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Protect Your Brand

Neil Glassman on marketing in a recession.

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Unprecedented economic challenges may provide a crucible that forces change radio desperately needs.

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Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

January 14, 2009

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▼ For more than a decade, radio's been making a lousy product and getting away with it.

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Arbitron Diaries To Include Cell Households In 2009

Untethered Youth Are a Target in Arbitron Diary Sample

by Leslie Stimson

Arbitron has accelerated plans to include "cell-phone-only" households in its diary samples. Programmers see the move as key to reaching young adults, especially males.

It plans to introduce cell-phone-only sampling to 151 diary markets in the spring and to all markets (except Puerto Rico) by fall. Previously, Arbitron had said it would incorporate cell-phone-only households to 50 diary markets in spring and a total of 125 diary markets by the autumn.

The audience research firm already includes cell-phone-only households in samples for its Portable People Meter electronic ratings service.

Including cell-phone-only households in the diary sample has been difficult because of a federal law prohibiting random digit dialing to cell phones. The

See ARBITRON, page 5 ▶

Metal Thefts Drop With Price But Remain a Problem

Thieves Persist Despite Lower Prices For Copper and Other Metals

by Randy J. Stine

Even with plummeting recycled metal prices, the theft of copper and other non-ferrous metals from radio transmission sites across the country continues to plague broadcasters.

Radio stations have lost copper strapping, coax, antennas, even entire HVAC units to bandits looking to cash in on the copper and other metal scrap boom, which at one time saw copper prices top \$3 per pound in mid-2008.

Copper was down well over 50 percent in the past several months, garnering about \$1.30 per pound late in the year, according to the London Metal Exchange.

Despite the cost of such commodities being dramatically lower, industry observers say they believe copper thefts will persist as the world economy tanks.

"I don't have any solid documentation, but from purely anecdotal evidence it

See THEFT, page 8 ▶

A door frame is broken and the handle itself is missing at a Cox transmitter site.

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NEWSWATCH

SCMS-Bradley Deal Finalized Soon

PINEVILLE, N.C. Equipment dealer SCMS planned to close on its purchase of competitor Bradley Broadcast and Pro Audio on Jan. 13. Upon closing, Bradley Broadcast will function as a sales office of SCMS.

SCMS owner Bob Cauthen told Radio World the acquisition will be good for his business particularly in the government sector and because he was able to retain key Bradley staff. Bradley was owned by David Matthews, a former radio chief

engineer who purchased it in 2007.

Long-time Bradley executive Art Reed and account executive Bob Eburg will continue to staff an office based in Frederick, Md. SCMS is headquartered in Pineville, N.C. and has 10 field sales offices.

This is the second notable purchase of a competitor in two years for SCMS. In 2007 Cauthen purchased the Harris Broadcast Center, the product resale arm of Harris and descendant of the former Allied Broadcast Equipment. SCMS also recently signed as a reseller of Google automation and became the U.S. stocking distributor for broadcast products of Bird Electronics.

Bradley was started in 1983 as a sub-

siary of The Music Emporium, a national catalog dealer in musical instruments and pro sound reinforcement. In 1985, it was incorporated as a separate entity. In 2000, the parent company was sold to The Guitar Center and Bradley later moved from its Rockville, Md., location to Frederick.

Martin Quiet About Future

WASHINGTON FCC Chairman Kevin Martin has been silent on his plans. The Jan. 15 open meeting was expected to be his last

as chairman as the new Democratic President-elect Barack Obama is slated to be sworn in on Jan. 20 and Martin would then be replaced with a new chairman.

Martin's term as a commissioner is not up until 2011, however, so he could elect to remain at the agency. He declined to answer reporters' questions in late December about his future plans, only saying he has no announcements about his future at the FCC.

The chairman hoped to have one television item ready to vote on at the Jan. 15 meeting. While the rest of the January meeting agenda was unclear in late December, traditionally the first meeting of the year features presentations by the various bureaus about their plans for the new year.

Asked during a briefing with reporters in late December whether he intended to circulate more items for a vote before the scheduled Jan. 15 meeting, Martin said yes, but then said he couldn't talk about those yet.

The December open meeting was originally cancelled after Sen. Jay Rockefeller, D-W.Va. and Rep. Henry Waxman, D-Calif., who were set to take over their respective Commerce Committees in January, sent a letter to Martin telling him that the FCC should pay closer attention to the TV digital transition because questions remain about the readiness of Americans for the switch.

Fulfilling a requirement for a monthly meeting, the commissioners held one via telephone Dec. 30; the substance was devoted to commissioners saying their goodbyes to Commissioner Deborah Tate.

Tate Leaves FCC

WASHINGTON Commissioner Deborah Tate has left the commission after three years of service. Her departure leaves the agency with four commissioners. See NEWSWATCH, page 8 ▶

WINNING THE RATINGS WAR VORSIS: THE TECHNICAL STUFF

The loudness wars are over. The winner? Nobody. Why? Because when everyone became as loud as possible, using the same limited tools, the personality of every station got lost. We call it "the sameness syndrome."

We hate the sameness syndrome and believe it's a good part of the reason ears are turning to alternate sources. They are just plain tired. Fatigued.

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Vorsis is the first line of air-chain processors designed for today's 21st century radio listener. It's a complete ground up rethinking of the tired and traditional approach that is inescapable with those well-known processors. Here we talk about a few of the innovations that make the flagship AP 2000 Spectral Dynamics Processor the incredible tool that it is. Many of these advances are shared among the entire range of Vorsis solutions.

Intuitive Interface and Operation

No processor can meet its full potential if it's not something that's easy to use or if the full

Think about having the full engineering control you've always dreamed of — being able to find the whispers as well as the screams in your station's sound, crafting an aural signature that's so good, so transparent, you will have people calling to find out how you do it.

Vorsis Dynamics Control

Vorsis completely rethought dynamics control — AGC and compression — and came up with a design that's intelligent AND amazingly flexible to control and shape your station's "sound."

Five-band AGC (four-band in the VP-8) ensures a consistent spectral balance. Vorsis' exclusive SST™ Sweet Spot Technology manages the behavior of the AGC in real-time so that



what the incoming level or era of the music.

Powerful Bass, Incredibly Clean Voice

Vorsis Bass Management System extracts and reveals the nuances in the program that are simply not heard in any

and use L+R to L-R signal ganging to prevent the image from wandering uncontrolled. It's already field-proven to manage wide discrepancies between the recording techniques of various eras (oldies to the over-mastered music of today) and even reduce multipath interference.

Surgical Limiting and Clipping

To some the idea of 31 bands is scary. Not to us. It's simply amazing what can be done with it. Limiting and clipping's primary purpose is peak control to increase loudness; the less audible in its action, the better. 31 bands allow surgical limiting — its dynamic operation is nearly inaudible to the ear so the resulting sound is louder AND cleaner. It also provides unprecedented opportunity to further fine-tune the sound. FM and HD/DAB have entirely different transmission characteristics, so Vorsis processors have completely separate limiting and final peak control sections for analog and digital broadcast.

Welcome to the 21st Century

Vorsis is the first processor designed for the needs of a modern radio station and its listeners. Visit the web to learn more and read our application notes and white papers. Call us to set up a demo today.

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other radio processor. It puts deep pristine bass on the air without the distortions of common bass clipper technologies. VoiceMaster is a special Vorsis clipper management tool that has its own automatic processing chain dedicated to detecting and specially processing live speech signals, giving you the loudest and cleanest on-air voices ever.

Superior Stereo Enhancement

In rethinking Vorsis, it became clear that stereo enhancement HAS to be integral to the processing. It is, after all, a manipulation of the amplitude of the L/R difference signal that creates the perception of a wider sound field. With Vorsis, you'll get smear-free enhancement of the stereo image that can be as wide as you desire. But that's only the beginning — you can also control the stereo image width on a frequency-conscious basis



palette of controls are not accessible. The Vorsis GUI is designed for intuitive operation, from the front panel or remotely on your PC. No control is more than two clicks of the mouse away. The screens offer a logical layout with a virtual control surface above and monitoring graphs and meters below. You can see and hear the results instantly. Nothing is easier.

it always operates in its "sweet spot." The multi-band compressor, operating in concert with the AGC, provides unprecedented dynamics control. All operate in sum and difference — the highest signal controls the amount of processing. This is a completely new way to manage multiband dynamics to maximize the consistency of your station's on-air presentation — no matter

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AP-2000 without HD/DAB section
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• 5-band dynamics controller
• 10-band limiter/clipper
- FM-10HD**
Digital Audio Processor for FM analog and HD/DAB
• 5-band dynamics controller
• 10-band limiter/clipper
- VP-8**
Multi-Metric Processor for FM, AM, FM-HD/DAB, AM HD, MP3/AAC
• 4-band dynamics controller
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- M-1**
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GUEST COMMENTARY

Why Accessible Radio Standards Matter

IAAIS Develops Guidelines for Building Radios for Blind, Low-Vision Users

by David Noble

Many broadcasters are aware of the excellent work done in their cities by members of IAAIS, the International Association of Audio Information Services. IAAIS member stations are information access services using FM analog subcarrier transmissions to deliver daily readings of local newspapers, grocery and other shopping news, books, magazines and civic notices.

Highly dependent on volunteers, this non-profit industry has a 30-year history of service to people who live with vision impairments, are blind, or who can not hold a book or turn pages.

IAAIS and its HD Radio Taskforce have issued the IAAIS Standards for Accessible HD Radios. I have been asked to offer an introduction to those standards and the StAR Project, which stands for Standards for Accessible Radios. A short history is therefore in order.

A basic tenet of the IAAIS stance on the nation's radio conversion to digital is that IAAIS gets out of the special receiver business. For all of its history, the system of reading aloud over FM analog subcarrier required the use of expensive,

has no other access to the material, and has the same right as his or her peers to read a bestseller or magazine without a censor. To avoid complications, reading



David Noble

The goal of the team was to make all HD Radios easy to sell to people living with vision loss. As a pleasant byproduct, the units that meet the standards will also appeal to the general public and the standards can be applied to other consumer electronic devices.

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pre-tuned SCA receivers.

Many of these SCA tuners are lost in nursing homes, thrown away by relatives when clearing the estate of a recently deceased listener to the reading service, or given to local thrift shops with the other household electronics. The inventory loss is staggering.

services needed to be kept "private" on the HD Radio receiver. Thanks to the diligent work of NDS, iBiquity Digital and IAAIS, this was accomplished with the inclusion of a conditional access system in the HD Radio circuitry.

This means that the consumer of the future will be purchasing an HD Radio that

The team worked through many permutations of the standards and developed a non-technical, easy-to-read document that discusses the controls, features, documentation and displays on an HD Radio that will make it possible for IAAIS to recommend that unit to members for purchase by the stations and consumers. A copy of the standards is at the IAAIS Web site, www.iaais.org.

The key to the unit's accessibility is that it must speak. When the unit is powered on, it must recite what is on the display as well as which functions it is performing. The buttons, knobs and other controls must be tactile — discernible by touch. The documentation must be accessible as well.

It's smart business both to create the HD Radio system to include blind and vision-impaired listeners, and to build a better radio.

The IAAIS wants HD Radios available to the public to also have the ability to receive radio reading services; however that goal has a wrinkle.

Point-to-point

Reading services on SCA are considered a point-to-point transmission under commission rules. This enables the analog SCA reading service to read aloud from books and magazines that contain words unutterable on open channel. This is important, in that the listener

will be capable of tuning in the local reading service, and no additional equipment would be required. It also means that the radio must be operable by people who cannot see the LCD or other displayed information. The radio has to be accessible.

The majority of the StAR project team were blind consumers who are professionals in the radio reading industry and experts at figuring out consumer electronic and broadcast electronic devices by experimentation, trial and error and sometimes luck.

Promising prototype

Costs to create such a unit are not high; in fact, as the HD Radio Taskforce finalized its work, members reviewed a promising prototype that spoke when powered up and had nearly all of the required characteristics. The manufacturer projects that it expects to be able to offer the unit for under \$100, where it is currently priced. This bodes well for sales to both disabled and able consumers.

The standards do not stop with the min- See ACCESSIBLE, page 5 ▶

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Journalism We Can Be Proud Of

When It Comes to Politics in These Pages, Relevance Is the Differentiating Factor

"When did Radio World become a political commentary magazine?"

Reaction was swift to a column by Skip Pizzi in the Dec. 17 issue.

"Your final chart entry on page 32 is patently offensive," continued Dr. Dave Dzurick of Consult-Ed in Tucson, Ariz. The graphic, a classic end-of-year "Out/In" chart, ended with the entry "W." (as in George W. Bush) under "Out," and "Government we can be proud of" (presumably as in Barack Obama) under "In."

"You assume the new administration is one we can be proud of," Dzurick replied in an e-mail to me. "Can we at least let the guy serve his term before anointing him and his administration as a trusted savior of the country? The bottom line: Keep the political commentary out of your otherwise fine magazine. All conservative talk radio isn't bad and neither is all liberal talk radio good, something you seem to allude to."

Dzurick said if he were a conservative sponsor he'd even cancel his RW ads.

"Please, focus on radio, not politics. Keep your beliefs to yourself and we'll do the same."

Another reader, an industry veteran whose name you'd recognize, told me: "I really think the political commentary is out of line — whether it be anti-Democrat or anti-Republican, for or against Bush, or 'Obama will save the world' ... This isn't the place for political views, it's a forum for the issues of radio. If I was the editor, I'd have pulled those remarks because the rest of the story is fine."

These readers raise a valid question though I don't agree with some of the underlying assumptions.

I disagree with the concept that politi-

cal discussion and views have no place in Radio World. *Politics* ultimately is about affecting *policy*; and that topic most definitely is within Radio World's mandate.

However, it's my job to make sure that discussion in these pages is relevant to our industry; on that score, we failed in this instance.

I did discuss this chart with Skip Pizzi when he submitted his article, knowing it would be contentious; I was on the fence but decided to let it pass — because the comment appeared within an author's column, where opinions are a regular part

soned discussion of a radio issue.

I suspect what these readers are telling me is that they don't want Radio World to be a venue for the kind of broad, unreasoning and snarky hollering that is found in so many general media outlets under the guise of "political" discussion.

When this comes up again, with any writer, I'll tell him or her (as I have others in the past) that political commentary is acceptable when focused on how the question at hand relates to radio. For example: "I think the Obama administration is a threat to radio because it is likely to push for content restrictions" or "I feel George Bush was bad for broadcasters because he encouraged lax content enforcement" or whatever. Then others can reply and comment as well.

As to Skip's chart, it would have sufficed to write, "Out: 'W' ... In: 'O.'" That's a statement of palpable election fact and doesn't drift into broad political commentary.

If Skip chose to explain in his column why he thinks one leader is better than the other, that's appropriate, as long as it's clearly labeled as his opinion and as long as I provide a forum for others to state their own views.

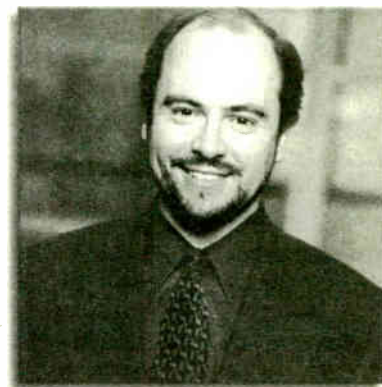
Radio World in general does a good job of policing these lines. And we're still a newspaper, so I won't try to protect readers from

opinions they might find disagreeable. But I am committed to making sure that when readers do open RW's pages, they'll find discussion relevant to our industry.

While I'm in ombudsman mode, here's a question about how to share an RW article.

"My Dec. 17 issue was received on Dec. 30," Robert writes. "In attempting

From the Editor



Paul J. McLane

to go online to send the fascinating Fessenden article to some folks in the U.K., I was unable to find the Dec. 17 issue, but was able to pull up the Jan. 1 issue. Yet on your Web site, there were feature articles from Dec. 17 on Green Radio and John Bisset's piece on 'Yes, I'm Going Up There,' etc.

"Is there a way to find the Dec. 17 issue online?"

Radio World posts content online in two forms: As HTML on the site (content that can be found via search); and a complete, Flash-based digital edition of each issue, available online to any visitor until the cover date of the next issue.

To find the digital edition, follow the instructions on our Web page. From inside the digital edition you can e-mail any article (click on Tools, then Send).

In this case, however, mail delivery of the reader's print edition was behind schedule. When he went to find the Fessenden story online, our Dec. 17 digital edition had already been replaced by the Jan. 1 (a day or two early because of the holiday).

That doesn't mean he's out of luck. He can use the Search function of our Web page to see if the posted version of the article is still available. Type Fessenden and it will indeed take you to a posted version of that story.

In finding older stories online, the Search function can help you a lot. But while a given digital edition is active, that's the most reliable way to find an electronic copy of a story and the easiest way to e-mail it.

12 Radio World | radioworld.com FEATURES December 17, 2008

2008: The Year in Rearview

For Many, This One Is Best Seen Receding in the Mirror

The year that's coming to a close has been a momentous one, but it contained much that most of us simply are glad to have now put behind us. For example, regardless of your feelings about the outcome of the presidential election, it's nice to have that process over with. And few would like to see the economy's performance in the fourth quarter tank around.

In fact, so much of importance happened late in the year that we may not be far enough away from it yet to assess it properly. But we almost undoubtedly will look back at 2008 primarily as the year Barack Obama was elected president and the year the market crashed (regardless of how you feel about that).

More debt problems and litigation from disgruntled stockholders are likely to follow. Thus the merger has not yet brought happy times to satellite radio, and it's unclear whether it ever will. The National Association of Broadcasters has had a rough year too. After putting its big guns on the line against the satellite radio merger and coming up

Speaking of Washington, there's already plenty of speculation on what the new government will bring for broadcasters. We'll have to wait for that to play out, but rest assured, we'll be watching closely here and will bring you our analysis as it happens.

Another area of attention will be how the credit crisis affects radio. The big story at the moment appears to be how the

2008 may be remembered less for itself than for the era it brought to a close.

Objects may appear larger than they really are. In the radio business, one big story was the approval of the satellite radio merger. Although the merged company's subsequent financial problems may already be signaling that it's a reverse stock split (1 for 10, 1 for 20, or perhaps even higher) has been proposed to get the company's share price back above \$1

empt), it pushed head against unbecomingly large devices in DTV white space and halted there, too. In the past, if NAB's position wasn't fully upheld, it could at least soft on the blow by forcing compromise. But on both of these cases the regulatory lobby was almost completely shut out, with their opponents winning on practically every point.

by Skip Pizzi

OUT	IN
Kevin Martin & Detlev Taylor leave	A new FCC chairman, and her new commissioners (CJ, FN)
Surfing the Web on your phone	Listening to Internet radio on your phone
Satellite radio systems merging	Satellite radio stock shares reverse splitting
NAB as a lobbying powerhouse	"Performance tax" return of the Fairness Doctrine, new LPFM rules, negotiation of media ownership rules, etc.
BOC at AM's elbow	Adding FM simulcasting at AM's elbow
Listening to AM stations over the air	Listening to AM stations online
FM translators for simulcasting FM stations' coverage	FM translators for simulcasting AM stations
AM radio broadcasting	We can't think of anything else to try
HD Radio services for the visually impaired	HD Radio services for the visually and audio impaired
Analog TV	White spaces
Direct	IPSA updates
On-air audience ratings	On-air and online audience ratings
HD Radio adds conditional access	HD Radio adds EPS
Interference to noncom PIDs from analog TV Ch. 6	Interference to noncom PIDs from digital TV Ch. 6
New music discovery on PCs	Tagging on handheld devices
Tagging via HD Radio	Tagging via REDS HD
Portable BOC	Portable BOC
Election ad revenue	Renegotiating 900 numbers
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Arbitron

► Continued from page 1

Telephone Consumer Protection Act of 1991 prohibits placing calls to cell phones with automatic dialing machines, which Arbitron has traditionally used, unless the caller has a pre-existing relationship with the person being called.

Arbitron plans to use an address-based sample frame as the foundation of its cell-phone-only sample, while maintaining the random-digit-dial sample frame for landline households.

Information about cell phone-only households comes from the federal Centers for Disease Control and Prevention's National Center for Health Statistics and its National Health Interview Survey. At a consultants' "fly-in" meeting at Arbitron in December, Dr. Stephen Blumberg of the CDC said the nationwide trend towards wireless phones presents a growing challenge to conducting phone surveys.

Renters are four times more likely than home owners to be cell-phone-only households.

Preliminary results from the Centers for Disease Control and Prevention's January-June 2008 National Health Interview Survey indicate that more than one out of every six American homes (17.5 percent) had only wireless phones during the first half of 2008, an increase of 1.7 percentage points from the second half of 2007.

The number of households without landlines is growing about 3 percent per year. Renters are four times more likely than home owners to be cell-phone-only households. Those who have wireless

phones only are mostly adults living with roommates, more likely to be male and live in the South and Midwest.

According to the updated survey results released in December, approximately 31 percent of adults aged 18-24 live in cell-phone-only households. Those who mostly use their cell phones may still keep a landline phone for their security system or DSL broadband.

"We know some of them won't pick up a [landline] phone if it rings. By age, 18-29, half of young adults are wireless only or mostly wireless," Blumberg said.

BRANDING, POSITIONING STILL RELEVANT

While you might not have to use your call letters on the air — because the Arbitron Portable People meter knows which encoded signal its receiving — listeners still need to know which station to tune to.

That's according to Philadelphia program directors speaking to research consultants at the Arbitron meeting as well as analysis from Coleman Insights, which sought insights into listener behavior from PPM panelist interviews.

The need for marketing and branding has not changed just because ratings methodology has; stations should use call letters, slogans and promotion, according to Coleman President/CEO Warren Kurtzman and Vice President John Boyne. Stations must recognize the role that intentional listening plays for a radio station.

Chasing so-called incidental listening, trying to broaden the appeal of a station to gain these listeners, can cause your core to collapse if you make changes that undermine why people listen intentionally, according to the Coleman researchers, who interviewed 30 people who had been on PPM panels in Houston, Philadelphia and New York.

The Coleman researchers expressed surprise at how much listeners rely on their radio pre-sets, rather than scanning the dial. This means there are fewer chances of discovering a new station.

Also striking was how often consumers misidentify stations they don't listen to much. New York panelists, for

have some type of disability.

The American Foundation for the Blind estimates a national population of 21.2 million Americans is living with vision loss. That figure represents a lot of additional HD Radio sales.

By adopting the principles of universal design, HD Radios can be sold to an eager audience of men and women who have a high degree of motivation to adopt the new technology. In our research and review of existing units, both accessible and not, we learned that a single note on an e-mail group of blind consumers about our prototype returned excited inquiries on where to buy one and how soon would the units be available.

In short, it isn't only the right thing to do, it's smart business both to create the HD Radio system to include blind and vision-impaired listeners and to build a better radio. IAAIS hopes that many manufacturers come to the Web site and download the StAR Project report. And, by the way, the StAR Project Report is in large print.

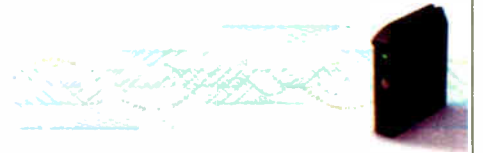
Noble is chair of the HD Radio Taskforce for the International Association of Audio Information Services.

Radio World welcomes other points of view to radioworld@nbmedia.com.

Internet Streaming AM/FM Radio Stations



- **Streams of AM/FM stations and HD are eligible to be encoded**
 - » Tuning reflects audience for encoded stations only
 - » Not included (impact not quantifiable)
 - Internet-only radio and Podcasts
 - Ex: Yahoo! Music, Pandora, or Podcast of Car Talk
 - Non-encoded stream of out of market radio stations
- **Minimum reporting standard**
 - » .495 Weekly Cume Rating



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example, talked to researchers about stations "that didn't exist in the form they described them, for, in some cases, 10 years," said Kurtzman, such as 1130 WNEW and WHN.

NOW 14 MARKETS DEPEND ON PPM

Arbitron has commercialized its PPM service in four new markets. The audio research firm released radio audience estimates for the December 2008 PPM survey to its subscribers in Dallas-Ft. Worth, Atlanta, Washington and Detroit.

It said PPM estimates for these markets should be used as the basis for buy/sell transactions of radio commercial time among subscribing stations, agencies and advertisers effective Dec. 31, 2008. PPM audience estimates are now the buy/sell "currency" in 14 markets: New York, Los Angeles, Chicago, San Francisco, Dallas-Ft. Worth, Houston, Atlanta, Philadelphia, Washington, Detroit, Nassau-Suffolk, Middlesex-Somerset-Union, Riverside-San Bernardino and Sar Jose. These markets account for 51.7 percent of the estimated radio station revenue in the top 50

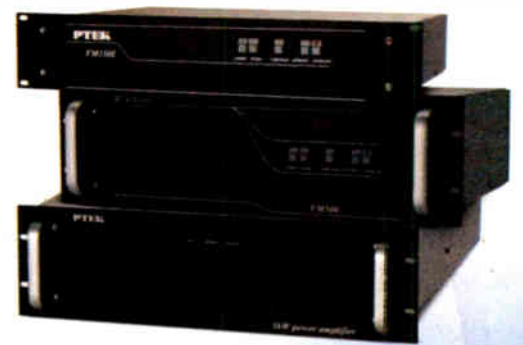
See ARBITRON, page 6 ►



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Arbitron

► Continued from page 5
radio markets, according to Arbitron.

The company plans to commercialize PPM in Boston in April with the release of the March PPM survey report.

DIGITAL MEDIA GROW IN PPM DATA

In 1998, when a national sample of listeners was asked by Arbitron partner Edison Media if they had "ever listened to online radio," 6 percent said yes. In 2008, that response was 46 percent, or some 54 million Americans.

From 14 PPM markets, according to November data, listening online to AM or

FM simulcasts is 67 percent "other" a combination of white, Asian and other races, 18 percent Hispanic and 15 percent black. The most listened-to online radio formats are news/talk and adult contemporary.

Arbitron said 13 radio station Web streams made the December ratings book, up from 11 in November.

In Arbitron's new definitions, as we've reported, "IA" stands for an Internet stream of an AM station and "IF" stands for the Internet stream of an FM station. The 13 stations are WHTZ(IF), New York and Nassau-Suffolk; WBEB(IF), Philadelphia; KOST(IF) and KROQ(IF), Los Angeles; KILT(IF), and KODA(IF), Houston; KDFC(IF), KOIT(IF) and KSFO(IA), San Jose; WAOK(IA), Atlanta; WLIT(IF), Chicago; WAMU(IF), Washington and KVIL(IF), Dallas.

The research company includes radio station Internet streams and HD Radio

Arbitron said 13 radio station Web streams made the December ratings book, up from 11 in November.

stations in its definition of "digital" radio. It said of 662 digital stations eligi-

ble to encode, 520 are doing so and are ready for reporting; those numbers are up from 591 and 467 respectively in November. The 520 breaks down as 326 AM/FM Web streams; 140 HD2s; 33 HD2 and Web streams; 15 HD3; and six HD3 and Web streams.

To be included in the digital station count, stations must meet the minimum reporting standard of a .495 Weekly Cume Rating. Internet-only stations and podcasts are not included in the audience estimates because the commercials aren't encoded, nor are non-encoded streams of out-of-market radio stations.

If they are encoded and played back within 24 hours, however, Arbitron says podcasts or other time-shifted audio will be credited in PPM to the original time of broadcast. Arbitron says most podcasts are played back within 24 hours.

MORRIS: ARBITRON TO FIGHT

Arbitron President/CEO Steve Morris says that while the U.S. is in a recession, it's not the demise of radio.

"Things may get worse" in 2009, "but they're also bad in television" and in other media, he told attendees of the consultants' meeting in Columbia, Md.

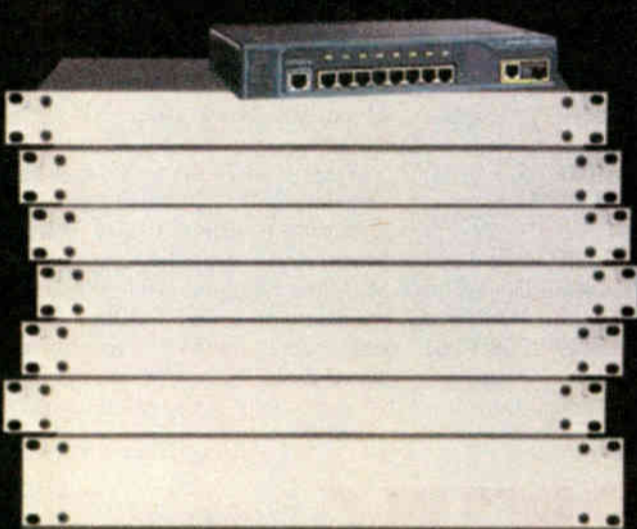
"The long-term picture for radio is not bad. We just have to get through the ugliness of the near term," he said.

For Arbitron, that means enhancing its core business — ratings. It plans to measure digital audio and digital video that's connected to audio.

And what did he have to say of the news that Cumulus chose Nielsen to produce diary ratings in 50 small and medium markets, with Clear Channel using the service in 17 of those markets?

"We are not going to give an inch," he said, indicating Arbitron won't abandon its diary markets that Nielsen will tally with its once-a-year sticker diary. "We view this as a fight, a fight we intend to win." ●


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....and more!

NEWS ROUNDUP

ROCKEFELLER: As he begins his fifth term in the Senate, West Virginia Democrat Jay Rockefeller IV is the new chair of the Energy and Commerce Committee. He assumed his new chairmanship on Jan. 6 when the 111th Congress officially convened. The move had been expected. Rockefeller takes over Commerce from Democrat Daniel Inouye of Hawaii, who's vacating the Commerce chairmanship for the chair of the Appropriations Committee in the new Senate. Rockefeller's first order of business will be the economy.

ARBITRON ONLINE RATINGS:

Online radio network ReplaceAds said it was the third largest online radio advertising network in the October com Score/Arbitron Online Radio Ratings. ReplaceAds is a new service owned by Jetcast Inc. that provides advertisements to online radio stations for insertion into the online streams. The ReplaceAds Advertising Network consists of more than 3,500 stations. Arbitron said its agreement with Jetcast lets the company provide a more complete picture of online radio consumption.



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Photo: Jonathan Tichler/Metropolitan Opera



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—Matthew Galek, Broadcast Engineer for The Metropolitan Opera

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◀ ACCESS ▶

Theft

► Continued from page 1
appears copper thefts have slowed a bit. As the price drops so too does the high-risk, high-reward ratio," said Chuck Carr, vice president of the Institute of Scrap Recycling Industries.

ISRI "has theft prevention meetings and summits planned for all over the country in 2009. We offer a metal theft training program for law enforcement to show them how to build relationships between metal scrap recyclers and the industries that are being impacted by the thefts," Carr said.

We always knew price was the main driving force, but people are still desperate because of the economy.

— Chuck Carr

"We always knew price was the main driving force, but people are still desperate because of the economy."

Stories of copper thefts from radio transmitter sites over the past year are plentiful. Brazen crooks have ripped copper tubing from buildings, taken transmission line and even stole an entire broadcast tower in southwestern Pennsylvania, according to various reports.

Carr's group, which consists of companies that process and broker scrap commodities, has launched a Web site aimed at tracking metal thefts. The site, www.scraptheftalert.com, aids law enforcement in their efforts to combat the problem.

Local task forces are crucial to limiting copper thefts, Carr said, but in addition to prevention training, ISRI is supporting efforts to pass a national law penalizing copper theft. Twenty-six states have copper theft laws.

In the new Congress

The national Copper Theft Prevention Act of 2008, sponsored by Rep. Bart Stupak, D-Mich., failed to pass in the lame duck Congress before the end of 2008, but Carr expects action to be taken on the bill in the new session. If passed, the law would require better recordkeeping by copper recyclers and prohibit cash

The Institute of Scrap Recycling Industries launched a Web site aimed at tracking metal thefts.

said Bob Brand, vice president of corporate security for Cox Enterprises, which includes the group's 67 FM and 13 AM radio stations in 18 markets.

Cox implements a "layered approach" to security at its transmitter sites, Brand said, which calls for fencing, lighting, motion detection equipment and cameras.

"Do a risk assessment first, which helps establish how to protect the critical components that are crucial to you."

Brand said Cox has experienced metal theft at a "handful of sites" in the past year or so.

Dave Remund, vice president of engineering for Regent Communications, said, "We have had copper theft at three of our sites and have implemented, or plan to implement, lights, improved fencing and cameras at several sites."

Regent has nearly 70 sites in all, Remund said.

Other broadcast companies including Clear Channel and Cumulus have reported copper

payments of more than \$500. The bill provides for a civil penalty of up to \$10,000.

Metal theft isn't only affecting broadcasters.

The FBI released a report in the fall saying copper theft threatened U.S. infrastructure, citing examples of theft that disabled tornado warning sirens and in one case, a Federal Aviation Administration tower in Ohio.

"It is a major concern for all of us that have large amounts of copper at sites that are isolated and relatively easy targets,"

theft incidents in the last 12 months, sometimes resulting in significant financial loss.

Most recycling industry observers believe the demand for copper and other non-ferrous metals will remain strong because of dwindling resources worldwide. And then there is the matter of the economy, Carr said.

"As you have more and more people looking for income, it's easy to go and steal air conditioner parts and other scrap metal to meet financial needs," Carr said.

Newswatch

► Continued from page 2
ers, evenly split along party lines.

The former chairman and director of the Tennessee Regulatory Authority was sworn in as FCC commissioner on Jan. 3, 2006, and renominated by President George W. Bush for a full five-year term on June 20, 2007. However the Senate did not act on her confirmation and she had to leave when the 110th Congress adjourned.

Her colleagues praised Tate, including fellow GOP Commissioner Robert McDowell, who credited Tate with being "the voice of consensus at the commission." Tate "helped us to find middle ground on many of these complicated issues," he said.

Tate mentioned her participation in the 2008 World Radio Conference as one of her accomplishments and encouraged her colleagues to become more involved in future global initiatives.

Internet Media Device Group Forms

Several streaming media companies have created an industry group to define standards, functions and profiles to encourage development of Internet media devices.

The group, called the Internet Media Device Alliance, planned to hold its first meeting Jan. 9 at CES.

Other objectives for the IMDA include

promoting Internet-connected device technology to consumers and retailers. Membership is open to consumer electronics OEMs, retailers, radio broadcasters, content aggregators, online music service providers, device manufacturers and technology providers.

Frontier Silicon, Global Radio and the BBC are among the founding groups that form the steering committee. IMDA Chairman Harry Johnson says it's time for companies involved in the market for Internet media devices, and especially Internet radios, to join forces and present a clear message to consumers, along with a consistent user experience between products.

Further information is available at www.imdalliance.org.

News Roundup

SIRIUS XM: At the annual meeting Dec. 18, Sirius XM stockholders okayed increases in the number of authorized shares from 4.5 billion shares to 8 billion shares. They also approved an amendment to permit the board at any time prior to Dec. 31 of 2009 to effect a one-for-10 to one-for-50 reverse stock split. Total shares represented at the meeting were 2.8 billion, representing about 88 percent of the total shares outstanding as of Oct. 20, 2008. Sirius XM Radio trimmed 22 percent of its work force (some 458 positions) by the end of 2008, as the satellite radio provider moved to cut costs amid slumping car sales. The cuts leave the satcaster with about 1,600 people, down from the 2,058 it employed before its acquisition of XM.

m!ka MICROPHONE AND MONITOR ARMS

New accessories! Yellowtec's award winning product line for positioning microphones and monitors continues its growth. The modular system has been expanded by some new mounting options: VESA 75 Adapter for Genelec near field monitors, Ceiling Mounting Kit, Wall Mounting Bar and Board No. 1 (20"x12").

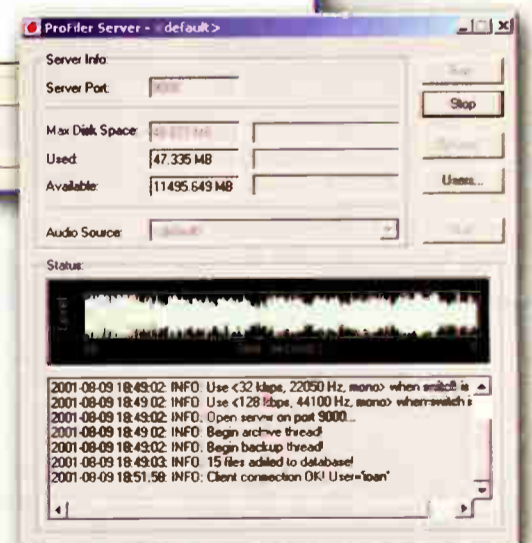
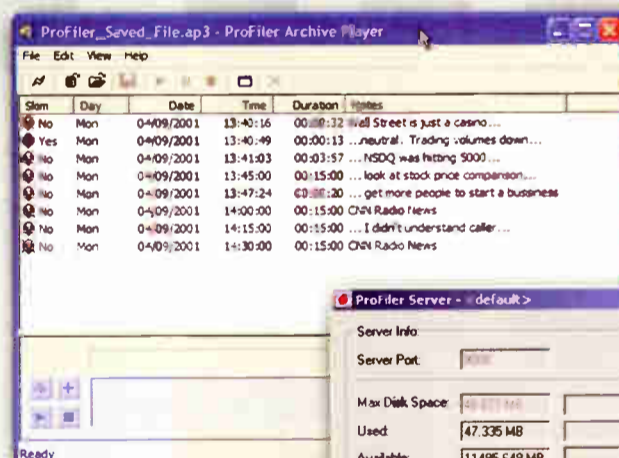
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GUEST COMMENTARY

HD Radio Aims to Go Global

Kneller of iBiquity Says the Technology Is Attracting Attention Around the World

by Hal Kneller

The author is director of International Broadcast Business Development for iBiquity Digital Corp.

HD Radio technology is not just a U.S. phenomenon.

More than 1,750 AM and FM stations in the United States are broadcasting with HD Radio technology, offering an additional 900+ new multicast channels. But there is also great interest in Latin America, Asia and parts of Europe.

In April, 2001, the International Telecommunication Union adopted Recommendation ITU-R BS.1514, which endorsed iBiquity's AM IBOC technology for digital sound broadcasting in the broadcasting bands below 30 MHz. The following year ITU adopted Recommendation ITU-R BS.1114 of iBiquity's FM IBOC system (referred to by the ITU as Digital System C) for digital broadcasting above 30 MHz.

These two recommendations give worldwide credibility to these systems from a regulatory standpoint. From here, regional and national standards organizations can work from this reference as they develop recommendations for digital radio technologies within their areas.

In my new role as director of International Broadcast Business Development at iBiquity, I have been privileged to travel to Canada and many countries in South America, Europe and Asia this year. I'll share some observations that I made on these trips about the interest in HD Radio technology.

With the proliferation of many wireless devices worldwide, even in develop-

ing countries, available spectrum is much more scarce today than it was 20 years ago when DAB (Eureka-147) was conceived. This worldwide premium on

spectrum, combined with the efficiency of IBOC transmission, has created the global demand for HD Radio technology.

Europe

Last October, several European broadcasters and other interested parties

formed the European HD Radio Alliance, or EHDRA, to help promote the technology to other broadcasters and to governments. Although DAB had a major head start in many European countries, we see Germany, Switzerland, Ukraine, Romania and others with considerable interest in HD Radio technology, such as running tests and operating experimental stations.

Unlike the United States, the many governments in Europe operate radio or
See GLOBAL IBOC, page 12 ▶



Voice of Vietnam employees carry a Nautel 1 kW AM transmitter in Hanoi. The path to the transmitter site was only wide enough for a bicycle.

Photo by Hal Kneller

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The HD Radio Scoreboard is compiled by Radio World using information supplied by iBiquity Digital Corp., the HD Digital Radio Alliance, BIA Financial Network and other sources. Data reflect best information as of late December. This page is sponsored by Broadcast Electronics. HD Radio is a trademark of iBiquity Digital Corp.

Emmis Partners With Ethnic Broadcaster To Populate Several HD3 Channels

What should those extra HD Radio channels be used for?

At Emmis Communications, part of the answer is to reach new markets; namely a good portion of the estimated 3.8 million South Asians — Indian, Pakistani, Bangladeshi and Sri Lankan — who live in North America.

This is why Emmis has partnered with WorldBand Media to broadcast WorldBand's South Asian radio programming via Emmis' WQHT-HD3 (97.1-HD3) in New York, KPWR-HD3 (105.9-HD3) in Los Angeles and WLUP-HD3 (97.9-HD3) in Chicago.

"WorldBand approached us with an idea to launch a network of ethnic HD stations targeted to the Indian community," said Paul V. Brenner, Emmis Communications' VP of integrated technologies.

"The agreement is structured as a straight sub-leasing agreement for the HD3 positions on three of our stations. WorldBand is sourcing/producing all of the content and overseeing all other components of programming the station. We simply ensure that WorldBand inserts the proper FCC required content, i.e. station ID and EAS, and broadcast the programming."

Using HD bandwidth is a very cost-effective way to reach our audience.

— Brad Herd

Operationally, WorldBand Media produces its South Asian content on a network model, providing it to all of its HD Radio stations. Ultimately, WorldBand will have local studios in the markets it serves; not just for local presence, but because this business model is focused on locally-sold advertising.

"We're effectively operating like a conventional local radio station, except that we're delivering our content via HD Radio," said WorldBand Media VP Business Development Brad Herd.

"Using HD bandwidth is a very cost-effective way to reach our audience, compared to buying an FM licensee and converting the format."

Besides its deal with Emmis, WorldBand has launched in Washington using one of Bonneville International's HD Radio channels (WTOP HD2) and has signed a deal with NextMedia to serve San Jose and San Francisco the same way.

"Based on the census data we've seen, the [South] Asian community is quite large and, more important, has been one of the fastest growing ethnic communities in the country over the past 10 years," Brenner told Radio World.

"The growth in the Indian and South Asian communities has been a key driver of those trends; plus India has a distinct and powerful cultural engine — we've all heard about the growing influence of Bollywood — that doesn't have many local distribution outlets in the U.S. We think the business concept holds a lot of promise."

For Emmis, Worldband Media is just one part of its overall HD Radio strategy. "Our content ranges from deep album rock and live concerts to gospel, jazz and old school hip hop," Brenner said. These channels are heard via the 16 Emmis HD Radio stations that are multicasting. The company has 23 stations in all; 17 are broadcasting in HD Radio overall.

"Multicasting is the method by which terrestrial broadcasters can mostly compete with external companies that provide listener choices, such as satellite or Internet," he concluded. "The adoption of HD Radio has drawn enough attention that we can now get companies like Worldband Media interested in using our industry to fulfill their business objectives."

— James Careless



Johney Brar and Sonya Gil, standing, Devika Mathur and Jatinder Dhoot are among the air talent at WorldBand Media.

The HD Radio Bottom Line

A Year Ago:

1,550

A Month Ago:

1,828

On the Air

1,851

Total U.S. stations:
14,124

798

976

FMs
Multicasting

984

exclusive of LPFM
and translators

Global IBOC

► Continued from page 10

television stations along with commercial broadcasters. HD Radio technology initially had more of an appeal among those private (commercial) broadcasters mainly because it does not require new spectrum, costly infrastructure upgrades or changes in listener behavior.

Radio World and RW Engineering Extra have published articles on the tests in Lucerne, Switzerland, by EHDRA member and general director Markus Ruoss. HD Radio broadcasting continues on the Ruoss Sunshine stations. An interesting conclusion from the testing was that in severe reception conditions in the Swiss Alps, the HD Radio signal could be received in the automobile testing, whereas the analog signal was unlistenable.

Eastern Europe has embraced the HD Radio concept quite nicely. We have two HD Radio stations, each programming an HD2 and HD3 channel in addition to their main HD channel. They are licensed to First Ukraine Radio Group operating full-time in Kiev, Ukraine. Neighboring Poland has tested the system as well. We are in conversations with several other Eastern European broadcasters about future testing, and this fall we demoed HD Radio technology in Baia Mare, Romania.

Each of these countries recognizes that to continue to be viable, radio needs to integrate into the digital landscape.

In Asia, we have several countries deploying the HD Radio system. In Bangkok, Thailand, several HD Radio stations with multicast are operational. The Philippines was the first Asian nation to regulate HD Radio technology as its official digital standard (on FM), while China and Vietnam currently are testing with live on-air transmissions.

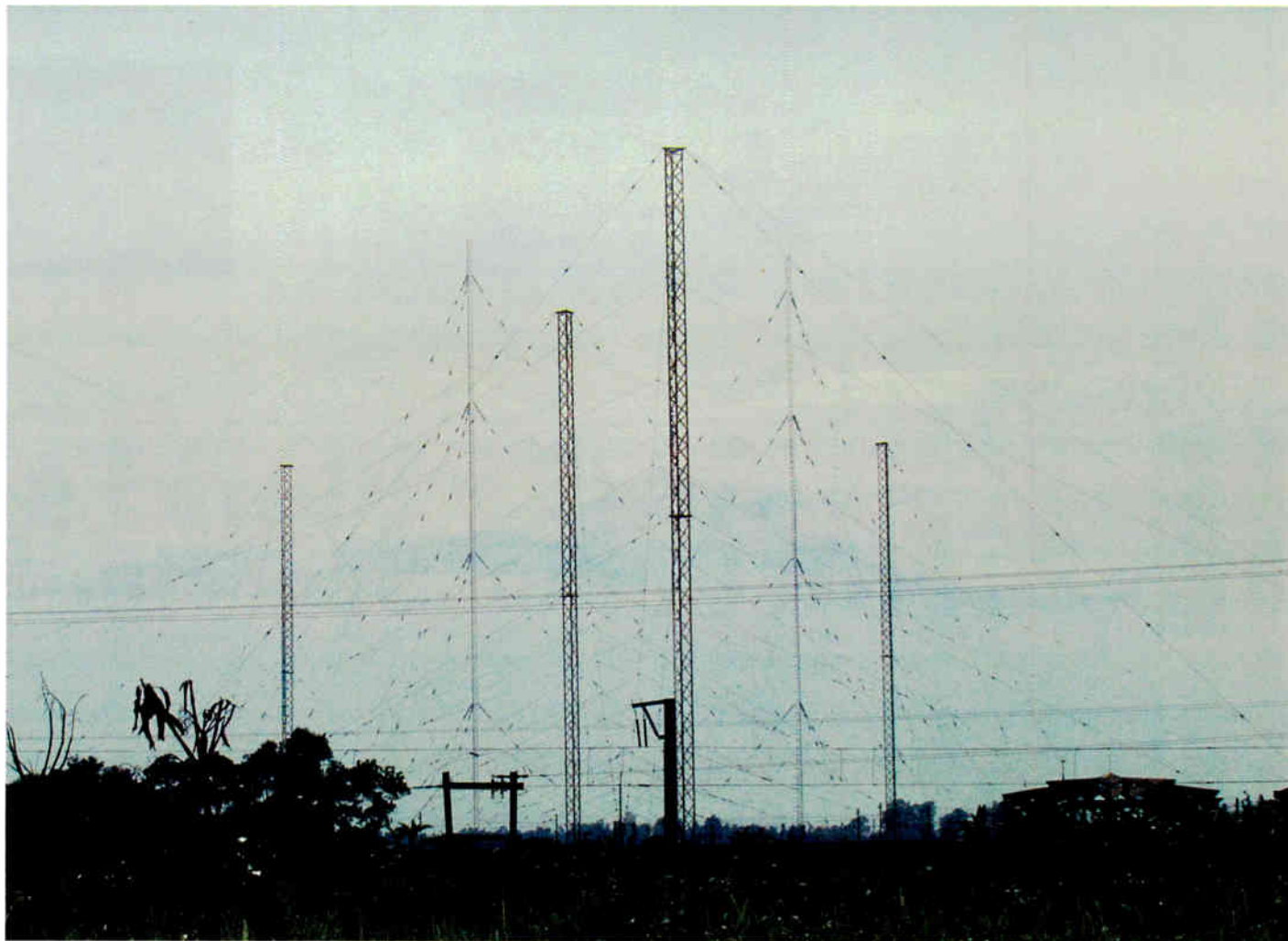
China is an interesting case because it has set up FM single-frequency networks along major highways. Imagine being able to drive for hours and hours without changing the frequency on an auto receiver, and enjoying the same program seamlessly.

iBiquity is working on SFN technology for integration into the system, as well as on-channel boosters. As with many areas of the world, there are cities in China such as Beijing and Shanghai with immense traffic problems.

Imagine the potential of real-time traffic information over the data channel of HD Radio broadcasting. These services (and additional potential revenue) have broadcasters taking a close look at the potential of HD Radio technology.

Latin America

In Latin America, Brazil has approximately 25 HD Radio stations on the air in several of its largest cities. To that end, several broadcast organizations along with help from Mackenzie Institute of Sao Paulo engineering department and the regulatory agency of the Brazilian government (ANATEL) have completed an extensive 500+ page test report.



There are several towers on the Voice of Vietnam site, used for domestic broadcast and international shortwave. Shown are most of the vertical towers. There are long wire and skirt antennas as well on the site.

This report is analogous to National Radio System Committee studies in the U.S. It will be tendered to regulators to assist them in creating an official digital standard in that country.

Brazil has a unique radio environment with more than 2,000 community radio stations that have an ERP of 25 watts at 30 meters. These stations are non-commercial and important to many listeners.

Extensive tests were conducted demonstrating that community stations would not be interfered with by the large stations with HD Radio transmissions and that the technology would provide reasonable coverage for the community stations. By regulation, these community stations are guaranteed 1 km radius from transmitter site for protection from interference.

Also, Brazilian broadcasters have been working to foster an active manufacturing environment for HD Radio receivers.

The potential benefits of a market the size of Brazil instituting HD Radio broadcasting in terms of receiver sales are enormous. Brazil is a market nearly the size of the United States. As the quantity of receivers being manufactured increases, prices should continue to drop for everyone.

Mexico authorized HD Radio transmissions in an area within 200 miles south of the U.S. border where approximately nine stations currently operate, including several with multicasting. There are additional AM IBOC tests scheduled for Mexico City as two FM stations there are broadcasting with HD Radio technology on an experimental basis. Mexico's government is still reviewing national digital radio standards, but the opening of the border area is a huge vote of confidence for the HD Radio system.

Other Latin America countries also are thinking digitally. Colombia has stations on for testing and demonstration, as does the Dominican Republic. Panama is on air with an AM-FM station as its government

decides both radio and television digital standards. Uruguay recently announced it would commence a study of digital radio systems for potential adoption.

The great appeal of HD Radio technology globally, then, comes down to its efficient use of spectrum, and its ability to coexist on-channel with the analog signal, a true hybrid system. It allows for marketplace adoption, and paves the way for a fully digital future with even more bandwidth for additional services at that time.

These are the reasons that broadcasters in the U.S. embraced it, and the reason that, over time, more and more broadcasters

around the world will see its advantages. Our job today at iBiquity's International Broadcast Business Development department is to show the world that HD Radio technology is not a U.S. standard, but rather, a global standard that just happened to be developed in the U.S.

Hal Kneller, CPBE, DRB, has been with iBiquity since February 2008; previously he was with Harris Corp, where he worked with HD Radio technology since 2002. Reach him at kneller@ibiquity.com.

Radio World welcomes other points of view. Send letters or comments to radioworld@nbmedia.com.

DIGITAL NEWS

HD RADIO ADS: Coming on the heels of a holiday campaign, the HD Digital Radio Alliance began another marketing push on Dec. 29. Broadcasters say they're maintaining an advertising presence and staying in front of customers. The new flight of ads, which air until March 29, focuses on "evolution" and how HD Radio came to be. The ads highlight iTunes Tagging, low price-points, starting at \$79, and multicast channels. The alliance recommends that stations use the weak economy as a chance to aggressively market a business, saying history and studies show that advertisers who continue marketing in downturn environments steal share from their competitors.

WTMD, PRI IPHONE APPS: WTMD(FM), Towson, Md. has developed and deployed an iPhone application that streams the station's signal direct to the listener's handset. The free app is available in the iTunes store by searching WTMD. We reported on WTMD's conversion to IBOC and its intentions to add a multicast channel; the station intends to add a second stream to the app when it

launches its HD2 channel early in 2009. Glad Works (gladworks.com) designed the app, which is offered by Jacobs Media (jacobsmedia.com). Separately, Public Radio International announced the availability of an iPhone application for live streaming of its 24/7 program channel. Available through PRI.org, the streamed content includes such programs as PRI's "The World," "The Takeaway," "This American Life" and "The Tavis Smiley Show." The free application is available for iPhone and iPod touch through the iPhone App Store.

MMTC: The Minority Media and Telecommunications Council says the FCC should require most satellite radio receivers to also be capable of receiving HD Radio signals. MMTC also endorses what it calls a "seamless scan" of analog AM, FM, HD and SDARS signals in SDARS receivers. The commission does have the authority for such a mandate, says MMTC, because the agency may regulate contracts between licensees and third parties to the extent that doing so would fulfill its mandate to promote the "effective use of radio in the public interest."

Radio World's HD Radio Scoreboard is published in alternating issues. Selected data is from BIA's MEDIA ACCESS PRO™; the scoreboard also uses information supplied by sources including iBiquity Digital Corp., the HD Digital Radio Alliance and RW's own research.

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World Radio History

Workbench

Radio World, January 14, 2009

Past columns are archived at radioworld.com

Junk Box Goodies to the Rescue

And an Experimenter's Application for Slug and Snail Gardening Tape

by John Bisset

In the Dec. 3 *Workbench* we noted, "Plug conduit openings like this one to keep out the elements — and worse."

Marc Mann writes to suggest that before you plug any such conduit, take the extra step of ensuring it's empty of water. Fig. 1 shows cables disappearing into a conduit. It's what you *can't* see that can cause problems.

When Marc's CATV picture degraded, the tech who was sent narrowed the problem to the coax cable between the street pedestal and the building. It was housed in an underground PVC conduit that ter-

minated in the pedestal vertically with no seal. When the tech pulled the cable out, they found its jacket was severely degraded and soaking wet, due to the conduit being flooded.

The technician was going to just pull a new cable through when Marc suggested he blow the conduit out first and then seal it. The technician didn't carry compressed air on his truck, but Marc offered his air compressor; they used it to remove a couple of gallons of stagnant water. After pulling the new cable, the tech sealed the ends to prevent such problems in the future.

Don't think you have compressed air at the site? How about utilizing a spare

nitrogen bottle from your RF line to blow it clear — using a regulator, of course?

Construct a suitable-grade rubber air hose (any length) with the appropriate fittings attached to the nitrogen regulator; it's handy for blowing out dust from heat sinks, hard-to-access equipment racks and air conditioning condensing coils.

Hose, blow gun and regulator kits are available from any commercial refrigeration supply house in your area. Here's a link, for example, to AZ Partsmaster: <http://tinyurl.com/workbench1>.

Marc wraps up his suggestion with a warning for anyone who uses compressed air — even those small handheld cans —

to not "spin" box cooling fans, like that pictured in Fig. 2, in order to dislodge dust buildup. The rotational speed they can achieve is too fast, and will damage the bearings and cause the fan to fail prematurely. Marc uses a non-conductive rod to prevent the fan blade from "windmilling" and then blow the device clean.

Marc Mann can be reached at mmann001@san.rr.com.

★ ★ ★

Paul Sagi, who engineers in Kuala Lumpur, Malasia, always has a handy tip or Web site for readers. Remember the old Heathkits that many of us used to learn soldering techniques and elementary electronic theory? Well, if you're searching for a modern day source of do-it-yourself kits, check out the site we've linked at

See KITS, page 16 ►



Fig. 1: Before sealing conduits, ensure they are water-free to avoid damage to cabling.



Fig. 2: Keep fans from rotating while you are cleaning with compressed air. A pencil will work (power off, of course).

Model 730 Inovonics' Flagship RDS/RBDS Encoder

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The 730 connects directly to, or can be networked with virtually any playout system and offers full support for RT+ 'tagging,' TMC traffic updates and other ad-

vanced applications. An Internet connection will assure accurate Clock Time and Date (CT) timekeeping.

Internal data diagnostics and transmission safeguards guarantee foolproof installation and operation, and field-upgradable firmware ensures compatibility with any forthcoming RDS/RBDS applications.

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Can a radio console be over-engineered?

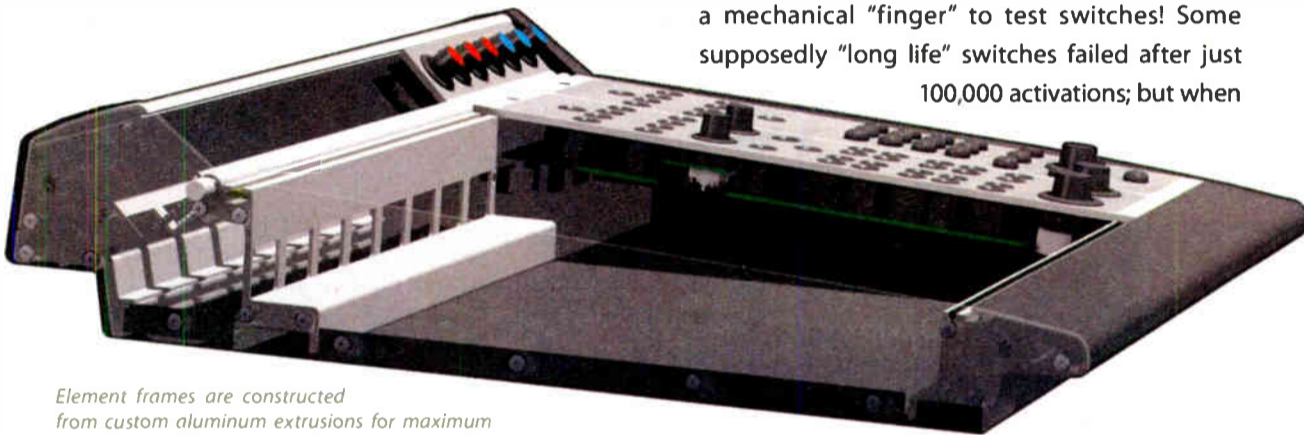
(Only if you think "good enough" really is good enough.)

The radio console, redefined.

Building a great console is more than punching holes in sheet metal and stuffing a few switches in them. Building a great console takes time, brain-power and determination. That's why Axia has hired brilliant engineers who are certified "OCD": **Obsessive Console Designers**, driven to create the most useful, powerful, hardest-working consoles in the world.

Beneath the surface

There's more to a great board than just features. **Consoles have to be rugged**, to perform flawlessly 24/7, 365 days-a-year, for years at a time. So we literally scoured the globe for the absolute best parts — hardware that will take the torture that jocks dish out on a daily basis.



Element frames are constructed from custom aluminum extrusions for maximum rigidity. Module face plates & console side panels are machined from thick plate aluminum. Even the hand rest is a beefy extrusion. All this heavy metal means even the most ham-handed jock can't dent it.

First, Element is fabricated from thick, **machined aluminum extrusions** for rigidity and RF immunity. The result: a board that will stand up to nearly anything.



With so many devices in the studio these days, the last thing anyone needs is gear with a noisy cooling fan. That's why Element's **power-supply is fanless**, for perfectly silent operation inside the studio.

Element modules are **hot-swappable**, of course, and quickly removable. They connect to the frame via CAT-5, so pulling one is as simple as removing two screws and unplugging an RJ — no motherboard or edge connectors here.

Faders take massive abuse.

The ones used in other consoles have a big slot on top that sucks in dirt, crumbs and liquid like the

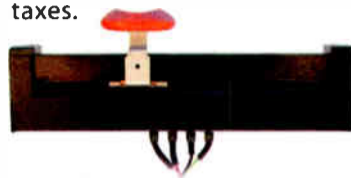


There's a reason these board-ops are smiling. Axia consoles are in more than 1000 studios worldwide.

government sucks in taxes.

By contrast, our silky-smooth conductive-plastic faders actuate from the side, so that

grunge can't get in. And our rotary controls are high-end optical encoders, rated for more than **five million rotations**. No wipers to clean or wear out — they'll last so long, they'll outlive your mother-in-law (and that's saying something).



Element's **avionics-grade switches** are cut from the same cloth. Our design team was so obsessed with finding the perfect long-life components that they actually built a mechanical "finger" to test switches! Some supposedly "long life" switches failed after just 100,000 activations; but when



sticking the Lexan to the top of the module like some folks do, our overlays are **inlaid on the milled aluminum module faces** to keep the edges from cracking and peeling — expensive to make, but worth it. For extra protection, there are **custom bezels** around faders, switches and buttons to guard those edges, too. Which means that Element modules will **look great for years**.

By the way, those on/off keys, fader knobs and bezels are our own design, custom-molded to give **positive tactile feedback**. The switch is flush with the top of the bezel, so it's easy to find by touch. But if something gets dropped on it, the bezel keeps the switch from being accidentally activated.



More than just products

Even the best products are nothing without **great support**. So Axia employs an amazing network of people to provide the best support possible: Application Engineers with **years of experience** in mapping out radio studios... the most knowledgeable, **friendly** sales people in the biz... Support Engineers who were formerly broadcast engineers. Plus a genius design team, software authors who dream code... one of the **largest R&D teams** in broadcast.

our guys found the switches used in Element, they shut off the machine after **2 million operations** and declared a winner. (The losers got an all-expense-paid trip to the landfill.)

Element's individual components are **easy to service**. Faders come out after removing just two screws. Switches and rotary volume controls are likewise simple to access. And all lamps are LEDs, so you'll likely **never need to replace them**.

Engineers have said for years that console finishes don't stand up to day-to-day use. Silk-screened graphics wear off; plastic overlays last longer, but they crack and chip — especially around switches and fader slots, where fingers can easily get cut on the sharp, splintered edges. We decided that we could do better.

Element uses high-impact Lexan overlays with color and printing on the back, where it **can't rub off**. And instead of just



And now Axia has become radio's **first console company to offer 24/7 support**, 365 days a year. Chances are you'll never need that assistance, but if you do, we'll be ready for you. Our 'round-the-clock help line is +1-216-622-0247.

Proudly Over-Engineered

Are Axia consoles over-engineered? **You bet.** If you're looking for a cheap, disposable console, there are plenty out there — but this ain't it. Not everyone appreciates this kind of attention to detail, but if you're one who seeks out and appreciates excellence wherever you may find it... Axia consoles are built **just for you**.



www.AxiaAudio.com

MARKET PLACE

SoftWright Integrates Radio Path Analysis With Google Earth

SoftWright, developers of Terrain Analysis Package software, now provides the capability to see the details of a radio path analysis or RF coverage map using Google Earth. The company said the application can be used to visualize virtually all types of radio system paths.

"In the past radio system designers have relied heavily upon a predictive technique developed by a French physicist, Augustine-Jean Fresnel," it stated.

"His modeling predicted an invisible envelope of transmitted energy that surrounds the line-of-sight on the entire path between a transmitter and a repeater. When any obstruction penetrates this envelope, the received signal level is reduced, sometimes causing degradation so severe that the path was not usable for radio or data links.

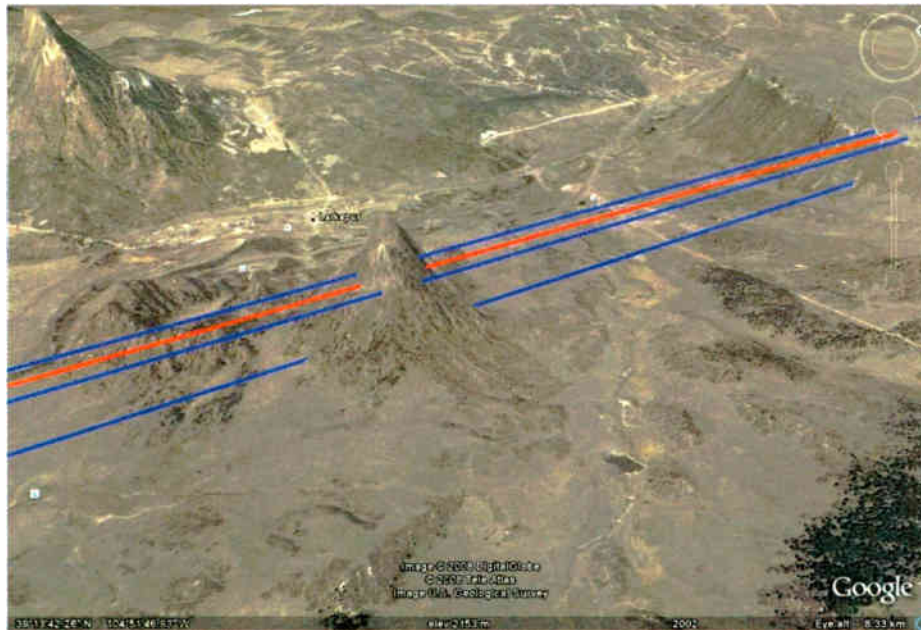
"Up to now this modeling was a simplified, two-dimensional graphic, where the engineer looked at the terrain profile of the path. If the entire portion of the Fresnel zone to be protected was above the elevation of the ground and obstructions along the path, then the receiver had the maximum possible signal."

SoftWright said it has developed a way of graphically modeling not only the portion of the Fresnel zone that lies below the actual path line-of-sight, but also on both sides of the exact path, where additional path losses are created.

"Up to now this degradation would have been undetected. With this newly designed RF modeling tool developed by SoftWright and integrated with Google Earth, the engineer can fly down an entire path and look at the areas that would cause signal deterioration down the entire path including the side lobes of the protected Fresnel zone. Only when one knows precisely where these obstructed locations are, can an engineer proceed with strategic solutions to seek to eliminate locations where the signal is unreliable."

The graphic shown here indicates that terrain severely blocked the reception on this path. SoftWright said its Terrain Analysis Package software allows the designer to know in advance if these problems will be present and to make design adjustments to eliminate or minimize these types of problems. If radio coverage is problematic the TAP software can evaluate proposed solutions so that

the system reliability can be improved.



Kits

► Continued from page 14
<http://tinyurl.com/workbench2>.

MAKE offers a variety of kits for under \$20. For next year's holidays, there's a blinking LED Christmas tree kit, a bird ornament and even an LED menorah kit, all for \$10 or less.

If the do-it-yourselfer works with printed circuit boards, Paul passes on another site, <http://tinyurl.com/workbench3>. Here, Douglas Smith writes about a foil tape that gardening centers sell as a barrier to slugs and snails. Copper foil tape can be pricey, but if you catch the closeout sales at the garden shops, it is a real bargain.

Although the adhesive is not conductive, it's thin enough that the edges of the tape can be soldered to a printed circuit board. The tape example that Smith displays on the site talks about the "electrical charge" that repels the slugs! Anything to sell a product, I guess. But if the tape can be used by the RF project experimenter, so much the better.

Paul Sagi can be reached at psagi92@gmail.com.

★★★

TAP performs evaluation of existing or proposed radio transmitter sites; radio coverage predictions, intermodulation studies and radio transmitter site administration; TV and FM broadcasting, MMDS, ITFS, PCS, SCADA, WLL,

WiFi, WiMAX, microwave, cellular, paging, air-to-ground, ship-to-shore and conventional two-way radio system design.

Info: www.softwright.com.

SCMS Makes a Place For Bird in Its Nest

SCMS was named master stocking distributor for the broadcast products of Bird Electronic Corp.



The dealer said this includes the new Signal Hawk Spectrum Analyzer and the family of TPM Broadcast Power Monitors.

SCMS is based in Pineville, N.C., with nine field sales offices. Bird is headquartered in Solon, Ohio.

Info: www.scmsinc.com and www.bird-electronic.com.

John Engle is chief engineer for WEEU(AM) in Reading, Pa. Responding to our relay photo, which drew such a variety of suggested uses, John writes that he used a similar device to signal a power failure to an outlet that supplied power to the sump pump in the basement of his old transmitter building.

They'd had a particularly wet summer a few years back, and he would find a few inches of water on the basement floor. The breaker to the sump pump was tripped; John reset the breaker. The pump would run, the water would be pumped out and it would shut off when the sump was emptied.

The breaker tripped several times. John replaced it after the third time, but it happened again. So John plugged a 120 volt relay into the outlet, routing the contact leads to his remote control to trigger an alarm if the breaker tripped.

The next time the breaker tripped, he was there within 10 minutes. John found that the pump was very hot. He deduced that it would run for a long time during rain storms, then overheat, causing the bearings to seize and it would trip out the breaker.

John found that if the pump was allowed to cool, after about an hour the pump would run normally when the

breaker was reset. John replaced the sump motor — but left the alarm relay in place.

He adds that some junk box goodies can help you solve mysteries. John Engle can be reached at jengle@weeu.com.

★★★

Speaking of junk box goodies, contract and project engineer Peter Gowen in Philadelphia adds a caution voiced by many engineers: If you wire up such a warning device, add a fuse in the AC line cord.

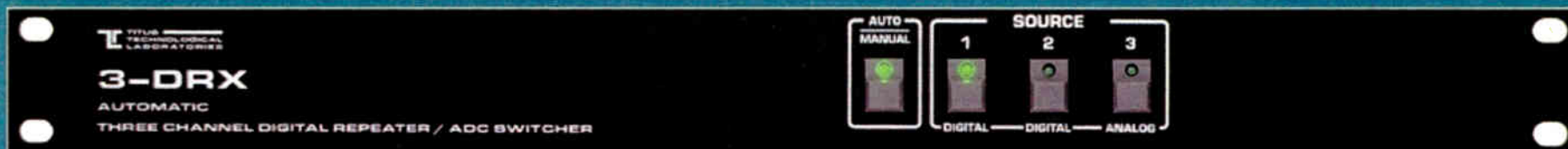
Sooner or later, the relay coil will burn up. Instead of merely opening, it might short out long enough to trip a breaker — of course that will be the breaker that feeds the rack where the widget is (along with the audio processor and STL).

Peter Gowen can be reached at pgowen02@yahoo.com.

John Bisset has worked as a chief engineer and contract engineer for 40 years. He recently joined Nautel as regional sales manager for Europe and Southern Africa. In 2007 he received the SBE's Educator of the Year Award. Reach him at johnbisset@verizon.net. Faxed submissions can be sent to (603) 472-4944.

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

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World Radio History

Is the Perfect Storm Approaching?

A Cloud of Challenges May Make Life Particularly Difficult for Stations This Year

Radio has weathered its share of tough times over the years, but the clouds currently gathering may be harbingers of serious difficulty ahead for the industry. These multiple forces could soon test radio's mettle like never before.

Consider the following elements that could conspire to create a worst-case scenario soon.

The well-known issue of falling revenues leads the list and sets the overall context. Declines have been registered steadily at most stations for the last 18 months or more — and that's before factoring in the more precipitous declines in advertising expected from the current economic downturn.

Meanwhile, audiences are at best growing slowly and for the most part are generally flat or

declining. Add to this the disruptive element of the PPM's ongoing rollout plus the tightening credit market's squeeze on radio owners' debt load, and you have all the makings of a looming crisis designed by Murphy himself.

This world-class pickle has been noted even by the mainstream press, with articles on the subject appearing recently in the New York Times and the Wall Street Journal, among others.

For my next trick ...

Can radio pull another rabbit out of its hat to counteract this impending threat?

Let's look at the inventory of items that might provide such magic and the context in which they might exist.

First, it's critical to understand the relationships of broadcast radio's two new fronts on which to pursue growth: HD Radio and the Internet. Unfortunately they are quite different environments, both from each other and to some extent from radio's traditional business. This means that a single, simplistic strategy and business model — which worked pretty well for radio over the past 50 years or so — cannot suitably serve the industry going forward.

Next, let's not be overly dazzled by the buzz about mobile broadband of late. This is like the sleight of hand that takes the viewer's attention away from where the trick is actually taking place. The glitz around radio applications for the iPhone, G-1 and other devices make it easier than ever to think that it's all about the platform, but it's not. The content is still the thing that attracts audience, and thereby grows revenues.

Yes, it's important to have a storefront

where the traffic is, but if you're not selling what the customer wants, all the window shopping in the world won't fill the register. And a store

with multiple outlets may do better overall by emphasizing different products and marketing techniques in its different shops.

Further, the PPM should eventually be a boon to most radio stations, even if the news is initially bad. Face it. In an era and industry where technology rules, shouldn't our most important metrics be presented as accurately as possible? Sure, Arbitron needs to get its demographics right, like any statistically based business. But once that is done, broadcasters need to take advantage of the much finer grained — and realistic — tools that the PPM will provide to tune their business models. Educating the advertisers will also be helpful, and broadcasters can play a key role in this process.

Ultimately, we may look back and conclude that the PPM came along at just the right time to help save the industry.

Meanwhile, there is little audience excitement over traditional radio content. If anything, current attitudes are negative.

Yes, there are still listeners, but much

of that may be due to lack of alternatives. A significant number of radio listeners are poised for something else, with much pent-up demand — which makes the buzz over new platforms so much louder. As in other recent matters, American radio audiences hope for change.

The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

new ideas flew in the face of common wisdom, but broadcasters' backs were against the wall, and some of them took some chances that ended up paying off big. The stakes may be even higher today, but the clock is moving faster, too.

Clearly, change is needed if radio is to thrive in the years ahead. These changes need to take place on both the business and the programming fronts, with new content on traditional

and emerging platforms driving new revenue opportunities. Improving bottom lines have a way of making the other clouds lurking overhead (like debt ceilings) seem less foreboding.

Although it will be tempting to do so, broadcasters shouldn't blame the current economic crisis for all their poor performance in the quarters ahead. For radio, the causes run deeper. Nevertheless, these upcoming and perhaps unprecedented economic challenges may provide the crucible that forces the big changes radio so desperately needs for its long-term viability. Batten down the hatches, and remember that what doesn't kill you *should* make you stronger.

Skip Pizzi is contributing editor of Radio World.



MARKET PLACE

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Ka You Systems provides a range of services for broadcast organizations, commercial radio and TV stations and government.

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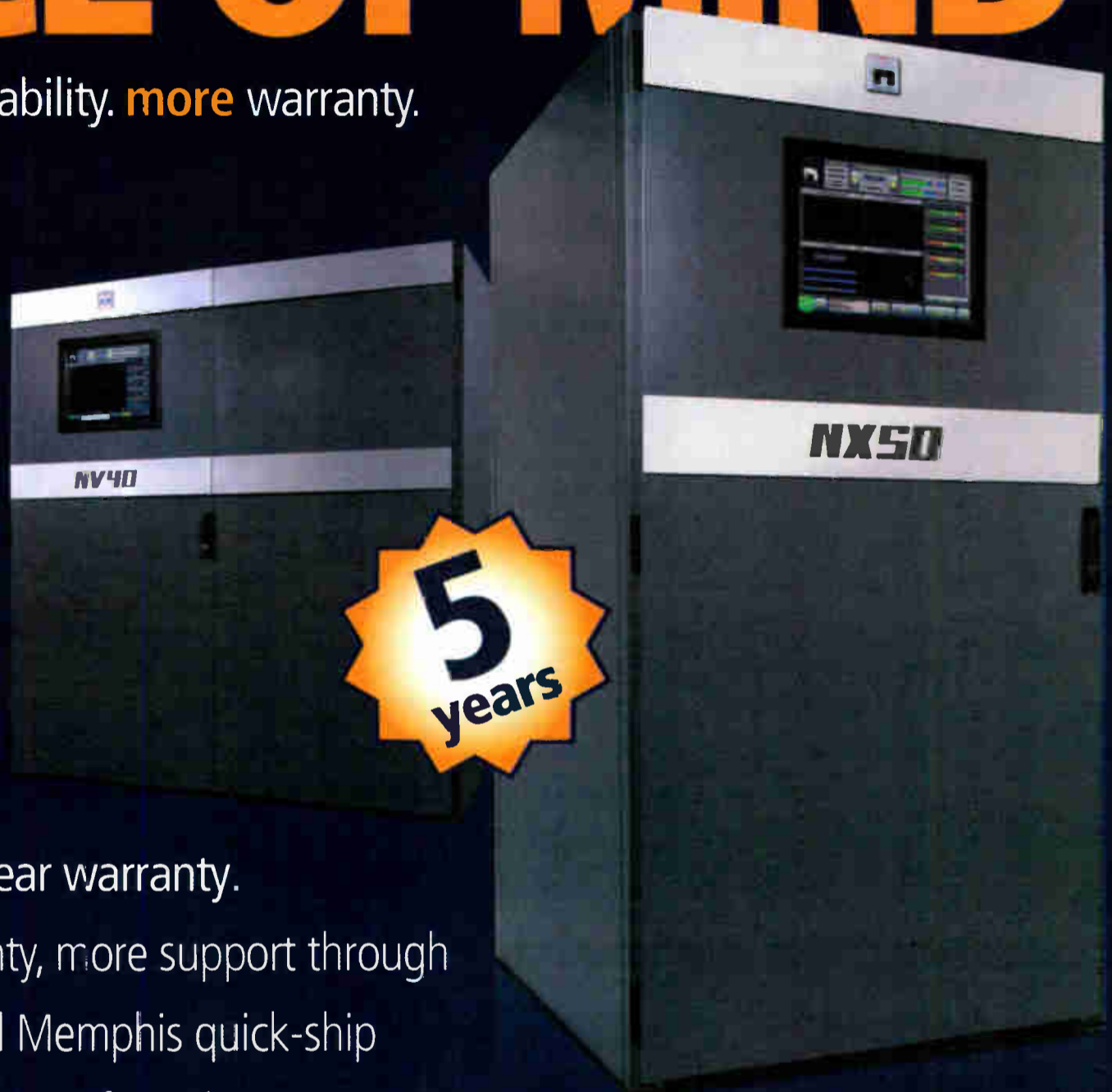
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What Will Obama Mean for Christian Radio?

That Question Will Be a Major Backdrop As the NRB2009 Show Opens in Nashville



Gaylord Opryland



If You Go

What: NRB2009

When: Feb. 7-10

Where: Gaylord Opryland Resort & Convention Center, Nashville, Tenn.

Who: "The annual Convention & Exposition is the largest nationally and internationally recognized event dedicated solely to assist those in the field of Christian communications. The dynamic Exposition consists of over 300 companies and is an active marketplace for those seeking tools and services to expand their ministries."

How: www.nrbconvention.org

How much: Members \$525/\$625, Non-members \$670/\$770; Exposition \$200/\$250 (rates increase Jan. 23)

by Craig Johnston

When the National Religious Broadcasters holds the Opening General Session of its 2009 convention in Nashville on Feb. 7, the new U.S. president, Barack Obama, will have been in office for just 18 days. After eight years of a Republican administration and, for the most part, Republican Congress, NRB officials say they don't know quite what to expect.

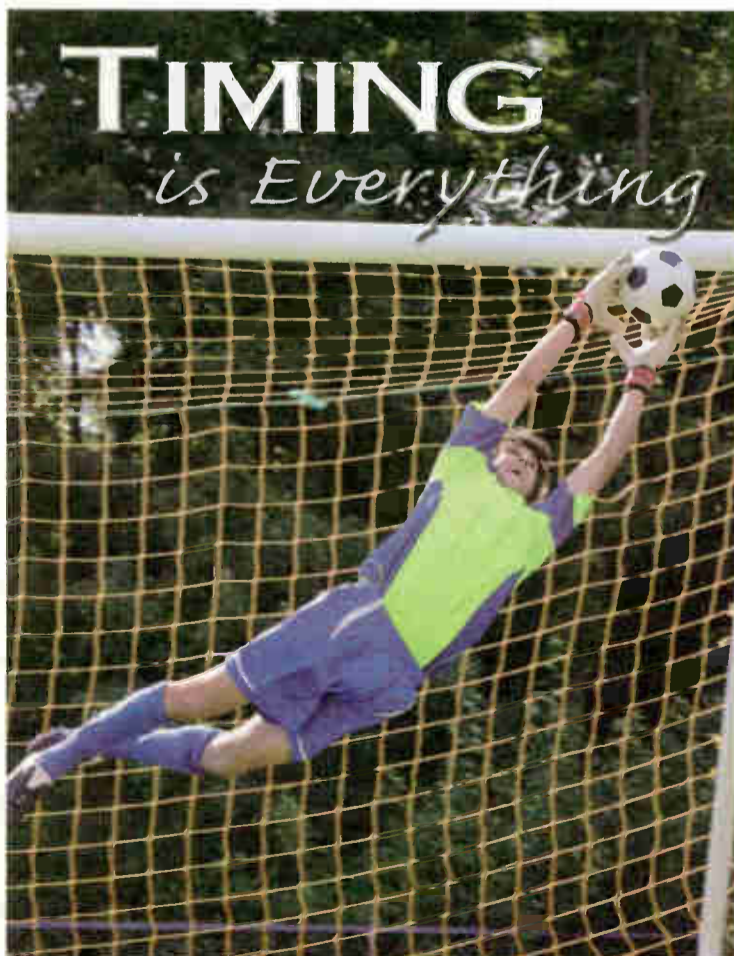
"We're trying to be cautiously observant right now," said Craig Parshall, NRB senior vice president and general counsel, "and take in as much information as we can about the direction of the new White House administration as well as the new configuration of the Congress."

Sea change?

Parshall pointed particularly at changes at the FCC. "That also means a new chairmanship of the Federal Communications Commission," where in addition to a



Blog headlines like 'Christian Radio in Jeopardy Under Obama' capture a sentiment expressed by NRB officials. The Matthew 25 Network political action committee took a supportive tack.



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Democratic chairman there will be a 3-2 Democratic majority supplanting the majority Republicans have enjoyed during Bush's terms.

"That means a lot of things in the hopper that haven't been decided yet are going to be brought up again with a new perspective," he said. "We're fairly certain that we're going to see a major sea change in terms of the increase of threats, either expressed or implied, to the freedom of Christian broadcasters to broadcast opinions and viewpoints freely."

"I say that because Democrat leadership for the last year, particularly the more liberal wing of the Democrat Party, has been calling for reinstatement of the Fairness Doctrine. We believe that would be a major federal power grab, wresting programming control out of the hands of broadcasters and putting it in the hands of federal bureaucrats."

Parshall said the Fairness Doctrine "is not the only danger that we see, or even the major danger." He pointed to media ownership regulations and public interest obligations as examples.

"And then, of course, there's something that's not necessarily broadcasting in nature, but it's a general free speech issue for all Christian communicators, and that is almost certainly a desire of

See NRB, page 22 ▶



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RoadWarrior LC is a new full-duplex, two channel (Program & talkback) audio codec. Its new design, robust, compact and with a flat control surface, prevents accidental damage to the controls and makes it easier to use. It is a portable audio codec with all Suprima functionality built in.



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- 2-channel input mixer with line/mic levels and phantom power
- Lightweight & rugged design
- Can be controlled remotely from its web page

Suprima

- Includes LAN, ISDN, U & ST, and X.21 interfaces Standard
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- Comes fully loaded with every available algorithm included



Rear panel of RoadWarrior LC



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NRB

► Continued from page 20

the new Congress and president, to see creation of federal hate-crimes legislation, which we believe would quickly become a hate-speech regulation, depriving Christian communicators of their First Amendment rights."

Parshall reported that NRB members are doing more than just playing defense.

"We've been working with Rep. Mike Pence, Republican of Indiana, on his Broadcaster Freedom Act," which would "preempt the FCC from ever reinstating the Fairness Doctrine." But he said that "liberal leadership in the House has not allowed so much as a floor vote, up or down, on that bill."

Asked whether he thought President-elect Obama would sign such a bill, Parshall noted that an Obama campaign staffer made a statement to a broadcasting trade publication that Obama is not interested in reinstating the Fairness Doctrine.

"But in the same breath, he is interested

in seeing a diversity of opinion on the airwaves. Well, that's an interesting coupling, because diversity of opinion on the airwaves is the justification used for creation of the Fairness Doctrine in the first place."

Perilous times

Parshall said that NRB broadcasters are feeling the same economic pinch as broadcasters in general, but that because many broadcast members of NRB are non-commercial stations and networks, it hits them in a slightly different fashion.

"When the public perceives that we are in perilous economic times and they pull in the belt, cut down on their giving, that has a direct impact on Christian radio and television ministries. So it's been a struggle."

He said he wouldn't term the reduction in giving a "catastrophe," but "we don't know of any radio or television ministry that hasn't taken a long, hard look at their budgets for 2009, and are routinely making cuts in staff, in equipment, in capital investment and programming, and so forth."

At this point however, NRB doesn't see this cutting making much of a dent in



WVTF Public Radio in Roanoke, Va., is using a **Wheatstone E Square** System to equip a new studio in Charlottesville, Va. The system includes a 16 fader E6 Control Surface, one Model 88e Mix Engine Square, one 88a Analog I/O Square and one 88d Digital I/O Square. The Squares form a Gigabit Ethernet connected audio network under the control of the E6 Surface.

A Wheatstone "Glass-E" virtual console software application will allow Chief Engineer Paxton Durham to control the Charlottesville studio E6 from Roanoke.

Separately, Wheatstone said **ABC News Radio** in Washington is expanding its existing network. It consists of G4 and G3 control surfaces and Bridge Satellite frames, and will include a larger central Bridge router.

This adds a 48 x 48 input/output matrix in ABC's Technical Center; it also provides redundant CPUs for the entire system, the company said. ...

Rick Calvert used **Sony PCM-D50** digital recorders to archive the sessions of the

to the Las Vegas Convention Center.

"We acquired 10 units to enable us to record sessions simultaneously in each of our 10 conference rooms," Calvert told Sony. "We linked them directly to individual mixing boards and ran them throughout each session, where our guest speakers addressed groups ranging in size from 25 to 400." Organizers logged about 100 hours of content. Engineer Richard Weiland then downloaded content to portable hard drives.

Calvert said a particularly useful feature was the five-second pre-recording buffer. Calvert said lectures may be posted on the Web or released as a CD boxed set or MP3s for iPods. ...

When **Motor Racing Network Radio** relocated studio facilities from Daytona Beach, Fla., to Concord, N.C., it installed **Tannoy Reveal** monitors throughout the multi-room facility.



Monitoring in MRN's four audio edit suites is done on Tannoy Reveal 6Ds.

MRN crew provides coverage of NASCAR races to 700 radio stations and produces content for Sirius Satellite's NASCAR channel.

MRN's Chief Engineer Doug Watson and staff built two large, identical control rooms and four audio edit suites for MRN Radio broadcasting and three video editing rooms for Nextel Vision, a division of MRN that provides trackside on-screen entertainment. They used Tannoy Reveal 6D and Reveal 5A studio reference monitors purchased through **Crouse-Kimzey**.

Send news of notable projects and purchases to radioworld@nbmedia.com.



Blog World Conference principal Rick Calvert, right, talks with blogger Jeremy Pepper.

BlogWorld & New Media Expo. Ten recorders were used. The second annual event attracted more than 100 exhibitors

Opening Session

The opening session of the NRB convention is Saturday, Feb. 7 at 7 p.m.

Speaking will be Anne Graham Lotz, second daughter of Billy and Ruth Graham. She's the founder of AnGeL Ministries, a non-profit that seeks to spread messages of biblical exposition through her speaking, tapes and books; and she produces daily radio spots called "Daily Light for Daily Living." In 2000 she launched "Just Give Me Jesus," a series of revivals for women.

Also speaking is Alistair Begg of the radio program "Truth for Life" and Parkside Church in Cleveland. He was in pastoral ministry for eight years in Scotland following graduation from The London School of Theology, and has spent 24 years at Parkside Church in suburban Cleveland.

Music at the opening session will be by the group Salvador.



Anne Graham Lotz



Alistair Begg

its convention attendance.

"I think we're encouraged at this time," said David Keith, NRB vice president of the operations division. "Based on the registration numbers and some of the early measurements we have as far as the lodging side, that seems to be tracking well based on past years."

"I think the convention itself has always been one of those must-attend events for our members. It's critical for them to be here, to participate and work on their partnerships, networking and doing business ... even in this state of the economy."

The NRB convention has averaged about 6,000 attendees in recent years and will feature about 300 exhibitors this time.

Keith said one topic that has always been a key interest of NRB attendees has been donor management.

"Fund raising has always been a priority, and we're looking at that again," he said. Some of those educational sessions have been tailored specifically for "what do you do in this economy, what that

may mean for a member working with their donor base."

Keeping members up to date with the latest developments on the Internet has been a focus of the convention in recent years. In addition to sessions devoted specifically to the Internet, Keith said it plays such an important part of almost everything NRB members do that the Internet has become a part of almost all conference sessions.

"I think some of the mobile media issues will continue to take the forefront, people expanding their message, and on the technical side we'll see where there have been advances in this area."

NRB has given some session time to a Tech Lab, which takes place on the show floor. In these sessions, exhibitors have the opportunity to present case studies on the use of their products. Keith said Tech Labs give attendees an opportunity to see "how some others are using their products, advancing their own ministries or media ministries." 🌐

Exhibit Sampler

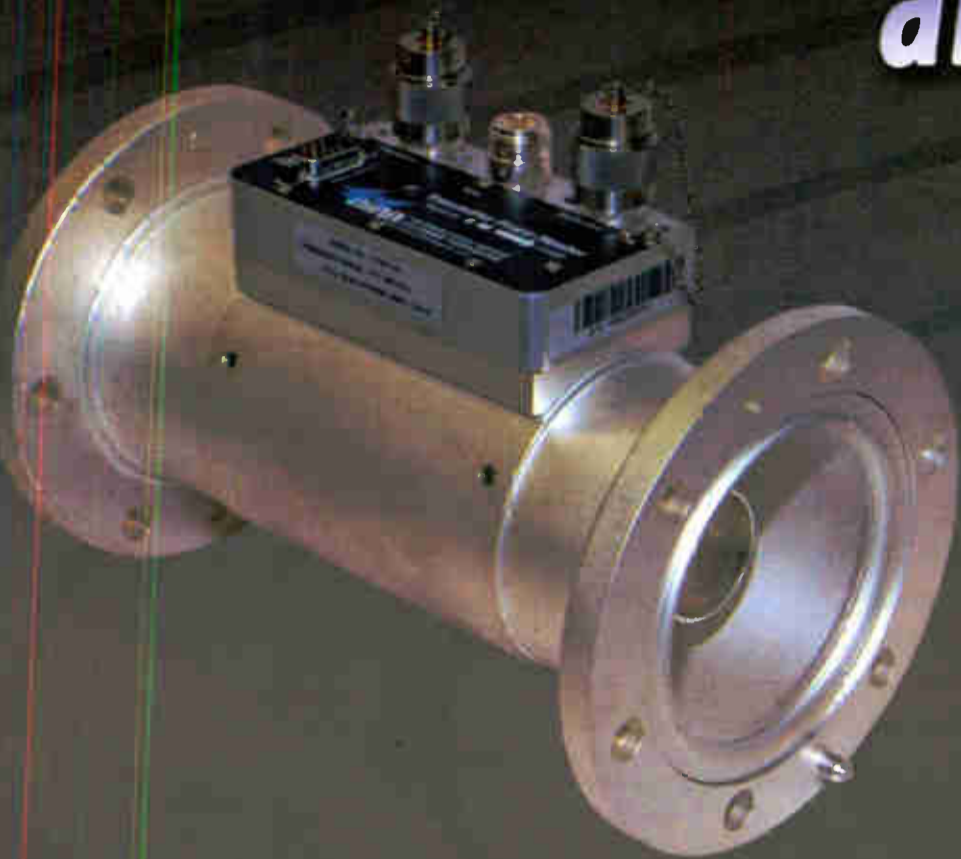
Here's a sampling of exhibitors that will participate in NRB2009, focusing on hardware and equipment suppliers. For the full list visit www.nrbconvention.org.

615 Music
Adobe Systems
Anton/Bauer Inc.
Armstrong Transmitter
ATCi
Audemat
AudioScience, Inc.
BGS (Broadcasters General Store)
Broadcast Electronics
Broadcast Software International
Clear Channel Satellite Services
Comrex Corporation
Continental Electronics
Crawford Communications Inc.
Dielectric
Disc Makers
Electronics Research Inc. (ERI)
ENCO Systems
FirstCom Music
Harris Corp.
Jampro Antennas
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LeSEA Broadcasting
Mainesource, Inc.
Microboards Technology
Nautel
NewTek Inc.

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Propagation Systems Inc.-PSI
PTEK
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Mid-West: 513.399.3036 Pro.Audio: 877.640.8205
North East: 315.623.7655 Latin America: 760.650.1427

WIRED FOR SOUND

The Truth About Guitar Cable

by Steve Lampen

So what does guitar cable have to do with radio broadcasting? Well, not much, except that it's a good example of a system where the cable used can be a *major component* in how that instrument sounds.

Of course, most cable you use is supposed to "disappear" — to have no effect at all.

But you know that's not true. There's resistance and capacitance; and if you get into the megahertz, you have to deal with impedance, and impedance matching, and transmission lines. All of these affect the signal on your cable. But nowhere, in no other equipment, is the effect of the cable as pronounced as it is on a guitar.

The first reason is the nature of the pickup on an electric guitar. It's a magnetic pickup, essentially a coil of wire whose magnetic field is interrupted by the metal string. That's why you can't have an electric guitar with nylon strings, like those used on a classical guitar. And the sounds of metal strings vs. nylon (or, originally, cat gut) are very different. That metal-string response is that sound we instantly recognize as an "electric guitar."

Those magnetic pickups, however, are

really wonderful antennas, picking up stray magnetic fields from everywhere.

The first big breakthrough was the "humbucking" pickup invented by Seth Lover at Gibson guitars in the early 1950s. It essentially uses two coils, wired in series. The string passes through both fields and is reproduced. A stray magnetic field is picked up by both coils, but because they are wired in series one signal will be out of phase to the other; when they are connected together, any noise will cancel out. Only

the vibrations of the string are heard.

The response of a dual "humbucking" pickup further colors the sound, especially at high frequencies. The wavelength of these high notes approaches the distance between the pickups and begins to cancel out. Guitars with humbucking pickups,

therefore, have a "mellow" sound. Those guitars with single pickups are much "brighter." And this effect occurs even though the highest note on a guitar is only around 1300 Hertz.

This noise problem is exacerbated by the fact that the cable attached is unbalanced, just a single shielded conductor. Such a cable has no way to reject electromagnetic interference as a balanced-line twisted pair can. So essentially you have a long antenna feeding EMI and RFI into the

flexible digital video cable to hook up the guitar at around 16 pF/ft (and unbelievable overkill in bandwidth) you could only go slightly over 5 feet before you are 1 dB down at 20 kHz. And most cable for guitars is all PVC, around 50 pF/ft, so we're at a foot and a half!

But guitars certainly don't produce notes at 20 kHz or even close. At the highest frequency of the guitar with the most frets (24 frets above E₄) would be a frequency of only 1319 Hz. I calculate those -1 dB distances at that low frequency to be 206 feet with the 16 pF/ft flexible video cable and 25 feet with the cheap 50 pF/ft cable. These calculations ignore any harmonics of the highest note. I'm sure they make a difference in the "tone" although I am unaware of anyone who has done filter tests to see just how these harmonics might add to the sound. As long as the cheap cables aren't longer than 25 feet there isn't much of a problem.

So why don't they simply convert that pickup to low impedance and a balanced line? Well, they did back in the late '60s, XLR connector and all. And the result? Everyone *hated* the sound. I have never heard a "flat response" pickup but I am sure it would sound brighter than a sunrise. Of course, that doesn't mean we couldn't still run a balanced line on an existing guitar except that it would require a 50 k-ohm transformer to balance the line at the guitar end and another at the amp end.

Steve Lampen has worked for Belden for 16 years; he is its multimedia technology manager. His book "The Audio-Video Cable Installer's Pocket Guide" is published by McGraw-Hill. Past articles are archived at radioworld.com under Columns.

Source Z	15 pF/ft (49 pF/m)	20 pF/ft (66 pF/m)	30 pF/ft (98 pF/m)	50 pF/ft (164 pF/m)
50 ohm	5406 ft (1648 m)	4055 ft (1236 m)	2703 ft (824 m)	1622 ft (495 m)
100 ohm	2707 ft (825 m)	2030 ft (619 m)	1353 ft (413 m)	812 ft (248 m)
150 ohm	1873 ft (571 m)	1352 ft (412 m)	901 ft (275 m)	541 ft (165 m)
600 ohm	451 ft (138 m)	338 ft (103 m)	225 ft (68.6 m)	135 ft (41.2 m)
1 k-ohm	271 ft (82.6 m)	203 ft (61.9 m)	135 ft (41.2 m)	81 ft (24.7 m)
10 k-ohm	27 ft (8.2 m)	20 ft (6.1 m)	14 ft (4.3 m)	8 ft (2.4 m)
50 k-ohm	5.4 ft (165 cm)	4 ft (122 cm)	2.7 ft (82 cm)	1.6 ft (49 cm)

pickup and into the guitar amplifier at the other end.

Due to the dimensions of a guitar and the need to keep cost reasonable, humbucking pickups are very high impedance, generally around 50 k-ohm or so. If you've been following my columns, you might recall my ranting and raving about "source impedance." At audio frequencies, the source impedance of any device (together with the capacitance of the cable) determines how far you can go before you have measurable loss.

The table shows the "source impedance" chart. But look at that last row. There's the 50 k-ohm guitar pickup. Even if you used

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MARKET PLACE

How to Stretch Your NEC

"Basic NEC With Broadcast Applications" is a new book by J.L. Smith, published by Focal Press and the SBE.

The book, retailing for \$99.95, addresses computer modeling of MF directional broadcast antennas and delves into the strengths and limitations of the Numerical Electromagnetic Code. Smith discusses fundamentals of NEC operation, teaches broadcast applications and shows the reader how to use NEC-2 to model non-radiating networks, verify calculations, detune unused towers, design top-loaded and skirted antennas and minimize coding by moving and duplicating structures.

The accompanying CD includes a modified version of NEC-2, programs for geometry viewing and pattern plotting, as well as the author's post processing programs to convert target field ratios to base drive voltages and to verify the integrity of the NEC-2 analysis. Concepts discussed here apply to analysis generated by NEC-2, NEC-4, MININEC and other method of moments computer programs.

The author, who has degrees in physics and engineering, began his career

in broadcasting at KTRH(AM) in Houston in 1946; later he joined Collins Radio Company, where he rose to become head of R&D and manager of broadcast systems engineering. He filed the first petition advocating automatic unattended operation of FM broadcast and has been active in international broadcasting issues.

Info: www.focalpress.com.

Viero Enhances Public Inspection File

The Viero Solutions Suite is expanding its e-PIF module into television. Already used by radio broadcasters, Viero's e-PIF module handles a broadcaster's Public Inspection File.

The module will handle a range of operations from making FCC documentation publicly available to reminding station management of scheduled renewals and filings.

"There has been a tremendous amount of concern revolving around new FCC requirements related to record keeping and the associated costs... We saw a definite need for a cost-effective solution," said Sharon Blankenship, president/CEO of LAN International, developer of the Viero Suite.



Steve Tuzeneu joined **WAY-FM Media Group** as corporate staff engineer. He fills a vacancy left in part by Morgan Grammer.

Tuzeneu will be responsible for six Colorado broadcast properties and the company's Denver studios and uplink facility. He will assist Jim Turvaville, corporate director of engineering, in engineering duties and Kevin Mullenix, corporate IT director, with networking projects. He will be based at the corporate office in Colorado Springs.

Tuzeneu was with Great Plains Christian Radio in Abilene, Kan., and for 16 years prior at Blount Communications.

Warning Systems named **Patrick Gannon** as president and COO. Its CEO **Dr. Thomas "Pat" Hardeman** added the responsibilities of vice chairman of the board. Gannon was president and CEO of OASIS, a not-for-profit consortium that develops open standards for the global information society. He also served on the board for OASIS, which is home to standards such as OpenDocument, ebXML, WS-Security, and the Common Alerting Protocol (CAP).

AccuWeather said **Conrad C. Lautenbacher Jr.**, former NOAA administrator and a retired vice admiral in the U.S. Navy, was elected to its board. Lautenbacher for seven years was undersecretary of commerce for oceans and atmosphere and administrator of the National Oceanic and Atmospheric Administration.

Radiolicious named **T.J. Lambert** as executive vice president and chief operating officer. Lambert is former ABC Radio Networks' SVP affiliate relations. Radiolicious is a native iPhone application available through the iTunes App Store. He will be responsible for its efforts in securing radio stations, networks and content

providers looking to expand their digital distribution.

Lambert has worked on the air in radio and television and done sales and general management work at the station and network levels.

He worked for Drake-Chenault Radio Consultants and helped direct its merger with Jones Satellite Network. He joined ABC Radio Networks in 1993.

Envision Radio Networks named **Tim Kelly** as its VP/GM. He will be based at its new Cleveland headquarters.

Kelly was with the **Elyria-Lorain Broadcasting Company** for 13 years, most recently as corporate director of operations and market manager for its Sandusky, Ohio cluster. He also is chairman of The Conclave Learning Conference and retains that role.

NAB hired **Christina Vergara** in its Conventions and Business Operations department as director of convention edu-

cation. She will work with NAB's educational partners on the execution of conference programming related to the NAB Show. She joins NAB from the National Association of Television Program Executives (NATPE).

Troy Hanson, PD of Cromwell Radio's **WBUZ(FM)**, was promoted to operations manager concurrent with the launch of **WPRT(FM)** and charged with programming responsibilities for the pop CHR format resurrecting that station's former party moniker.

As part of an expansion and reorganization of its marketing department, **Rebecca Trautner** was named public relations manager for **Middle Atlantic Products**. She has

been at Middle Atlantic since 2002, serving as communications coordinator, channel marketing coordinator and marketing associate.

Klotz Digital appointed **Trevor Spielmann** sales manager for Europe. He came from DVC, Digitalvideo Computing GmbH, where he served as sales manager. Previous experience includes working for Warner Music Manufacturing Europe GmbH, where he was responsible for the acquisition, budgeting and leading of DVD feature film projects for NewLine Cinema and Warner Home Video.

HipCricket appointed **Kevin McCarthy** to lead its broadcast sales efforts. McCarthy has

worked for ABC, Clear Channel, Entercom and Jacor, among others, as a national sales manager, general sales manager, general manager and market manager.

Harman Professional promoted **Bill Raimondi** from market development manager, Crown Audio to group-wide director, sales U.S. distribution/strategic accounts.

Crown Audio announced the appointment of **Vincent Tan** to as business developer for the Asia region. He will report to Director of Marketing for Installed Sound Brian Divine. Tan was an engineering manager for Spectrum Conferencing Pte Ltd. and IT manager for Electronics & Engineering Pte Ltd.

Send news of promotions, hires and career moves to radioworld@nbmedia.com.



Trevor Spielmann



Vincent Tan

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Inside

Buyer's Guide

Radio World

Verification, Logging, Delays & Timeshifting

January 14, 2009

USER REPORT

ATM Is a Friend in Any Weather

Duchesneau Finds That Putting Programs Into the Time Warp Is Easy

by James Duchesneau
Production Coordinator
NET Radio

LINCOLN, Neb. The 25-Seven Systems Audio Time Manager is a unique, TiVo-like device that can continuously record an hour's worth of audio, and simultaneously play back from any point in that buffer. It can play back in real time, or faster than real time using time compression algorithms that are almost inaudible to even a careful listener.

ATM lets us "pause" the network or other live feeds, insert content, then pick up where we left off without losing anything. ATM's remote control options make integration so simple that it's practically an extension of our audio console.

Pleasant surprises

When NET Radio, a Nebraska-based public radio broadcaster, originally considered the Audio Time Manager, the suggestion was to use it to compensate for programming lost during Emergency Alert System tests and events. We were surprised with the performance and audio quality of the ATM during the demo, and agreed to put it in our budget for the next year.

While covering EAS events was the initial impetus, ATM provided us with the solution to a bigger and more chronic problem: Severe Weather Warnings.

On the northern edge of Tornado Alley, Nebraska can see severe thunderstorm activity on any given afternoon between May and September. Since NET Radio has nine transmitters and six translators serving 91 of Nebraska's 93 counties, we have a lot of ground to cover for storm warnings. The prime hours of these storms just happen to coincide with our



The author and the 25-Seven ATM in its rack at NET Radio.

most popular programming. The incessant and lengthy interruptions for storm warnings are considerably vexing to the listener, especially when a weather event on the western edge of our large state disrupts programming for listeners on the eastern side. Or vice-versa.

While the ATM can integrate with automation systems and other devices for automatic use, we implement it in a discretionary capacity. This gives the operator the most control of when and how to use it.

Once we decided on how we wanted to use the ATM, installation was fairly easy. The ATM's AES outputs are connected to a digital input on our console, and a pre-fader bus send routed to the ATM's input. The console operator can choose any source on the console to feed the ATM, from real-time satellite feeds to programs played out from our audio server.

For easy command of the unit, the ATM's GPIO interface is connected to the GPIO of our console's control surface, and operated from the Fader Start/Stop controls on the ATM's console strip. To make it easier for multiple start and buffer events, the Fader Stop relay closure starts the ATM's "record" buffering mode, and the Fader Start relay closure triggers ATM playback.

Simple operation

When the ATM is needed, the operator routes the source to be buffered to the ATM's bus. Then the operator simply presses the Fader Stop button on the ATM's console channel strip to start buffering the routed source.

The original source is potted down. The necessary announcement is made and the operator pots up the ATM's channel fader. The Fader Start triggers the ATM playback. With this fader control setup, if the operator needs to make another announcement before the ATM is back in real-time sync, the operator can pot down the ATM's fader, and resume

See 25-SEVEN, page 29 ▶

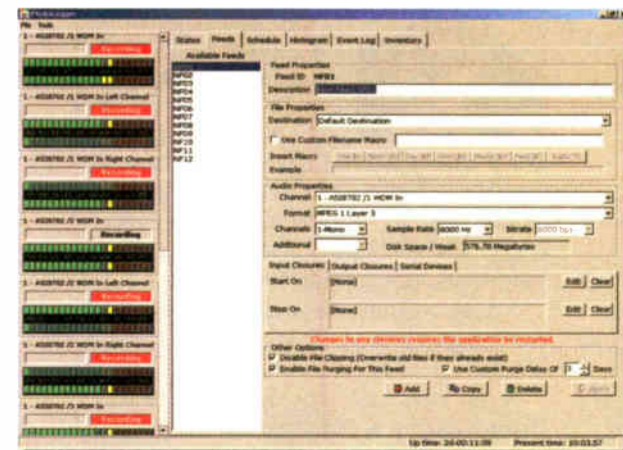


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"Relationships are important to the success of any media ministry or business. There are few places where networking can happen on the level as an NRB convention." – Attendee



"NRB brings a multitude of our US clients to the same place at the same time allowing for us to conduct face-to-face meetings with them" – Attendee



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 & Convention Center
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USER REPORT

iMediaLogger Does the Splits

Makes Program and Commercial Management Easier for Minnesota Valley Broadcasting

by Scott Schmeling
Chief Engineer
Minnesota Valley Broadcasting

MANKATO, Minn. Radio Mankato is a division of Minnesota Valley Broadcasting in Mankato, Minn. We operate seven radio stations (both AM and FM) from our studios here. Early last year, we installed the iMediaTouch system from OMT Technologies for our stations.

One of the central elements of the iMediaTouch system is the iMediaLogger. Simply stated, it records things. That is, indeed, an oversimplification.

Daily duties

Day in and day out, we put the Logger through its paces. We use it for logging (continuous recording of various dayparts) of some stations. Using these files, we can produce "Best of" programs to run on weekends or holidays. In the future, we may also make podcasts available. We do

skimming (recording when the mic is turned on) of some stations as well. These audio files can be used by the program director and/or consultant for critiquing and making our stations, and everyone's shows, better.

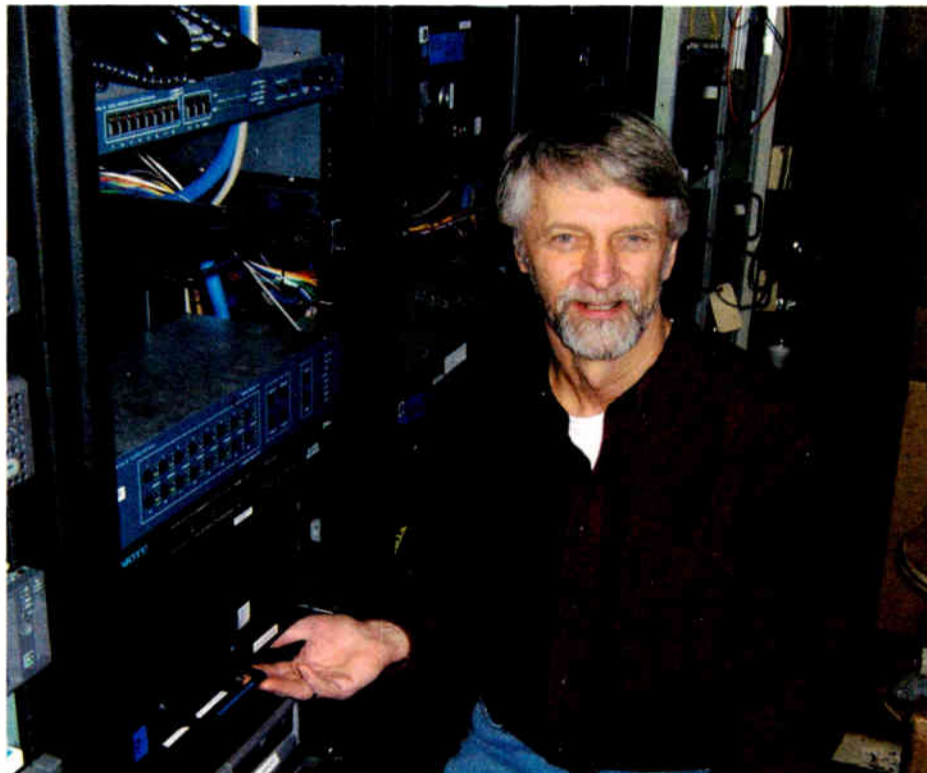
KTOE is our full-service AM. As such, lots of programs are carried that arrive from various sources. A total of 12 inputs was too limiting, so in addition to the MOTU 12-input audio interface we installed a Broadcast Tools 16.4 audio switcher/router. That combination gives a total of 24 audio sources (the four outputs of the 16.4 go to four inputs of the MOTU). In addition, the Broadcast Tools switcher provides a relay input/output interface.

KTOE is an ABC Information News affiliate. We record the top of the hour news every hour — in case we need it. We also record the "Paul Harvey News" pre-feed for broadcast at noon. The relay closures from ABC are wired to the Broadcast Tools switcher. When the "local break" clo-

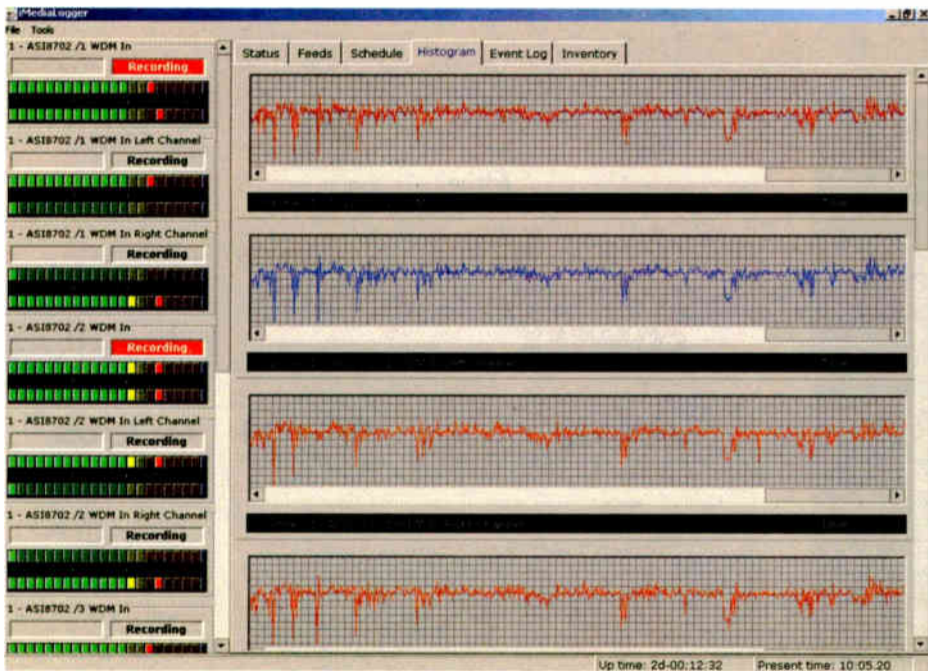
sure is received, the file stops recording, iMediaLogger waits the length of the net-

The service times change during the year, but churches want the broadcast to be at the same time, so their parishioners would always know when to listen.

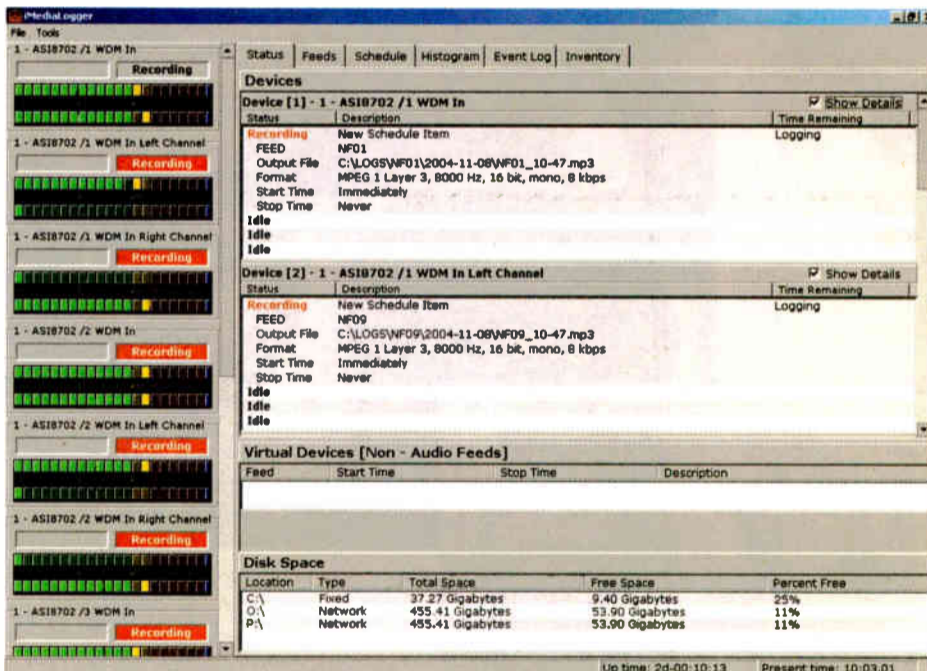
When recording church services, we use another useful feature of iMediaLogger. We split the services into 20-minute segments.



Author with Broadcast Tools 16.4 switcher and MOTU interface for the OMT iMedia Logger system



OMT iMediaLogger Screenshot



OMT iMediaLogger Main Screen

TECH UPDATES

Keep Air Clean, Seamless With 6100

The AirTools 6100 broadcast audio delay from Symetrix is an HD-compatible, 24-bit digital delay unit for live broadcast that prevents unwanted profanity or



comments from reaching the airwaves. It offers up to 40 seconds of user-definable delay at 20 kHz range of stereo bandwidth.

When the show begins, press start. The AirTools begins digitally time-stretching the program and creating the reaction window you specify. Then push a button on the unit or a remote control panel to edit unwanted or offensive content. Users select the splicing algorithm for music, spoken word or mixed programming.

A Cough function prevents unwanted noises or necessary breaks from reaching the air. The RC-6000, a desktop remote providing remote status and control over critical functions, also is available.

Features include digital audio I/O, support for a dual window TC89 time code display and RS-232 or RS-485 remote control.

For more information, including pricing, contact Symetrix at (425) 778-7728 or visit www.symetrixaudio.com.

work PSA, then starts recording again. The result is that Paul Harvey's news is contained in two files. We schedule our local sponsor's ad between them. It works flawlessly and runs smooth as silk.

We do the same with various satellite fed programs such as Bruce Williams, Dr. Laura and Kim Komando, to name a few. In addition to receiving relay closures from the various satellite receivers, with the Broadcast Tools switcher in the system iMediaLogger can also send relay closures to our satellite receiver controller to switch the receiver to a different program automatically.

Timeshifting

We automatically record our local weather forecast complete with current temperature (fed by another satellite). So even at night, when nobody's home, we have the current weather and temperature for our listeners.

Last, but certainly not least, we record three local church services every Sunday.

The service records into three consecutive files. Since the files are not available for play until after they have finished recording, splitting the service allows us to begin broadcast before the service is actually finished recording.

If you asked me about the manual I'd probably say, "What manual?" There is a manual, but you don't need it. Most of the screens are self-explanatory. Once you define the feed it's just a matter of scheduling it. Once scheduled, it runs. The iMediaLogger is running all the time, 24/7. It runs its schedule, records the needed audio and drops the files on the server for the next time it's needed.

I can't imagine being able to carry the programs we do when we do — unattended — without the iMediaTouch iMediaLogger. It's an integral part that makes the magic happen.

For information, contact OMT Technologies at (204) 786-3994 or visit www.imediatouch.com.

25-Seven

► Continued from page 26 buffering seamlessly.

The operator has the option of adjusting the in point for the buffered audio with a great cue function. So, even if the operator started recording the buffer a little late, a quick cue from the ATMs front panel can recover the missed audio.

The time compression rate can be controlled by the operator as either a rate of minutes per hour, or adjusted to resume real-time playback at a specific time. This allows an operator to regain time and be confident to hit a specific time mark, or adjust the compression to suit the program. We typically have the compression set to 10 percent (six minutes/hour), but can accelerate it to our in-house maximum of 20 percent (12 minutes/hour) for some material. We can also set the compression to 0 minutes/hour to provide a straight delay when we need to just time-shift a program.



Rear Panel of the 25-Seven ATM

While weather warning breaks are the predominant use of our ATM, we've used it to lengthen local news breaks to accommodate longer local inserts, create more pitching opportunities during membership drives, and to time-shift entire programs.

We have the ATM connected to our LAN for NTP time synchronization.

I should also mention the occasional software update from 25-Seven Systems. The software update process is easy. We just forward a port through our firewall, so 25-Seven Systems can login via SSH, and then they have access to the ATM over the network. LAN utilities also include a browser-based Web GUI for remote operation.

Audio Time Manager has improved our service to our listeners. The ATM has enabled us to get critical information to our audience without sacrificing program content.

For more information, contact 25-Seven Systems at (617) 789-4673, or visit www.25-seven.com.

TECH UPDATES

AudioScience Card Verifies/Logs

The AudioScience ASI8921 professional PCI tuner adapter for AM/FM radio broadcast audio monitoring and auditing features a half-length PCI card, RBDS/RDS metadata monitoring and software-selectable AM and FM de-emphasis using AudioScience's ASIControl application.



The ASI8921 can hold two modules and each module can hold up to four individually controlled tuners for up to eight different channels of AM or FM signal received and recorded simultaneously from a single F connector antenna input. Additionally, modules can be ordered with MCX external antenna jacks.

A mini 50-pin connector makes available either the mono or stereo audio of each tuner output. Tuner 1 is sourced from a software-controlled MUX using ASIControl, and may be programmed to output tuners 1 through 8.

Additional features include AudioScience's MRX technology allowing each stream to have an independent sample rate of between 8 kHz and 48 kHz, recording formats of PCM, MPEG Layer II and MP3, and up to eight adapters can be placed in one system. Windows XP/Server 2003/Vista and Linux drivers are available.

For information, contact AudioScience at (302) 324-5333 or visit www.audioscience.com.

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...but don't make problems. There are plenty of them to go around. And Henry is there to help you get them solved.

SixMix: USB Broadcast Console is a full-featured professional radio station audio mixer. It's designed for live broadcasting as well as recording, editing, remotes, and other production tasks.

AutoSwitch: Multi-purpose stereo audio switcher and silence sensor. Switches to backup audio if your main audio source fails. It can also be used to manually select between two stereo audio sources.

Multiphones II: Multi user distributed headphones system with Zoned Talkback. Multiple "Guest Pod" listening stations can be daisy chained with cat5 cable.

Minipods: Compact stereo headphone amplifier for single or multi listener systems. Use with or without MultiPhoness II master unit.

The Matchbox HD: Rack mountable Matchbox HD is the new high performance version of the industry's most popular analog level and impedance converter.

USB Matchbox: An ultra high performance USB to XLR audio codec. Uses Burr Brown 8X oversampled ADC/DAC with superb audio performance.

Superelay: Multi circuit controller for any application where multiple circuits, including AC line voltage, need to be switched simultaneously. Ideal for controlling *ON THE AIR* warning lights, muting monitor speakers, etc.

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TECH UPDATES

Eventide BD600E Adds Local Content

Eventide's BD600E Broadcast Obscenity Delay allows over a minute of local content to be added to a broadcast feed. The program is then time-compressed to make room for the additional material it. This may be combined with the traditional obscenity delay operation.



It is often desirable to be able to add extra audio material to a network or satellite feed, or to a fixed length recording. This material may range from a station break to a minute or more of other local content.

To perform this operation the Insert remote control feature must be activated. The broadcast program material is then saved in the BD600E's delay memory while the inserted local content is fed out into the broadcast stream.

The user then hits the BD600E's Ramp To Zero button, causing the saved audio in the delay to be played out at slightly faster than normal speed without pitch change, making time for the material you added. Once the delay is empty, the unit returns to normal live operation.

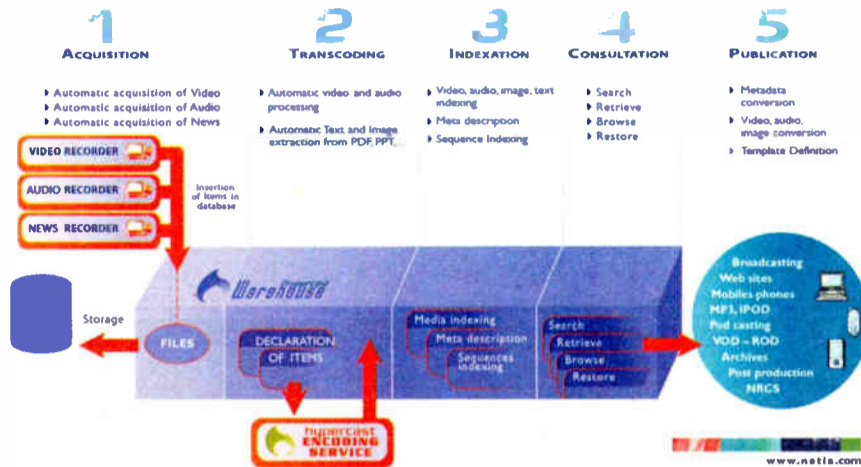
This operation may be repeated as often as desired, as long as the delay is emptied (ramped to zero) by program end. To help this, the Ramp To Zero operation can be programmed to occur automatically.

Typically, several minutes per hour of new material may be added without audible degradation, with a maximum of 80 seconds of saved material at any time; the current amount is displayed on the front panel.

For information, contact Eventide at (201) 641-1200 or visit www.eventide.com.

Netia Media Logging Works With Radio and TV

Netia's Media Logging, which is integrated in the Radio-Assist and Manreo ranges, meets what the company describes as increasing demand for mixed audio and video digital monitoring, from recording a few channels to multinational solutions for monitoring hundreds of radio and television stations.



The mixed audio/video digital monitoring solution helps radio and TV professionals comply with legal requirements, keep an eye on competition or find a sound track or video, as well as those needing to record a large number of audio and video signals: transport operators, supervisory authorities, government agencies, the print media, etc.

The modular design allows setup of advanced infrastructures to record content from several sites, centralize recorded content and view multiple content sites. The integration with Netia's Radio-Assist and Manreo provides the benefits of digital, eliminates wear on equipment and media, and lowers operating and storage costs due to automatic purging and the use of MPEG-4 compression.

For information, contact Netia at (866) 359-7540 or visit www.netia.net.

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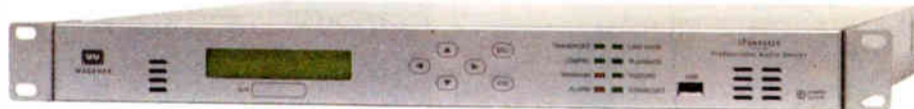
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Wegener iPump 6420 Offers ShowShifting for Bandwidth Savings

New file-based distribution systems give network operators the ability to insert local advertising and station promotions into affiliate broadcasts and subscription services. They combine the efficiencies of large network operations with the customized listening experiences of localized content.

Wegener's file-based distribution system is based on the COMPEL network control, iPump 6420 professional media servers, and Unity 4600 professional media receivers, to enable flexible centralized control, distribution and playout of radio programming.



Designed for localizing affiliate radio broadcasts, the Wegener iPump 6420 media server generates a custom audio channel by transitioning between live and stored audio programs, advertisements and liners.

With the introduction of the "ShowShifting" feature, Wegener said it has added another level service for affiliates and automation for network operations.

ShowShifting is a customizing feature of the Wegener system. The station end user (or network operator) may specify when specific programs are to play out of its iPump 6420 media server.

For instance, a program can be set to play out at 9 p.m. local time every evening (rather than the 10 a.m. local time when it is transmitted over satellite). This may even occur if the show is transmitted on another channel than what the iPump 6420 media server is statically set to decode. Show shift definitions are flexible, allowing playback to occur on different days, even to the point of spanning a weekend. "Disaster scenarios" are handled without operator intervention by replacing episodes of lost signal or power with "evergreen" material.

Activity associated with that program (internal or external ad insertions, liners, PAD data, etc.) is captured and used in the correct manner, at the precise relative times, as the show is later played out. ShowShifting will yield satellite bandwidth savings over linear operations, the company says. Without it, the network is forced to rebroadcast a show multiple times to allow affiliates the ability to locally air it at a more desired (or additional) time slot.

Wegener says ShowShifting is one of creative ways the radio industry can build upon file-based distribution, playlists and centralized network commands to optimize the next generation of radio broadcasts.

For information, contact Wegener at (770) 814-4000 or visit www.wegener.com.

TECH UPDATES

Automated Program Logging From Telos and Axia

ProFiler from Telos Systems and iProFiler from Axia Audio are automated systems for audio logging, aircheck skimming, remote listening, proof-of-play, audio archiving, capturing audio from live events or contest lines to name a few.

ProFiler can be integrated into any broadcast environment to capture as many as four stereo or eight mono channels through Telos' professional PCI audio card. The card has balanced inputs/outputs and contact closure to activate skimming function.

Axia's iProFiler application connects to your Axia network, using Axia's IP-Audio Driver to exchange audio directly with

Axia networks via Ethernet, and can record 16 stereo or 32 mono streams, without the use of a sound card, over a single Cat5e cable.

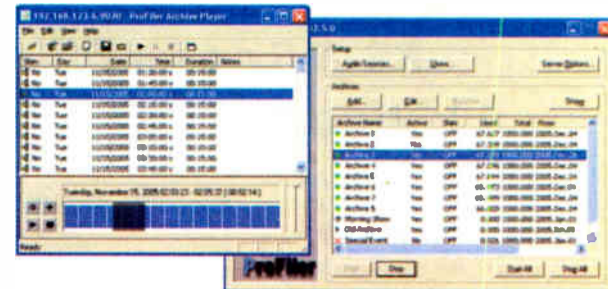
ProFiler and iProFiler are flexible PC-based software solutions. Both versions boast a list of features including industry-standard Fraunhofer IIS MP3 compression with choice of bit rates from 16 to 320 kbps; archive stored audio to any external drive or device including network storage drives, CD-ROM or other removable media; remote fetching of archived content over any network or Internet connection and time-stamped audio is stored in easy-

to-search 15 minute blocks.

ProFiler Live Player lets you listen to audio over any IP connection as it's being encoded (dependent upon your available bandwidth). IProFiler's ESP pre-roll technology begins capturing audio before the jock opens the mic.

There are four capture modes: Logging (continuous archival storage), Skimming (records only when talent mic is open), Reverse Skimming (records only when talent mic is closed), and SmartSkimming (low-bit-rate logging switches to higher bit-rate for quality captures when talent is on-mic).

Other shared features include encoded program segments that can be uploaded



automatically to a Web server via FTP; and a remote monitoring application that lets you monitor disk space and audio presence using any network or Internet connection and easily select and export audio segments for external editing or review.

For information, contact Telos Systems/Axia Audio at (216) 241-7225, or visit www.Telos-Systems.com/profiler and www.AxiaAudio.com/logging.

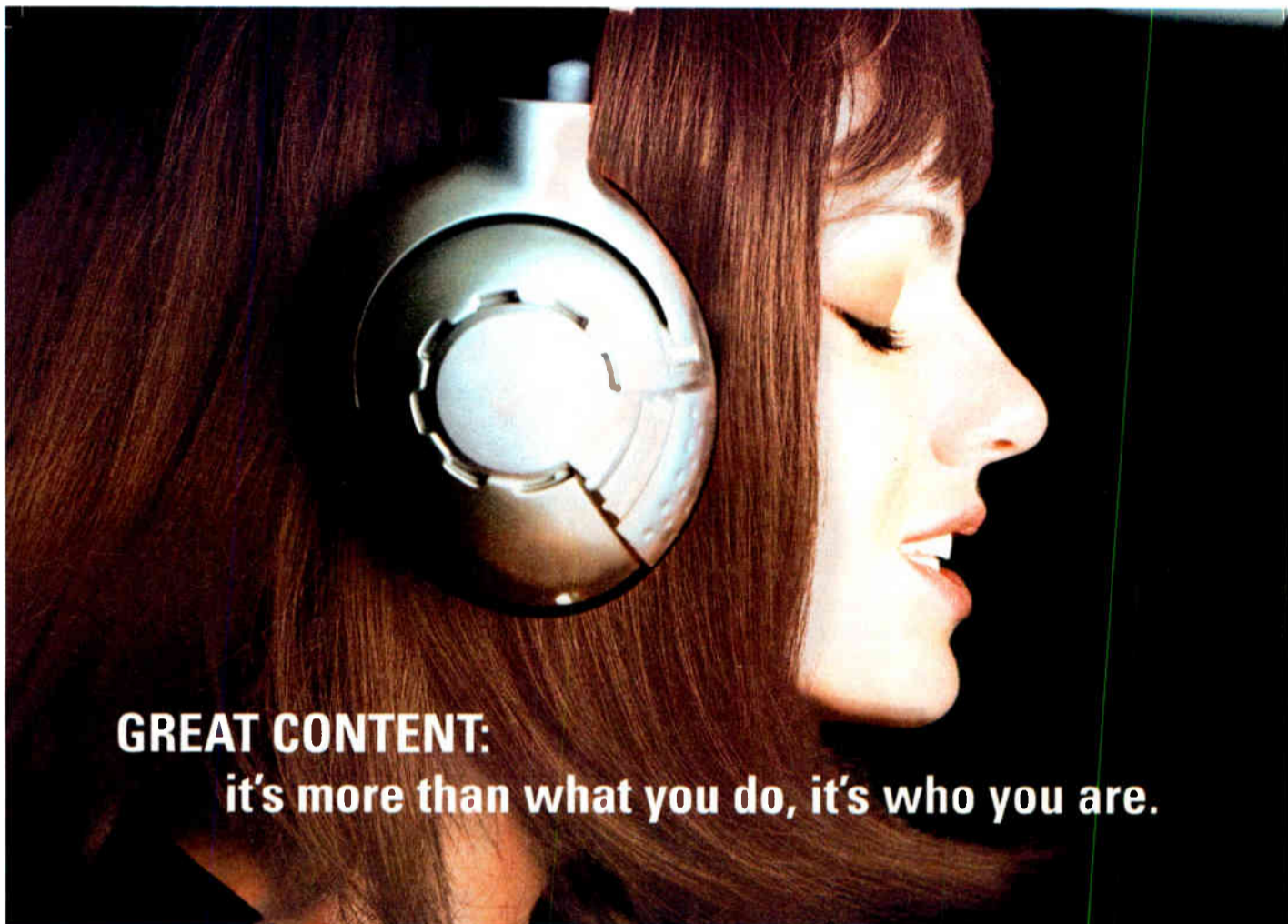
Perform Airchecks, E-mail Files With SkimmerPlus

SkimmerPlus from Broadcast Software International is a tool for audio skimming and/or long-form audio logging of up to eight stereo audio sources. SkimmerPlus also can be used with the ASI range of multiple tuner cards.

SkimmerPlus includes its own Web server so users can listen to airchecks or any other recorded audio using a Web browser and Internet connection. Access is password-protected to keep audio content secure.

The company says it also is suitable for distributed organizations.

The included Web interface enables users to perform airchecks from any



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Internet-enabled computer and e-mail those files.

Additionally, SkimmerPlus simultaneously creates high-quality and compressed files; supports multiple audio formats such as PCM, MP2 and MP3; allows access to mic checks anywhere on the Internet; automatically manages hard-drive space.

Additional features includes central skimming for multiple-station clusters; and includes 19 interface motifs for the customization of the application's appearance.

Individually customizable title bars and record features are included for each deck; and users can create and save event logs for customizable unattended recording.

For more information, contact BSI at (888) BSI-USA1 (274-8721) or visit www.bsiusa.com.

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TECH UPDATES

BE AVLogger for Archiving, Auditing and Repurposing Content

The Broadcast Electronics AVLogger has a range of configuration options that put it on the A-List for capturing and archiving programming for any purpose — whether it is the occasional aircheck or longer term storage and repurposing of audio.

This BE application has an event toggle for capturing audio by event, such as the opening or closing of a microphone. It also has a timeline menu that offers logging by month, day, hour, minute and second so broadcasters can find audio passages of interest quickly.

In addition, AVLogger comes with an export toolset for transferring files to formats compatible with major audio editors, including those used to repurpose content for podcasts.

Because AVLogger operates over a network or Internet connection, multiple stations can share archived audio or do an aircheck of any station in the group.

AVLogger's can record multiple audio feeds from practically any source, whether from the console or off the air, and at different compression rates and coding formats. AVLogger can also record right and left analog channels independently at different compression rates. While AVLogger is logging off-air programming in MP3 at a sample rate of 128 kbps mono for long term storage, for example, it can record an open mic channel in uncompressed PCM, plus capture the morning show in MP3 at various bit rates for subsequent podcasts.

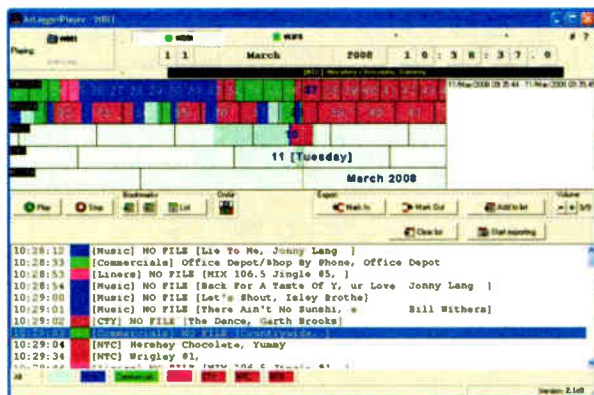
The number of recorded sources is limited only by computer processing power and the number of available audio inputs.

With this application, broadcasters can log off-air audio 24/7 plus perform other capture functions as required, such as recording a client's ad campaign as an affidavit of when and how spots ran.

The AVLogger is offered as an integrated application with Broadcast Electronics' new AVflex digital studio system, or it can be purchased as a standalone application. AVLogger is compatible with major automation systems on the market and offers flexibility in audio recording and storage, whether the need is to capture audio segments for repurposing or to archive program content.

AVLogger audio files can be archived to removable media, or placed on a network for easy retrieval. Station personnel have access to recorded audio from their desktop computers through a Web browser and can switch quickly between logged audio at various stations using the system's shortcut feature.

For information, contact Broadcast Electronics at (217) 224-9600 or visit www.bdcast.com.



AudioFile Offers Logging, Skimming

AudioFile from KLZ Innovations is a multipurpose software suite designed to monitor up to eight channels.

Features include mic skimming, audio logging and program delay. Archived files can be stored as MP3s. AudioFile also offers a silence detector and alarm.

AudioFile can be remote operated and also used as a Web streamer. It is compatible with standard audio cards, consumer or professional.

For information contact KLZ Innovations at (800) 334-9640 or visit www.klz.com.



Sonifex RB-PD2 Profanity Delay

The Sonifex Redbox RB-PD2 stereo profanity delay is used for live broadcast programs to prevent transmission of unwanted or obscene material.

The 1RU 19-inch rackmountable box features an automatic audio stretch algorithm that allows between 2 and 55 seconds of delay to be built up live while "on air," and while maintaining the correct pitch.



The delay also can be acquired while playing an audio file on a Compact Flash memory card. When the program is complete, the audio stretch algorithm seamlessly reduces the delay to zero.

It has both balanced analog and AES/EBU digital audio I/O on XLR connectors and provides sample rates up to 48 kHz at 24-bit. It can act as a combined A/D and D/A unit meaning that analog inputs can be output as AES/EBU or vice-versa.

The delay can be started and stopped by pressing the Build Delay and Exit Delay buttons respectively. A front-panel display shows the amount of delay being built up. The Dump button can either remove a section of the most recent audio that has been buffered, by a preselected amount, or dump the audio built up in the delay and play a preselected audio file on the Compact Flash memory card while building the delay again. When the file has finished playing, the delay is then equal to the duration of the file. A cough button is another feature.

The RB-PD2 has an RS-232 port for remote control, eight remote inputs and six remote outputs, all of which are freely assignable. The inputs can be used to trigger any of the unit's functions such as "build delay" and the outputs can provide external signalling and can be delayed with respect to the inputs.

For information, contact Sonifex/Independent Audio at (207) 773-2424 or visit www.sonifex.co.uk/redbox.

Pristine Offers Multifunction Blackbox

The Pristine Systems Blackbox digital audio logger, monitor and alert system is a radio and television audio logging product designed to meet compliance, proof, audit, programming, management, and engineering needs.

Available in English and Spanish, the program can record up to 16 stereo (32 mono) channels simultaneously using standard audio cards or AudioScience tuner boards.

Blackbox is suitable for archiving, proof of performance, timeshift recording, repeat broadcast recording, "best of" show recording, promo recording and podcast recording.

In addition to audio, Blackbox can record microphone usage times for skimmed playback later and RF signal strength for review. Alerting functions continuously monitor audio and RF signal levels and provide several alarm methods. Serial commands may be sent to a switcher or modem to change audio sources or dial a phone or pager. Blackbox can send e-mail and SMS text messages, execute DOS commands, and control external warning lamps or equipment through TTL signals.

A pushbutton radio style player simulates listening in real-time, allowing the user to hear what all channels (including competitors) were playing at any particular time. Time and microphone skimmer modes provide methods to review recordings quickly. The time skimmer makes it easy to create a play list of songs or a client list from spots that played. The microphone skimmer allows a program director to review an announcer's performance by skipping through recordings and hearing each time the microphone was opened.

An included Web server allows Blackbox recordings to be accessed over the local LAN or the Internet for playback on remote computers.

For information, contact Pristine Systems at (800) 795-7234 or visit www.blackboxlogger.com.



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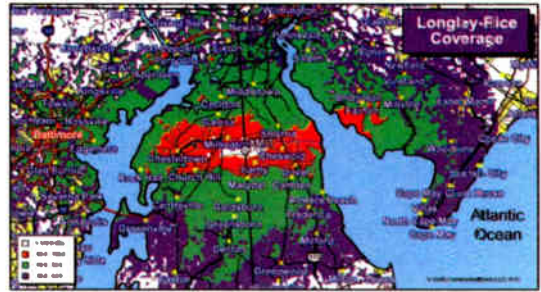
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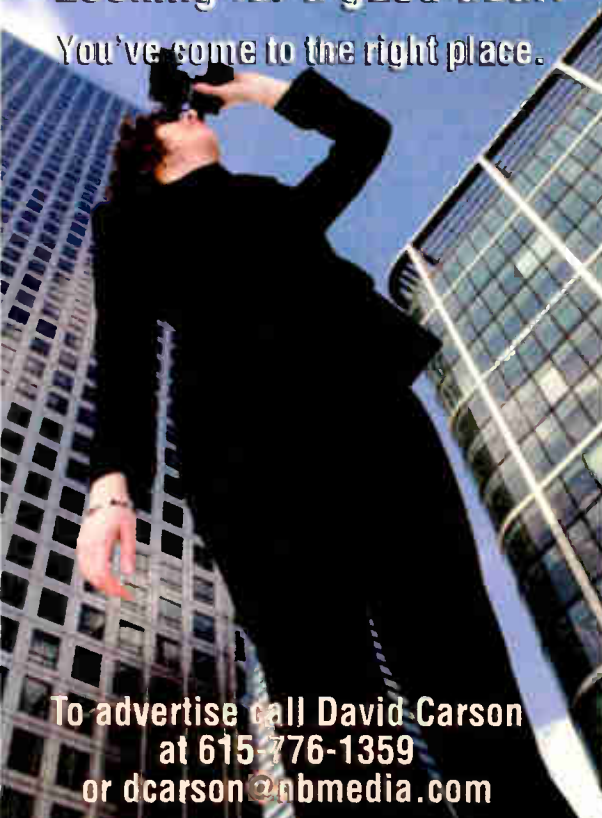
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GUEST COMMENTARY

Recession Today, Growth Tomorrow

by Neil Glassman

you offer your advertisers:

High on my top 10 list of marketing rules is to remember that you're not your clients.

This rule is easily supported. A sales organization's success is frequently a measure of how well it puts itself inside the heads of its clients, seeing their business through their eyes. Sounds simple, right? But when business takes a downturn, we sometimes need to be reminded of the fundamentals. On the other hand, the current recession is bending this rule, as you now share significant new challenges with your advertisers that can be leveraged to both of your advantages.

What are those challenges?

First, in the recession, you're both fighting for a larger share of a shrunken market to a greater extent than in a healthy economy. Second, you're both looking for ways to position yourselves for both the slump and the subsequent recovery. View these as opportunities for

• Protect your brand — Make certain that you keep your good name out there in front of your clients and prospects. *This has always been part of your pitch, right?*

• More is more — Feed your message in smaller, more frequent doses using a variety of delivery methods. *Your over-the-air and streamed signals, as well as your Web site, are all effective placements.*

• Create a long-term strategy — Think about how you will want to promote your products and brand for the next six months, year and two years. It will help you create a more coherent brand message and maximize what you spend on creative. *And, you might just give your clients a discount for a long-term commitment.*

• Stick with the hits — Promote your strongest and/or most innovative products. If all of your advertising and pro-

Without marketing, your brand is subject to erosion and the claims of your competitors can gain credibility with your clients.

you to not just empathize with your advertisers' dilemmas, but to be a more valuable resource to them. These are accomplished by your demonstrating your understanding of the principles of advertising in an economic downturn and leading by example.

More is more

What are a company's first thoughts about marketing and advertising in a recession? Often they're cutbacks, as reducing these budget items is perceived as being less painful than some of the alternatives in the short term and having the least long-term effects.

The thinking is that fewer people are buying less right now; fewer prospects, so less marketing.

Not only does that hurt your station(s) as an advertising vehicle, it hurts your clients who chose to go that route.

The logic of backing off now and ramping up when business gets better only holds if a company, whether it's your station(s) or one of your advertisers, comes out of the recession with the same position in the market it had when it went in. "What makes you so sure that it will?" is a question you can ask both of your clients and yourself.

After all, without marketing, your brand is subject to erosion and the claims of your competitors can gain credibility with your clients. You can further ask, "Where does that leave your company at the end of the recession?" At best, playing catch up. At worst, dealing with a damaged brand and a huge loss of market share.

Here are just a few of the proven strategies you can apply to the solutions

motion reinforces your brand, your best sellers will be the tide that raises all your product boats. *You know how you can apply this to your own station promotions.*

Among the many great, free business resources that are too-often overlooked by local businesses is the Harvard Business Review Web site. One of my favorite articles is "How to Market in a Recession" by John Quelch, geared mostly towards consumer products companies but with much relevance for B2B, too.

The single most important sentence in the article: "It is well documented that brands that increase advertising during a recession, when competitors are cutting back, can improve market share and return on investment at lower cost than during good economic times."

This means you. How better to make this argument convincingly to your advertisers than to "walk the walk" and maintain, or even grow, your promotional activity? I'm not going to make specific recommendations on programming, sponsorships and community outreach because I'm an expert in neither radio promotions nor your local market(s). But you are.

Becoming conversant in and applying recession-based strategies can aid you in more successful consultative selling and delivering left jabs and right hooks to your competition across all advertising media.

Neil Glassman helps broadcast companies develop and deliver marketing strategies. He blogs on the WhizBang-PowWow at www.whizbangpowwow.com.

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GUEST COMMENTARY

Radio, the State of the Ship

For More Than a Decade We've Been Making A Lousy Product and Getting Away With It

by Bill Parris

As we radio executives observe falling stock values, the difficulties in obtaining acquisition financing, declining local revenues, audience losses and emerging technologies, perhaps it is time to take an unemotional, big-picture look at our beloved industry and the state of our ship.

Never in its history has radio faced a three-front attack from its regulators, new technologies and its own attempts at programming self-immolation.

The benefits of loss

Perhaps the problems started with deregulation.

The promise was that we'd have fewer stations losing money. This was fulfilled in the short term as winners acquired losers in a post-deregulation station feeding frenzy. However, this was a little like trying to halve the number of victims of a dreaded disease by killing half the patients.

Rolling up losing stations into market clusters reduced the root of radio's resilience. Commercial radio was vibrant because it was competitive and innovative. Radio *needs* losing stations. Formats

matic format experiment could be authorized by the new corporate structures.

The result was a bland, over-commercialized product and a management approach of trying to copy things that had been successful in the past.

Initially, revenues grew and operating costs came down. Things looked good for a few years.

By the early 2000s, however, radio, with its boring non-local content, long stop sets and high rates, was competing with new portable music delivery systems.

Self-inflicted

The core problem in this competition is self-inflicted: poor programming product.

For more than a decade we have been making a lousy product and getting away with it. Now we have competition ... not XM and Sirius, but Best Buy and Circuit City. Portable electronic devices, free of nine-minute stop-sets and hard-to-understand slogans, are becoming the preferred method to discover new music. Radio will be past recovery if addressable



Bill Parris

the 8s" or "on the 2s." People don't talk or think that way. What the devil are the 2s? When did any listener ever say to a friend, "I'll meet you today on the 3," or "I have an appointment on the 8s every Wednesday"?

Would it not make more sense — and be easier to understand — to say "Traffic every 10 minutes"? All of the listening audience would understand and, heaven forbid, it would actually convey a programming advantage in an easy-to-understand slogan.

Similarly, when is a heavy, deep, threatening voice a positive thing? Yet we contract national talent to record positioning lines in threatening, growling deep voices that sound mean and hostile. Would not a light, positive, fun and friendly voice be more inviting?

Is it not dumb to hire a local DJ, then formatically assign that personality only three times an hour to read a mere position line, a slogan liner better delivered by a contract production professional?

A live, local DJ should be heard often and contribute content that a recorded liner cannot add and other media cannot emulate. Live voices should do what only live voices can do: Add local identity.

Why waste live talent with "the best mix of the '50s, '60s, '70s, '80s, '90s, two thousands and today" when something like, "Hi to all y'all driving to work at Bethlehem Steel this morning, say hello to Fred when you get there" would touch more local lives?

Often the lame appearance of a local DJ within the music hour is so infrequent that it exceeds the average TSL for the format.

Tech's role

It is said that radio remotes no longer work. Of course not. In major markets at least, remotes have morphed into a pointless product: a card table and banner, crewed by an assistant promotion director who may do a couple of call-ins an hour. Radio remotes were once live, animated shows. The client saw a hard-working crew in his or her place of business and the public had a show to watch. This worked.

A passive banner, no matter how artistic, will not give a client the idea that their promotional investment bought serious station attention. It will not attract the public. The programming *product* has to be reinvented.

Radio technology does not drive audiences; entertainment does. In show biz,

content is the prime audience motivation and technology has never driven mass audiences to radio stations.

Equipment manufacturers and chief engineers have great interest in new tech trends that can be sold to gullible broadcast executives as audience salvation; but often the public could care less. Radio owners and managers often are like poor cattle wandering across a field. Someone in a corner shouts "AM stereo" and the herd moves toward the voice. Later the shout is "HD Radio" and the herd starts in that direction — always wanting to believe that a new enhancement to a radio transmitter can drive up an audience.

FM was around for decades but no audience movement occurred until better content

— with few commercials and narrowly focused music formats — appeared and started the youth listener migration.

Here is a showstopper for conversation: There is no business model difference between FM HD Radio and the decades-old subcarrier business. Both require special receivers to capture and decode content embedded on a primary station.

The premise seems to be that somewhere, somehow, there are great mass appeal formats that just can't get on a limited number of radio platforms, so the public needs new platforms. The premise is untrue. If there were such formats, a losing 0.5 share FM radio station would be programming it on its primary signal. The whole HD idea is driven by industry, not the consumer.

Technical improvements and innovation should be embraced but are not a core solution to audience problems. So often, what is technically possible is not necessarily practical.

Invest in creation

Today's programmers rarely innovate, so any major-market success story involving a new, live, local exciting format will have to happen to be replicated.

I am sure that a lot of exhumed '70s and '80s PDs will say "just redo top 40 like it used to be and that will work." But I think we need a new, intermedia, interactive format, certainly based on time-proven sound principles and dynamics of audience reactions but designed for the media realities of 2009 and beyond.

A new format and basic business model are needed, using each medium for its strengths. Radio can attract come audience and the Web can give more content, visuals and instant commerce.

Local listener peer group positioning, entertainment news, new trends, new music, hit music and showcased excitement are desirable format qualities. But time is limited; each year a demographic cell of young listeners moves up the Arbitron demographic envelope and we have an ever-expanding listener universe conditioned to not expect these qualities from radio.

The classic peer group interaction and individual positioning that teens got from their local radio DJ at one time has been replaced by e-mails and text messaging. The music comes from downloads and radio is becoming something grandmothers have in their bedrooms.

See PARRIS, page 38 ►

Radio is the only entertainment industry that ever believed a research study could create a hit. Creators create hits.

like top 40, easy listening and all-news were dreamed up in competitive desperation. But deregulation has allowed the large to eat the small and in doing so plow over a fertile garden that had grown new concepts in sales and programming.

The long-term effects are proving near-fatal: a lack of new ideas, a lack of creators, and a management structure driven exclusively by cost reduction. Unrealistic acquisition costs forced higher spot rates and placed downward pressure on operating costs. Personnel were cut; radio job opportunities became limited.

At the same time came improvements in the quality of computer-based automation systems that were rapidly utilized by cluster general managers who were desperate to please out-of-market bosses with reduced payrolls.

Satellite costs dropped; entrepreneurial syndication ventures emerged and syndicated programs were added to automation. Programming and promotion departments scaled back as former competitors were absorbed into the market cluster, lowering the competitive drive that historically motivated innovation.

Former competitors now shared the water cooler. A format or positioning slogan that appeared to win in one market was duplicated blindly in others. The creators — meaning the programmers — were reduced in number and quality. A typical major-market program director was a promoted air talent who could wear a tie and run Selector.

Those who could still think had such reduced influence that no decisive or dra-

Internet service of decent quality gets into cars or if the FCC mandates a digital conversion, forcing purchase of new receivers.

Please try, as local programmers once did, to think like a potential listener. Forget the industry "inside conditioning" and think like a consumer.

Consider the silly, pointless names we give our station product, the ridiculous imaging.

A frog is an amphibian. A laser is a coherent light beam. Alice is a friend or relative. These are not radio product names. They are inside code words that convey no listening advantages to an audience.

We have confused and lost listeners who have given up trying to figure out what our "industry-hip" station names may mean. Proof? Ask a young listener what station they listen to and — if they listen to radio at all — they will name a frequency, because that is what they can understand.

The plethora of cute names is a result of radio insiders trying to impress other radio insiders with ever-hipper slogan identifiers, forgetting that none of it makes sense to a listener. Once artists, in any entertainment medium, begin playing to each other, the public is lost. A 96 Rock is better than a Jack. It has always been true that the speed of come acquisition is directly proportional to simplicity of product description.

Adding further to the product confusion, consider the nutty, high-frequency slogans we mindlessly repeat: "traffic on

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The Move-In Mavens

As we accelerate down the highway toward New Administrationville (ETA: Jan. 20), another thing we may see receding in the rearview mirror is the FM move-in trade.

We're all familiar with that industry, which has been particularly active for a decade or two. Move-in mavens study the table of channels as it has evolved over the last 40 to 50 years. Using a number of regulatory tricks of the trade, they are able to come up with alternate allotment schemes that have the salutary (for some, at least) effect of moving channels from less populous areas to more populous — and, thus, more commercially viable — circumstances.

But Commissioners Michael Copps and Jonathan Adelstein — the FCC Democrats who will, with the next chairman, control the FCC now — recently strongly criticized the move-in process as a "parlor game," the sole goal of which is maximization of available advertising dollars.

They bemoaned the resulting loss of local service to smaller, more rural communities (whence the moved-in channels came), and suggested that the Federal Communications Commission should enforce its rules and policies more strictly in order to comply with Section 307(b), which mandates generally that the FCC shall provide "a fair, efficient, and equitable distribution" of radio channels to the various states and communities.

Messrs. Copps/Adelstein are correct to some degree. Licensees don't subject themselves to the time, effort, expense and overall hassle of a move-in unless it makes economic sense to them.

But they tend to overlook the fact that even the most egre-

gious jump from a rural to an urban market invariably increases the "efficient" use of the spectrum by assuring that the subject channel will be available to a larger audience. Moreover, the FCC's rules and policies prohibit the removal of a community's only local radio station, protecting any community from total abandonment. And at bottom, each separate move-in proposal features its own unique attributes that must be assayed.

So the scorn that Copps and Adelstein have heaped on move-ins feels unwarranted.

But this really comes down to a matter of perspective, of frame of reference. Copps and Adelstein are looking at the issue through their own particular lens of localism, a lens that tends to focus exclusively (or nearly exclusively) on the availability of "local" programming for every town, large or small.

That is certainly not the only lens, nor is it necessarily the most accurate lens, through which to assess move-ins. Indeed, given the statutory and constitutional constraints on the commission, it is not even a realistic lens. Regardless of where the commission may plunk down a channel, it cannot dictate the programming that will be aired on that channel.

Nevertheless, the lens of localism is the one that Copps and Adelstein use. And if the new chairman or -woman chooses to use the same lens, move-in mavens could find it much more difficult to work their magic in the coming months and years.

— RW

Parris

Continued from page 37

Broadcast professionals who love this business and want to make a difference must start thinking and inventing. Entertainment products are not invented by research; they are invented by empowering creators to create. Radio is the only entertainment industry that ever believed a research study could create a hit. Creators create hits.

Let us no longer deny these truths, let us admit that we have a product problem.

It has always been true that the speed of cume acquisition is directly proportional to simplicity of product description.

Those offended by my comments may be numerous. The general manager might say "We're going Alice" thinking it is a decisive, intelligent decision. Manufacturers focus on sales. Chief engineers convince management that a new box will drive up audience shares. Program directors think they are creative even as they continue to copy, copy, copy. Chief executives consider the cost of everything but never give conceptual thought to the core programming product that clone stations transmit.

We can still invent, if we recognize the need to do it. Let us again value creators, as other entertainment industries do.

May just one major-market radio sta-

tion get outside of this self-constructed container and program an exciting, all-local entertainment format on a big FM signal. Hire a creative team and let them create.

If it works, ratings and revenue will follow and just maybe enough industry press on that single success may motivate station decision-makers in the herd to start imitation. If it fails, fire the creators and hire another set; but keep trying to create.

This takes courage and a belief that the industry can only adapt if it invents. Talented executives remain in our industry. Let's us hope they see the big picture, assert themselves and help us get our ship together.

The author is president of Radio Broadcast Communications, which owns WKHZ(AM) in Ocean City, Md., and manages several radio stations in the Washington and Baltimore markets.

◆ READER'S FORUM ◆

Wireless Broadband

I enjoyed the article "The Wireless Broadband Solution" by Dan Slentz (Oct. 22). I would like to know, with the two radios for STL purposes, which audio applications (software) will be required?

Rashid Tanko
Accra, Ghana

Rashid,
Any stream encoder can handle this for you. At WHIZ we did all our testing with a Sling Media Slingbox. It was great! We streamed to the SlingPlayer software on a PC. For a permanent STL, I would look at any paired stream encoder/decoder (hardware or Linux-based so it's stable).

Almost all that gear is unbalanced analog, so I would use a balancing amp like a Henry Engineering Matchbox on each end. If you need AES, there are audio encoders that are TCP/IP that will take that input. You could even

take a Behringer encoder from AES to unbalanced analog and adapt with that.

The nice part about this equipment is it's so cost effective. I wouldn't be afraid to experiment. You'll have fun and learn a lot, plus you'll find this stuff works.

Remember to share what you find with other people ("pay it forward") by contributing through Radio World or your engineering groups.

Please let me know if you need any more assistance.

— Dan Slentz



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