrial and satellite digital radios from being redistributed for free.

Members of the group would be chosen from the IT, CE, radio, satellite radio and cable industries. Also represented would be audio recording, music publishing, performing rights and public interest organizations. The group would have 12 to 18 months to develop a solution; if not, the FCC would step in, according to the language.

## The RIAA is trying to limit the use of satellite radio and HD Radio.

— Gary Shapiro, CEA

Committee Chairman Ted Stevens asked Halyburton what lawmakers should do with the legislation.

Halyburton said, "If we can keep our approach contained, we'd like to work on it ourselves and see if we can work it out."

## Dispute

RIAA Chairman/CEO Mitch Bainwol and CEA President/CEO Gary Shapiro sparred over whether a flag is needed for digital radio.

"New devices are coming onto the market that turn radio into downloading services," said Bainwol. "The problem is the user doesn't pay for the product. It threatens the viability of the legitimate download market," he said referring to the fact that the music industry is losing "billions" each year in revenue as physical sales of music drop while electronic sales don't make up the difference.

The sale of recorded audio was about \$14.6 billion in 1999 and is now roughly \$12 billion, Bainwol has said.

He held up a brochure distributed at CES for one of the new XM Satellite Radio portable devices that states, "It's

"Cherry-picking emasculates the download model," Bainwol said.

Shapiro warned that a change that could affect legacy HD Radio equipment could be devastating, causing manufacturers to pull back on introducing new products. That happened on the TV side during the previous flag debate, he said.

Committee member Sen. John Sununu, R-N.H., questioned the need for the bill and suggested the RIAA might just work to strengthen copyright laws.

Stevens asked the group to give the committee progress reports on its discussions. While his goal is to mark up legislation in March, the reality is, "One senator can hold up a bill." As proof he noted the 25 to 30 items left over from last session still on the committee's calendar.

"I urge you to get together," he said to the industry representatives; "I do hope we can find agreement and get a bill that cannot be held up."

Similar audio broadcast flag legislation was introduced in the House Judiciary Committee last session but was not acted upon before lawmakers adjourned for the holidays. ●



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# ◆ NEWS WATCH ◆

## Red Zebra Ponders Format Decisions

**ASHBURN, Va.** Red Zebra Broadcasting said it would make decisions about format and programming changes for its first purchase "in the near future."

The new broadcast group formed by Washington Redskins owner Dan Snyder and headed by broadcasting executive Bennett Zier bought its first three stations from Mega Communications Inc.

The \$33 million deal includes the Spanish oldies simulcast of WBPS(FM) and WBZS(FM) and regional Mexican WKDL(AM).

Zier said it was the first of many acquisitions for the company. "We are in the buying business," said Zebra chief executive officer Bennett Zier, former regional vice president of Clear Channel Communications' Washington/Baltimore stations.

Red Zebra Broadcasting will be the broadcast home of the Washington Redskins, managing the broadcast rights to the Redskins, starting with the 2006 season.

The acquisition gives the new broadcast group an initial presence on FM and AM in the Washington area.

Red Zebra said it will identify, purchase and run broadcast properties,

including radio, television and the Internet. The company aims to build a network locally, and then expand regionally and nationally.

## McDowell Nominated to FCC

**WASHINGTON** Telephony attorney and former Bush campaign worker Robert McDowell is the president's choice for the open FCC seat. The White House said in February a formal nomination was forthcoming. Agency Chairman Kevin Martin applauded the news and said that if confirmed, McDowell would be a great asset.

The 42-year-old is senior vice president and assistant general counsel with CompTel, which represents many Bell competitors, including Internet phone providers. He worked for Bush advance teams during the 2004 presidential campaign and served as counsel to the Bush-Cheney Florida Recount Team in 2000.

"He has a wealth of knowledge in the communications arena, and we will rely on his insight when evaluating the issues before us," said Chairman Martin.

If confirmed by the Senate, the Repub-

lican would bring the agency back to its full complement of five commissioners.

## AM HD Monitor Is Certified

**MIAMI** Ibiqity Digital has certified the AM version of the Audemat-Aztec Goldeneagle HD monitor with spectrum analyzer option.

The company received certification in October 2005 for its FM version. Audemat-Aztec now offers HD Radio monitors in AM, FM and a unit that combines both. Poulain said the company has sold 250 units of the three models.

## Beeler Golf Event Set for April

**LAS VEGAS** Reservations can be made for the fourth annual golf outing held in memory of the late broadcast equipment executive Scott Beeler.

The social event is set for Saturday April 22 at 8 a.m. at The Revere at Anthem course.

"The most important thing is to tell our Scotty stories and remember what he meant to us," said organizer Brian McConnell.

The entry fee is \$150 per player and \$600 per foursome. For information call (702) 897-0275.

## News Roundup

**WorldSpace:** The satellite digital radio broadcaster expects to release

financial results for the fourth quarter of 2005 in March. WorldSpace added some 40,000 net new subscribers in Q4, to finish the year at more than 115,000 subscribers. At the end of 2005, WorldSpace was offering the service in nine cities in India, covering a population of approximately 29 million potential listeners through 650 retail locations and 550 direct sales force agents.

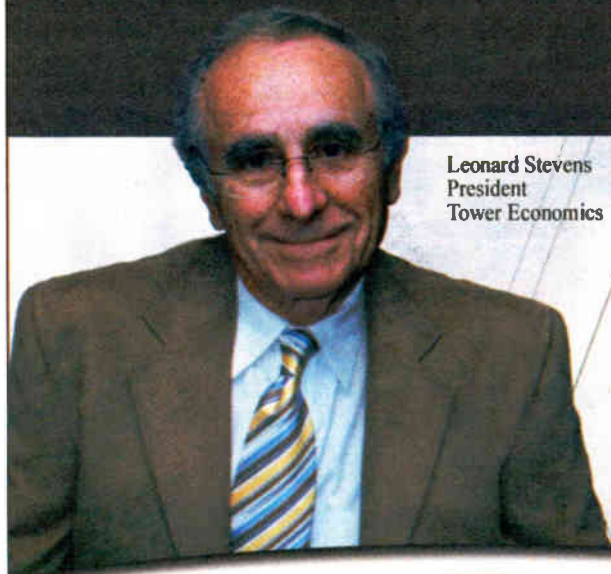
**Antex Electronics:** The company that makes OEM digital audio products, satellite receivers and Internet appliances has moved its operations to a new facility in Torrance, Calif. to gain production space for product development, testing, assembly and storage. The new street address is 19821 Hamilton Avenue, Torrance, Calif. 90502 in the Hamilton Gateway Center. Phone and e-mail contacts remain the same.

**Harris Miami:** The broadcast supplier was set to open a Miami office Feb. 1. Nahuel Villegas, regional director for television and radio, Harris Caribbean and Latin America, will oversee the radio and television staff based in the Miami office, located at 703 Waterford Way, Suite 810, Miami, Fla. 33126. Phone is (786) 437-1960.

**HD-R Consultants:** Broadcast Electronics planned to continue to hold HD-R seminars in San Francisco and Washington on Feb. 28 and March 2, respectively. BE lists those who take part in the seminars on its Web site as resources for stations and groups seeking engineering services. The seminars are free, but BE asks that participants pre-register at: [consultants@bdcast.com](mailto:consultants@bdcast.com).

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## RCS

► Continued from page 2

that interests Clear Channel the most," said Ron Paley, senior business developer for OMT Technologies, a supplier not party to the deal.

"This could even allow them to move further away from Arbitron, with a new ratings process of some sort. RCS has been doing some very interesting things logging audio in many major markets."

OMT Technologies sells the iMediaTouch digital audio content management system.

Paley said he also envisions Clear Channel wanting to use its 1,200 radio stations to deliver advertising for clients "on a national level and with substantial impact" through ad insertion and other technologies.

"It's the new technology that is really driving these deals. Broadcasters and other companies like Microsoft and Yahoo! are digging for ways to more efficiently deliver advertising messages over the air and over the Internet," Paley said.

### 'Step forward'

The acquisition "validates the media monitoring industry," said Steve Lubin, CEO of Mediaguide, a competitor of

Media Monitors in spot verification.

"This a step forward for our industry. (Clear Channel) has been in the music side of monitoring with Premiere Mediabase for quite some time. It looks like Media Monitors should be a good accompanying product," Lubin said.

Mediaguide uses a fingerprint technology similar to Media Monitors to track music and advertisements and monitors more than 2,500 stations in approximately 150 Arbitron-rated markets.

Fingerprinting is a passive technology that creates identifiers from pieces of recorded audio that can be compared to audio collected from unmanned monitoring posts across the country. That information is collected and provided to customers to determine when and where a song or advertisement played, Lubin said.

Clear Channel has "diversified on many occasions and this is just another chance to broaden its services," another observer said. Clear Channel owns Premiere Radio Networks and has a stake in XM Satellite Radio. It purchased Prophet Systems Innovations in 1998.

RCS is headquartered in White Plains, N.Y., and has 450 employees at 23 offices. The company will announce a "handful of new products and services" prior to NAB2006 in Las Vegas this April, an RCS spokesman said.



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# AM

► Continued from page 1

The remaining nine stations allowed their CPs to expire without construction or turning in their expanded-band license.

The original 88 were selected through a complex computer program that "ranked high interference" stations and slotted them in open frequencies in the expanded band. A 1999 order from the FCC extended certain construction permits for those stations on the expanded band.

## Dual operation

The FCC allowed migrating stations to operate on dual frequencies for five years. Many of the migrators had until

2005 or '06 to decide which frequency to keep. The agency's preference is for them to continue in 1605-1705 kHz to help relieve interference.

"We expect most will keep their new frequencies. In most cases, the facilities are superior at 10 kW and 1 kW night non-directional. However, several have already chosen for a variety of reasons to keep their existing frequency," a commission source said.

Not all broadcasters were convinced a move to the expanded band would have proved beneficial. VerStandig Broadcasting received a CP in 1997 to move WSVA(AM), licensed to Harrisonburg, Va., from 550 kHz to 1700 kHz. However, the owner let the CP expire without building new facilities.

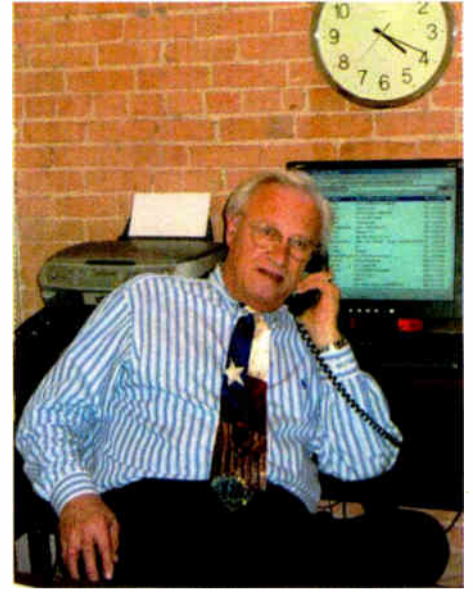
"We have a very nice-billing station

with nice ratings along the Shenandoah Valley. After examining the move further, we decided it would not be economical to make the transition," said John VerStandig, president of the company.

"This signal at 1700 kHz would not have been any better; and then you have had radios out there unable to receive the station."

WSVA is 5 kW nondirectional during the day and 1 kW directional at night. The expanded-band frequency would have been 10 kW non-directional daytime and 1 kW non-directional nighttime, VerStandig said.

He said he applied for the expanded-band license originally with the thought that "maybe something in the world would change or maybe the FCC would decide to let broadcasters keep both



Bill LeGrand

frequencies," which never happened.

"As our deadline to act on the CP approached we just decided to wave off the move. I'm satisfied it was the right decision."

Some broadcasters who made the move say they suffer little interference in the expanded band; this allows them to better serve their communities and generate more revenue.

"It's been an excellent move for us," said Steve Soboroff, owner of KCJJ(AM) in Iowa City, Iowa. "There are an extremely small number of radios out there that can't get us anymore. Just maybe a few old car radios, but I've yet to find a radio that doesn't have the expanded band."

KCJJ, originally at 1560 kHz, began simulcasting in 1998 on the expanded band at 1630 kHz and did so for several years before opting to move exclusively to the expanded band.

**People are now able to hear the darn station.**

— Steve Soboroff,  
KCJJ, Iowa City

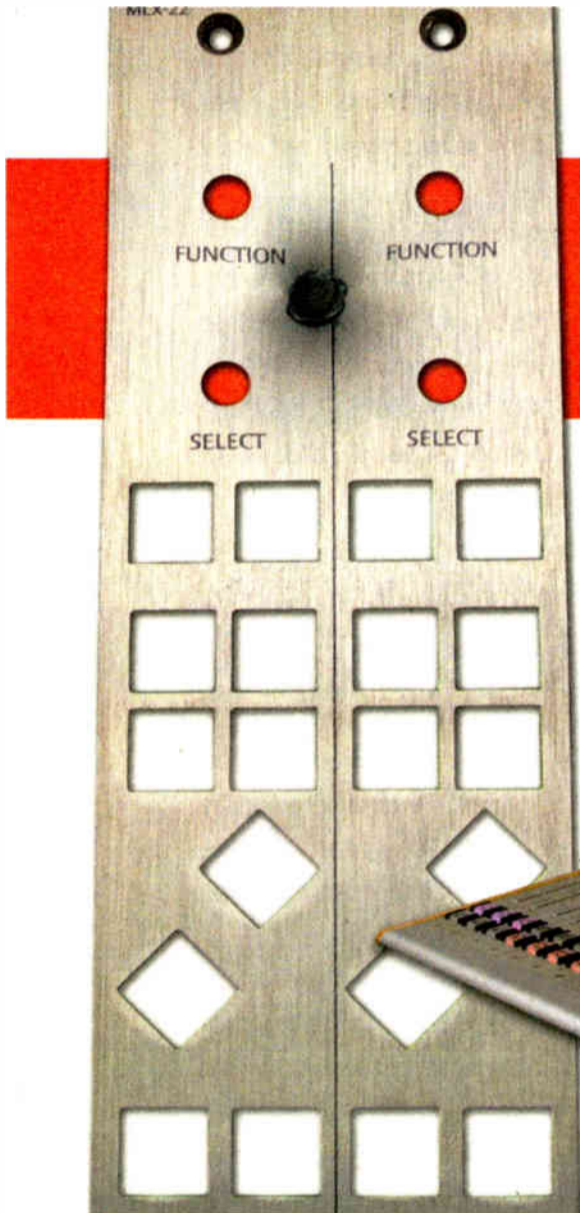
"We had a directional array at 1560 kHz that was awful. We built new facilities and a new tower site. There is so little interference around 1630 that we get response at night from all over the Midwest and the east coast of the United States," Soboroff said.

KCJJ, which broadcasts at 10 kW daytime and at 1 kW night nondirectional, has seen its billing go up in "good measure" each year since migrating to 1630 kHz, Soboroff said.

"The response from our listeners has always been positive. We now cover from Davenport, to Cedar Rapids and Des Moines. People are now able to hear the darn station," he said.

Another station that made the jump, KRZI(AM), Waco, Texas, received authorization to move from 1580 to 1660 kHz and added the expanded-band frequency in 2001.

"It's been extremely beneficial. It's  
See AM, page 12 ►



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# AM

► Continued from page 10

been extraordinary. We now have a much better signal with a huge footprint across central Texas," said Bill LeGrand, general manager of KRZI.

## Bigger footprint

The station, owned by Simmons Media Group, went from 1,000 watts directional at 1580 kHz to 10 kW daytime and 1 kW night at 1660 kHz. The station is formatted as ESPN Radio and is the anchor station for Baylor University athletics, LeGrand said.

**Anytime the FCC can create new service and create a better outlet for AM broadcasters it's a good thing. It was a commendable thing for the FCC to tackle.**

— John Garziglia, Womble Carlyle

Because the group's five-year window to keep both frequencies expires this year, it will be forced to sign off from 1580 kHz this summer; that frequency is now KQRL and simulcasts the country music format of the cluster's lone FM station.

"We have a sunset clause on 1580 and we are not optimistic that we'll be able to keep it," said LeGrand.

"The bigger signal on 1660 certainly adds credibility to the station. People can tune in without the static and interference. With audio processing and all of the other new technological benefits now the station has come along way," LeGrand said.

Womble Carlyle's John Garziglia said the efforts of the FCC to reduce congestion in the overcrowded AM band have been successful so far.

"Instead of trying to jam as many stations into the expanded band, (the FCC) slotted them in an engineering way that

limited the amount of interference in the expanded portion and will eventually, along the rest of the band, once broadcasters are forced to choose between signals and which to keep.

"Anytime the FCC can create new service and create a better outlet for AM broadcasters it's a good thing. It was a commendable thing for the FCC to tackle," Garziglia said.

Garziglia, who represented several broadcasters that built in the expanded portion of the AM band, said he couldn't explain why more than 20 AM stations authorized by the FCC to migrate failed to file applications.

"I suspect that they concluded that their present frequencies were better than what

they would have had at the top of the band," Garziglia said.

While the right side of the AM dial doesn't have good propagation characteristics, 1605-1705 kHz offers other benefits, according to a source close to the commission.

"Broadcasters have found, due to the relative absence of other stations on co-channels and adjacent channels, that their signals go very far. They receive very little or zero interference from others," the source said.

At some point, the commission expects to revisit the expanded AM band issue since "there are a few holes in the national plan" after not all of the authorized stations elected to file applications to migrate, the source said.

There were 4,758 licensed AM radio stations in the United States as of Dec. 8, 2005, according to the FCC. 🌐

## Expanded Band Stations On-Air

Although the FCC issued 65 CPs for the expanded AM band, some licensees let them expire and did not build new facilities, accounting for the 56 entries on this list.

WNRP	Gulf Breeze, FL	1620	ADX Communications of Escambia
KSMH	West Sacramento, CA	1620	IHR Educational Broadcasting
KBLL	Blackfoot, ID	1620	Bonneville Holding Co.
WHLY	South Bend, IN	1620	Artistic Media Partners
KOZN	Bellevue, NE	1620	Waittcorp Investments
NEW	Toms River, NJ	1620	Knox Broadcasting
WTAW	College Station, TX	1620	Bryan Broadcasting
WDHP	Frederiksted, VI	1620	Reef Broadcasting
KYIZ	Renton, WA	1620	KRIZ Broadcasting
WRDW	Augusta, GA	1630	WCHZ License
KCJJ	Iowa City, IA	1630	River City Radio
KKGM	Fort Worth, TX	1630	Mortenson Broadcasting of Texas
KRND	Fox Farm, WY	1630	La Familia Broadcasting
KDIA	Vallejo, CA	1640	Baybridge Communications
WTNI	Biloxi, MS	1640	Monterey Licenses
KFXV	Enid, OK	1640	Chisholm Trail Broadcasting
KDZR	Lake Oswego, OR	1640	Radio Disney Group
KBJA	Sandy, UT	1640	United Broadcasting
WKSH	Sussex, WI	1640	Radio Disney Group
KWHN	Fort Smith, AR	1650	Capstar TX Limited Partnership
KFOX	Torrance, CA	1650	Chagal Communications
KBJD	Denver, CO	1650	Salem Media of Colorado
KCNZ	Cedar Falls, IA	1650	Fife Communications Co.
KHRO	El Paso, TX	1650	Entravision Holdings
WHKT	Portsmouth, VA	1650	Radio Disney Group
KTIQ	Merced, CA	1660	Mapleton Communications
WCNZ	Marco Island, FL	1660	Starboard Media Foundation
KXTR	Kansas City, KS	1660	Entercom Kansas City License
WQSN	Kalamazoo, MI	1660	Fairfield Broadcasting
WFNA	Charlotte, NC	1660	Infinity Radio Holdings
KQWB	West Fargo, ND	1660	Monterey Licenses
WWRU	Jersey City, NJ	1660	Multicultural Radio Broadcasting
WGIT	Canovanas, PR	1660	International Broadcasting
KRZI	Waco, TX	1660	Simmons-Austin, LS
KXOL	Brigham City, UT	1660	Simmons-Austin, LS
KHPY	Moreno Valley, CA	1670	Delbert L. Van Voorhis
KNRO	Redding, CA	1670	Regent Licensee of Redding
WMWR	Dry Branch, GA	1670	AMFM Radio Licenses
WTDY	Madison, WI	1670	Mid-West Management
KAVT	Fresno, CA	1680	Rak Communications
WLAA	Winter Garden, FL	1680	Rama Communications
KRJO	Monroe, LA	1680	Holladay Broadcasting of Louisiana
WDSS	Ada, MI	1680	Goodrich Radio
WTTM	Princeton, NJ	1680	Multicultural Radio Broadcasting
KTFH	Seattle, WA	1680	Inspiration Media
KFSG	Roseville, CA	1690	Way Broadcasting Licensee
KDDZ	Arvada, CO	1690	Radio Disney Group
WWAA	Avondale Estates, GA	1690	Intermart Broadcasting of Georgia
WRLL	Berwyn, IL	1690	CC Licenses
WPTX	Lexington Park, MD	1690	Somar Communications
NEW	Charlotte Amalie, VI	1690	Three Angels Corp.
WEUP	Huntsville, AL	1700	Hundley Batts, Sr. & Virginia Caples
WJCC	Miami Springs, FL	1700	Multicultural Radio Broadcasting
KBGG	Des Moines, IA	1700	Citadel Broadcasting
KKLF	Richardson, TX	1700	KRBE Lico
KVNS	Brownsville, TX	1700	Clear Channel

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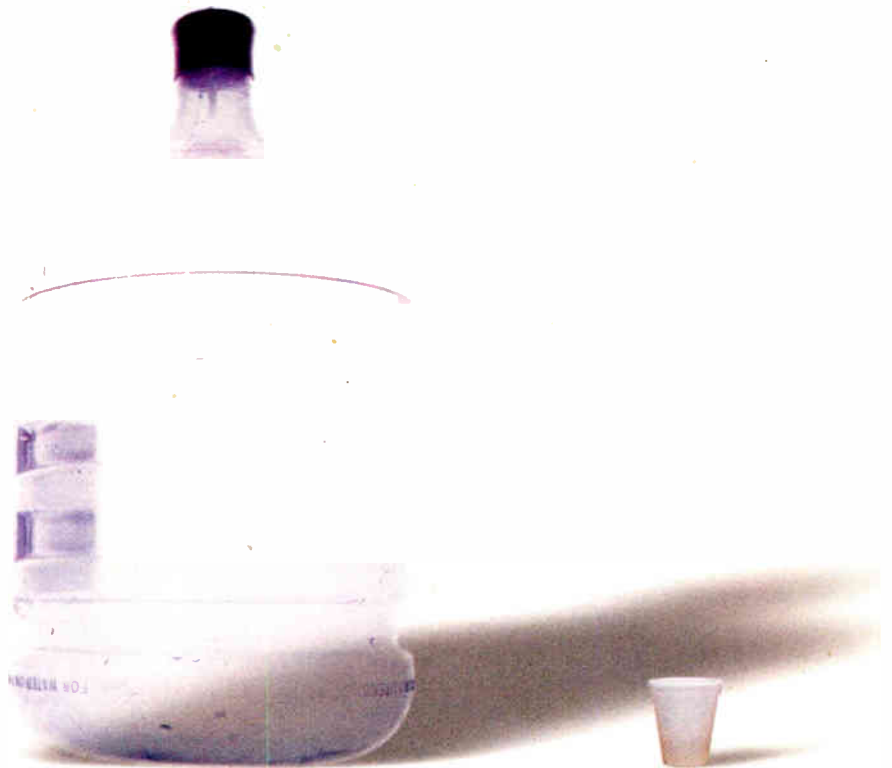
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# ◆ NEWS WATCH ◆

## Price Cut for Receptor Radio HD

**PEABODY, Mass.** The first tabletop HD Radio to decode multicast signals became more affordable in February. Boston Acoustics cut the price of its Receptor Radio HD by \$200 or 40 percent, to just under \$300.

The company made the change "due to the increased awareness of HD Radio technology and the rapidly expanding universe of HD Radio stations," said Phil Cohn, Boston Acoustics vice president of sales.

Some 700 stations are on the air with a digital signal, the company noted, with several hundred planning to launch multicast channels this spring, said the company.

## Pristine Buys Summit

**SAN PEDRO, Calif.** Digital storage and automation specialist Pristine Systems bought traffic software provider Summit Systems of Colorado. Pristine plans to offer Summit's traffic and billing system in conjunction with its own radio and television automation software. The price was not disclosed.

"With the addition of Summit Software, Pristine Systems now can provide radio, television and cable customers a traffic and billing and ad sales management system," said Kevin Loper, president of Pristine.

## DRM Sharpens Focus In Las Vegas

**GENEVA** Digital Radio Mondiale plans a higher profile at this year's NAB convention.

Members will present how-to seminars for those thinking about implementing the technology; the presentation is called "DRM: The Basics in 90 Minutes." DRM members Continental and Harris will host the seminars at their respective booths. There is no charge to participate; registration is required. E-mail the DRM Project Office at [projectoffice@drm.org](mailto:projectoffice@drm.org).

DRM also is on the agenda at the NAB Broadcast Engineering Conference, in two presentations.

The first relates to the use of DRM at higher frequencies for local and regional broadcasting. DRM Technical Committee Chairman Don Messer will present

"DRM Progress in Developing a Capability in the Broadcasting Bands above 25 MHz."

The second describes monitoring the performance of digital radio delivered on HF over wide geographical areas. Andy Giefer of Deutsche Welle will discuss "Digital Shortwave Reliability Analyzed with Deutsche Welle's DRM Monitoring."

On April 25, John Sykes of BBC World Service will present "An AM Signaling System," a paper he says introduces a simple signaling system for AM radio. This system allows existing AM broadcasters to signal their station ID to a new generation of hybrid digital/analog receivers, keeping them on the "digital dial."

## Two Former Radio Execs to Manage Broadcasting School

**HARTFORD, Conn.** The Connecticut School of Broadcasting has changed hands. Private investment firm DLJ Growth Capital Partners acquired the school, which has 12 locations along the East Coast.

The affiliate of Credit Suisse First Boston said it had an agreement to acquire the business and assets of the school from founder Dick Robinson, who will remain with the company in a senior executive position.

Brian Stone and Scott Knight of Knightstone Media will manage CSB. Stone is former COO of Pyramid Broadcasting and held management positions at Evergreen Media, Chancellor Broadcasting, AM/FM Radio and Clear Channel. Knight was president/CEO of Knight Quality Stations, founded Knight Radio Sales and held management positions with Clear Channel.

## Hands-Free Coming For XM Radios, Cell Phones

IBM and VoiceBox say they expect to make their technologies available to automakers and the aftermarket later this year. The latter company will integrate IBM's speech recognition software into its VoiceBox Navigator conversational voice search platform.

Consumers will be able to navigate

and control information from mobile devices with conversational dialogue. Applications include searching for music and entertainment, asking for driving directions or making a phone call.

XM is the first user; the application allows drivers to search and control XM channels, raise and lower the volume or ask for traffic reports, stock quotes, sports and weather by talking to an XM radio.

Additionally, the VoiceBox Navigator will be Bluetooth-enabled; Voicebox reached an agreement to combine its speech recognition software with conversational voice search platform with Johnson Controls' BlueConnect wireless mobile technology.

## 150,000 Attend CES

**ARLINGTON, Va.** At 150,000 attendees and 2,500 exhibitors, the Consumer Electronics Show in January broke a record, according to the Consumer Electronics Association, which had projected 130,000 in attendance. Attendance last year was 145,868, which was a 9 percent increase from 2004, the association said.

CES was held in early January.

## Co-op

► Continued from page 1

itself was the impetus for the co-op, which crystallized in late January.

The purpose, Kline said, is to create a way for engineers whose companies belong to the alliance to share information quickly and help each other make the transition to digital with an open and ongoing dialogue.

### Best practices

The co-op is not a standards-setting group, nor will the engineers discuss formats, said Kline, referring to activities conducted by the NRSC and the alliance respectively.

**Some of the engineers were sharing information anyway, but this gives us a conduit between alliance management and engineers.**

— Gary Kline

## Harris: Demand, Profits Up

**MELBOURNE, Fla.** Harris expects demand and profitability to continue in its Broadcast and Microwave divisions this year.

Broadcast revenue for Harris was \$135.4 million in the second quarter of its fiscal year 2006, compared to \$98.9 million in the prior-year quarter. The earlier acquisitions of Leitch Technology and Encoda Systems boosted those figures, the supplier said, reflecting the impact of higher-margin product lines from the acquired companies as well as cost-reduction actions.

Large orders during the quarter included digital radio transmitters and excitors for Clear Channel Communications.

For the parent company, Harris said revenue in the quarter increased 14 percent to \$842 million. Chairman Howard Lance said the company's financial performance in the first half of its year exceeded expectations. "We see strength in demand and profitability continuing at RF Communications, and we expect further improvements at Microwave and Broadcast in the second half."

Clear Channel's IT department is hosting a listserv for the alliance engineering co-op, said Kline.

"One of the advantages of having the HD Digital Radio Alliance is the ability to tap into the talent base and experience among the member companies," Peter Ferrara, president and chief executive officer of the alliance, told Radio World.

"The engineering cooperative is a great example of how we can provide a conduit for sharing best practices about HD Radio installation, operation, issues and concerns across all of the member companies."

The group is in its early days, so the mechanics of how often and by what means members would meet were still being worked out.

### Product Showcase



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Instead of proprietary algorithms, we chose **MPEG-standard *aacPlus***<sup>®</sup>, the same coding used by XM Satellite Radio, Digital Radio Mondiale, Minnesota Public Radio, Apple Computer and many others to deliver **superior audio at low bit rates.** (An optional ISDN interface lets Xport connect to Zephyr Xstream with Low-Delay MPEG AAC, or with nearly all third-party ISDN codecs using G.722.)

**There's no need for a studio-side POTS line.** Your studio's Zephyr Xstream receives Xport's POTS calls via its existing ISDN line, **eliminating the cost of a second POTS codec** and delivering smooth, clear digital audio to your listeners.

And Xport **makes unexpected modem re-training extinct** thanks to custom DSP algorithms that extract stable performance from even marginal phone lines. Xport gives you **surprisingly clean 15 kHz remote audio at bit rates as low as 19 kbps.**

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Zephyr Xport: **It's all about the audio.**



Two-input mixer with sweetening by Omnia, switchable Phantom power, and send / receive headphone mix make life on the road easy.



Ethernet port isn't just for remote control: feed PCM audio right into the codec from any Windows™ laptop. Great for newsies on the go.



Xport's *aacPlus* and Low-Delay MPEG AAC deliver superb fidelity. G.722 coding enables connections with 3rd-party codecs, too.



Xport lets you easily send and receive audio using a cell phone headset jack. Gives a whole new meaning to the phrase "phoning it in."

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## Bleeding: It's Good for You!

by John Bisset

Last issue I encouraged you to inspect and clean transmitter capacitors. Through an inspection with a bright trouble lamp, you can spot potential problems like leaks, bulges or heat-discolored terminals that indicate pending capacitor failure.

Another component that you'll find in large tube-powered transmitters could save your life. Wire-wound resistors are used throughout these big rigs. Several usually are ganged together to provide a discharge path for the high voltage when the transmitter is turned off. If the resistors open up, or their contacts are corroded, your safety is in jeopardy. Visual inspection of these resistors usually can identify a problem.

Here's a slick trick that can spot trouble before you even open the transmitter door: Turn the transmitter plate supply off while watching the plate voltage meter. The meter should quickly drop down to zero as the voltage bleeds to ground through the string of resistors, as seen in Fig. 1. If the meter hangs up near the typical plate voltage reading even after the plate has been turned off, or if it drops very slowly, you've probably got bleeder resistor problems.

What you are seeing on the meter is plate voltage with no place to go; or if it has to bleed through corroded resistors, it may take awhile. In either case, high voltage can be present on components after the transmitter power is off. Of course, if you open the transmitter door before the charge has bled off, the High Voltage Interlocks should quickly discharge the voltage — providing a loud crack, a reminder of how easily you could be killed coming in contact with the lethal forces.

With your bright trouble light, inspect

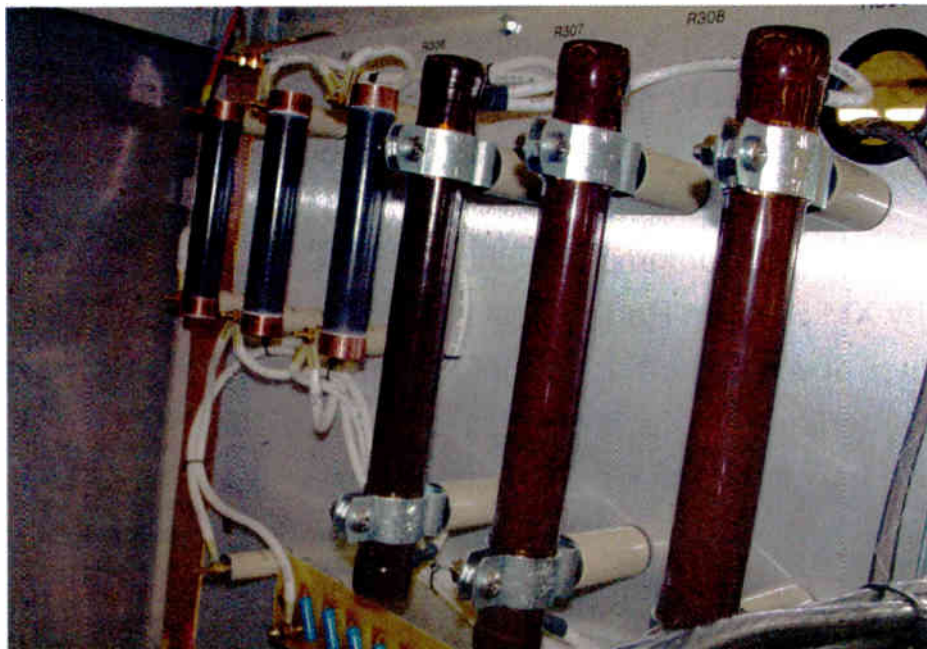


Fig. 1: A gang of high-voltage bleeder resistors.



Fig. 2: Keep bleeder connections clean and tight.

the connections of this string of resistors. Fig. 2 shows these resistors mounted with a bolt-secured bracket. Some are mounted with spring contact clips. After verifying that all components have been discharged with the grounding stick, check the terminals, wiring and connections.

Older bleeders may have a green corrosion between their contact band and bracket. Remove the resistor and clean the contact band and bracket with isopropyl alcohol. In the case of spring clips, ensure that the clips are tight and making good contact.

In addition to the visual inspection, use a VOM to test continuity. Older wire-wound resistors sometimes develop a chalky "open" where the wire actually opens up and forms a white chalk crust at the break point. The resistor outer coating should be smooth, with no surface imperfections. Investigate any abnormality.

Keep these resistors clean and working; the practice will help keep you safe. It only takes a few moments; do it at least several times a year.

★ ★ ★

Frank Grassi has worked as a recording engineer and videographer in Brooklyn, N.Y., for over 30 years. His assignments in videotaping have required taking note of sound systems used in pre-World War II buildings.

The cable found by Wes Boyd of Cumulus, which we showed to great interest in our Aug. 17, 2005, edition of *Workbench*, is familiar to Frank as a "school" cable.

As others pointed out, older public schools used the "polarized" three-pin plug to "twist lock" microphones into an auditorium's P.A. system stage box. The twisting action, and the fact that one prong was larger than the others, ensured that some heavy-handed custodian or teacher

See BLEEDING, page 18 ►

## New! Dual Digital Distribution!

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# “Showcase studios take time, right? Not this time.”

“‘Challenging’ didn’t begin to cover it. Our showcase studios were to be located in the high-visibility West Edmonton Mall. With only six



weeks ‘til our on-air date, our challenge was finding a manufacturer we could trust to deliver on our timeline.

“We’d almost decided on one of the traditional console/router companies; working 25/7, we could barely make our deadline.



Then we found out about Axia IP-Audio networks.

“Axia gear goes together with RJ-45 connectors, so adding sources to the network takes almost no time. A few clicks and you’re done! That produces a substantial cost reduction in terms of wiring from room to room.



“And because the Axia system routes audio using ordinary Ethernet instead of expensive mainframes, the ease of adding to the network allows it to grow and change dynamically with our operations.

“When we decided to go with Axia, the router guys had a fit. They actually tried to tell us that the IP-Audio network would catch viruses! We laughed for days about that one.



“Our studios were finished with time to spare. The installation came together really well, and since going on the air we’ve been trouble-free.

“We’ve had several announcers tell us how much they love working with the Axia surfaces and how easy they are to operate. It’s great to be able to setup and save multiple configurations that can be recalled at a moment’s notice.



“Our experience with Axia has been all positive; we’ve had no audio glitches or dropouts whatsoever. I don’t know why we hadn’t gone this route earlier. Where we’re installing new equipment, we’re onboard with Axia.”



— Owen Martin, Director of Engineering,  
Newcap Radio, Alberta, Canada



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

# Pledging Allegiance to the Audio Flag

*One Nation Under Guard From Possible New Legislation on Digital Radio*

by Skip Pizzi

There's an old saying referring to Congress that goes: "Whatever they're talking about, they're talking about money." The recent congressional action on content protection for digital radio has been no exception.

For those that haven't been following

this, here's a quick review of recent activity.

First you may recall that the FCC was about to enact content protection rules for over-the-air (OTA) digital television last summer, but in late spring, a federal appeals court vacated these rules. The court claimed that the FCC had no jurisdiction beyond the RF domain, and that the rules about to go into effect strayed

well into the consumer's home electronics environment, far downstream of the tuner. The court ruled that the FCC would need explicit authority from Congress to extend its purview into this area, and thus legally enact the rules it had developed.

This decision threw about three years of industry work on a compromise solution — generally referred to as the *broadcast flag* — into disarray, just as it was finally about to come to fruition. It's therefore no surprise that the television content and

## The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

## Bleeding

► Continued from page 16

couldn't accidentally remove the connection from mic to amp.

The "RCA plug" on the other end looked like the usual "prosumer" interface; Frank surmises if you unwrap that electrical tape, you will find a resistor or two used to pad down the output from an audio mixer, phono preamp or some other line-level device to match the microphone level input of the house system.

It is a "lazy way" to feed signals into the amp without crawling behind some dusty old rack to find the "Line In" jacks that usually were occupied by a separate FM tuner or a phonograph. Thanks, Frank, for the first-hand experience.

Readers might also be interested to learn that after a long career working for himself in audio and video, Frank accepted a position as a subway car inspector on the midnight shift for New York City Transit.

He now works on computerized "new tech" cars from Bombardier and Kawasaki. His electronics background was good enough to land the job at age 58. He's been on the job for four years and is considered a top troubleshooter on these \$2 million cars.

For those who think they can't do anything else but radio, consider this: Frank didn't even know computers when he began the job.

Frank adds that he's learned a lot from *Workbench* columns about maintenance shortcuts and tricks to make his audio, video and computer careers fun and challenging. Frank, we're glad to have contributed along the way.

Reach Frank Grassi at [frankgrassi@webtv.net](mailto:frankgrassi@webtv.net).

★★★

Wes Boyd — who contributed the "dead man's cable" photo Frank mentioned — sometimes needs an OIB, the brand of operating impedance bridge manufactured by Delta Electronics, but couldn't get his hands on one. Don't expect to find one in the used equipment pages; once someone buys an OIB, they usually hold onto it for life.

About six months ago, Wes found the Autek VA1 RX Vector Analyst, a great, inexpensive impedance measuring device.



Fig. 3: The Autek VA1 helps determine impedances.

Although not an OIB, this device works in a pinch. It tunes below 500 kHz and up past 30 MHz (in several bands).

This little tester shows a frequency display, with course and fine tuning, of the internal oscillator, which will check SWR across those frequency ranges. It also performs measurements like an OIB. The Autek VA-1 is a 9V, shirt-pocket device that costs \$200.

Unlike the OIB, this is not an *operating* impedance bridge, but Wes has used its internal generator to rough-tune the temporary antenna for WPIC(AM) at 790 kHz, as well as loan it out to tune an STA antenna on WGRP(AM) at 940 in Greenville, Pa.

Wes made the mistake of checking his HAM "tri-bander" and found he needs to take the antenna down and retune it. His only complaint is that the power switch is a little pushbutton, which can be left on by mistake and drain the battery in a few days.

Wes has seen the company set up at the Dayton Hamfest, but if you can't wait for that, get more information from the company's site at [www.autekresearch.com/val.htm](http://www.autekresearch.com/val.htm).

Reach Boyd at [wboyd@theradiocenter.com](mailto:wboyd@theradiocenter.com).

John Bisset has worked as a chief engineer and contract engineer for more than 30 years. He is the northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or [jbisset@bdcast.com](mailto:jbisset@bdcast.com). Faxed submissions can be sent to (603) 472-4944. Submissions for this column are encouraged, and qualify for SBE recertification credit.

broadcast industry has been working hard ever since to get congressional authority for the FCC to extend its domain accordingly, and thereby restore the broadcast flag to OTA digital television rules.

As this quest of the TV industry proceeded, it garnered the attention of the music recording industry, which attached itself to the process in an attempt to have whatever jurisdiction Congress granted to the FCC in this area to include the digital radio environment, as well.

It soon became apparent, however, that a digital radio equivalent of the broadcast flag was not a simple replica of the TV version, because its industry vetting and standardization process — which had taken place over the preceding years, and *without* the involvement of the record industry — would require an equivalent procedure among radio and record businesses. Therefore any congressional authorization of the FCC would have to distinguish between the simple blessing of an otherwise completed process for DTV, vs. a yet-to-be-started course of action for digital radio.

After some discussion, the latter was given a new name, the *audio flag*. This implied that it would take a similar course to the DTV approach, but would necessarily require its own, separate development process.

### How a flag system works

Although this process could require years to complete, even this simple understanding was a step forward in the eyes of most observers because it meant that digital radio might also take a "flag" approach, as opposed to other alternatives for protecting broadcast content.

In contrast to traditional content protection schemes (such as those used by cable and satellite TV) — in which the

See FLAG, page 21 ►

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Gary Bluhm was named director of engineering for WCPN(FM) in Cleveland, taking over for Chief Engineer Jim Young, who retired in 2005, while continuing to serve as chief engineer for WVIZ(TV).

Westwood One promoted Beth Robinson to senior VP of radio network operations and engineering in New York. She has worked for the



Beth Robinson

company for five years, first as director and then VP of broadcast operations. ... Conrad Trautmann assumed the position of senior VP of engineering and technology for Westwood One. He too has been with the company for five years, first as VP of radio network engineering, and most recently assuming responsibility for corporate telecommunications.



Conrad Trautmann

Westwood One and CBS Radio made changes in the leadership of CBS Radio News. Aliah Git and Craig Swagler assumed titles of executive editor and special events director. Git joined CBS Radio News in 2002; he is former executive producer of the "Gil Gross Show" at KLAC(AM) and producer of the "Bill Handel Show" at KFI(AM) in Los Angeles. Swagler joined the company in 2001, and since held various positions such as desk assistant, production coordinator and special events producer. ...

Harris Corp.'s Broadcast Communications Division assigned additional strategic marketing responsibilities for its Radio Broadcast Systems business unit to Hal Kneller. He will continue to represent Harris on



Hal Kneller

NPR and other public radio projects while also working in marketing strategy for the company's radio business.

John Hartzell joined Burk Technology as director of government and international sales. He has worked for WR Systems and Harris Corp., and was with the U.S. Coast Guard for more than 20 years.



John Hartzell

Walter Z. Berger was named by Infinity Broadcasting, now CBS Radio, as executive vice president and chief financial officer. He had been executive vice president, CFO and member of the board of Emmis Communications Corp. from 1999-2005. Berger succeeds Jacques Tortoroli, who was named senior vice president, corporate controller and chief accounting officer of the new Viacom, following the separation of the organization into two publicly traded companies.

Jennifer Donahue was named VP/director of sales for CBS Radio's New York cluster. She continues as general sales manager of WNEW(FM), The New Mix 102.7, a position she has held since Sept. 2003. ... CBS Radio and the board of Westwood One appointed Peter Kosann as president and CEO, and elected him to the board. He had been serving as both co-CEO and co-president of sales.



Peter Kosann

Broadcast Electronics appointed Richard Rice as western regional sales manager, responsible for AudioVault and The Radio Experience digital media lines. He comes to the company from the IT firm Midwest Technology Group, where he served as director of business development. Prior to that he was in charge of operations for an instant messaging software development company.

Dara Altman joined XM Satellite Radio as executive VP of business and legal affairs. She held the same position for Discovery Communications.

Beasley Broadcasting named Matthew Bell general manager of Miami's WPOW(FM) Power 96. He was GSM ... Tom Davis was appointed market manager for Beasley's three Las Vegas stations, KSTJ(FM), KYCE(FM) and KKLZ(FM). He had been director of sales. Davis replaces Harry Williams. ... Joe Bell was appointed general manager of Sports Radio 560 WQAM(AM) and market manager of WQAM and WKIS(FM). He had been general manager of WKIS for six years.

ABC News Radio national correspondent Jim Hickey received the Distinguished Eagle Scout Award, recognizing Eagle Scouts who have made contributions to business.

Greater Media's Matt Mills, VP/GM of Greater Media Inc.'s Boston radio properties, announced his retirement, effective April 14. He has been with the company since 2001. He will continue to oversee the Boston cluster until a successor is named and serve as an advisor to President/CEO Peter Smyth during the transition. ... The company appointed Buzz Knight VP of program develop-

ment. He has been with the company since 2002 and is a former PD at several stations including Boston-based WZLX (FM), WNOR(FM) in Norfolk, Va. and Great American's Active Rock station WLVQ(FM) in Columbus, Ohio.

The Network Radio Research Council selected Dr. Tom Evans, senior VP of research for ABC Radio Networks, as chair for a one-year term. Charles Steinhauer, senior VP, research/operations, Dial Communications-Global Media, will serve as vice chair.

Tom Land, operations manager at Journal Broadcast Group's Omaha radio stations, and Rick Belcher, VP of operations at Journal's Milwaukee stations, were named senior group programmers for the company. Land has been with Journal since 2000. Belcher joined the company as program director of WTMJ(AM) in 1998 and assumed programming oversight for WTMJ and WKTI(FM) in 1999.

Bustos Media Chairman Amador S. Bustos was appointed to the NAB Radio Board. He fills a vacancy left by the resignation of Miguel Villarreal.

Katz Radio Group named four new vice presidents/managers: Scott Porretti, Joi Mosbarger, Matt Cowan and Jen Magozzi.

Cox Radio named Keith Lawless VP/GM of its three Tampa stations. He had been general sales manager for one of the stations, WSUN(FM).

ESPN Radio's Colin Cowherd, host of the network's "The Herd," was named Sports Media Personality of the Year by SportsIllustrated.com.

John Orlando, executive VP and head of the NAB Government Relations Department, leaves to take the job of senior VP, Washington, for the new CBS Corp. He will run the company's Washington office and serve as the lead contact with Congress and the administration. Orlando had joined NAB in 2001 after a stint as VP, Washington, for CBS.

... Laurie Knight joined the NAB as senior VP of government relations. She comes to NAB from the National Beer Wholesalers Association, where she has worked since 1999, most recently as director of governmental affairs.

Premiere Radio Networks named Tom O'Brien as Mike Berman's successor as VP/Detroit manager. Berman retired at the end of 2005. O'Brien was regional manager at Clear Channel Traffic, where he oversaw national sales for Michigan and Ohio.

Mark Chernoff was named VP, programming of New York's FREE FM and sports station WFAN(AM). He continues to serve as operations director for WFAN.



Mark Chernoff

Michel Martin, an ABC News correspondent and former Washington Post and Wall Street Journal correspondent, is joining NPR to host an afternoon public affairs and cultural program focusing on stories of importance to African Americans. The show is slated to launch later this year.

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# Flag

► Continued from page 18

content is encrypted before transmission, and only authorized receivers can decrypt the content — a “flag” scheme simply marks content as requiring protection when it is broadcast, and expects compliant receiving equipment to apply a protection regime to all such flagged content after demodulation. Thus the content is broadcast “in the clear,” but receivers are compelled by rule to enforce protection after reception, and all consumer equipment that connects to such receivers is also expected to observe these rules.

For DTV, the FCC authorized about a dozen different commercially available content protection systems for use in the enforcement of these rules on consumer equipment, which were intended to prohibit the “indiscriminate, mass redistrib-

first shopped around the encrypt-at-the-source idea, it was strongly rebuffed by Ibiqity Digital, NAB and CEA. Thus RIAA realized it was already too late to try this approach, so it moved to the only other real option, what is now being called the audio flag.

This move has since received a modicum of acceptance from the NAB, which has pledged to work with the RIAA toward a mutually acceptable solution. (The NAB has formed an Audio Broadcast Flag Task Force, chaired by Dan Halyburton, senior vice president and general manager of operations at Susquehanna Radio.) On the other hand, the Consumer Electronics Association — representing members that make radio receivers and who are generally opposed to the audio flag — doesn't relish the idea that NAB and

RIAA might bilaterally decide how the CE industry will make those receivers. But CEA will likely participate in these talks to try to achieve some broader industry consensus.

In fact, one of the bills introduced in Congress to authorize the FCC's broadcast flag rules (the “Digital Content Protection Act of 2006”) has additional language addressing the audio flag, in which a process for such a multilateral private industry consensus — including the software and IT industries — might be reached. Meanwhile, NAB, RIAA and CEA — and perhaps others — will likely meet independently, in the hopes that a private consensus can be reached without having to undertake government mandated talks. (The bill as currently written authorizes the FCC to act upon an audio flag even if consensus is not reached by a

particular date, the so-called “shot clock” rule.)

At present the audio flag is only a concept, based on the premise of the DTV broadcast flag, but it has no technical design, no place in the NRSC-5-A standard, and no agreement on how it would be enforced. On the latter point, an important distinction involves the RIAA's stated preference that the audio flag might enforce stricter controls than the broadcast flag, covering not just Internet redistribution but also private copying and home networking.

Next time we'll consider how the audio flag might actually work, and what deeper problems the record industry might really be attempting to solve with such a proposal.

*Skip Pizzi is contributing editor of Radio World.*

**The audio flag might enforce stricter controls than the Broadcast Flag, covering not just Internet redistribution but also private copying and home networking.**

ution” of content received via DTV via the Internet. Importantly, this was the *only* goal of the DTV flag — it was not intended to curtail any other recording, local copying or in-house redistribution of such content by the consumer, which are generally considered to fall under “fair use” rules.

(These rules make it legal for individuals to make a photocopy of a few pages of a book, or quote from it in a report, without obtaining permission of the copyright holder. They also are the basis of why the VCR was declared legal in the celebrated “Betamax” case of 1984.)

### Facing the music

The record industry, represented by its U.S. trade association, the RIAA, at first proposed the traditional route (noted above) toward content protection for digital radio, the so-called “encrypt at the source” approach.

Given that this idea was only introduced in 2005, however, and that IBOC product without such encryption capability was already in use by broadcasters and consumers, encryption at the source was a non-starter for U.S. digital radio, since it would have orphaned equipment that had only recently been purchased by broadcasters and consumers.

Moreover, the entire IBOC rollout would have to be stopped while a standard encryption system was developed, vetted and approved, which could have required a year or more hiatus — effectively killing the nascent HD Radio market momentum.

So it's no surprise that when RIAA



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## TECH TIPS

# Why a Transmitter Misbehaves

*Seven Reasons Your Most Important Piece of Gear May Be Unhappy*

by Rolin Lintag

Transmitters misbehave. As with children and teenagers, there's probably a good reason a transmitter might be "acting out" of late. Here are seven.

## Can't keep its cool

A transmitter is a heat-generating device. The physics of its operation causes it to turn some of the AC power into wasted energy, usually in the form of heat.

This heat needs to be conducted out of and away from the transmitter. Parts may fail if it is overheated beyond its tolerance.

There are at least two possible reasons a transmitter will overheat:

- ✓ Lack or absence of the coolant — air, liquid or both
- ✓ Diversion of the coolant from where it is needed

Lack of air can be caused by failure of a fan motor or absence of power to the motor. A decrease in the capacity (cfm) of the fan motor can also cause transmitter parts to overheat. A misalignment of the fan or an unbalanced fan can cause a decrease of its capacity. Air filters also can decrease the cooling air.

In the case of liquid cooling, there may not be enough liquid flowing due to clogging in the system, or perhaps the system simply does not have enough to go around. A pump motor also can deteriorate to the point that it loses the necessary pressure to push the liquid through the system.

When an air hose is disconnected, cooling air goes to where it is not needed, depriving parts that need it. The same is true for liquid cooling, where a small leak can drain the whole system out of coolant in a few minutes.

Enough coolant should be present or flowing wherever it is needed. Make it your practice to verify regularly that this is happening if you want the transmitter to keep its cool.

## Wallowing in dirt

Good housekeeping is not only for housekeepers. If you want your transmitter to behave, you'd better keep the place clean, inside out!

Dirt on insulators can serve as a conducting path for arcing. This becomes more critical as operating voltages get higher. Insulators with high DC voltage across them naturally attract dust and other airborne particles. Sad to say, dust plus moisture equals arcing. This is why insulators need to remain clean and dry.

Accumulation of dirt on semiconductors and their heat sinks can impede free flow of heat away from the semiconductor. The presence of dust impairs the thermal conductivity of electronic components.

Dirt on fingerstocks, relay contacts and interlock contacts can cause these parts to malfunction. Tubes on high-power transmitters can get fingerstock burns if there is sufficient dust to compromise the integrity of the connections.

All connections that need good mechanical and electrical contact should be clean from dirt in order to function properly.

Air filters can be useable for a longer time if the building floor is kept clean. Never use a broom; it only transfers dust from places you can see (on the floor) to places you can't once they are airborne. Use a wet mop or a vacuum cleaner for cleaning the floor.

You can keep your transmitter healthy and happy if it is kept clean.

## Fed with bad AC

Bad AC mains can cause numerous ailments on your transmitter. Voltage spikes can kill or debilitate digital circuits in the exciter and control system even if they are supposed to be protected by MOVs inside the cabinet. Remember that MOVs are single-shot devices. They may look good in the outside but may have given up their spirits a long time ago. There is no easy way to test if an MOV is still in active service or KIA. A transmitter almost always requires another device outside of it called a surge suppressor. Make sure you have one between the AC mains and your transmitter.

Three-phase AC power is common to high-power transmitters. The loss of one phase called single phasing is unmerciful to three-phase motors. Make sure the three-phase protector and the thermal breaker of the motor will work when needed.

Voltage regulation needs to be maintained within the design specs of the transmitter. If your facility is located on a site where voltage swings are the norm, consider using a voltage regulator for the transmitter or a true in-line UPS for desperate cases.



These fans were added to the transmitter door to keep it cool.

Feed your transmitter with good AC mains. You'll save yourself maybe half of the possible operational problems.

## Can't take what comes back

Reflected power may be due to an "impedance mismatch" somewhere from the output of the PA to the antenna. The transmitter will be happy if all the power it puts out is transferred to the transmission line, then ultimately out of the antenna. The reflected power should be kept to a minimum.

**'Legacy equipment' seems to be the politically correct term for obsolete gear and 'dirty ol' machines.' But however thankful you may be for the technology of yesterday, obsolescence has a cost.**

If there is a problem on the transmission line or the antenna, a high reflected power will shut down the transmitter to prevent its output from being burned. If you want the transmitter to operate well, everything at its output should be in good shape to absorb what it gives out.

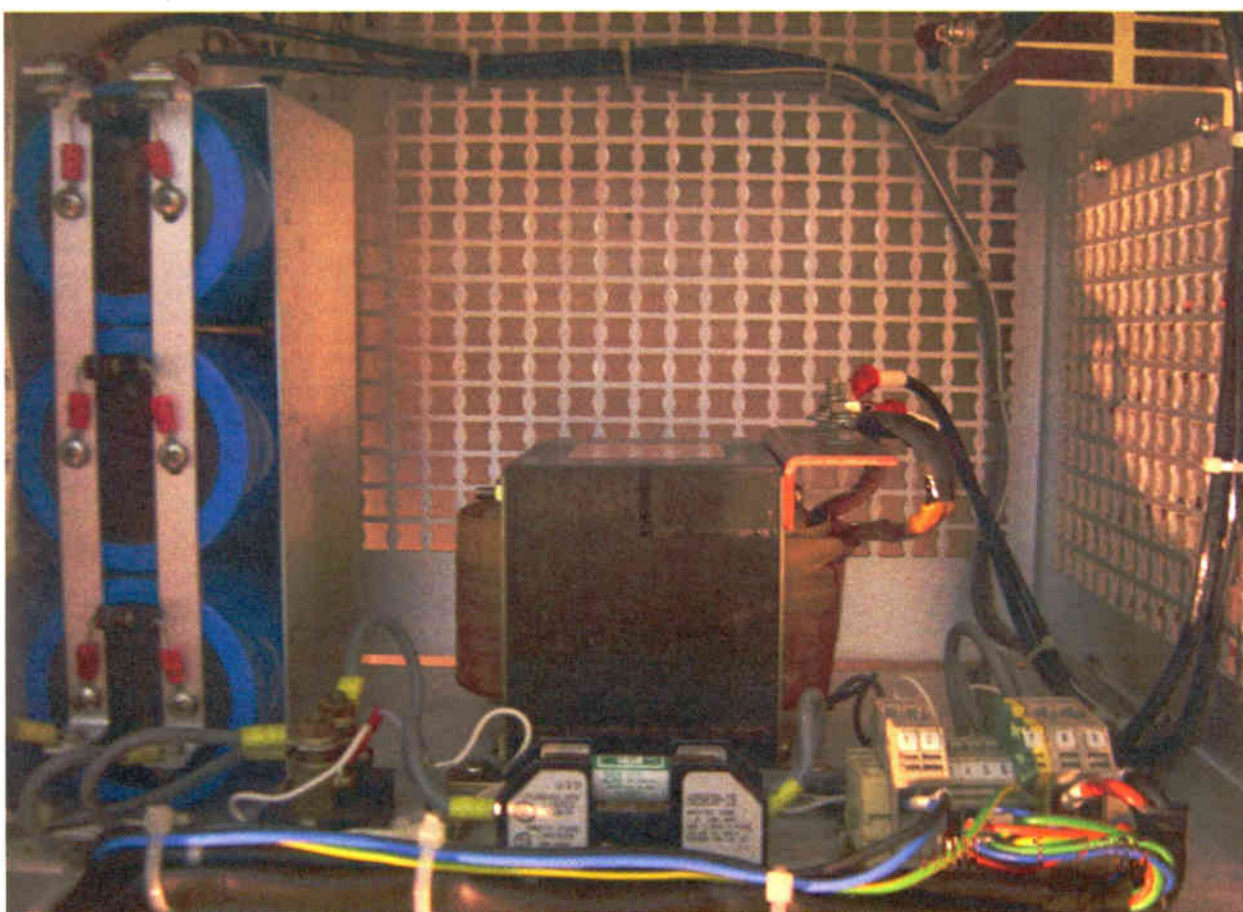
Energy coming back from the antenna may be due to lightning, which is definitely too much for the transmitter to take. Some of the energy may not be due to a direct hit but they still do cause some weird problems for the transmitter. Strange and unexplained malfunctions with the control circuitry just come and go and hopefully stay away for good. Sometimes they cause permanent problems but ultimately need to be flushed out and repaired. Static drains and lightning arresters will never go out of style as long as lightning is around.

## Control circuit is confused

Perhaps half of all transmitter problems can be traced to control, monitoring, alarm and protective circuits.

Interlocks that protect the transmitter when air flow becomes inadequate, for example, may utilize

See MISBEHAVING, page 25 ►



Check power supply output for right voltage and clean DC. Bad filter capacitors, for example, can cause control circuit malfunctions.



### Easy-to-Use Time Compression – For Any On-Air Application

Audio Time Manager from 25-Seven gives you the power to shift live programming in real time without compromising sound quality. Squeeze more time (up to 6 minutes per hour) without audio artifacts and glide undetectably between scheduled programming and added content. Use it to clean up network feeds, run PSAs or add local spots for extra revenue! By allowing you to delay the start of syndicated programming and shorten its duration in real-time, ATM puts you in control of your broadcast schedule without removing content, changing pitch or creating annoying artifacts. Plus, it's easy to use. Get in touch with BSW today learn how you can save TIME.

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Event's Studio Precision monitors deliver a sound that's much wider, deeper, more defined, and packed with greater low-end punch than other direct field monitors. Enhanced low frequency response is achieved in part by the front baffle and the dual port design. The bi-amplified ASP8N features Event's most powerful amplifier: 280 watts per speaker (200 watts LF/80 watts HF) – so you'll always have plenty of headroom. Priced as each.

**ASP8N** 8" woofer List \$749.50 ea.  
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# NEW!! The Ultimate RE20 Pop Filter!!

NEW!!

### RE20 Pop Filter

The BSW RePop is the ultimate pop filter—made specifically for the Electro-Voice RE20 microphone. The fine mesh metal screen diminishes undesirable P-Popping while keeping the integrity of the hi-end frequency response. The RePop clamps easily and securely to the microphone and will also work in conjunction with the EV 309 shockmount. Robust metal construction, and the color is matched to the microphone. The RePop is a BSW innovation! Get yours today for only \$39.95.



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Do we really have to sell you on the RE20? A favorite of broadcasters and engineers worldwide, it's simply built to last forever. Its patented, Variable-D design reduces proximity effect to maintain uniform low frequency response at any distance (thereby eliminating bass-boosting when close miking) and its bass roll-off switch helps to shape low-end response. An internal element shockmount reduces vibration-induced noise.

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The Electro-Voice 309/A is the custom suspension shockmount.

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HFI550 **LowestPrice only \$189!**



### New Soundcraft Production Mixers

These new Soundcraft EPM mixers provide an easy-to-understand control surface uncluttered by unnecessary facilities. The highly-transparent GB30 mic amp (designed by Graham Blyth for the company's 30th anniversary, and also used on the larger LX7ii and GB Series consoles) features high-resolution adjustment over a wide gain range of 55 dB, and provides a stunning +22 dB headroom through the console. True professional 48-volt phantom power caters for condenser microphones of all types.

A unique feature of the signal monitoring is the Peak LED. This uses multipoint signal take-offs to watch for overload in several parts of the channel strip, and the LED lights more brightly as the signal approaches the peak point. For smooth and accurate channel control, the EPM has 60 mm faders. Available in 6, 8 or 12 mono inputs, with 2 stereo channels standard. Order online at [www.bswusa.com](http://www.bswusa.com).

**RW5734** EPM6 – 6 mono/2 stereo List \$309.99 **\$249.00**  
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\*\* Software not returnable

# Radio E-commerce Grows

*Vendors Nourish Their Web Offerings But Try to Keep the Personal Touch*

by James Careless

E-commerce has made inroads into the U.S. broadcast equipment marketplace.

Web sites have long been a marketing staple for manufacturers; and various equipment retailers host comprehensive sites where radio engineers can browse for information about the products they need. But actual online shopping services are expanding, it seems, in the age of Amazon.com. In some cases, dealers are building up their online purchasing systems, and it's possible to purchase equipment without dealing with a single human being.

Is this a good thing? On this point, vendor opinions vary sharply.

On the one hand, most see the benefits of a sale site that is open 24/7, 365 days a week. On the other, some vendors worry that removing the human factor from equipment sales could weaken their relationships with customers and reduce what has traditionally been a brand-specific market into an "any brand will do" commodities exchange dominated by the lowest price.

**Making the case**

BSW President Tim Schwiager is a firm believer in e-commerce.

"No matter whether it's Christmas or just another non-business day, our Web site at [www.bswusa.com](http://www.bswusa.com) is always open for business," he said.

"This matters to our customers, because they often find themselves in situations on the weekend or at all hours of the night when they have to make purchasing decisions immediately in order to get the equipment they need ASAP. The Web makes this kind of 24/7 service possible."

Shopping on the Web, said Larry Lamoray, CEO of [www.systemsstore.com](http://www.systemsstore.com), has "vastly simplified both research and procurement of almost any commodity, whether it be consumer goods, a wide range of services, or — in the case of [www.systemsstore.com](http://www.systemsstore.com) — technical tools and supplies.

"While few individuals or companies are yet ready to purchase major items via the Web — and broadcast equipment such as consoles, processing and transmitters fall into that category as these decisions do require discussion with a knowledgeable manufacturer's rep or distributor — in this modern era of the Internet there is no reason not to purchase the smaller everyday items such as cables, connectors, punchblocks, tools, test equipment and 'problem

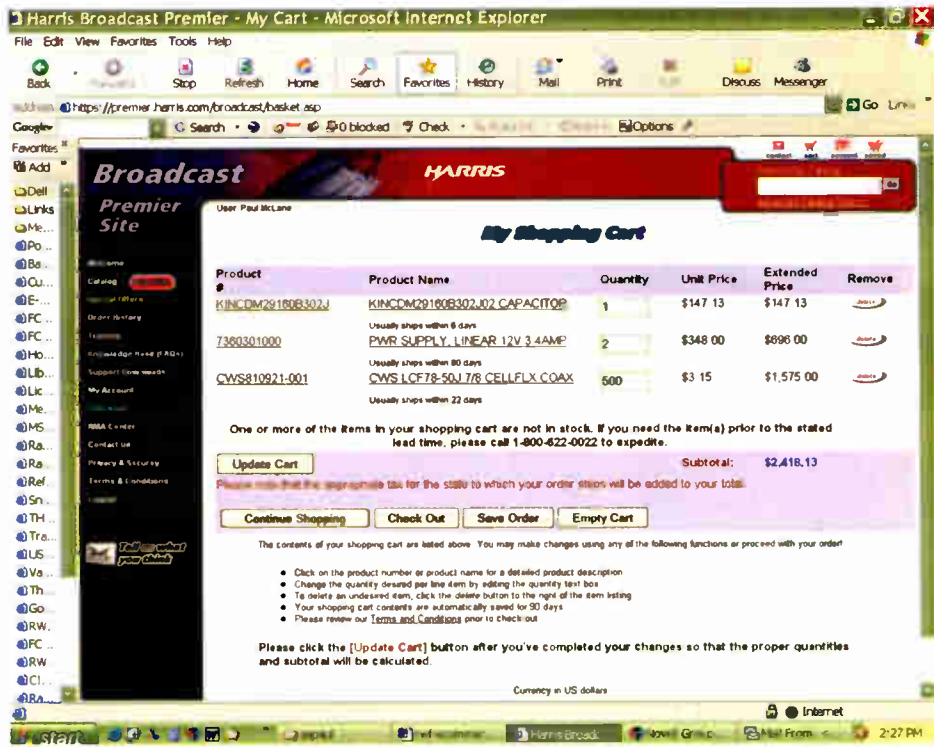
solvers' in this fashion," Lamoray said. As for any notion that e-commerce is too new or novel to trust for professional sales, it's an argument Schwiager of BSW doesn't buy.

"E-commerce has become so mainstream and accepted by business that it's just another form of sales, as far as our customers are concerned," he said. "It is

sales people." This belief is shared by Collins. "We're concerned that people might make inaccurate customization choices on the Web if they don't have direct assistance from our sales staff," she said. "That's why we don't offer very, very complex products on the Web."

Without a sales person in the picture, radio equipment customers also might not know whom to call when they run into technical issues.

"Moreover, most engineers like to do



Shopping Cart page at the Harris Premier Site

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as comfortable as using the telephone or the regular mail.

"As well, by offering a wide selection of products on the Web, we give our customers a choice in how they choose to buy."

Harris Corp. launched a site in early 2005 at [www.premier.harris.com/broadcast](http://www.premier.harris.com/broadcast) and is a believer in radio equipment e-commerce.

"This is why we link our customers' online identities to their corporate accounts," said Lynne Collins, the company's multimedia/Web development manager. "Once we create these links, we have all the information we need to ship Web-ordered products fast. As well, if they have a specific pricing package pre-negotiated with us, the prices they see online reflect this package, rather than regular list pricing."

In terms of e-commerce design, Harris' aim is to make online equipment shopping as "easy as Amazon.com," Collins said. "This is why we use familiar e-commerce tools like 'shopping carts.' Moreover, after the purchase has been made, our customers can log on at any time to check the status of their orders and answer the question, 'Where's my stuff?' This technology extends our sales and service channels and provides support when our customers need it most."

**Human touch**

Even with his faith in e-commerce, BSW's Schwiager thinks there are times when humans are required in the sales process.

"Specifically, we won't sell products on the Web that are too complex to explain adequately online, or that require customization in order to work," he said. "In these cases, our customers need the help of our qualified

business on a personal basis," said Chuck Maines, national sales manager for Broadcast Depot, which maintains a Web site at [www.7bd.com](http://www.7bd.com).

"They like to buy equipment from someone they know and trust, and with whom they can consult over time."

Beyond the possibility of purchasing errors and support problems, Maines fears that too much e-commerce could destroy the sales-customer relationships that vendors have labored so hard to create.

"If we simply put everything we offer on the Web, then I have to wonder why we would even bother to have a sales staff," Maines said. "If we go this far, we'll be offering nothing more than mail order business without meaningful sales support. What's the advantage of that?"

"I just don't see the value of putting everything online," said Bob Cauthen, president of SCMS. "At the end of the day, we want to talk to our customers. We want them to call us and discuss what their needs are."

The company has an online presence at [www.scms.com](http://www.scms.com), but Cauthen says, "E-commerce is for companies who do not want to talk to their customers. We want our customers to call."

Underlying these doubts is the fear that e-commerce could reduce radio equipment to a commodities market, one where price is not only the first but the only parameter, and long-nurtured relationships between vendors and customers cease to matter.

No vendor who spoke to Radio World wants this to happen. Schwiager, who is the most bullish e-commerce advocate among the four, described Web sales as just one of many selling tools rather than the sole choice for the future.



# Misbehaving

► Continued from page 22

pressure or air vane switches that may act up in due time. The protective circuit may not act fast enough to even show up in the front panel. All you'll see is that the "Ready" LED just won't light. Replacing parts with known good spares may save you many hours of trouble hunting.

When was the last time you verified that the overload circuits are tripping at



Verify that the air interlock actually works and that air goes to where it is intended to go.



Keep insulators and HV wires clean to prevent arcing.

the right point? Are they tripping at all? Are you certain that the meters are telling you the truth?

A voltage sag on the mains can cause some circuits to hang and stop working. Nothing helps until you powered everything down, count up to 20 and restart everything. The control circuitry just got confused and the digital circuits lost count of their ones and zeroes.

### Can't take it anymore

Overdriving an amplifier or operating a component beyond its specs is a sure way to cause malfunctions.

You may think that the power amplifier module should still have plenty of power in reserve (and you may be right) but you may not be aware that the combiner cannot take all that the power modules can give. If the transmitter is not putting out the rated power for some reason, do not overdrive other modules just to make up for what is missing. The

missing power may be dumping on the resistive load due to an imbalance in the combining process. Don't just cure the symptom; find out the cause.

Use replacement parts recommended

**Obsolescence cannot hide its ugly face when it is compared with new equipment.**

by the manufacturer. There may be other considerations that off-the-shelf components will simply not do the job over time.

It is fortunate that solid-state transmit-

ters nowadays do not require as much tuning (if any) compared to their tube counterparts. Mistuning of transmitters is an abuse that cannot go on for long. You'll know by the foul signals that the transmitter spews out or if it won't stay on-air at all.

### It's a DOM

"Legacy equipment" seems to be the politically correct term for obsolete gear and "dirty ol' machines." But however thankful you may be for the technology of yesterday, obsolescence cannot hide its ugly face when it is compared with new equipment. Power efficiency, signal quality, operational stability and cost of maintenance are major areas where you cannot expect legacy equipment to compete with today's transmitters.

Replacement parts are not only hard

to find but can be expensive, if available at all. Expertise on legacy equipment is also becoming hard to find because the manufacturer may be out of business or bought by somebody else, or the files have been purged and the service engineers have retired.

If parts and know-how are hard to find, the transmitter can be hard to deal with when it acts up.

Proper design and implementation of the installation with a proactive maintenance program can keep your transmitter from misbehaving.

Share your hard-earned transmitter care tips with Radio World at [radio.world@imaspub.com](mailto:radio.world@imaspub.com).

Romualdo "Rolin" Lintag is chief RF engineer of Victory Television Network in Arkansas. ●



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# There When You Need It

## Availability, Capacity and Continuity Management Are Part of IT Service Delivery

by Bill Eldridge

In the June 8 and Aug. 17, 2005 issues, the author discussed IT Service Management. The series continues here. Readers can now review all articles in the series at [www.rwonline.com](http://www.rwonline.com). Click on the tab IT Service Management.

In the previous installment of our series on IT Service Management, we examined the Service Level Agreements (SLA) and Financial Management portions of Service Delivery, the half of ITSM relating to facility planning.

The other three areas involved here are Availability, Capacity and Continuity Management.

While broadcast engineers tend to be familiar with these areas, there is often room for improvement in both planning and actual deployment. Additionally, these three areas should be viewed in relationship with budgeting and SLAs. Service Delivery is not designed in a vacuum, but in accordance with business models and pre-defined fulfillment of what's been promised the user or client and the owners.

### When you need it

Availability Management basically means having resources there when you need them — in the right place at the right time and in good understood working order. It involves having spares, scheduling maintenance at convenient times, properly assessing usage and reliability of systems and ensuring that down times and recovery times are appropriate for facility needs.

It also involves the procedures and training for getting services and equipment back up and running. Backup gear and procedures are useless if they cannot be deployed quickly enough to fit the users' needs. (Ironically, recovery may be easier when short-staffed in the nighttime, when activities are more focused on basic routines).

The SLA itself helps get around the philosophical question of whether needs are "real" or "frivolous" — if they've been contracted, they should be delivered.

Under IT-related availability concerns, some problems appear as a steadily increasing consumption of resources, while others appear only sporadically, but devastatingly so. The former might include the increase in employees, the steady buildup of e-mail or video archives or increased Voice over IP use (such as Skype). The sporadic ones would include person-2-person file sharing, viruses and spyware, as well as more traditional facility issues with HVAC, telephones and electricity. A spyware program can quickly eat up all available CPU and network resources while spreading across a facility, while an effective virus can require software maintenance on every machine in the plant.

Quickly restoring essential core services while this happens is a must, though preferably in a way not exposed to the same threats. If critical broadcast systems use the same Internet connection as users, a workaround that restores broadcast capabilities separately may be necessary.

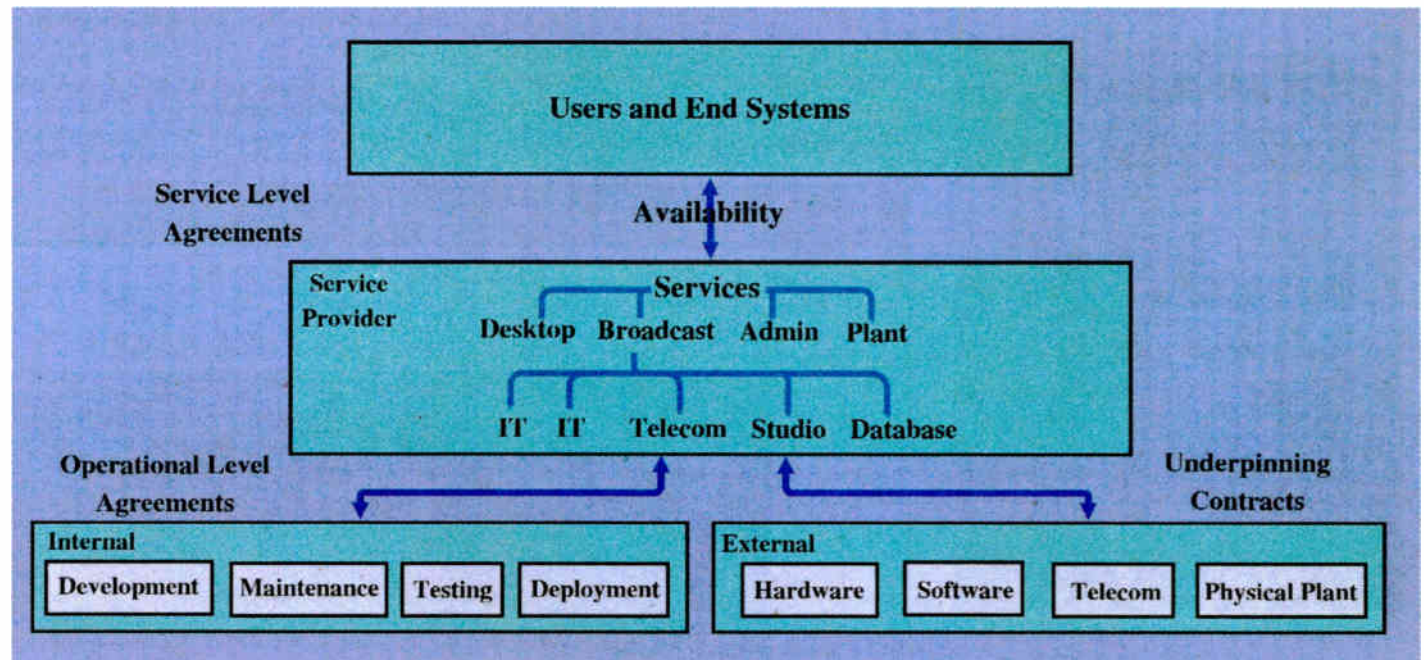
Of course simply replacing faulty equipment time and again is not a strategy. Identifying faults and migrating to problem-free solutions is the ideal. Detecting early warning signs helps prevent actual failures, and this can partially be done using software that baselines a

problems through technical means than behavioral change (system use will be greatest at 9 a.m. and 1 p.m. unless you radically stagger schedules). But when problems threaten the business plan through unsupportable costs, security risks or system breakdowns, a more general or better thought-out approach is required.

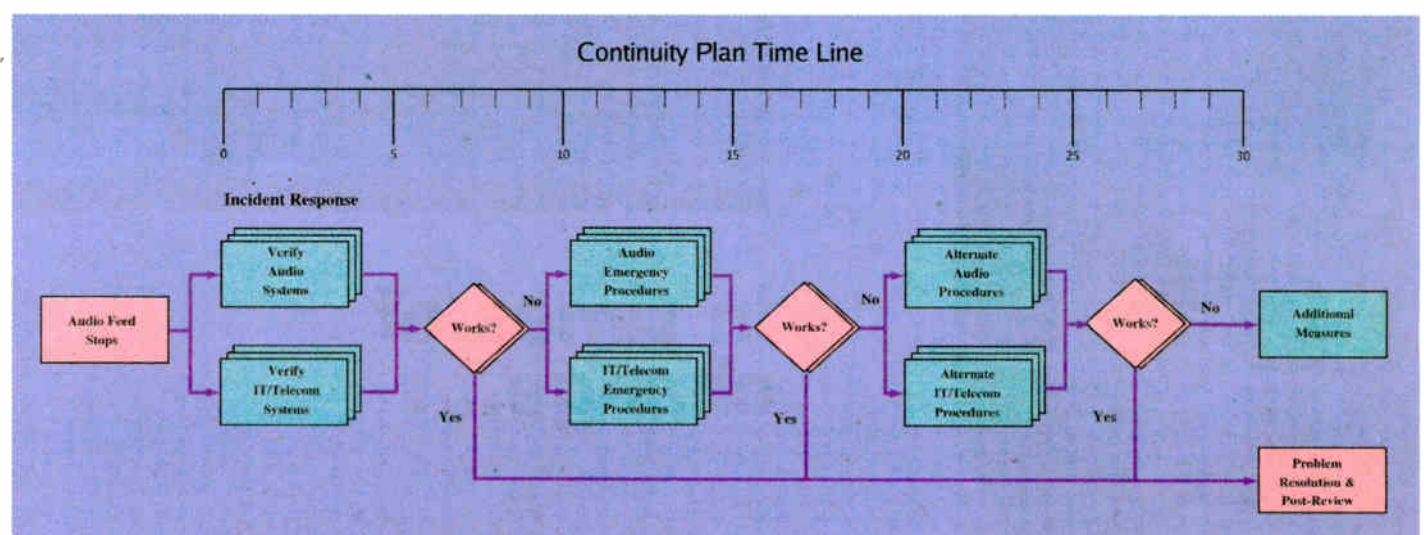
In security issues, a good solution is usually automatic for a user to follow.

CPU speed, in that order. But in one case we discovered a poorly designed driver for a disk controller copying audio from disk at 1/100th the available network speed. In another instance, we found out that our Internet provider would "borrow" network bandwidth if we didn't monitor it closely and complain enough.

Unfortunately, systems are frequently purchased without any effective performance evaluation, or in an unrealistic test lab scenario. Several approaches exist for providing more quantitative measures for the facility.



For the user, availability agreements are a black box. For the broadcast engineer, they're based on a hybrid of IT and broadcast solutions using both in-house and outsourced support contracts.



Having simple diagrams of roles, procedures, systems and timelines can make continuity planning much easier and recovery much simpler under duress.

system and tracks movements in performance over time and changes to the configuration. Knowing what processes run on a clean system can be a great help in detecting viruses and spyware.

Additionally, providing appropriate regular maintenance and staying on top of developments in security, hardware, software and firmware for the different systems are important but time-consuming tasks.

ITSM includes steady improvements in resources and procedures, including efficiency. However, changes and upgrades should not be done just to increase version numbers — they should fix known problems or prevent reasonably serious potential problems.

Some Availability issues relate to policy or politics — how resources are scheduled, appropriate computer use, security in the workplace, access from home, ease of system use and whether employees can be easily held accountable for related actions.

With many issues, it is easier to handle

The Japanese call this a "Poka Yoke" for a procedure or device designed to be impossible to run the wrong way.

### Proper plan

Capacity Management involves planning performance and throughput and making sure equipment, software, data and signal paths can handle the strains put on them.

Without baselining and simulating loads measurements, capacity management becomes a dangerous guessing game. A system load with five users cannot simply be extrapolated to 100 users without testing. A "gigabit" network will not provide a gigabit's worth of actual data transfer, poorly maintained software will bog down a screaming fast computer, and what is fast for one user may not be enough for another with more demanding chores.

Depending on the task, system bottlenecks are usually network bandwidth, hard-drive access speed, memory and

There are load simulators to stress test resources such as Web servers, databases, graphics and network traffic. A virtual machine environment such as VMWare may allow you to run a number of user sessions from the same machine. A conference computer rental service can be an affordable way to get in 50 spare user systems to test for a few days (especially if you book during conference low season).

But the central points are: 1) system effects can change non-linearly or simply break down with increased usage, 2) bottlenecks can occur where not expected, 3) basic system parameters do not adequately describe how it will perform with a particular application, so 4) keep testing until you understand how your systems behave and can pinpoint important metrics.

A fifth important point would be that systems and facilities change over time, so keep track of changes. This will be dis-

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# IT

► Continued from page 26

cussed in more detail with Configuration and Change Management in the next installment on Service Support; but on the Service Delivery side, Capacity Planning needs to track and anticipate growth in usage and other trends.

Some of the Availability concerns mentioned above need to be taken into account, such as increased user storage and network usage from inappropriate use and spyware. While an administrative solution may eventually produce a better solution, not all increases in usage are bad or malicious — some increase productivity or company morale or further another purpose. In some instances simply increasing capacity is cost effective no matter what the cause.

Occasionally, a good capacity strategy will not work for all users or systems, so different classes have to be created (even an exception of “one”). Tradeoffs in ease of administration or application, cost, effectiveness, streamlining policy and circumventing politics are just some of the considerations. Excess capacity can be as much of a burden to an organization as too little. Finding the right balance is the tricky part, but don’t get bogged down by the perfect solution. ITSM is a constantly evolving, steadily improving process.

## Whups

Service Continuity Management means coping with emergencies and disasters, and maintaining or recovering the required broadcast capability.

This need not be fully operational — prior risk assessment helps us to decide the level of recovery required according to the severity of the disaster. Fortunately, improvements in IT systems help make for more robust and elaborate backup systems on the cheap. The big caveat is that these systems still must be carefully constructed, with appropriate procedures and training put in place, and practice run-throughs and final emergency procedures carried out.

Since telecommunications plays a huge role in the modern broadcast facility, it’s wise to assess your telecom providers’ emergency backup resources and investigate alternative transmission paths. But if the alternatives all go through the same data center or suffer from the same outages, the redundancy is not complete.

Normally dependable telecom systems easily go haywire during a large-scale disaster, with telephone lines blocked, data centers shut down and other problems. But for smaller emergencies, telecommuting via xDSL or WiFi, deploying portable recording systems and moving to stripped-down off-site facilities with Internet and low bitrate satellite connections can be sufficient and affordable.

Emergency backup systems are often seen as unused spares and cannibalized accordingly, so taking regular inventory is important to avoid surprises. Whereas maintenance can go bad under any circumstances, during disasters this is doubly true. Basics such as transportation, procurement, shipping and communication can function poorly if at all, so having simple solutions of last resort that rely on as few external requirements as possible is ideal.

Discussing backup plans with those who have been through disasters helps to identify non-obvious but important issues. Our computer facilities at UCLA went essentially undamaged during the 1994 L.A. earthquake, but housed next to chemistry labs that sprung a few gas leaks, we were unable to enter for days. During the first of four Florida hurricanes in 2004, NASA’s Kennedy Spaceflight Center had its Web and e-mail servers under a sheet of plastic after losing the roof, with no backups outside the storm zone.

Every UPS electricity backup has a time limit, and a plan is needed for what happens when that final moment approaches. Financial systems need low-tech contingencies too, as employees still want to get paid during a disaster even if the system is not specifically

broadcast-related.


For a media organization, resources such as movie archives or sound libraries might be as valuable as any computer system, while keeping contact with advertisers and reporters and handling public relations might be critical for business survival. A Business Impact Assessment takes into account the value of different assets and activities to the particular organization, and helps to rate priorities on continuity and recovery plans.

Each broadcast facility will come up with its own priorities for broadcast continuity, but one important factor should be kept in mind: a surprising number of businesses never open their doors again after a serious disaster. If that possibility is not part of the organization’s risk acceptance, a Continuity Plan that provides a basic guarantee of survival needs

to be put into place.

As a final note, international flavors can be important in planning for some global broadcast organizations. Working around differences in holidays, work hours and habits, approaches towards solutions, language issues and time zones can be both frustrating and entertaining. While younger people across the globe more and more adopt similar habits and speak more English, it is doubtful that Spain will abandon the afternoon siesta anytime soon, as just one tiny example.

*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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# Internet Radios: They Come and Go

by James Careless

Consumers can now receive thousands of audio streams direct from the Web on radio-style devices, and for free. It's like satellite radio except with more variety, and no subscription fees. Yikes.

Internet radios have to be linked to the Web to function. As a result, mobile Internet radio isn't a reality yet on a practical level. You theoretically could listen

to Internet radio in your car by a) connecting via cellphone to an in-car laptop computer (which would rack up lots of air time costs); b) always driving within the coverage area of your home Wi-Fi network, which is a few hundred feet at best; or c) staying parked in your driveway with an Ethernet cable running from your car to your home broadband connection. However, driving down the highway with live webcasts blasting from



The Philips MC-i250 used iM Networks Internet radio tuning.

your car stereo is not an option.

Still, Internet radio is real. What's out there to listen on?

## They come and go

The term Internet radio describes the ability to tune into the audio streams made available by broadcasters and Web-only sites on the Internet. These streams can be heard on a Web-connected computer using a Real Audio, Windows Media or MP3 software player. They can also be heard on standalone radio-like units that connect to the Web directly, or by going through a Web-connected PC.

Because consumers like to work with the familiar, manufacturers have been trying to develop standalone "Internet radio receivers" for years. One of the ear-

**One of the most impressive Internet radios now available is the Acoustic Energy Wi-Fi Radio.**

liest attempts was the Kerbango Internet Radio. Styled to resemble a conventional tabletop radio, the Kerbango garnered lots of attention before the dot.com bust. Unfortunately, the Kerbango was subsequently killed by parent company 3Com in a post-crash bid to save cash.

In contrast, the SonicBox iM Remote Tuner made it to market at the turn of the 21st century. Unlike the Kerbango, the SonicBox used a number of components to link a conventional radio receiver to a Web-connected PC, with tuning accomplished using a remote-control device that resembled a portable radio.

Although inelegant to operate, SonicBox's iM Network system worked. In fact, Philips licensed it for use in its Streamium MC-i250 Wireless Internet Hi-Fi system. However, a recent check of [www.streamium.com](http://www.streamium.com) indicates that Philips has since replaced iM Network tuning with the ability to access audio streams from [www.radioio.com](http://www.radioio.com).

## Radios you can buy

One of the most impressive Internet radios now available is the Acoustic Energy Wi-Fi Radio ([www.acoustic-energy.co.uk](http://www.acoustic-energy.co.uk)). Built into a small black and silver box complete with a speaker, LCD

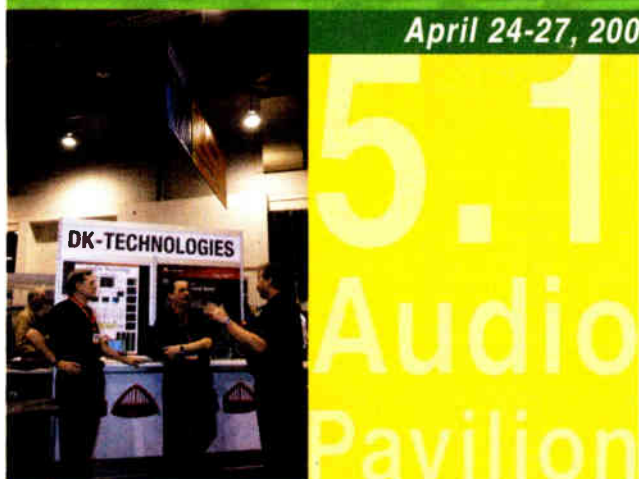
See INTERNET, page 29 ▶

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# Internet

► Continued from page 28

display, 10 presets and a multifunction rotary knob, the AE Wi-Fi Radio "is capable of receiving 99 percent of all broadcasts available on the Web," said Will Fisher, group support manager. "Yet because it connects to a Wi-Fi network in your home — which needs to have a broadband Internet connection — the AE Wi-Fi Radio can tune to these signals wirelessly, just like a regular radio."

In addition, the AE Wi-Fi Radio can play any music files that are available through the user's wireless LAN.

To get to the desired webcast, the AE Wi-Fi Radio must first connect to [www.reciva.co.uk](http://www.reciva.co.uk) to download a list of 2,500 stations. Once the list is onboard, the receiver can tune directly to whichever station you want. Good news: The station list, which is updated constantly, is free.

"Regular over-the-air radio is free," Fisher said. "We don't believe that we should be charging people to access Internet radio."

The AE Wi-Fi Radio is selling in the UK for £199.99 at [www.lowestonweb.com](http://www.lowestonweb.com), and is due to be sold in Canada by [www.emerald-audio.com](http://www.emerald-audio.com). At this writing the company has yet to line up a U.S. vendor.

PenguinRadio ([www.penguinradio.com](http://www.penguinradio.com)) is selling the \$239 Dutch-built



SolutionsRadio

in person. All they have to do is plug the Webradio into their telephone line. It dials a server that can identify which radio is calling it, and then automatically feed the appropriate church service to the

shut-in's Webradio via ISDN or DSL."

To date, there are about 9,000 Webradios deployed for church radio in the Netherlands. Meanwhile, Netcom Digital Radio in New Jersey is using the Webradio to provide Russian language channels to 1,100 U.S. subscribers in New York and Boston. "These people were used to receiving one program over SCA," Raven said. "Now they have access to approximately 20 Russian programs from all over the world" via Webradio.

### Should I care?

Whether you should care about all this depends on your goals as a conventional radio broadcaster.

If you are worried that Internet radio is about to eat what remains of your lunch

now that Sirius and XM have had their fill, the answer seems to be no; Internet radio is not an immediate threat. It remains an unorganized hodgepodge of streamed AM and FM radio signals, Web-only broadcasts and hobbyist programs. Add the lack of in-car service, and Internet radio lacks satellite radio's menace.

However, if you want to get your signals to new listeners and prepare for mobile broadband service making its way into cars — because it will — the answer is yes, you should care about Internet radio. In this case, "caring" means trying out these new receivers, offering decent audio streams of your on-air content online and making sure that content portals such as PenguinRadio and Reciva carry your streams. ☺



Acoustic Energy Wi-Fi Radio

SolutionsRadio, which tunes to a free station playlist provided on the site. Functionally, the SolutionsRadio/Webradio is easy to use. On the front is a small LCD panel, a large volume knob, a top speaker and a few simple buttons. On the back are ports for a telephone line, telephone handset, Ethernet cable (for broadband) and power, plus stereo RCA jacks for outputting the audio to a home stereo system.

PenguinRadio President Andrew Leyden described the SolutionsRadio as "a first step in what I think will be a revolution in radio listening." The SolutionsRadio wasn't designed to be a broad-spectrum webcast receiver. Instead, Solutions Radio BV ([www.solutionsradio.nl](http://www.solutionsradio.nl)), which calls this receiver the Webradio, made the unit to play whichever audio stream was selected for it by a Web-connected server.

"The Webradio was originally designed for 'church radio,'" said Karel Raven, one of Solution Radio's managing directors.

"Church radio refers to broadcasts from local churches, which are delivered via landline to shut-ins who can't attend

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# Radio and the Mobile Environment

*Cell Phone Entertainment Creates Huge Opportunity For Broadcasters to Act as Content Providers*

by Tom Vernon

The media landscape doesn't stand still. Just as broadcasters are coming to grips with multicasting, datacasting and surround sound, the market for mobile entertainment is exploding. It's a market broadcasters may not be able to ignore.

Radio, of course, has always been "mobile," but that that's not what the word means nowadays for most people. Recent research by Gartner suggests that sales of cell phones are predicted to reach 1 billion annually by 2009, when nearly 40 percent of the world's population will own a mobile handset. Currently there are 170 million cell phones in the United States.

The mobile entertainment market creates a huge opportunity for broadcasters to act as content providers, both at the national and local levels. We spoke with several industry experts to find out more about mobile media and how radio might fit in.

Anup Murarka, senior director of marketing for mobile devices at Macromedia, notes that more people own a mobile phone than PCs or televisions; it is quickly becoming a medium in its own right.

Radio excels at providing timely information, and that is one strategy that can easily be transferred to mobile. But radio managers need to think beyond audio and find innovative things to do with the screen.

"There is a huge vista for adding a visual element to the radio experience, as well as an opportunity to allow mobile users to personalize that experience," Murarka said.

One opportunity is in providing data services, an area where European and Japanese providers have a lead.

"In Japan, the average revenue per unit for data services is over 25 percent of total billing, while it is about 5 percent in the U.S."

Murarka knows that mobile adoption and uses vary globally. Japan is the world user in use of Flash-enabled phones, with the U.S. catching up quickly. China is a huge mobile market but has lower-powered handsets, so more sophisticated applications are not available.

A few statistics might suggest other opportunities for radio stations to extend their brand into the mobile environment. According to research by Harris Interactive, 53 percent of adults would access traffic updates with their phones if the service were available; 42 percent would use a cell phone to participate in emergency responses such as Amber Alerts; 34 percent would access information about city events, restaurants and entertainment. Finally, 47 percent of adults said they would not go on vacation without a cell phone.

## Collaboration

Daren Tsui, CEO and co-founder of MSpot, sees radio stations as potential

collaborators.

"Mobile exposure can provide local broadcasters with more advertising revenue, and allow smaller stations to reach a national audience." By partnering with a mobile entertainment provider such as MSpot, radio also has the potential to become an interactive medium. Opportunities exist to sell station promotional items, partner with advertisers and enable polling and voting options for listeners.

For example, Tsui notes that plans are underway to launch a service on MSpot that collaborates with local sports-talk stations for coverage of sporting events. MSpot already offers its subscribers on the Sprint network NPR, Accu-Weather, Sporting News and 28 music channels.



Sony Ericsson's W800i has an FM tuner, speakers and 34 MB of internal memory. A Play Now button connects you directly to your music. Cost is about \$500.

"What excites me about mobile media is that it is a wide-open territory, much like the Internet in its early days." Tsui said, "Some ideas will succeed, some won't, but this is the time for creativity and innovation."

While there are similarities to the early Internet, there are also differences. He said that while the Internet essentially belongs to everyone, the mobile market is controlled by the carriers.

"They're a fairly conservative group, and we have an understanding with podcasters and other content providers on MSpot about profanity and off-color material."

As with iPods and Podcasts, mobile media tends to reach a younger demographic. "We started MSpot expecting to appeal to mobile professionals, and included MarketWatch and NPR, but after the first three months, the No. 1 service was the hip-hop/R&B channel."

The medium is also good for distributing niche content. One entrepreneur is using mobile to broadcast live cricket matches to local immigrant populations in the United States, where there is a great demand for overseas sports coverage. Previously, ethnic populations have been served mainly by FM subcarrier providers in urban areas.

Tsui said broadcasters need to understand the unique characteristics of the



Daren Tsui, MSpot

mobile market to be successful content providers. Mobile listening is usually for short durations, users want to get specific pieces of audio content on demand, and this requires a different strategy than streaming media. He cites NPR's "All Things Considered" as an example. The original audio is repackaged for MSpot so users can scroll a menu and select the stories they're interested in, and listen to them as short cuts.

Broadcasters wishing to partner with MSpot need only provide good-quality MP3 files. Tsui said the company's engineering staff will perform any additional tweaks to make content mobile-friendly.

Stations wishing to go beyond providing audio content and do more creative things with mobile devices may need to master new tools and techniques. To create text messages, it is only necessary to understand WAP, the Wireless Application Protocol. Murarka adds that while WAP text is not visually appealing, it can be edited easily in Macromedia's Dreamweaver.

## Polling

An understanding of SMS, the Short Message Service, can enable stations to do their own polling and voting with listeners. SMS allows text messages to be

sent between cell phones, over e-mail or from Personal Digital Assistants. Messages are usually limited to 160 characters.

Users wanting to develop more visually appealing and interactive content for mobile devices may use Flash Professional 8. Since FlashLite players are included in an increasing number of mobile devices, it is becoming the de facto standard for distributing rich media content. Murarka notes there are about 45 million mobile devices with FlashLite, including 10 million that were added in the last quarter.

Content can be created once and tested on a variety of devices using the built-in profiles for every mobile device that supports Flash Lite. A robust international developers community for Flash ensures ample opportunities for personal networking, help and education.

To do more fundamental programming of mobile devices requires an understanding of the device's operating system. Popular operating systems include J2ME, Windows Mobile, Symbian and Palm OS.

Programming mobile devices is not without its problems. Fragmentation of the mobile market is severe. Content is not easily transferable across different brands of phones. Murarka cites the example of a popular game developer. To distribute a single product, they must maintain 150 different versions.

His advice to stations wishing to distribute content on their own is to first determine who they want to reach, which carrier they want to work with and which mobile devices their application will run on.

The mobile development environment is in a constant state of flux. Most subscribers replace mobile phones every 12-18 months to take advantage of the latest technology. Tsui said most of MSpot's software engineers work on the edge of mobile technology. His advice to broadcast engineers who want to get deeply involved with software design is to become familiar with the carrier's developer Web pages, such as [www.sprint.com/business/developer\\_program.html](http://www.sprint.com/business/developer_program.html).

Where do these services fit into radio's future? Comment via e-mail to [radioworld@imaspub.com](mailto:radioworld@imaspub.com).

## The Mobile Bookshelf

*Mobile technology and business models are foreign to many broadcasters. Here are a few quick reads to introduce the key topics.*

"How Wireless Works." Preston Gralla, Que Publishing. A delightful, brief overview of cellular, wireless 3G, mCommerce, VXML, palmtops, WAP/WML, satellite phones, security issues and more. A good first book on mobile.

"Macromedia Flash Professional 8: Training from the Source." Tom Green and Jordan Chilcott, Peachpit Press. Offering over 20 hours of project-based instruction, this book includes a CD with lesson files and a trial version of Flash. It assumes a prior knowledge of Flash fundamentals.

"Enterprise J2ME: Developing Mobile Java Applications." Michael

Juntao Yuan, Prentice Hall. If you're already up to speed with Java, this book will get you ready for the challenges of mobile J2ME development.

"Mobile Disruption: The Technologies and Applications That Are Driving the Mobile Internet." Jeffrey Funk, John Wiley & Sons. Describes business models, user needs and key technologies to create strategies that are profitable in both long- and short-term.

"Wireless Data Services: Technology, Business Models and Global Markets." Chetan Sharma, Cambridge University Press. Sharma's thesis, that wireless applications and services are often unique to the culture and business models of a specific region, is sage advice for anyone considering a national or global wireless product rollout.

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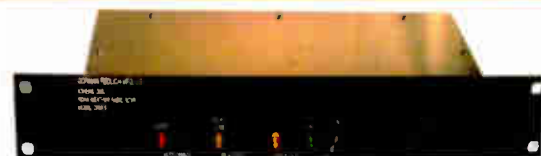
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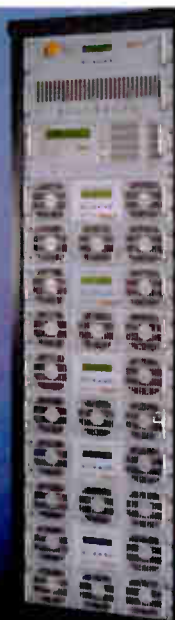
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MARKET PROFILE

## Nurturing Radio in 'Utah's Dixie'

*New Listeners? More of Them Are Arriving Every Year in Small But Booming St. George*

by Donna L. Halper

While major markets often get most of the media attention, there are competitive and profitable radio stations in smaller markets. Consider St. George/Cedar City in Utah.

It is ranked as the 263rd market by Eastlan Resources, a radio ratings firm that serves the area. But folks in St. George would tell you they expect the ranking to change in the near future because they live in one of the fastest-growing areas in the western United States.

### Booming

On a map, you'll find St. George in Washington County, 300 miles south of Salt Lake City and 110 miles northeast of Las Vegas.

It has long been a favorite destination for tourists, especially those who love the outdoors; it's less than 50 miles from the scenic beauty of Zion National Park. But these days, it's not just tourists who are coming to town, says Todd Seifert. He is managing editor of the Spectrum, St. George's daily newspaper.

"The county grew by about 10,000 people in just one year," he says. "I'm seeing new people in town every day." U.S. Census data for 2005 isn't available yet but current estimates indicate that about 150,000 people now live in Washington County; as recently as 2000, there were only 91,000.

"We're experiencing a housing boom, and more new businesses are opening," Seifert said. "People are moving here because they love the climate. And the median price of a home is about \$274,000, which is a lot more affordable

than in many other cities."

He feels businesses are attracted by St. George's proximity to three major cities — Salt Lake, Las Vegas and Denver; and the central location makes it easy to ship merchandise.



'It's a breathtakingly beautiful area,' says one area PD.

And if all of these changes have been good for local realtors and merchants, they have also been good for radio. Anyone returning to town after a couple of years away might not recognize the radio dial.

### Fresh look

While a few heritage call signs remain, the market features a number of new stations, formats and call letters. Several ownership groups are new to the market.

The most recent is Cherry Creek Radio, which purchased a cluster of stations from MB Media in October. Among its stations are KXBN(FM) "The B," a

top-40 station; AM talker KSUB; and news/talk station KNNZ(AM).

Canyon Media has been in the market for several years; it owns a cluster that includes the market's longtime ratings leader, country KONY(FM), as well as classic rocker KZHK 95.9 "The Hawk," active rocker KPLD 94.3, "The Planet" and an AM news/talker KZNU.

The other major group in the market is Bonneville, a company with a long history in Utah radio; it owns AM news/talk station KDXU as well as soft rock KREC "Star 98FM" and several others. However, Bonneville is about to sell its St. George cluster, which could bring one more new owner to the area.

Speaking of new, the newest station in town is probably KSGU, 90.3 FM, affiliated with Nevada Public Radio. It went on the air in early November.

### Involved

St. George and neighboring Cedar City are rated once a year, in the fall. Since

Arbitron stopped surveying there in the spring of 2002, Eastlan, which specializes in small and medium markets, has been providing the ratings.

Dave Hastings is Eastlan's director of client services. He has been with Eastlan for five years, but has spent 25 years involved with radio ratings and research. He said the influx of residents is making the St. George market younger, which will undoubtedly affect ratings.

"This may also be a confusing time for some listeners, because there has been so much change — it takes time for listeners to get used to the new call letters and new formats."

The county grew by about 10,000 people in just one year. I'm seeing new people in town every day.

— Todd Seifert

Hastings enjoys working with small markets and believes they should be taken more seriously. "People who think there isn't money to be made in the smaller markets are wrong."

In the recently completed ratings, Canyon Media did well, with two of the top three stations. Country-formatted KONY(FM) remained number one, as it was in 2004, and top-40 KXBN moved up to number three.

The continued success of KONY, which uses the slogan "Southern Utah's best country," makes Carl Lamar especially proud.

"We want [the audience] to feel good about us," he said. "We are very involved in the community, and we try

See GEORGE, page 34 ▶



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# George

► Continued from page 33

to respond to the needs of our listeners and clients."

For example, in September of 2005, when somebody was stealing American flags from area flagpoles, KONY raised money for a reward to help catch the thief and promised to replace the stolen flags. This might seem like a small promotion, but KONY's listeners loved it, and it reinforced the fact that the country audience tends to be patriotic.

Lamar knows his listeners and he knows his market. He has been with KONY since 1987, when it was still an AM, and he has seen the station grow into an FM powerhouse. These days, he is the general manager, and he is also part of the KONY morning show team.

"This has become a really vibrant radio market," he said. "There is much more competition, and that has made all of us better." Because of that competition, he says, ratings have become increasingly important, as stations vie for national and regional business.

## Conservative, sophisticated

Many of the stations in the market use syndicated programming or voice tracking during the day, but nearly all of them are live and local in morning drive.

At KPLD 94.3, the morning show host is Jon Smith. He came to St. George from Salt Lake City, where he was a jock

at KJQN and KENZ. "The Planet" calls itself "Southern Utah's Only New Rock," and it targets 18-35-year-olds. Smith, also the station's PD, has moved the Planet from its previous incarnation as an alternative rocker to a more mainstream "active rock" station that plays such artists as Green Day, U2 and Goo Goo Dolls while still giving new artists exposure.

"As more and more people move here from somewhere else, this market has become a lot more sophisticated," he

## Largest Employers

*The largest employers in Washington County, according to the Utah Department of Workforce Services and cited by the St. George Area Chamber of Commerce:*

### 2,000-2999 employees

Washington County School District  
Wal-Mart  
IHC - Intermountain Health Care

### 500-999 employees

Dixie College  
St. George City

### 250-499 employees

Federal government  
SkyWest Airlines  
Washington County  
Cross Creek Manor (residential/  
nursing care)

said of his new home. "But it's still very conservative. It's a city, but it still has a small town feel to it." And for Smith, that is something positive.

"Because I'm local, I can be more accessible to the listeners. I can get to know what they want." And they seem to like what they hear on the Planet. "We've changed about 50 percent of the music from what was on the air here a year ago, and we're getting a lot more listener support."

At Bonneville's news/talk KDXU, the PD and news director is Pete Gardner. He is a veteran broadcaster whose career includes work at stations in Houston, Dallas and San Antonio.

"It's scary how fast this market is growing. It used to be seen as just a retirement area, but it's not like that any more. The market is definitely getting younger." He moved to St. George in 2005 and says he's impressed.

## Natural beauty

"I can understand why anyone would want to live here," he says. "It's a breathtakingly beautiful area."

It's also a good market to do radio, and KDXU has been doing it for many years. The station offers syndicated talk from Rush Limbaugh and Dr. Laura, but it is equally well known for its live morning show, "The Donovan Report," hosted by another veteran broadcaster, Cliff Donovan, who does interviews with guests on all sides of the political spectrum. Mike McGary handles sports and news for the morning show.

KDXU is known for its commitment to local sports; McGary is the play-by-play voice for several of the teams at nearby Dixie State College. KDXU also has a working relationship with the local newspaper; the Spectrum provides them with some stories and local headlines.

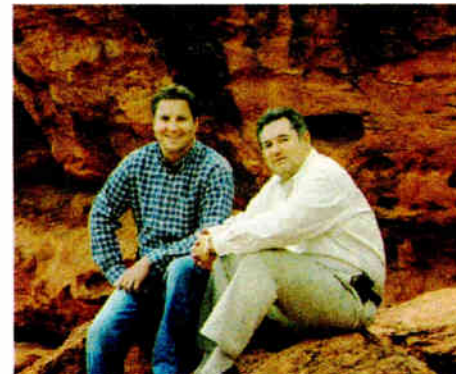
At Cherry Creek Radio, General Manager Steve Hess and Sales Manager Jack Lancaster represent the newest group in town. Hess said the company wanted to be in the market because it seemed an excellent fit. And while he won't predict what changes may need to be made in station formats, he says the process of fine-tuning the stations has begun.

Lancaster added, "Cherry Creek is a company that specializes in small markets. Our philosophy is very pro-radio. We believe in radio. We know radio works."

That belief in radio seems to describes the southern Utah area. Whether for religion, music, sports or news, people continue to turn to their favorite station.

There are many choices, including Salt Lake stations that reach the market via translator, such as public radio's KUER; but radio is very much a part of the lifestyle in the market. All of the station managers who spoke to Radio World for this article mentioned that listeners in the market turn out to station events and that clients are eager to support the stations they like. PDs expect that there will soon be more than one book a year in the market.

Of course, it's too soon to predict how the upcoming change in ownership at the Bonneville cluster will affect the market, but this much is likely: with so many loyal listeners, and a population that continues to grow, St. George/Cedar City will become more influential and more competitive in the future. 🌐



KONY's morning team poses among the red rocks and red sand common to the area. Marty Lane, left, is operations manager for Canyon Media, PD for KONY and morning show co-host. Carl Lamar is GM and morning co-host on KONY.

## History

*From the City of St. George Web site:*

"Although settlers came to Washington County as early as 1852, St. George was settled in 1861. Mormon leader Brigham Young sent a group of pioneers to the far-reaching corner of the Territory of Utah to grow cotton and wine grapes and harvest silk for export to the Civil War-torn northern states. Today the cotton fields are gone, the wineries are closed and the silk industry has given way to modern, more prosperous businesses.

"St. George, the county's largest city, lies along Interstate 15 with a host of smaller communities that make up Utah's Dixie. The advantages of the county's position along one of the nation's key east-west routes between California and places such as Salt Lake City, Denver and Albuquerque is making Washington County one of the nation's fastest-growing communities. The scenic area not only provides easy access to major markets of the western United States, it has become a destination point for countless people and businesses looking for a better way of life and more fruitful atmosphere for growth and prosperity.

"From 1990 to 1995, Washington County grew a staggering 50 percent and St. George grew 61 percent, while the rest of the state tallied up a total growth rate of 16 percent. The tiny farming community of St. George had grown up and surrounding cities followed suit.

"By the end of the decade, the St. George-Zion National Park areas of Washington County were rated among the best communities in the country to retire by Rand McNally, Prentice Hall, Money and the American Association of Retired People. As a result there was a large amount of construction of new homes in the Washington County area.

"The unprecedented growth experienced in the county has not been limited to retirees, however. Young working families joined the migration to Utah's Dixie to establish one of the most stable and reliable work forces in the nation. They came for the climate, the scenic beauty, the family atmosphere and explosive job opportunities. Much of the growth is due to the area's competitive construction rates and low crime."

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# Movies, Shows Can Give You a Boost

by Mark Lapidus

I got to the movie premiere early and intentionally didn't wear any radio station gear. I wanted to observe without being noticed.

I wasn't disappointed. I could hear people talking about the movie they were about to see and the radio station that had given them the tickets. One guy said, "At least if this stinks, we didn't buy the tickets." Another person pointed out one of the DJs to his girlfriend. He said that he had seen him before.

One thing was obvious about the people streaming into to see this movie: They were happy to be there.

Whether it's a station sponsored movie premiere, a film festival or a TV viewing party, you can make your listeners happy campers by doing one thing: Giving them free tickets.

## Hot openings

Radio stations have been hosting movie premieres nearly as long as Hollywood has existed. When stations weren't allowed on the inside, we did broadcast coverage from the outside, describing the stars and the excitement.

While you may never host a movie premiere that includes a star of the film, you can still tap into the excitement of presenting entertainment.

If movie premieres are done in your town by an ad agency, you know how the process works. They ask for a promotional proposal. They ask for more than you really want to give them. Eventually, they give you the tickets.

If no such agency exists, track down a theatre manager in your town who has a bit of an imagination. Don't stop until you find a person who loves the idea of giving away tickets to his theatre and thereby building demand for the movie.

Yes, he may have to have "buy" the tickets himself to his own movie, but what he make back on the advertising support you're going to supply and the food/drinks he sells, will make it worthwhile.



If you do a viewing party, pick only hot shows and stick to special episodes like season premieres, finales or incredible sporting events.

like a children's bookstore or a local toy store with specialty toys.

Another mainstay for summer are outdoor movie festivals, where your radio stations present a series of movies over a week on huge blow-up screens. One station in a cluster can do the whole week, or each station can take a different night with the appropriate movie for the format.

While the outdoor format is a more ambitious project, it can be lucrative for a sales force that knows how to sell events. The drive-in theatre may be dead, but outdoor movies continue to attract large audiences. There's just something about that feeling of laying down a blanket with dinner and drinks and watching a movie

**One thing was obvious about the people streaming into to see this movie: They were happy to be there.**

If you can't obtain a premiere from an agency, invent your own by doing the first showing in town at an earlier time. For example, show the next Harry Potter movie before the kids go to school the day it opens. Or, show a movie at one minute past midnight the day it opens.

## Blanket on the ground

To make money, sell a title sponsor who gets the credit for providing you with the tickets on the air — and/or do a few "ticket raids" at retail outlets who pay you for the appearance. If you opt to do "ticket raids" be sure to save some tickets to give away on-air to build excitement.

A movie twist for the summer months is a weekly "Monday Movies with Mom," which works especially well with A/C and country stations. Again, the series should have a title sponsor and in this case, you might want to sell in a few select retailers who set-up in the lobby —

while the crickets chirp.

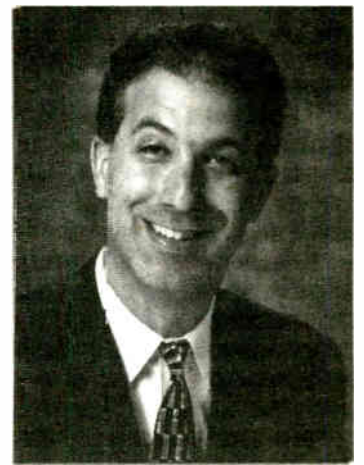
I'm also a huge fan of stations presenting viewing parties. These are best done in conjunction with the TV station on which the show airs, but if you can't get them on board, proceed anyway.

Pick only hot shows and stick to special episodes like season premieres, finales or incredible sporting events. Remember that you can't charge admission to viewing parties; neither you nor the bar/restaurant where you're holding the party own the rights.

However, you can require viewers to have a free ticket (which they will win from your station) for the party. The trick to making sure that these events are successful is that you have huge TV screens, or lots and lots of smaller ones. Everyone needs to see and hear the show well.

The venue should be required to put out free finger food, but once you get people nibbling, it's a pretty easy to get 'em to buy drinks and more food.

## Promo Power



by Mark Lapidus

Make sure your DJs host these events with restraint. Remember, people are there to see the movie or show. They will recall you gave them the tickets, so you've already scored once. Make sure you've got a lot of signage and that your host hits the mic just before the beginning or, in the case of a sporting event, only at the beginning or perhaps during a break.

Although you should be careful during breaks too. After all, most people really do want to see those \$2 million commercials during the Super Bowl.

The author is president of Lapidus Media. Contact him at [marklapidus@yahoo.com](mailto:marklapidus@yahoo.com).

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# New Ways to Solve Old Sales Puzzle

## Advertisers, Stations Enjoy Options Through Automated Advertising and Remnant Sales

by James Careless

Radio spots are being sold in interesting new ways these days.

That point was brought home with force when Google recently announced plans to purchase dMarc Broadcasting, citing dMarc's automated advertising platform, which aims to simplify the sales and documentation process involved in radio advertising.

For many broadcasters, automated spot sales solutions exist to clear unsold ad inventory, called by some "remnant" radio, which costs U.S. radio broadcasters \$2 billion annually in unrealized revenues.

But it's not just remnants. A niche of new services built around the Web, traffic software systems and playout automation are intended to address not only remnant audio but radio sales in general. A number of new vendors are offering solutions that they say make life easier for advertisers and more profitable for stations. The entry of a big tech name like Google into the radio sales transaction process is likely only to bring new attention to this side of the business.

Here's a look at three suppliers active in this arena.

### Bid4Spots

Bid4Spots uses weekly online auctions of radio spots that are available the following week. However, these are not the kind of auctions with which most people are familiar.

"In fact, what we offer is what's known as a 'reverse auction,'" said Dave Newmark, CEO. "In our reverse auction, the emphasis is not on how much the airtime is sold for, but how little. As well, rather than having bidders compete against each other to drive the price up, radio stations compete to sell the same equivalent airtime for the lowest price. This gives advertisers the best value for their money, while helping broadcasters move inventory that was otherwise worthless."

At face value, such a reverse auction seems like a strange idea, given the fact that all ad inventory isn't created equal.

"A reverse auction on price alone would only allow the least-listened-to stations to move their airtime first," Newmark said. "However, since advertisers want the best stations in each market, not the worst, we've worked in cost-per-thousands pricing that fairly represents what the airtime is worth in terms of potential audience."

Bid4Spots, which describes itself as an "online marketplace," says its cost-per-thousands system — calculated by its computers, once they poll unsold airtime data from the company's participating stations — ensures that advertisers get the demographics they want when buying unsold inventory. "All of the airtime is weighted in terms of demographics, the age groups and genders that the advertisers want to reach," Newmark said.

"I also require advertisers to provide a cash advance upfront to cover the week they're seeking airtime for, and to provide us with completed, produced spots that we can immediately transfer electronically to the winning stations. In this

way, we can help them buy the spots they want, ensure that the ads get to the right stations fast and guarantee quick payment to our participating stations."

Bid4Spots doesn't shy from the remnant angle of its business. The company Web site states: "Advertisers can now gain affordable direct response radio advertising rates by buying last-minute

to dMarc electronically. The company matches airtime with advertisers seeking spots, then sends the ads electronically to the stations or tells the automation system to pull them from their local servers if the ads are already there. dMarc protects the station's rate card by concealing the broadcasters' identity from advertisers.

Next, dMarc automatically writes the scheduling information into the stations' air logs.

"Google is committed to exploring new ways to extend targeted, measurable advertising to other forms of media." He said the acquisition will bring "new ad dollars and accountability" to radio by combining Google's network of advertisers with dMarc's radio advertising technology.

### MediaBounce

OMT Technologies' iMediaTouch automation software helps keep radio stations running. However, when OMT President Ron Paley heard about clearing unsold inventory using automation, he was hesitant about taking OMT into this area.

Broadcast Report	
contact name: Tilbury, Tom	Title: Unused Commercial Inventory Auction
Start Date: 06/08/2005 01:32:01 PM	End Date: 06/08/2005 02:01:03 PM
Notification Type: Emergency(Polling)	Broadcast ID: 133092
Duration: 0.5	Contact Cycles: 2
Confirm Requested: Yes	Quota Required: None
Escalated: No	Polling: Yes
Call-In: No	PIN Required: No
Email Results: No	Fax Results: No
Attachment: None	Language: English
Total Members: 9	%Confirm: 89%
Total Confirm: 8	%Late Confirm: 0%
Total Late Confirm: 0	%Non Confirm: 11%
Total Non Confirm: 1	%Non-Contact: 0%
Total Non-Contact (N/C): 0	

Survey Report	
Purchase for cost + 10% : 4	%Purchase for cost + 10% : 44%
Purchase for cost + 5% : 1	%Purchase for cost + 5% : 11%
Purchase at my current rate: 1	%Purchase at my current rate: 11%
Purchase at a 5% discount: 0	%Purchase at a 5% discount: 0%
Purchase at a 10% discount: 2	%Purchase at a 10% discount: 22%

first name  last name

Confirm  Confirm After  Non-Confirmed  Unreachable

response

Previous 1-10 of 12 Next

Contact Name	Confirmed	Attempt Number	Path Type	Call Result	Response	Group Name
Bevins, Rich	Y	1	Cell Phone	06/08/2005 01:33:06 PM	Purchase f	CCN
Bradberry, Bob	Y	1	Cell Phone	06/08/2005 01:33:38 PM	Purchase f	CCN
Burkholder, Jon	Y	1	Cell Phone	06/08/2005 01:33:39 PM	Purchase f	CCN
Guzzardo, Nick	N	1	E-mail Address	Email Not Confirmed		CCN
Guzzardo, Nick	N	2	E-mail Address	Email Not Confirmed		CCN
McCarthy, Mike	Y	1	Cell Phone	06/08/2005 01:33:37 PM	Purchase f	CCN
Paley, Ron	Y	1	Cell Phone	06/08/2005 01:34:09 PM	Purchase a	CCN
Schewe, Christine	Y	1	Cell Phone	06/08/2005 01:34:04 PM	Purchase a	CCN
Tilbury, Tom	N	1	Cell Phone	Connected (Voice) - Caller hung up		CCN
Tilbury, Tom	N	2	E-mail Address	Email Not Confirmed		CCN

Part of the MediaBounce Auction Results Screen

spots at discounted rates and, at the same time, radio stations can increase their revenue by selling leftover inventory."

In the first few months after its launch in September, Bid4spots had paid out about \$560,000 to member stations, of which it has 1,113.

### dMarc

dMarc Broadcasting is known to broadcasters for its digital automation systems, the Scott SS32 and Maestro; the company also offers a media buying service. The supplier made headlines last month because Google is acquiring dMarc, citing its automated advertising platform as a central reason.

"Last-minute" inventory is part of what dMarc does; on the radio station side, the company offers RevenueSuite, which rolled out in 2005. It "dynamically accesses and converts stations' unsold, last-minute inventory into bottom-line revenue without manual intervention or trafficking," the company said in introducing the product, which is used with Scott Studios or Maestro systems. It "immediately and automatically fills any inventory opportunities with paid advertising after the station has closed the logs for the day."

After logs are closed, the data is sent

"Within 15 minutes of the spots' scheduled slots, advertisers can verify that they were played using our online Management Console," said Chad Meisinger, executive vice president of sales and marketing. Once the ads are played, dMarc's technology takes care of the billing. All the broadcaster has to do, dMarc says, is receive the check and cash it.

"What we're doing for radio stations isn't unique; people have been helping broadcasters turn their unsold avails into revenue for years," Meisinger said. "What makes us different is that the entire process is automated. Not only does the broadcaster not have to do a thing to get this process rolling, but the fact that it is automated means that ads can be sold right down to the wire."

Meisinger emphasizes that remnant sales are only a small part of what his company does. "We're acquiring spots several different ways," he said.

The company's expertise in automated ad sales clearly appeals to Google. In the announcement of the purchase, Google ad sales executive Tim Armstrong was quoted as saying Google plans to integrate the technology into its AdWords platform, creating a new radio ad distribution channel for its own advertisers.

"We have the IT capability, but we weren't in a position to broker unsold inventory because we don't have the advertising connections," he said.

To realize this opportunity, OMT turned to MediaBounce, a company that provides contesting, surveys, call-out services and other "audience interaction" products. Paley said the supplier's platform "isn't tied to any one automation vendor."

MediaBounce offers automated reverse auctions to move unsold inventory quickly. Owned by notification company 3n, it also employs mass advertiser notifications by voice and text messaging to alert sponsors that airtime is available.

"What we do is give radio stations the opportunity to contact all of their advertisers fast, so that they can grab last-minute airtime," said President Mike McCarthy. "Say that your traffic manager notices that there are six spots open tomorrow, just as she's closing the day's log. Through the MediaBounce technology, she contacts the station's top advertisers via cell, email, text or landline. The first advertiser to ask for the airtime gets it."

"This process gets the job done," McCarthy said. "We've seen spots move in as little as a minute between the time advertisers were notified and the time they made the decision to buy."

# Podcasters and Rights-Free Tunes

Sources Aim to Help Online 'Stations' Operate Without the Guilt

by James Careless

"If I put licensed music on my station's podcast and don't pay, will the RIAA come after me?"

It's a valid question for many broadcasters. Radio World contacted the Recording Industry Association of America for an answer.

"Podcasters, like the users of any other sound recordings, must obtain the appropriate licenses from the copyright owners, or their designees," said a statement e-mailed in response.

"Podcasts are downloads, and as such, do not qualify for the statutory licenses that are available to webcasters, simulcasters, satellite radio and other digital transmission services."

Fair enough; so all one has to do is to contact the rights holder for the song and question and purchase a license, right?

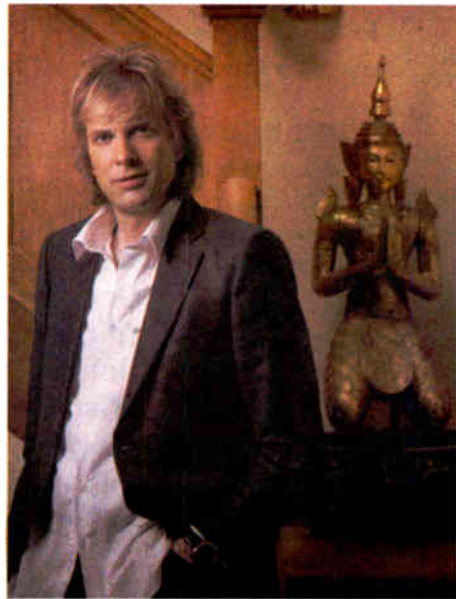
Not necessarily, replied Adam Curry. He's the former MTV VJ turned podcasting celebrity/guru/pioneer, who is also president and cofounder of PodShow.

"Even though there is a willingness among podcasters to pay for licenses, it has become very clear that the blanket licensing process is very complicated, and that there really isn't an understanding in the music industry as to who deserves to pay for licenses," Curry told us.

"Meanwhile, people are still getting sued by the RIAA for sharing music online, which doesn't make people feel very confident about paying for unclear rights."

## PodSafe Music

In an effort to supply music that can be safely podcast, PodShow launched



Podcast Celebrity Adam Curry

the "Podsafe Music Network." Featuring music by independent artists — i.e., not represented by the RIAA — the Podsafe Music Network allows podcasters to use their tracks under a free blanket license.

"The agreement between podcasters and our artists basically just says, 'Here you go; you're allowed to download our songs and play them on your podcasts,'" Curry said. The only rule: "The podcasters must report their 'spins' of each song to the network, which keeps track of all podplays."

At first blush, one might wonder why any artist would do this. But lacking the recording industry exposure that would get them mainstream air play, indie artists see podcasts as a way to reach their audiences.

"I found a girl band online called The Lascivious Biddies who had a few

sample tracks on their Web site," Curry said. "I asked if I could play them on my podcast and they said, 'No problem.' Well, I played them a couple of times, and then so did some other podcasters. Subsequently, I got an e-mail from the band's singer Lee Ann Westover saying, 'We're selling CDs online based on the exposure we're getting from podcasts.'"

## GarageBand.com

Despite Curry's celebrity status in the podcasting community, PodShow.com is not the only site that podcasters count on for rights-free tunes.

GarageBand.com is another popular site, endorsed by no less than former Beatles producer Sir George Martin, who serves as chairman of its advisory board.

According to Martin comments online, "The appeal of GarageBand.com is the unique way in which it focuses on the quality of songs and uses the Internet to find talented new groups, many of which would have stood little chance of being heard by industry pros in this age of label consolidation. Young talent remains very close to my heart, and I look forward to hearing some of the great new bands out there."

Offering rights-free music across a range of musical genres, this site supplies content "to 100 Internet and college radio stations," said CEO Ali Partovi. "However, about a year ago we saw more and more podcasters signing up. Nowadays, the majority of our users are downloading music for inclusion in podcasts."

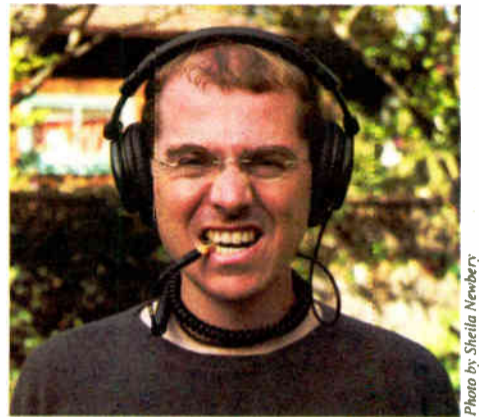
As with PodShow.com, GarageBand.com doesn't charge stations to play its music.

"In fact, there's a whole bunch of regular FM stations who are now playing songs from GarageBand.com," Partovi said, "maybe not the mainstream com-

mercial stations, but small-town indies as well as college stations."

## Magnatune

Operating under the slogan "We are not evil," Magnatune offers "Internet music without the guilt." The slogan refers to the fact that Magnatune sells label-free music downloads for as little



Magnatune Founder John Buckman

as \$5 with no digital rights management software built in, and with half of the money going directly to the artist.

When it comes to podcasts, Magnatune provides free licenses to non-commercial broadcasters or those who are "commercial but poor: that is, they gross less than \$50,000 a year," said CEO John Buckman. "If your podcast qualifies, then we send you a special 'credit card' number that allows you to download songs from Magnatune at no cost."

As great as all this free music is, it does come with a catch: Most listeners have no idea who the indie artists featured on PodShow.com, GarageBand.com and Magnatune.com actually are.

As a result, commercial podcasters trying to attract mainstream listeners may not see the point of using this music. Instead, they may prefer to try to negotiate podcasting rights through the RIAA, in order to play music that their listeners know.

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# Seeds of Change for Farm Broadcasters

*'Rural Lifestylers' Help Energize This Specialized Niche of Radio Providers*

by Lauren Rooney

Farm broadcasting is a tough row to hoe these days. Consolidation of agribusinesses, family farms and radio stations resulted in a shrinking advertising and listener base, leaving general managers to defend their programming to corporate owners who may not care about farm reports.

"The corporate radio mindset in some cases is that farming is a declining aspect of our business and not worth messing with," said Gene Exline, general manager KFEQ(AM), which airs on 680 kHz in St. Joseph, Mo.

Michelle Rook, president of the National Association of Farm Broadcasting, acknowledges that farm broadcasters are facing challenges.

"But I think we as an industry are turning those challenges into opportunities. The growth of the rural lifestyle market is offering farm broadcasters options to increase revenues and listener base," she said.

"Rural dwellers" are those living on three or more acres in a rural area outside the limits of a city or town. They gross less than \$40,000 in sales from agriculture production. They may have livestock and do some planting but are not full-time farmers.

"This audience and market sector is estimated at anywhere between 4 to 20 million people," said Rook. U.S. Census figures show rural lifestyle farms increased between 6.7 percent and 11.1 percent from 1997 to 2002 in four states



Peter Shinn and Stacia Cudd of the NAFB News Service received an award from the National Agri Marketing Association for Best Intranet Web Site in the Public Relations Category. The service distributes news and audio to members of NAFB.

studied: Minnesota, Wisconsin, Illinois and Georgia.

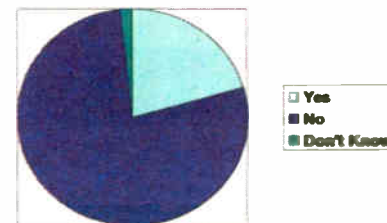
### Country rules

At a meeting in the fall, NAFB released the results of its 2005 Rural Lifestyle Farms Research Study. The survey set out to identify what rural dwellers listen to and what they buy.

"This is a group that is hard to identify because they cover a wide spectrum of income and avocation to farming," said Gene Millard, NAFB marketing consultant and overseer of the survey. Some may be living the rural lifestyle on a low income, others are professionals who

## High Speed or DSL Internet Connection

**Yes 20.8%**  
**No 78.5%**  
**Don't know 1.8%**



### High speed or DSL Internet connection by state:

**Georgia 27%**  
**Illinois 20%**  
**Minnesota 18.4%**  
**Wisconsin 19%**



The Rural Lifestyles Farm Research study looked at parameters as diverse as 'how many chain saws owned' and whether the home had high-speed Internet access.

have moved their families to the farm and commute to jobs in the city.

NAFB commissioned Ag Marketing Research of Sioux Falls, S.D., to conduct 471 telephone interviews in the states mentioned above.

The survey identified 188,092 rural lifestyle farms in the survey area. Formats most listened to were country, followed by news/talk, oldies and adult contemporary. Weather, agriculture markets and news affecting agriculture were the top reasons given for radio listening.

The survey found rural lifestylers, like their farm brothers, are loyal local radio listeners. Only 2 percent subscribed to satellite radio.

Millard said rural lifestylers have a lot in common with farmers.

"They're interested in caring for their animals, they want space, they want a safe place to raise their children or to spend their retirement years," he said.

And they want toys, expensive toys.

The survey found half own at least 1 ATV, 93 percent are tractor owners, a third own two chain saws.

Many rural dwellers have money to spend, with 10.8 percent saying their annual income was over \$100,000; 17 percent gave their income in the \$75,000-\$100,000 range.

The Rural Lifestyle Survey will be a sales tool for broadcasters. A big challenge for farm stations has been fewer players for revenue as agribusinesses merge.

"There's another avenue of revenue that comes from the rural lifestyle dweller that we didn't think of," said Les Tuttle, general manager 570 WNAX (AM) in Yankton, S.D. A bank on the air talking about farm loans can now expand their buy to include spots about home improvement for example.

"We haven't even thought of all the possible non-ag businesses to seek as advertisers," said Exline, mentioning that

See FARM, page 40 ▶

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## CSD-1

The CSD-1 converts a composite stereo signal into discrete left and right balanced outputs. Features include; twin BNC input connectors; multi-turn input level control; twin power connectors allowing up to four units to be driven off of one power transformer; front panel output trimmers; front panel stereo and power LEDs and plug-in Euroblock output connectors. The CSD-1 is powered by a surge protected internal bi-polar 12vdc power supply affording superior headroom and high definition audio. The CSD-1 may be set on a desktop, mounted on a wall or up to four units may be mounted on the optional RA-1, Rack-Able mounting shelf.

## DMS-III

The Broadcast Tools AES/EBU Digital Monitor & Switcher III is designed to accept and automatically or manually switch two AES/EBU signal sources when an AES digital error and/or analog silence are detected. Features include: Automatic control function that switches to a back up source upon failure of the main source; Switch functions can be triggered by loss of clock, AES digital error flags, front panel transfer switch, external switch contact and/or the internal analog stereo silence sensor. Additional features: Front panel error status and sample rate LED indicators; front panel headphone jack and level control; balanced stereo monitor output; remote control; removable screw terminals; Plug & Play installation; dipswitch selection of precise time delay from 2 seconds to 85 minutes and restore timing delay from off to 10.2 minutes; defeatable sonalert aural alarm; SPDT status relays; SPDT one-second pulse relay. The DMS III may be set on a desktop, mounted on a wall or as part of the new RA-1, Rack-Able mounting shelf.

## RDDA 4x4

The RDDA 4x4 quad-mode AES/EBU digital distribution system provides up to sixteen outputs from a single digital source. The sixteen outputs may be split into four groups, providing four transformer-balanced outputs each from a single source.

The RDDA 4x4 is ideal for distributing AES/EBU signals of sample rates up to 96kHz and/or word clock around your facility without any signal alteration.

The RDDA 4x4 is equipped with four transformer balanced loop-thru inputs with selectable termination and sixteen transformer-balanced outputs with selectable termination. The half rack profile, allows the unit to be set on a desktop, mounted on a wall or as part of the new RA-1, Rack-Able mounting shelf.



**ADCS III** AES/EBU Analog to Digital Converter & Switcher



**CSD-1** Composite Stereo Decoder



**DMS III** AES/EBU Digital Monitor Switcher III



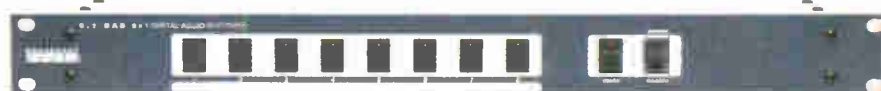
**RDDA 4x4** AES/EBU Digital Distribution System



**DAS 8.4** AES/EBU Digital Audio Switcher

## DAS 8.4

The Broadcast Tools DAS 8.4 provides AES/EBU digital audio routing/switching of any one of eight AES/EBU inputs to four AES/EBU outputs. The DAS 8.4 may be used in Multicast applications, where an AES enabled EAS device assigned to input eight is routed to all four outputs via a contact closure or serial command. When the alert/test is completed, the DAS 8.4 will return to its previous I/O configuration. The DAS 8.4 may be controlled via front panel switches, contact closures, 5-volt TTL/CMOS logic and/or the multi-drop RS-232 serial port. The front panel is equipped with input and output selection push buttons, output assignment LED's, sample rate LED indicators and a headphone jack with level control. Additional



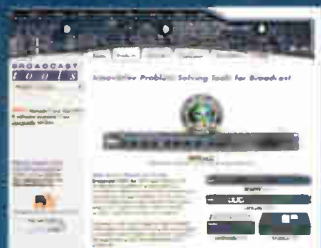
**8x1 DAS** Digital Audio Switcher

features: 96 KHz AES receiver, a 24-bit D/A converter with analog balanced stereo output, headphone amplifier and 16 x 16 GPIO port. Installation is simplified with plug-in euroblock screw terminals. 1-RU chassis.

## 8x1 DAS

The 8x1 AES/EBU Digital Audio Switcher routes any one of eight AES/EBU digital inputs to three AES/EBU outputs in a 1-RU space. Programmable or last selected source memory, safety lock out, output muting, remote control/status, multi-drop RS-232 and RS-485 serial ports. Two versions: balanced 110 ohm with XLR connectors, or 75 ohm unbalanced with BNC connectors.

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## INTERNET RADIO

# Howlin' Up a Stream From Nashville

*For Internet's Wolf-FM, Flying Under The Radar Has Its Advantages*

by Joe Dysart

Despite the fact that Internet radio station Wolf-FM ([www.wolffm.com](http://www.wolffm.com)) is consistently generating ad revenues in the "five figures" each month, virtually no one from the world of conventional radio has really noticed — which is just the way owner/operator Steve Wolf likes it.

"Most people in terrestrial radio just don't get it," said Wolf, who started out in traditional FM radio as an engineer for a string of stations in South Texas. "They believe there's some kind of barrier between Internet radio and terrestrial radio, that the two are mutually exclusive. That's just not true.

"But the fact that the terrestrial world thinks that way is just fine by me. It means I have a lot less professional competition to worry about, and a lot more time to concentrate on growing radio stations. Ultimately, I plan on running four or five."

Since 1999, Wolf's mostly unchallenged foray onto the Web has resulted into the successful launches of two Internet stations, Wolf-FM, which plays top 40 hits mostly from the 1970s and '80s with a dash of specialty program (and is not affiliated with the licensed FM station of those call letters in New York state), and Howlin' Oldies ([www.howlinoldies.com](http://www.howlinoldies.com)), which reaches back to top-40 hits from the '50s, '60s and '70s for its programming. A third station is in the hopper.

His flagship station, Wolf-FM, turned seven years old in January. It averages about 5,000 listeners in a given quarter-hour period. It keeps the average listener's attention for about five hours and has attracted advertisers including some high-profile accounts like Microsoft, Radio Shack and Vonage.

## More to come

Wolf insists that even his most popular station only hints at the potential of Internet radio.

The reason? The much-heralded convergence of the Web with more conventional technologies like TV, traditional radio, telephone and similar technologies is already well underway, he says.

"In a few years, all these divisions in radio between Internet and satellite and terrestrial just aren't going to matter," he said, pointing to the growing proliferation of Wi-Fi and other wireless, computerized devices.

"A lot of cell phones already receive Internet radio. So do iPods, Pocket PCs, wireless laptops and other wireless devices. Once the convergence is complete, listeners aren't going to be worrying where they're getting their signal from; they're just going to be focusing on where they can get the programming they most prefer."

In addition, Internet radio's ability to

give advertisers precise audience metrics will make life even more difficult for traditional radio, Wolf believes. "Internet radio doesn't have to depend on surveys or samples — we don't have to make guesses about our audience size of make-up," he says. "At any given time, we know precisely how many people are listening, where they're listening from, and how long they're listening."

Advertisers also like the fact that Internet radio offers them the ability to reach people who can buy impulsively — often while they're still listening to a commercial.

"You have to remember that a lot of people listening to Internet radio are right

age popularized in the late 1990s, which enabled anyone with a PC to create a radio broadcast over the Internet.

"Back then, I pretty much had the Internet to myself," says Wolf, who is still based in Nashville and manages Wolf-FM using voice-enabled software. "There were maybe 54 Internet radio stations registered at the Shoutcast Web site. Now there are several thousand."

The reincarnated Wolf officially went live on the Internet on Jan. 18, 1999, and within eight to 10 months had built a significant audience.

"I've promoted the station in various ways — using Google text ads, using banner ads, posting those 'tell-a-friend-about-this-site' buttons on the Web site," Wolf says. "But I have to say the most powerful promotion for the station has been word-of-mouth."



Wolf says his Internet radio station quietly generates 'five figures' in ad revenue each month.

at their computers," Wolf says. "It's nothing for them to go online and purchase a product they've just heard about right of the Web. Advertisers really appreciate that kind of interactivity."

Given its current edge, it's a little ironic that the Wolf-FM brand actually started out as a cable FM station many years ago, when the then-19-year-old budding radio engineer convinced a local cable company to put "The Wolf" on air as a cable FM station.

"My dream was always to own my own radio station," Wolf says.

Featuring the same play list as the latest Internet incarnation, "The WOLF" had a successful, four-year-run until Wolf moved to Nashville, where he took a gig as an engineer at a larger radio station.

Unfortunately, Wolf's life hit a rough spot a short time later, when he discovered he'd lose his vision due to a childhood accident. Ditching his engineering job, he threw himself into learning everything he could about adaptive technology that could be used by the blind to work with computers, and became proficient enough to teach others how to work with the technology.

His decision to gravitate towards computer technology paid off, when he discovered Shoutcast, a free software pack-

A lot of the buzz has been about Wolf-FM's reputation for superior sound quality. Ever the engineer, Wolf has never stopped trying to improve the sound at his stations, deciding to switch recently to Omnia FM processing software to carry his sound over the Internet. He also programs in some of his own audio tweaks.

Both stations are automated, thanks to some homegrown software Wolf wrote.

"Even with all the automation and computers, I still think it would probably be easier these days to launch a cable FM station than a high-quality Internet radio station," he says. "The problem is, there's a lot more noise out there these days. There are a lot of here-and-gone Internet radio stations that at any given moment, offer people an overwhelming number of listening choices. If you haven't already established yourself, it's tough."

## Competing

While enjoying life as the proverbial big fish in a small pond, Wolf realizes increasing competition from traditional radio stations is inevitable, and he says he's ready for it.

"I think first and foremost, terrestrial radio stations will have to go digital if they want to be able to compete in the future," he says. "That, and they're

going to have to learn how to be a lot more interactive.

"Right now, every time I play a song, I can run the song title and artists along with it on the Wolf Web site. It won't be long before listeners will be able to click on that song title, and instantly buy the song from iTunes or the CD from Amazon.com. Plus, they'll have the same capability to purchase any other product the same way. They'll hear something advertised, see the hotlink on the site, and order the product over the Web from their cell phone, their iPod — whatever. The technology to do it already exists. It's just a matter of putting things together.

"But the point is, terrestrial radio stations are going to have to start thinking about how they're going to be able to offer that kind of interactivity — to please both listeners, and they're advertisers. Otherwise, the technology is simply going to leave them behind."

Joe Dysart is an Internet speaker and business consultant based in Thousand Oaks, California. E-mail him at [joe@joedysart.com](mailto:joe@joedysart.com).

# Farm

► Continued from page 38

hunting and fishing suppliers would be a good match for his format.

An influx of urbanites moving to the country does little good if a farm broadcaster can't attract that new listener to his station. With the excitement of a new wave of listeners comes the responsibility to provide programming of interest to non-farmers that won't tune-out long time farm listeners.

"We have to figure out what do farm people like listening to that non-ag consumers enjoy too, and that just comes back to compelling programming of any sort," Exline said.

Farm broadcasters are expanding programming to include shows on horses, hunting, fishing, landscaping and gardening to attract the new rural lifestyle listeners. They can offer information on a range of topics from livestock zoning issues to food safety.

But they have to offer those programs without compromising their heritage farm reporting.

"We have fewer farmers covering more acres, and they demand solid information," said Lynn Ketelsen, NAFB 2005 Farm Broadcaster of the Year and anchor/reporter for the Linder Farm Network. "Our job is to evolve with those farmers and change our information to meet their growing farms."

Many of today's farmers turn to the Internet for their ag numbers, so farm reporting is becoming more about getting experts on the air to analyze those numbers rather than just reading stock reports.

The NAFB sees the rural lifestyle as continuing to grow; it plans a national qualitative study in 2006.

Farm broadcasters seem energized about the growth of rural lifestyles and see the NAFB surveys as an opportunity to widen the point of view of stations and sales departments to look beyond the John Deere tractor companies and court new advertisers.

"I feel like we're ahead of the curve and have identified the strategies, tools and services our members need to be positioned for the future," said Rook.

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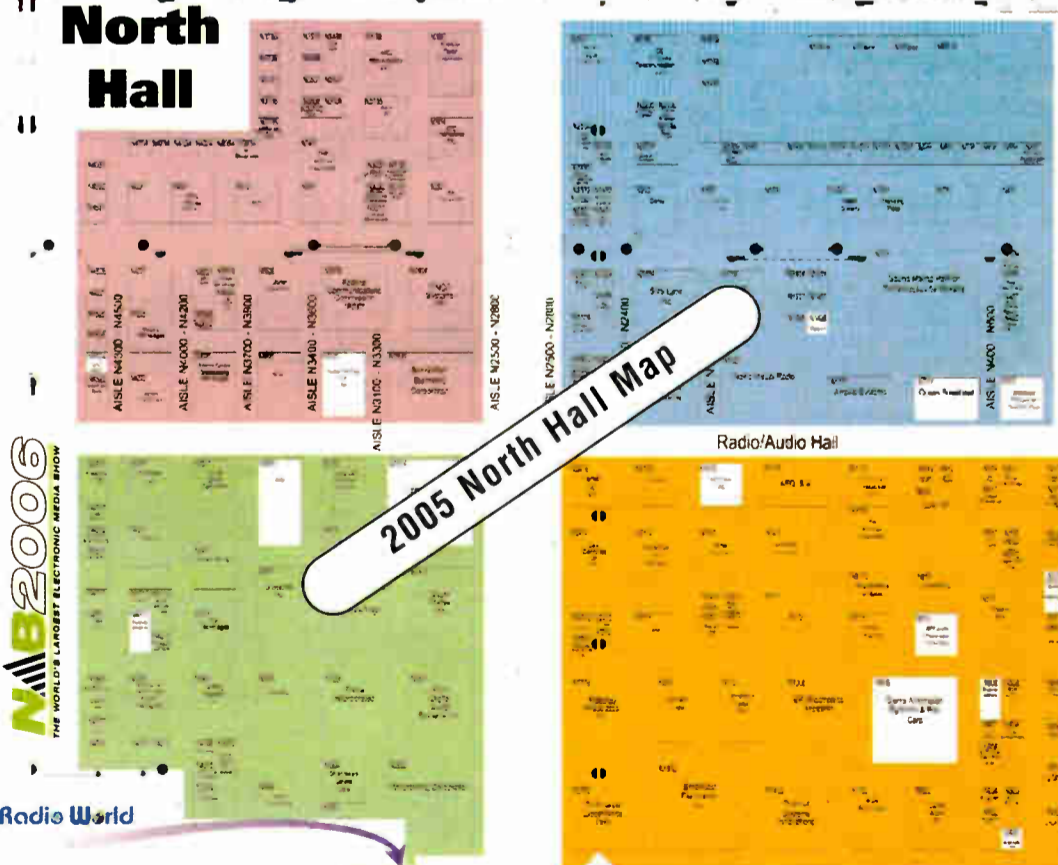
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Station/Studio Services	\$200			
Classified Line Ad	\$2/word			
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## ◆ READER'S FORUM ◆

### Surround Sound Broadcasts

I contributed a couple articles to Radio World a few years back. I just found your online article "Surround Sound for Radio" (Dec. 15, 2005). I reported on the New Year's broadcasts at my publication Audiophile Audition but only just saw this article. It has an inaccurate statement that should be kept in mind when doing future stories on NPR surround sound broadcasts.

It states in the third paragraph that the New Year's special was the first U.S. broadcast of surround material on a national scale. The truth is I broadcast matrix surround sound versions of my Audiophile Audition series on up to 200 stations — mostly public radio — once each month from 1985 to 1998. I also broadcast special all-binaural programs once per quarter.

**I broadcast matrix surround sound versions of my Audiophile Audition series on up to 200 stations — mostly public radio — once each month from 1985 to 1998.**

— John Sunier

NPR might be the first network involved in surround sound, but back in the early 1970s a number of stereo FM stations teamed up to broadcast quadraphonically, as two mono stations had sometimes done to bring stereo programming to listeners before stereo FM. I was involved in that with WBGH and WBUR in Boston in 1959.

In San Francisco the two stations teaming to do quad tapes and discs were KPEN and KFOG and I still have a four-channel tape somewhere of one of the broadcasts.

John Sunier  
Editor/Publisher  
Audiophile Audition  
Portland, Ore.

### The Low-Power Experience

I read the article on low-power radio by Randy Stine ("The Low-Power Radio Movement Wants More," Dec. 21). One big question remained in my mind: in what state is Urbana?

The key photos were about WRFU (LP). I know I could look it up but it seemed like a mistake not saying where it was. There are two Urbanas in Ohio — where I live — alone.

Gerry Moersdorf  
Powell, Ohio

RW replies: The state name was inadvertently dropped from the text. Studios for WRFU are located in the Urbana, Ill., post office.

Per your request in the Dec. 21 issue asking for feedback on the LPFM experience, let me give you feedback from our

organization's negative experience:

We filed during the initial window, but were eventually denied a license because I signed the application but didn't list myself as an "officer" of the company in another field.

What is most annoying is that we were not allowed to appeal, or make the correction to the license. It was simply dismissed for this reason. This was very frustrating, and had we been given the opportunity to correct this, we would be on the air.

This seemed to rebuke the spirit of the initial LPFM allotment that Chairman Powell created it for.

It seems to me the FCC has not been helpful or responsive in helping organizations like ours get on the air.

Joe Milledge  
Oskaloosa, Iowa

### Advertiser Index

We are disappointed to see the way the Advertiser Index in Radio World is being done. We strongly believe that it should be in advertiser alphabetical order, not by page number order. We believe that the way it is currently done favors the advertisers who are at the top of the index.

We would appreciate it if the format of Advertiser Index can be reversed to what it was up until December 2005.

Jackie Loper  
Pristine Systems/Summit Software  
San Pedro, Calif.

RW replies: The formatting of the index in the Jan. 18 issue was an error rather than a change in practice. Display advertisers are listed in each issue by name; in this issue they appear at left.

### Letters to the Editor

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

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

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

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

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## GUEST COMMENTARY

# Power-side Tops Fla. Engineer's List

*Kahn System Enables Extended Listening Area  
And Increased Coverage in Interference-Prone Areas*

by Jerry Smith

We must prepare for the possible turns in the road that HD Radio could deliver to those of us depending on broadcasting for our Social Security payments over the next 12 to 40 years.

I observed and tested the Kahn Power-side Clear in a Tampa-area radio station recently, comparing it to the HD signal on Clear Channel's WFLA(AM) at 970 kHz. Here are my observations.

Power-side is a system introduced by Kahn Communications some 20 years ago, which the company has coupled with new Clear technology designed to enhance the overall loudness on conventional narrow-band AM radios.

The Kahn Power-side Clear system is the first step toward the Kahn CAM-D digital system, for those who prefer a two-step process to an alternative digital transmission system that immediately improves the signal and sound on conventional radios.

We chose to start with the Power-side Clear package, capable of being upgraded to the CAM-D system at a future time. From all reports and sample airchecks of stations making the jump, the CAM-D package offers even further improvement to analog coverage and provides digital audio capability with no increased noise or interference to adjacent stations.

Kahn introduced the CAM-D, developed over the past several years, when the first series of IBOC systems appeared in the marketplace exhibiting a multitude of technical artifacts.

Both the Power-side Clear and the CAM-D system utilize the original brick-house military specs designs from

the Kahn AM Stereo 84 rack-frame design from the mid-1980s. The company has done extensive work on raising the bar for louder and cleaner audio, even under adverse conditions such as power line and other re-radiating sources known to increase interference under conventional double sideband AM transmitted signals.

By adding the Power-side Clear unit, audio delivered into the radio station's coverage area appears with increased loudness on conventional radios, with the added advantages of field tuning for distortion correction in the transmitter and associated RF tuning components plus a significant reduction in distortion from those annoying power lines and tall buildings.

## Great ideas languish

The local station owner had been skeptical about purchasing Power-side, and we had no guarantee the system would

ers are held captive to investment portfolios and their Wall Street perspective defining the cure for all technical and programming shortcomings as the switch to anything digital. Thus HD will be the sounding bell from the chief executives hopeful of saving their jobs for another decade until HD increases facility values or closes down half of the present facilities.

Meanwhile great ideas such as Power-side and the Kahn CAM-D digital system, which we now can confirm as improvements to analog performance while reducing adjacent-channel interference, will remain in the background, to be picked up by broadcasters trying to protect and improve their coverage footprint.

I, too, now agree with the Kahn system approach to saving AM radio and the advent of CAM-D as a clear and loud alternative to other digital systems. Prior to these recent tests, I was unclear as to the benefit of the Kahn system for AM work. Now, without a doubt, the potential for AM improvements on bad radios and during critical and night hours have

**I, too, now agree with the Kahn system approach  
to saving AM radio and the advent of CAM-D as a clear  
and loud alternative to other digital systems.**

fix our problems with adjacent splatter and critical hour and nighttime interference. We bought the box on my suggestion after more than nine years of discussion and searching for information.

I am as happy as a Lotto winner about the results. Our coverage area in daytime and nighttime operation is estimated to have doubled the effective listening areas with the addition of the Power-side Clear unit. Power line re-radiation known to cause the muffling effect on the audio and increased static is now practically non-existent in areas formerly written off as noise-prone.

WFLA sounds very good on the new digital radios but seemed subject to interference far greater than its original analog signal once was. Overall WFLA does a very good job covering the market in analog mode. But its digital sidebands have effectively eliminated ABC's Orlando 990 signal in Sarasota and Lakeland along with the Salem 950 AM from Orlando in Lakeland, formerly strong markets for those two facilities.

So while digital AM receivers are cleaner than conventional narrow-band imported radio receivers, the added digital splatter-noise is eliminating AM as a viable alternative outside of the 5 to 10 mV/m contours.

Most quoted consultants now agree that nighttime AM digital is a dead issue; and most have determined that first-adjacent FM signals must have far greater mileage separation in the new digital experimental age.

Tragically for broadcasting, our lead-

hope for anyone willing to invest the money for these inventions.

And this approach is truly an in-band and on-your-channel system, raising the value of the protected contours of a radio facility, while the other digital system — measurably and by listener tests — definitely harmfully affects stations in the adjacent channel spectrum.

## Raw deal

I know there are competent techs who do not like the Power-side system based on prior experience with AM stereo installations years back. I have visited a few facilities and interviewed those men; I understand their concerns.

But this box really works. The only reason anyone would not like Power-side Clear would be improper installation. Most tech guys with a heart will admit they know little about AM facilities and even less about a trick box that requires an attention span of greater than 30 minutes.

The Power-side Clear is only part of the Kahn CAM-D system. But we have spoken with users of CAM-D who just cannot believe the difference in going to the next level above the Power-side Clear update to CAM-D.

Power-side is capable of extending listening area and increasing your coverage in areas populated with power lines and during various interference conditions. But there is the need to understand source material limitations when loudness approaches those levels with Power-side equipment. We face greater

source material distortion control issues with digital and don't seem to mind the risk at all.

The good news is Kahn Communications has experienced installation technical help to set up the Power-side Clear or CAM-D equipment. They don't leave you clueless in the dark about set-up and operation.

Given that we are likely to be "stuck" in analog until the last generation of available foreground listeners gains admission to retirement homes, I welcome the addition of anything that can improve coverage and merge into digital technology without harming the next-door neighbors in the process.

## Trolley effect

Consider what the Power-side package has done for our test station in Tampa, which had been suffering from the Trolley effect.

The radio station was getting killed by high-voltage noise and control data signals from the city-owned trolley in downtown Tampa. With Power-side Clear installed, the noise is reduced to the background; it does not wipe out the audio and carrier as the trolley car passed us by.

Our digital competitor has 10 times

the RF signal at the trolley. With their recent digital upgrade they now get blasted by the transit system — which did not bother them at all in the past.

So this product is something to watch, although I understand that most people, while having great respect for Leonard Kahn, would prefer more access and information to what CAM-D has to offer.

The Power-side package is less than \$20,000 while the CAM-D is in the order of \$40,000. And it's rather amazing to watch as broadcasters pick the lesser-priced box when in fact the folks who upgraded to CAM-D say their coverage increased even more and their sound became even more remarkable.

For the sake of saving AM radio, it is worth offering this short-term tool for anyone who really wants to improve their AM facility. When I say "short term," I mean 40 years, at most.

I have several new clients doing AM upgrades this year. I was skeptical about suggesting the addition of a \$40,000 box to the package. Now it is at the top of the list.

How could anyone not consider spending at worst case something that costs \$3,000 a year over 12 years, or \$1,000 over the next 40, to improve the coverage in areas where even the 50 kW signals don't tread? Mr. Kahn is our last action hero, for sure.

The author is a broadcast technical consultant specializing in AM, FM and TV RF systems.

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

## Equipment ID

The microphone on page 45 is a Jenkins-Adair Condenser Type C (*Reader's Forum*, Dec. 21). It was available with either a yoke mount (as shown in photo) or a stand mount.

See [www.k-bay106.com/mics.htm](http://www.k-bay106.com/mics.htm).  
James Steele  
Kingsland, Ga.



Jenkins-Adair Condenser  
Type C, shown with yoke mount

## ◆ READER'S FORUM ◆

## Proximity Interference

We've had growing complaints from analog listeners regarding proximity interference caused by folks using satellite radio service.

People tune their car radios frequently to 88.1 FM in order to pump the satellite

lot of complaints on the Internet from people who have spent the extra money to convert their audio systems to HD, and they are now practically unusable.

Take a look at what HD Radio purchasers are saying at the Crutchfield Web site for example ([www.crutchfield.com](http://www.crutchfield.com)). Sometimes they blame the stations, other times they (unfairly) blame the technology of HD Radio. This has me really upset. Who is making these decisions?

**Drive to within 30 or 40 feet of a car with satellite radio and you will most likely lose your station for a brief period, until you are out of range.**

— Neil Hever

signal through the existing car stereo or on a home system. Drive to within 30 or 40 feet of a car with satellite radio and you will most likely lose your station for a brief period, until you are out of range.

Are there any legal problems with this situation? It is a big and growing problem for lower-powered public radio stations like mine.

Neil Hever  
Program Director  
WDIY(FM)  
Bethlehem, Pa.

## HD Radio Delay

I've been watching Internet sites carefully as the number of complaints from purchasers of HD radios has increased, due almost entirely to the lack of delay (synchronizing analog and digital), and extreme audio processing.

As I drive through many Midwestern markets, I'm dismayed at the number of HD stations not using the delay at all. Adding to that is over-the-top audio processing that is making HD Radio sound almost worse than analog. Isn't there anything Ibiquty can do?

For example, on a recent trip across the Midwest, I found not one station in Kansas City is running the delay — and most sound really terrible. About half the stations in St. Louis aren't running the delay either. This makes listening to the HD signal almost impossible. I'm already seeing a

HD Radio technology could be what saves free, over-the-air terrestrial radio, and it's being royally screwed up by people who apparently don't know what they are doing. If you ask me — and so far, they haven't — Ibiquty needs to have some technical people out helping, and making sure the stations are operating properly. HD Radio is capable of truly great things, but it's really getting a black eye out of the starting gate. If stations don't start doing HD Radio right, they will ruin its future before it really even gets off the ground. By the way, we are running the delay on all our HD stations, and they all sound beautiful with very light processing. There is no reason for a loudness war on HD. People are buying these radios because they want better quality.

There are ways of dealing with the delay: sending pre-processed audio to the studio monitors, and using cell phones for cueing at remotes. If we can pull this off in smaller markets, surely the big-market folks can figure it out too.

If I were the one who had paid the licensing fee, and got all my stations in full compliance with the Ibiquty contract on time, I'd be really upset with them for not enforcing these provisions on all stations, including the ones in the big markets with the big budgets.

Dave Obergonnen  
Director of Engineering  
Zimmer Radio Group  
Columbia, Mo.

## Engineers: Still Cooking On the Back Burner

In our Sept. 28, 2005 issue, we took broadcasters to task for not doing more to officially — and frequently — recognize the efforts and accomplishments of their engineers. If we're the first to complain when engineers are excluded from consideration for company awards and accolades, let us be quick to praise the broadcasters who applaud their hard work.

The local management and employees of Cumulus Broadcasting recently honored Steve Griesbach with the 2005 Employee of the Year award for his cluster in Appleton/Oshkosh, Wis. And to boot, this is the cluster's first time bestowing such an award on its employees, and an engineer was chosen.

The company says it decided to let the staff make nominations; Griesbach, who has been with the cluster since January 2004, was the "overwhelming choice," said Market Manager Jeffrey Schmidt.

"Engineering is often a thankless job in the radio station because you are always 'fixing' things, which means things are broken, and when things are broken people get mad and engineering is usually blamed. Steve is truly seen as a partner to our staff," he said.

On the down side, radio leaders generally continue to omit engineers from their thinking. Schmidt told us the fact that Radio World even thinks the award is worth reporting is indicative of the problem. "When my employees set out to nominate an employee of the year, I didn't imagine that our award would be setting new standards in the industry."

Our latest offender is the otherwise fine group known as Mentoring and Inspiring Women in Radio. It aims to use its influence and resources to support women in radio to develop strong management and leadership skills. The MIWs say they are committed to advocating advancement of women to senior positions in radio companies and corporations; and they correctly report that women are not making much headway in program or station management.

But when the group announced its annual gender analysis recently, it made no mention of technical women, not even as a group that lacks advancement. It mentioned the standing of women GMs, PDs and general sales managers. Where are the engineers? Again we remind radio executives that engineering is one of the main legs holding up the radio table. How about reporting progress for women engineers in management? Admittedly there aren't many; but isn't that the point?

The MIW group does excellent work. Its own Web site links to information intended to help encourage getting girls engaged in math, science and technology. But you wouldn't know there were any women in radio engineering, to look at the MIW site or gender analysis summary.

We compare that to a welcome announcement by the SBE and American Women in Radio and Television of a new award that will honor an Outstanding Woman in Broadcast Engineering. It will be presented in March.

So what can station managers do to change the "thanklessness" of the task, for engineers of either sex?

"Every day, every opportunity, reward them with praise for keeping your stations on the air," Schmidt said. "I don't think this is just an engineering problem. People need praise, people need to feel appreciated, and that happens in every department at every level. Managers have to be aware of the accomplishments of their staff, and recognize them publicly."

Engineer Griesbach added, "I read comments all the time indicating how an engineer feels they are not appreciated, or how the fun of this industry is gone. I have worked for a couple of stations where I felt that same feeling. However, I feel with Cumulus, and this market especially, the fun is still very much alive, and the appreciation level is there as well."

— RW



Steve Griesbach

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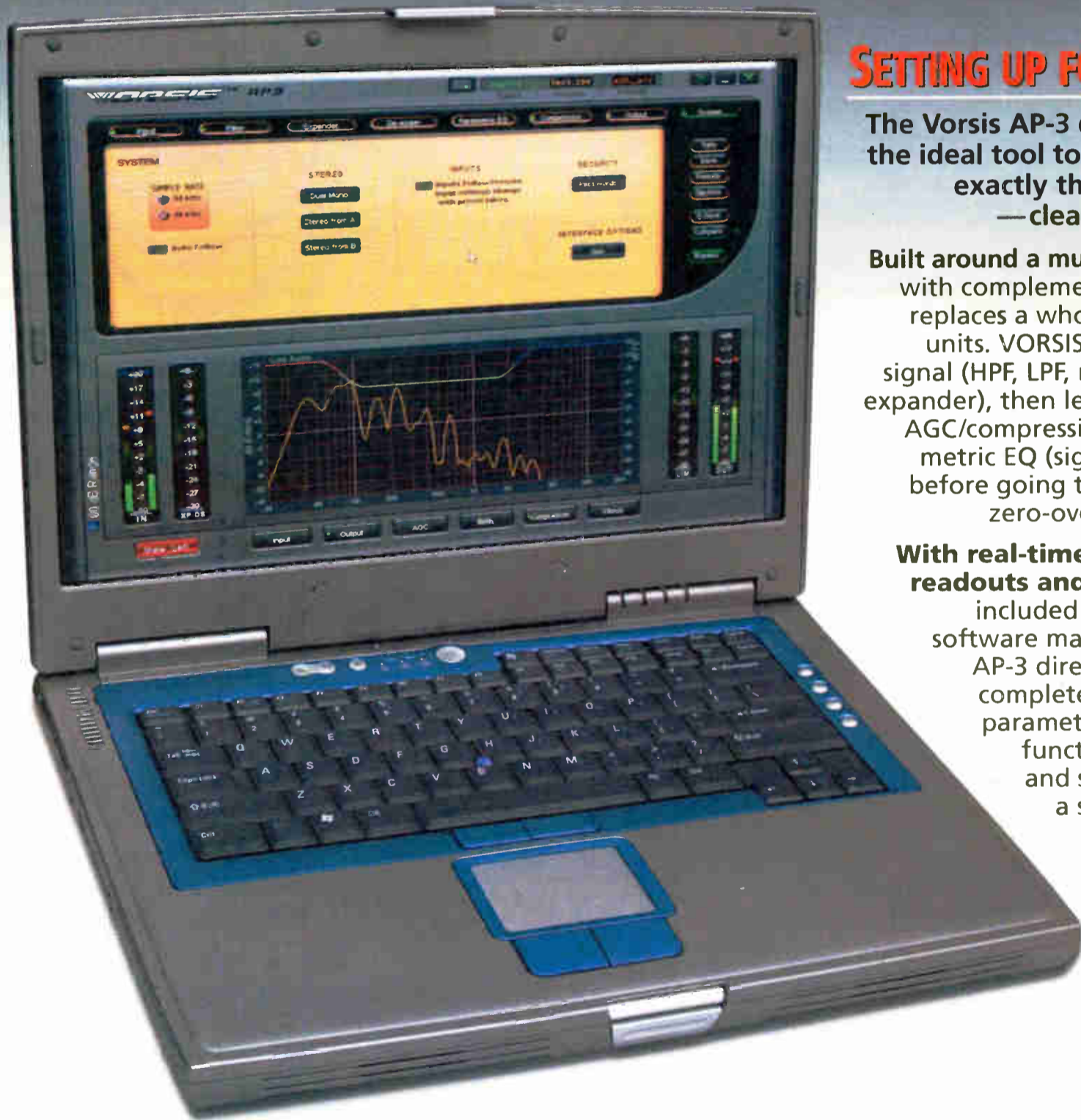
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