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NewBay Media

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INSIDE

TECH TALK

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- Readers dish about CDs, radio clichés, kids and the ever-popular topic of HD Radio. — Page 45

Photo by Andrea Goldi/PVCB

Struble: Radio Is the Last Analog Medium Standing

BY LESLIE STIMSON

ALEXANDRIA, VA. — Bob Struble is pragmatic. He knows that while the number of U.S. radio stations on the air with HD Radio is approaching 2,000, the pace of station conversion has slowed remarkably. Still, he remains optimistic about the long view.

In the view of HD Radio proponents, a main cause of the slowdown is downward pressure on capital budgets due to the economy. To get through the downtime and keep the HD Radio rollout going,

NEWSMAKER

iBiquity Digital Corp. and Struble, its president and CEO, are focused on getting its technology on as many consumer devices as possible.

The downturn comes as manufacturers have begun releasing products in a new category for IBOC: portables. IBiquity and a core group of its radio group backers are lobbying strongly for an FM digital power increase in

(continued on page 8)

THE BIG PICTURE

Skip Pizzi

RadioDNS — Is It the Missing Link?

A number of prominent and forward-thinking U.K. broadcasters have been at work on a proposal for standardizing how to access radio services' program-associated online resources, and the proposal is now seeing wider promulgation.

It is called RadioDNS, applying the familiar "Domain Name System" used

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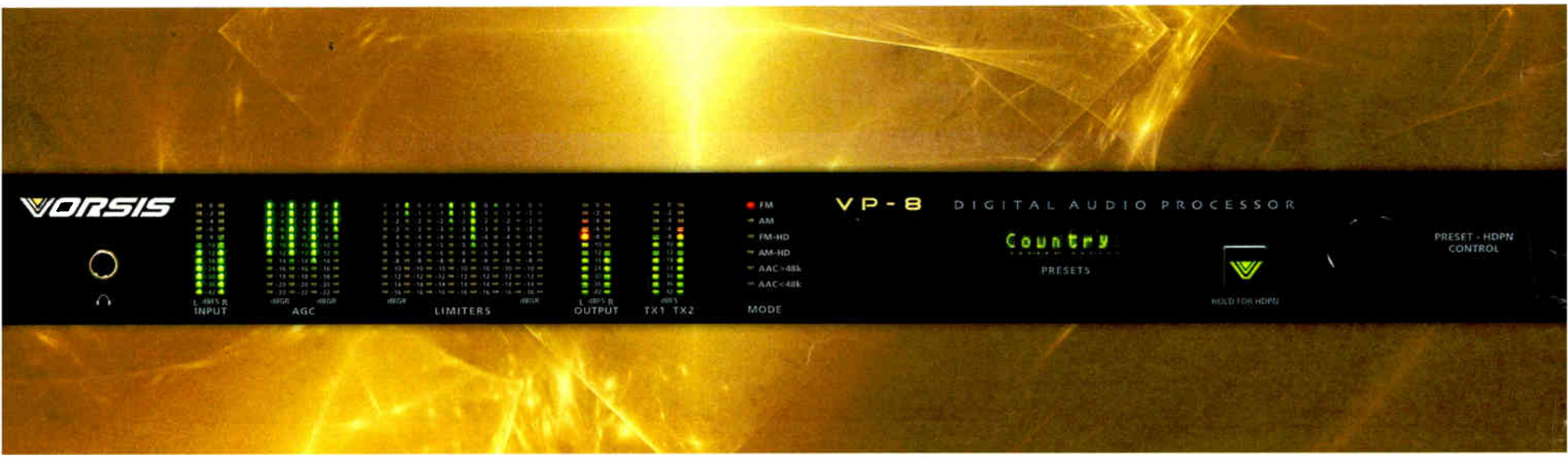

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AMs DISPUTE IBOC INTERFERENCE

Given the strong debate over a voluntary FM IBOC elevated power increase, it's interesting to read about an AM IBOC-related interference dispute in California that's been going on for more than two years and new developments.

Midwest Television, licensee of KFMB(AM), a Class B in San Diego, has submitted a second interference complaint to the commission about Kiertron, licensee of KBRT(AM), a Class D in Avalon, Calif., and has asked the agency to suspend KBRT's authority to transmit in digital.

According to both its earlier complaint from September 2008 and the new one filed in August, KFMB says the daytime IBOC operations of KBRT have been causing "significant interference" to KFMB's daytime operations within its protected 0.5 mV/m contour.

Kiertron didn't dispute that it is causing interference, but responded in 2008 it's allowed to because of a second-adjacent-channel frequency allocation waiver granted in 1962 when the station was moved, from 540 kHz to 760 kHz. That's when the agency also granted KFMB a waiver "of the otherwise impermissible overlap" with KBRT, according to an FCC decision from this January.

Midwest — and the FCC this January — disputed Kiertron's claim that the short-spacing between the stations justifies the interference and that the remediation procedures adopted in the IBOC order apply only to first-adjacent channel interference.

Kiertron said it's been trying to resolve the interference and asked in 2008 to reduce its digital power by 2 dB. The FCC said this January that was not enough, and told Kiertron to reduce its upper primary digital sideband by a total of 6 dB; it also encouraged the stations to figure out whether a 6 dB reduction solves the problem.

Midwest said in August that joint testing between the two stations showed the 6 dB reduction is not enough to solve the problem and that Kiertron has "refused to remedy" the situation; that's why Midwest has asked the FCC to tell Kiertron to suspend IBOC operation.

Kiertron responded that Midwest has failed to demonstrate further testing is necessary while the FCC continues to review "fundamental issues" like how much protection KFMB is entitled to receive "given the significant and historical interfering contour overlap between these two stations."

Kiertron says the earlier FCC ruling is not final and it has a pending request that the earlier decision be reconsidered; it finds Midwest's proposed remedy "drastic." Showing that it is cooperating, Kiertron says it has reduced its IBOC power "a full 75 percent of authorized power, or 6 dB."

WHAT HAPPENED DURING THE INITIAL ELEVATED POWER TESTS?

The arguing among participants in elevated IBOC power increase tests is becoming sharper in their efforts to "set the record straight." The debate is highlighting stress lines among the various broadcast groups that have a stake in whether a digital power hike will be approved.

At issue is whether Rhode Island Public Radio station WRNI(FM) in Narragansett Pier, R.I., experienced interference at the hands of Greater Media station WKLB(FM), of Waltham, Mass., during elevated FM IBOC operation of WKLB.

I wrote earlier that WRNI told the FCC it did experience interference while WKLB says it found no interference within WRNI's 60 dBu contour.

Rhode Island Public Radio Chief Engineer Steve Callahan told the commission in filed station comments that there were "heated discussions" in one of the test vans in May between the iBiquity, Greater Media and NPR engineers over what should be tested and further that iBiquity and Greater Media had "insinuated" themselves into the test process.

Greater Media replied in an Aug. 5 letter to the FCC that the allegations are baseless and that discussions in the test van were "cordial and constructive." IBiquity told the FCC in a letter of its own on Aug. 6 that it sent one of its engineers and a test van up to New England for the tests because it appeared NPR had insufficient help and equipment. They also noted that iBiquity and Greater Media are members of a working group helping NPR to shape the test program.

IBiquity said it was at a loss to explain WRNI's comments and invited NPR to weigh in, either publicly or in talks with the commission.

WRNI meanwhile filed a response with the commission that said it doesn't appreciate having its motives questioned and the integrity of its CE impugned, which "comes with ill grace and signals a willingness to employ a scorched-earth means to their ends."

My guess is NPR will take the private route here, being in the delicate position of not wanting to criticize a member station publicly, and also not wanting to complicate its relationships with the commercial guys and iBiquity.

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World Radio History

Who Wins in 'Creative Destruction'?

Rick Ducey Says Radio Needs to Ask Itself What Business It's in

FROM THE EDITOR

Paul McLane

Rick Ducey is the chief strategy officer for BIA Advisory Services. I exchanged e-mails with him recently in advance of the NAB Radio Show and want to share his thoughts.

Prior to joining BIAfn he was senior VP of NAB's Research and Information Group. He's also been an educator and worked in radio and cable.

McLane: *What theme do you expect will be the most immediate concern in Philadelphia?*

Ducey: Clearly, the most immediate concern is revenue and how to get more of it. The NAB Radio Show's official theme is, "The Dial and Beyond: Profit From What's Now —And What's Next." I think that's the bull's eye.

Radio broadcasting needs to transform itself to extend its business model beyond the dial. No other business has that radio dial, so that's a critical asset; but looking ahead, it will be an asset increasingly challenged by other content delivery and engagement solutions.

The story needs to be about revenue growth. We're done with cost-cutting to protect margins.

We hear people like Lenard Liberman and Ed Christian saying that they have cut as much as they can without permanently impacting the quality of content. It's now about growing the top line as there's nothing left to cut from the expense line.

By now there can't be much fat left in the industry. It's a tough economy and advertising is particularly hard hit. The subtext to the official theme ought to be things like, "How can I get incremental revenues?" and "Where can I learn to do business differently?" and "What's my next job going to be?"

The lack of available financing is going to be another big topic of discussion as it has reduced deal flow to a crawl.

McLane: *What adjective would you use to describe the business outlook for radio in the next three to six months?*

Ducey: "Obstinate."

It's a bit frustrating to see how we can shake loose and successful in this business environment. We want to get into positive territory but that's not going to happen in the near term.

> **We're done** with cost-cutting to protect margins.
>
> – Rick Ducey

We are seeing at least that it is not going to get worse from the revenue side; the negative numbers are going to get smaller. So that's good, but it's still negative. But we really need to figure out how to grow top-line revenue to get margins and valuations back where we want them.

That's a tough nut to crack in this market with so many things in flux at the same time. No easy answers to navigating this market, it is indeed an obstinate market.

If I may go out longer term and have two words, I'd like to borrow from the economist Joseph Schumpeter and answer, *creative destruction.*

I love this insight into how free markets work. Back in 1942, Schumpeter said that the "fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates."

That's the business outlook for radio. Radio needs to change and be creative with new business models or face destruction as the marketplace provides new products and services better suited to what listeners and advertisers want.

McLane: *What examples do you see of how radio can build success at a time when revenue and time spent listening are down?*

Ducey: On a local market level, it is really encouraging to see how creative people can be in claiming new media space.

Jim Brewer of Brewer Media in Chattanooga is one example. As he told a NAB 2009 Radio Management panel his mission is to "have something to sell to every business in town." This was basically impossible to do with his radio station cluster given the formats and demos he had to work with.

So he acquired a traffic network; started vertical Web sites with a Chattanooga theme; acquired a local weekly alternative newspaper; expanded digital ad inventory to include streaming video; and redesigned his approach to sales including a seasoned digital sales manager as a new hire to run that part of the operation. This has been very successful for Brewer.

Similarly, GapWest's Erik Hellum on that same panel shared his approach to integrated sales and marketing leveraging broadcast, digital, mobile and hyperlocal Web sites to offer unique and integrated campaigns that his advertisers found to be very attractive.

McLane: *What have BIA research or projects revealed about how the industry is trending or should be trending?*

Ducey: We've launched a new service, Media Ad View, that offers a diagnostic view of current and forecast advertising revenues on a market-by-market level for 12 media platforms. This really allows radio operators to dissect the anatomy of the local market advertising pie.

Radio revenue growth is going to have to come from other slices of the local ad pie and not from other stations. Media Ad View lets operators size up the local market and see who's getting what revenues now and what the different slices look like in the 2008–2013 forecast period.

The next thing, once you've got the revenue picture, is to understand the business models out there, including those of your competitors, which will be generating these revenues.

Our approach to assisting our radio and other media industry clients is to offer a series of continuous advisory services, conferences, forecasts and special reports focusing on innovation,

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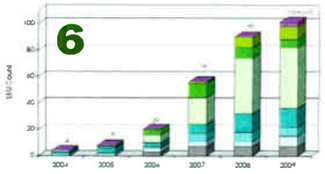

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market trends, case studies and though leadership.

Finally, we offer our strategy consulting services to help bring this all together in the context of a specific company and its unique mix of resources, challenges and opportunities.

We're seeing a number of companies facing or approaching covenant defaults and bankruptcies with little room left to cut expenses. There are no odds in shutting down these businesses but the upside is harder to see and perhaps further away than operators and lenders want to tolerate. However, that's the environment we're in right now.

Smaller and medium-market operators and private operators tend to be doing much better than public companies and larger-market companies. One reason is these operators tend to be closer to the sale. They live more on local dollars and direct sales premised on strong community and advertiser relationships. Creating unique service mixes of on-air, digital and events makes it hard to get compared on a CPP basis and creates stronger ties to the advertiser who can see accountability and results. That's where radio needs to be.

***McLane:** How is the industry doing at getting itself onto new platforms and devices?*

Ducey: The most successful radio companies are those that are evolving into more seamless, integrated media operations from the perspectives of both advertisers and listeners.

For example, you may have call letters on your business card, and most of your revenues today may come from air sales. But if you are also running vertical Web sites; mobile Web and text messaging campaigns; live sponsored events; streamed and downloaded content; e-mail marketing and perhaps affinity clubs … are you really a radio company anymore?

It comes down to how you program, promote and sell. You are better off seeing yourself as a local content company providing programming over many different venues and selling access to all of those audiences at these different venues.

Dan Mason's repositioning of CBS as a content company vs. a radio company is very interesting. It really opens the possibilities. He's been doing a marvelous job.

I've heard some of the CBS local market people say that rather than sell airtime first and then digital inventory, they're directed to move the digital inventory as the primary sales effort and then use broadcast time to help close the deal. The deal CBS did with AOL for streaming their content is a high-water mark for radio's new media implementation in terms of partnerships and seeing what's possible.

Jeff Smulyan's mission on behalf of the industry to get radio on every cell phone is tremendously important to the industry. Any retail business lives or dies by its distribution and shelf space. Without carrier and device maker deals, radio is being left off an increasingly important personal media platform.

This is still a story in the making but the industry's very fortunate to have someone of Jeff's caliber working this opportunity.

Vivian Schiller's approach at National Public Radio to remaking national radio and helping local radio reposition into more of an integrated media community resource is very compelling.

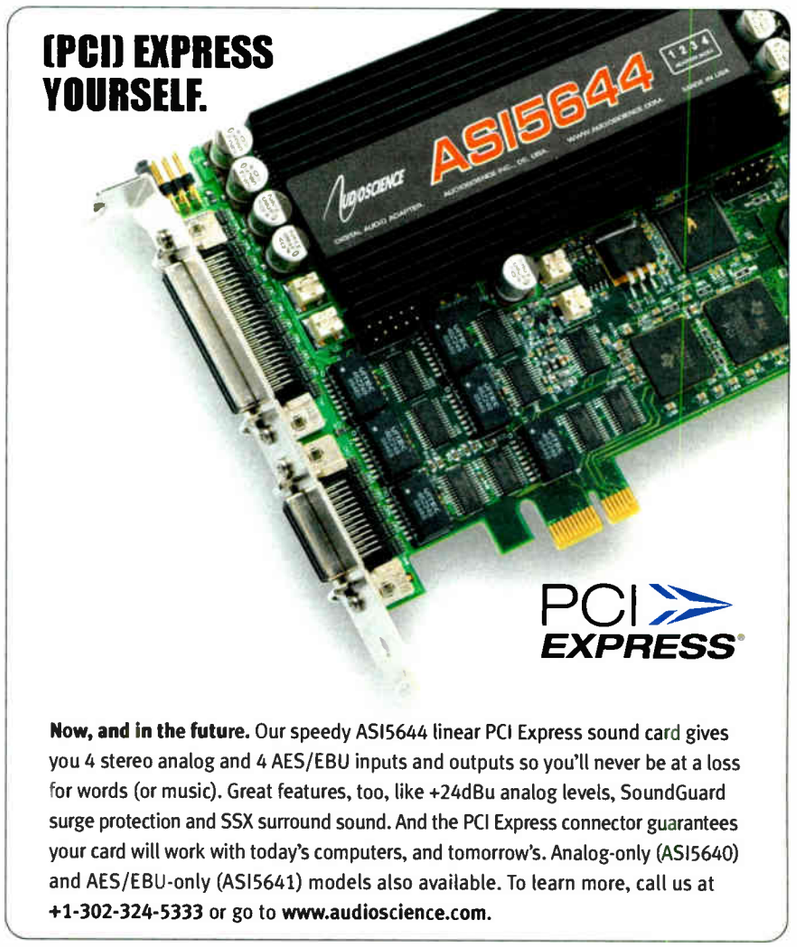
Her background and success in digital media is a terrific asset she's bringing to radio. While her focus is public radio, I think commercial radio can learn a lot from her approach to reinventing both national and local radio.

Getting into Search Engine Optimization (SEO) and Search Engine Marketing (SEM) business lines will be critical. Look to examples such as what Regent is doing with Localeze are doing together. We're seeing local search as a revenue growth engine and a good place for radio to be because of its local sales force and ability to drive Web traffic.

Finally, a company like former Susquehanna head, David Kennedy's new Flycast venture, offers another new opportunity for radio to reorient itself as a local content and advertising resource across broadcast, mobile and Web platforms in an integrated fashion. Since he joined the company full-time, they've attracted new funding, gotten more aggressive with the iPhone platform and developed new applications and approaches.

***McLane:** What other questions should radio (and radio trade journalists) be asking right now?*

Ducey: "What business am I in?" The answer to that question will drive your strategy and set you up for which side of *creative destruction* you'll end up on. Radio broadcasters have to expand the ways they deliver programming and sell audiences.



World Radio History

Got to Be There: Why Portables Matter

AM/FM Must Get on Devices People Carry; There's Progress on the HD Radio Side

BY BOB STRUBLE

The author is president/CEO of iBiquity Digital Corp. See related story, page 1.

I want to turn to the device side of radio and dig in a little deeper on one particular segment, portables — MP3 players, mobile phones, personal navigation devices. We've received a fresh set of receiver sales data for 2008, and the trends continue to go against AM/FM.

COMMENTARY

I think the numbers argue strongly that the radio industry needs to aggressively focus its efforts on penetrating the portables segment. Happily we are making some solid inroads here.

Let me review and update the trends, simplifying quite a bit.

Overall, AM/FM receiver unit volumes continue to decline somewhat alarmingly.

For many years prior to 2004, more or less 100 million devices with AM/FM tuners were sold every year: 15 million in new cars, 50 million in all types of home and aftermarket car radios, and 35 million portable devices like transistor radios and AM/FM Walkmen.

I reported last year on our Web site (*www.ibiquity.com*, "Thoughts on Digital Radio's Future") that the 2006 numbers showed a dramatic decline, with 100 million AM/FM tuners dropping to 80 million. In simple terms, that was because those 35 million portable radios had fallen to 15 million. You guessed it: they were replaced by iPods and other MP3 players.

The downward trend continued in the 2008 numbers. The 100 million AM/FM tuners sold in 2004, which dropped to 80 million in 2006, has dropped to 60 million in 2008. We lost another 20 million: 10 million fewer portables and 10 million fewer home and aftermarket car.

Again, MP3 players are a prime driver as they continue to dominate portables (almost 40 million sold) and a lot of AM/FM clock radios and tabletops and shelf units have been replace by iPod docks — 13 million sold. I may focus on docks in the future, but let's stay on portables for now.

DRAMATIC DROP

To review, what was until five short years ago a reliable 35 million units a year of portable AM/FM receiver sales is now *5 million*. Competition in the form of MP3 players and mobile phones has basically eliminated the category of portable radios. No transistor radios, no AM/FM Walkmen, headset radios a distant memory.

If this dramatic trend is not addressed, radio risks becoming a second-class citizen. If consumers buy fewer and fewer AM/FM receivers, over time there will be a lot fewer devices delivering the product, which has to mean less time spent listening. Portables represent radio's future.

To stay ubiquitous, to maintain its reach, radio must be on the devices that people carry. As the numbers show, with the major digital advances of the last several years, AM/FM has been getting trounced in the portables battle.

But as the saying goes, with change comes opportunity. Let's examine the upside for radio.

How do these numbers sound? Forty million MP3 players sold annually; 150 million mobile phones; and a brand new category, personal navigation devices (PNDs), a cool 14 million units per year, growing like crazy. As others have pointed out, if radio were to gain attachment on a reasonable percentage of these devices, it could quickly overwhelm its recent receiver sales losses and far exceed even that magic 100 million mark again.

In doing so, radio would reestablish its historical place in everyone's everyday lives. That's where we need to focus our collective attention with a simple mantra — we need to be on the devices people carry.

There are strong business reasons for portable device manufacturers to include radio in their products.

Radio's audio programming content is a proven consumer application, and AM/FM will be a very economic method to deliver additional data, like traffic, weather, advertisements, etc., to mobile devices, saving expensive network capacity.

TAGGING, TRAFFIC

Applications like "Buy from FM" and iTunes Tagging, which enable consumers to tag songs or other products for later purchase, can generate revenue for wireless carriers or digital music providers, as well as broadcasters.

And real-time traffic info over HD Radio bandwidth will differentiate and add value to PNDs and generate incremental revenue for broadcasters. The networks to deliver this capability have been built by both Clear Channel and the Broadcaster Traffic Consortium, and PNDs with the capability are on the way.

Everyone can win with AM/FM, analog and digital, in portable devices.

That's why I think industry leaders have made strong progress on getting radio into portables. Emmis President/CEO Jeff Smulyan has led a coordinated industry effort with NAB and RAB to get AM/FM on portable devices, especially mobile phones, with some notable success.

We've had some fantastic recent developments on the HD Radio front, with the introduction of the $49 Insignia Portable HD Radio receiver at Best Buy, and Microsoft's inclusion of HD Radio technology on the brand-new Zune HD MP3 player. There are more exciting HD

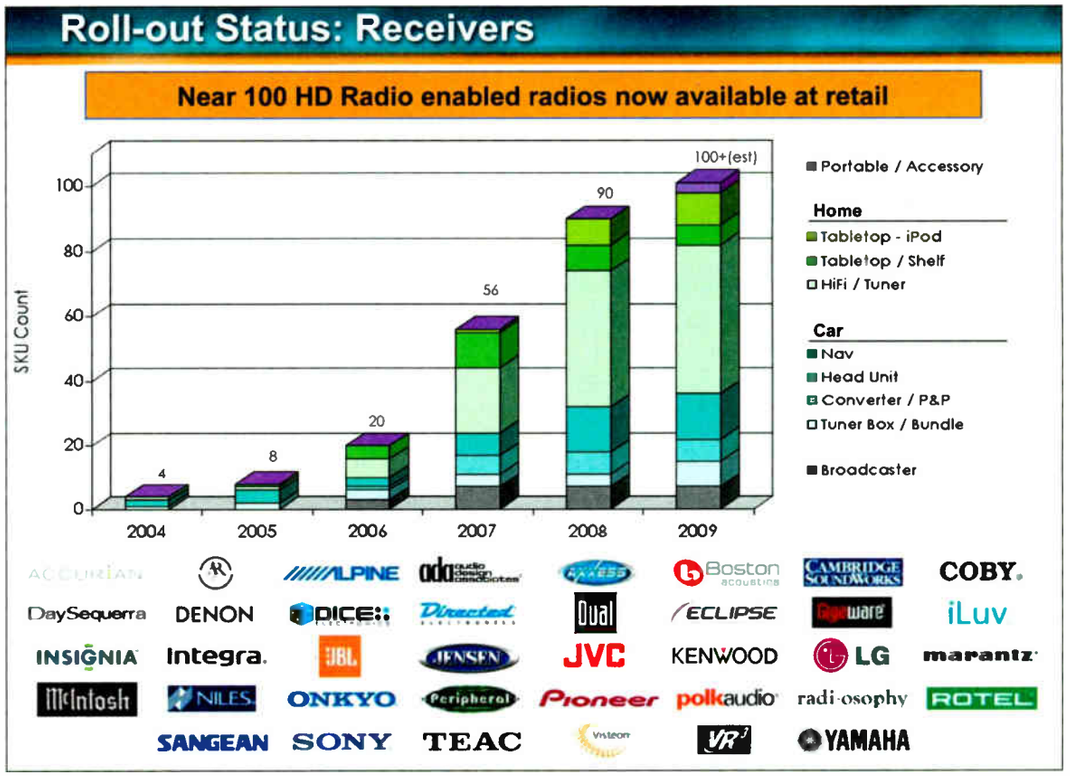
(continued on page 8)

A PROMOTIONAL DIGITAL RADIO

Bob Struble says the latest HD Radio portable is ideal as a promotional device for radio stations.

"Since the launch of the Insignia Portable, we have been working with many broadcasters, pro sports teams and other groups on bulk discount purchases for branded giveaways."

"Several broadcasters have mentioned to me that it reminds them of the early days of FM, when stations gave away transistor radios to drive listenership. It worked for FM, so let's do it again with digital. We love this idea and can help if you have any interest. Give us a call."



Nearly 100 HD Radio-enabled receivers are available at retail. Now Struble says a concerted effort to get onto portables is yielding results.

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World Radio History

STRUBLE

(continued from page 1)

order to boost indoor reception for portables and better match digital coverage to stations' analog footprints for mobile coverage.

The company considers the automotive product category a bright spot; more cars with HD Radios are due on lots this year, and associated navigation devices compatible with IBOC are due later this year. Navigation is one area iBiquity hopes will generate incremental IBOC income for stations.

Struble visited NewBay Media offices recently and talked with Video/Broadcast Group EVP Carmel King, Radio World U.S. Editor in Chief Paul McLane and Radio World News Editor/Washington Bureau Chief Leslie Stimson to discuss the state of the digital radio rollout, including what's going well, what's not going so well and where the company sees its greatest challenges. In a separate commentary on page 6 of this issue, Struble discusses progress in portable devices.

Here are selected comments from his visit.

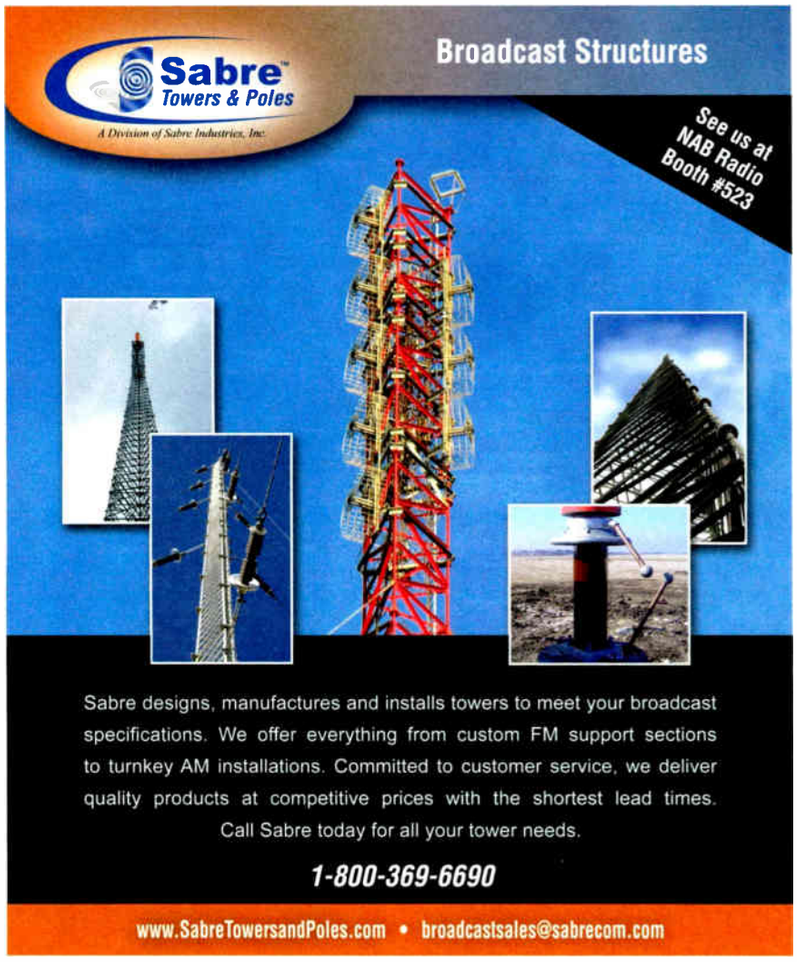
The economy's effect on the rollout — "We are as worried as anybody about what's going on in the individual sectors and what's going on in the broader economy. That being said, we are not displeased with where things are going. We, because of the difficulty on the broadcast side, have focused on getting more consumer devices out.

"That's most evident with the success with cars but hopefully with portables coming as well, and that progress is encouraging. We understand that beyond the consumer rollout, we've got to move this into an economic equation for broadcasters and not just a science project. A lot of the stuff that we're working on the broadcast side is focused on generating incremental revenue.

"But we can't do it alone. The industry's got a crucial role to play. We believe they've been doing that. We'd always like to see more — more stations, more promotion and more programming."

The pace of station conversions — "[S]tation conversions are still positive, which I think is incredible in this environment. We had been running in '04, '05, '06 sort of 300 to 400 stations a year. We'll do probably a couple hundred this year, which in this environment is very good. But it's not the pace we had been going at. ...

"I don't think we'll see any relief in '09 and in my plan 2010 either."



IBOC POWER ISSUE EXPLORED IN PHILLY

Should the FCC approve a voluntary transmission power increase of up to 10 dB for FM IBOC? The pros and cons of the elevated power increase will be aired at the NAB Radio Show on Sept. 25, from 9 to 11 a.m., in a Broadcast Engineering Conference panel session titled "The IBOC Power Issue — You've Got Questions, We've Got Answers!"

NPR will report on a study developed and conducted by NPR Labs to determine the impact of elevated digital signal levels. Broadcast equipment manufacturers will weigh in with various methods to effectively increase digital power to desired levels.

Milford Smith, vice president, Radio Engineering, Greater Media, will moderate the panel. Panelists are Tim Bealor, vice president, RF Products, Broadcast Electronics; Jeff Detweiler, director of broadcast business development, iBiquity Digital; Gary Liebisch, regional sales manager, Nautel; Geoffrey Mendenhall, vice president, transmission research and technology, Harris Communications Division; Mike Starling, vice president and chief technology officer, National Public Radio; and Michael Troje, sales manager, Continental Electronics.

HD Radio portables — "We think portables are a pretty important category, not only for HD Radio but for the industry broadly. No one's buying a lot of transistor radios anymore. The headphone radios that people used to run around the park with are all gone, and if radio wants to continue to be a reach medium, they've got to be in the devices people carry, which increasingly are cell phones, MP3 players, personal navigation devices. We applaud the NAB/Jeff Smulyan initiative to try to get on devices because we think it's critical. Our view is we've got to be there too. ...

"We just came out with the new chipsets in December that enabled [the Insignia HD]."

Microsoft Zune HD — "I think this will be a nice little interim step for jogging or working out. It proves the viability [of the technology] and hopefully we'll get sales; but no, this is not going to sell in the hundreds of thousands.

"Radio alone — the sad reality of where it is — as a standalone device, it just doesn't exist anymore as a category. Nobody goes into Best Buy and says 'Where's the radio department?'"

IBOC chips in cell phones — "You will see them, with the Zune announcement, in [more] MP3 players in 2009. I think on the mobile phone side certainly not before next year, but we're working hard on it.

(continued on page 10)

PORTABLES

(continued from page 6)

Radio portable products, likely including an HD Radio PND, which should be out for Christmas, so stay tuned.

We believe the Insignia Portable and the Zune HD are important successes on a number of fronts:

- They represent brand-new product categories, clearly demonstrating that HD Radio technology will help radio penetrate the critical portables segment.
- They came to market very quickly: The chips enabling these products just became available last December. So in nine short months we went from new chips to product design, acceptance by major brands, through test, sourcing and manufacture, and finally to the retail show floor with solid merchandising and marketing. That is an exceptionally fast cycle in consumer electronics.
- They represent breakthrough technology. A lot of R&D went into product and antenna design to enable these portables to perform as well as they do.
- In the case of the Insignia Portable, we are seeing breakthrough price points — $49 is well in the range of mass-market consumer pricing.
- Oh, and did I mention, although it's early, sales have been very strong.

So a concerted effort to get on portables is yielding results. That's great because we are facing the proverbial fork in the road. If AM/FM continues to lose ground on the devices people carry, it will compound the industry's difficulty. But if we work together to penetrate MP3 players, mobile phones and PNDs, radio can extend its reach and remain the most ubiquitous medium. Let's get busy.

Contact the author at thoughts@ibiquity.com. *Comment to Radio World on this or any article to* radioworld@nbmedia.com.

World Radio History

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Engineered to use public IP networks and mobile phone data services, the Z/IP Mixer combines the excellent performance of the original Zephyr/IP with the convenience of a digital four-channel stereo mixer. Designed to deliver high-quality audio transmission with low delay, even over less than perfect networks. Enclosed in a road-ready portable chassis, built to go wherever the action is.

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World Radio History

STRUBLE

(continued from page 8)

"These devices ... represent important stepping stones because you're in the right form factor, you're showing that [the technology] works."

Radio's competitors — "There are tons of new competitors to radio; there's tons of new competitors for people's time and attention. And 10 years ago, in automobiles for instance, radio basically had a monopoly position on information and entertainment. That couldn't be farther from the truth now.

"The number of things people do with mobile phones, with iPods, DVDs in cars, mobile Internet, satellite radio... all the way down to gaming and anything else that anybody's doing in a mobile environment. Those are true secular challenges, and true digital competitors to radio that we don't believe are going to go away. If anything, they get worse because pretty soon you're going to have mobile video."

Sirius XM, digital media — "Satellite radio is the flea on the tail of the dog as far as the competitive dynamic that radio broadcasters face.

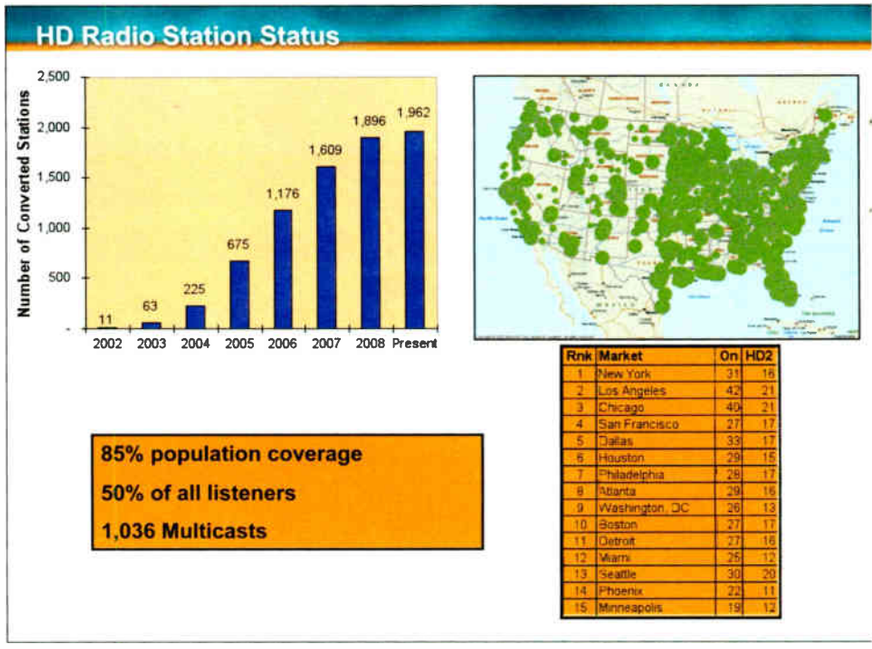
"The stark reality after June 12 is every consumer medium that is being watched and every consumer device being used is digital — except radio. Our company was essentially was set up to say that's probably not a great long-term strategy to compete successfully against all of these other services you need to be able to do the things that digital will bring. ...

"The competitive reality is you're going to be in a dogfight for as long as you're in this business. However we do believe at bare minimum, the switch to digital over time will slow the erosion, because you will have all this new capability. We believe that it can provide incremental revenue."

Automotive — "The best story and the thing that gives me the most hope now is the automotive side. This has really taken off. ...

"There are the 13 publicly announced car companies that either have product in the market — BMW, Honda, Jaguar — and more to come next year. ...

"What you're seeing now is either a standard application, like Volvo and a bunch of the BMWs and Mercedes in which 100 percent of the cars leaving the lot are leaving with HD Radio, and/or HD Radio inclusion in very high take rate option packages. ... Assume there's another six or seven prominent names [automakers] we'll see some press releases on soon."



Rnk	Market	On	HD2
1	New York	31	16
2	Los Angeles	42	21
3	Chicago	40	21
4	San Francisco	27	17
5	Dallas	33	17
6	Houston	29	15
7	Philadelphia	28	17
8	Atlanta	29	16
9	Washington, DC	26	13
10	Boston	27	17
11	Detroit	27	16
12	Miami	25	12
13	Seattle	30	20
14	Phoenix	22	11
15	Minneapolis	19	12

This graphic from an iBiquity PowerPoint presentation summarizes the technology's progress to date.

Navigation — "Quietly there've been two national networks built out to deliver real-time traffic data over HD Radio. It's not just traffic, gas prices, it's weather, movie times, points of interest and other things. Clear Channel has got probably 60 to 70 markets lit up with HD Radio, and the Broadcast Traffic Coalition, which is essentially Navteq and [other major broadcast groups], also has an equally robust network.

"We've got now 'chicken and egg.' Chicken's ready and we've got to get the devices out there, so you'll see these later this year. The models have been developed. Either the manufacturer of the device will offer the consumer a lifetime traffic service and in return for providing that the station group will get a share of the device sale; and/or an ad-based model. An ad would be embedded in the traffic report or movie times or points of interest. ...

"The car guys like it a lot. So it helps us with the auto manufacturers. This will be undoubtedly where you'll see dollars begin to flow."

Monetization with tagging — "ITunes Tagging is small dollars; but every time a [song] sells from a tag that came from a radio station, that station gets a check. It's a small check ... but it does begin to show you there are other things besides audio which are monetizable with digital technology.

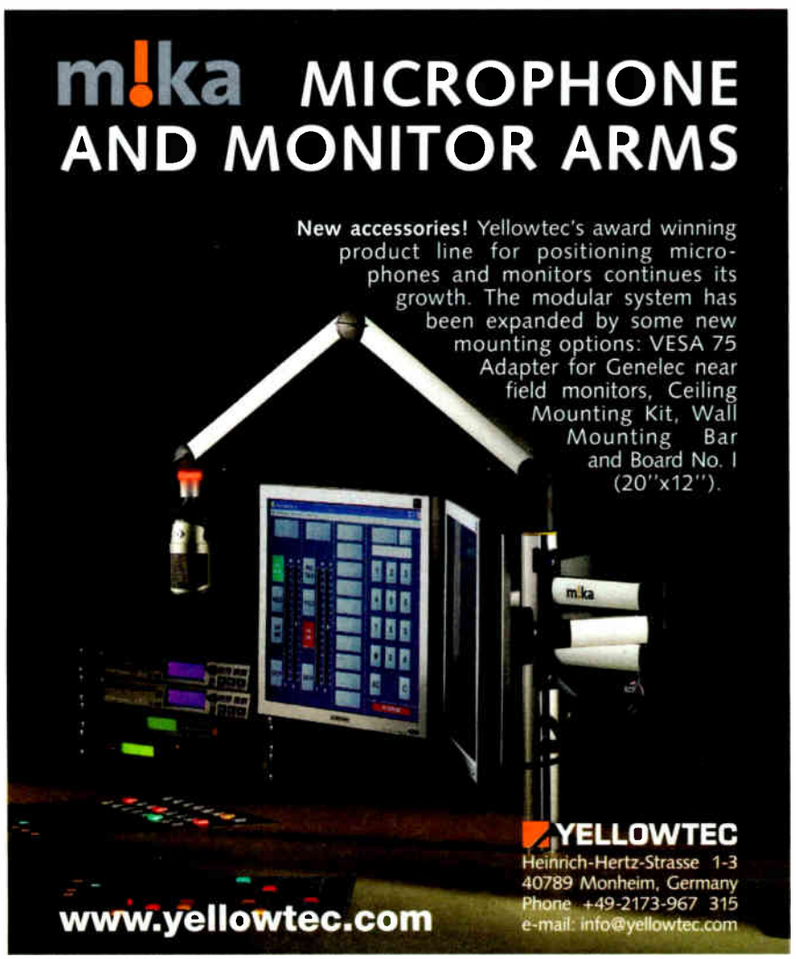
"We're in the process, working with the industry on expanding iTunes Tagging beyond Apple and iTunes — the broad name that is used is media-based tagging, but think of that as other music services and/or other products and services, so I can tag an ad."

Digital power hike — "The uncertainty about the power increase has given people thinking about upgrading some pause because you want to buy the right equipment, and unless you know what that is, it's another reason not to make a capital expenditure; so we'd like to get that one resolved. I'm hopeful that a compromise can be reached. ...

"The industry's frozen. We understand there's concern. We do believe you'll eventually go to 10 dB but let's pick something in the middle, let's get started. And we can all shake hands and say 6 dB is not going to hurt anybody. The FCC is going to have a special provision where if there is some interference then they'll be able to deal with that. We think that's an important interim step. I'm hopeful that the various parties can get their mind around that. But we need an increase."

A 6 dB increase is an interim proposal — "You're going to have testing and every engineer giving his view of how you should calculate and who gets to do what. ... If you get 6 dB you get a bunch of stations going on. You get real-world experience. We see what the pros and cons are. I think it will mostly be positive and it will be fine. ...

"We think 6 dB is an appropriate interim step. We think 10 dB is the ultimate, long-term solution but we recognize that some are desirous of more testing and we want to be respectful of that."



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Is setting up IP Audio networking tables a bit frustrating?

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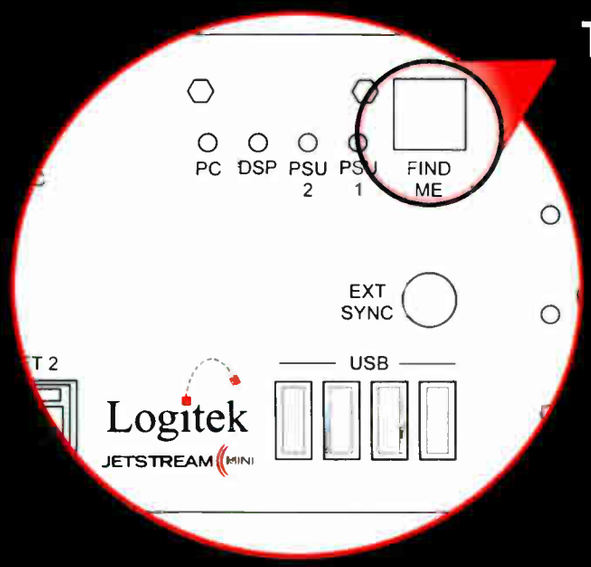

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World Radio History

Transmitter Sites Remain Prime Targets

Also, How to Obtain Some Free Engineering Help

WORKBENCH
by John Bisset
Read more Workbench articles online at radioworld.com

Former DOE for the Mega stations Bill Sullivan experienced three transmission line attacks in four months last year, the last ending in an arrest.

The first resulted in the disappearance of the coil at the base of the tower seen in Fig. 1. (The photo was taken prior to the theft.) This line was excess after Bill moved an old main FM antenna down the tower to make room for a new one.

Since this was now an aux line it wasn't active at the time of theft, but Bill had a pressure alarm on the line, which alerted him after the fact.

Fig. 2 shows stub of the line, which Bill taped up.

A month or two later, someone harvested the next 40 feet of that same line. On their way out, they also took about 6 feet of rigid line that was used to connect the active flex line to the transmitter inside the building. This took the station off the air for almost 10 hours while a new section was fabricated by Central Florida Tower, delivered and installed.

Had the thief not gotten greedy the second theft would not have been discovered immediately.

A few weeks later Bill was alerted to yet another incident by an off-air alarm that tripped while the thief was cutting the active line. Bill switched on his radio, heard nothing and turned the transmitter back on, only to hear the station for a moment, then nothing again.

Fig. 1: Even a short coil of coax can tempt a thief.

"I don't know if he felt anything while he was cutting, but I hope he did," Bill says of the thief.

That outage lasted 29 hours. Again, Central Florida Tower was able to fabricate and install a replacement line.

Meanwhile, Bill contacted police. A sheriff's deputy stopped a man leaving the area and noticed a red mark on his arm, apparently from oxidized paint on the tank visible in Fig. 3. (The officer later simulated cutting the line and his own arm brushed the tank, making a similar transfer mark.)

(continued on page 14)

Fig. 2: All that was left was the end of the cut line.

Fig. 3: After yet another attempt.

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AM-mod measurements have full 10kHz+ bandwidth, but a menu-programmable filter in the audio-monitor channel allows you to preview the audible effects of proposed transmission cutoff characteristics or to emulate the response of typical AM radios.

Menu-driven from the front panel, the 525 tunes in 1kHz steps and has five station memories that can be preset to your own station and to market companions. The high-resolution, peak-holding LCD readout shows positive and negative modulation simultaneously, and also switches to display the incoming RF level and asynchronous noise to qualify modulation readings.

Two sets of peak flashers indicate both absolute and user-programmed modulation limits, and programmable front-panel alarms (with tallies) give overmodulation, carrier-loss and program audio-loss warnings. The 525 is supplied with a weatherproof loop antenna at no extra cost.

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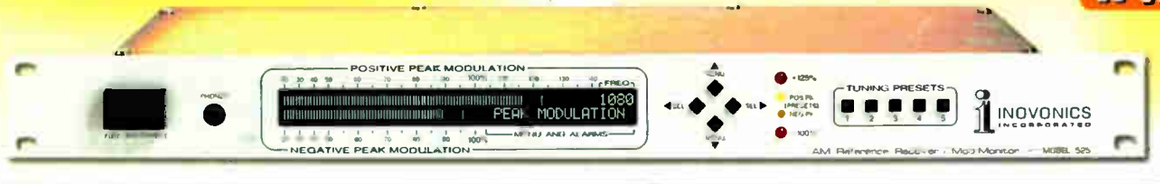

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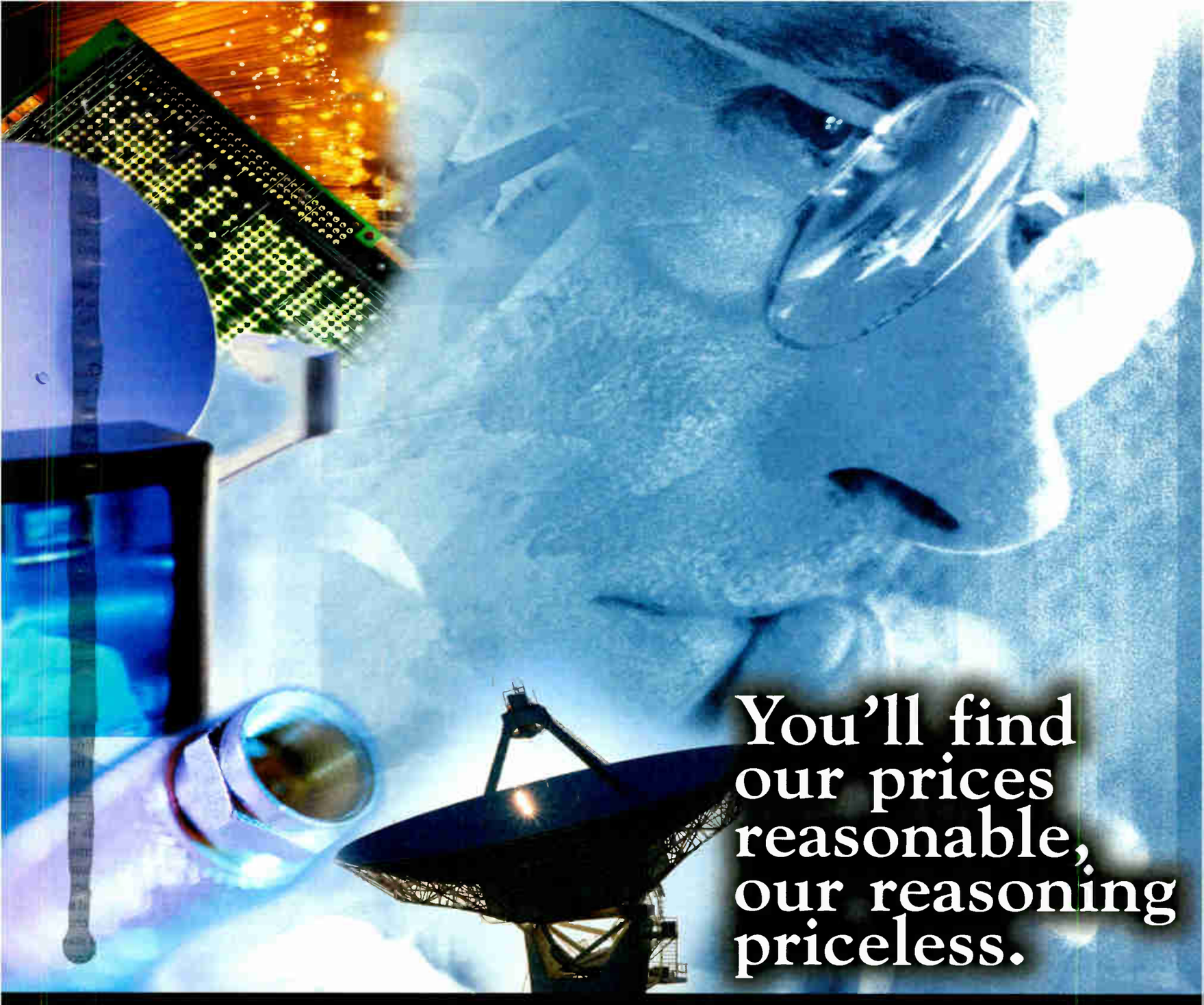

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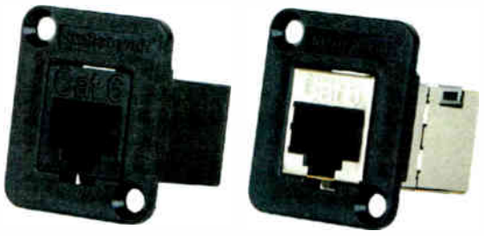
MARKETPLACE

SWITCHCRAFT OFFERS CAT-6 AND CAT-5E RJ-45 CONNECTORS

Switchcraft expanded its EH Series lineup by adding feed-through connectors for Cat-6 and Cat-5e applications.



Fitted inside housings that mount into XLR-size (24 mm diameter) panel cutouts, the connectors can be supplied with shielded and unshielded feed-through adapters. They comply with TIA/EIA 568B standards and use gold-plated contacts.

The EH Series is a range of audio, data and video connectors fitted inside XLR-type housings. Options include fibre-optic, nine- and 15-way D-Sub, FireWire (400 and 800), USB, BNC, RCA/phono, SVHS and 3.5 mm mini jack.

For information contact the company in Illinois at (773) 792-2700 or visit www.switchcraft.com/products/560.html.

ATLANTIC MEDIA BROADCAST RETURNS

If you're in the market for help with a station buildout or you need engineering improvements such as a frequency move, Atlantic Media Broadcast wants you to know: It's back.

"For a few years, we've been under the 'broadcast radar,'" Rick Johnson says of the family business he launched in 1997. "But now is a great time to use what we know to help broadcasters once again."

Offerings include prewired studio packages as well as consulting services. The company, based in Charlottesville, Va., can work with a station's engineering and management staff "to make the station function in the best ways possible. Good sound and a good business are everyone's goal."

Johnson is a former sales manager of Hall Electronics and former manager of WPAK(AM) in Farmville, Va. He has experience in consumer electronics, police electronics, Breathalyzer support and broadcast equipment. A ham since 1976 (K4LCO), he also is the former co-owner of a RadioShack store in Ohio.

AMB staff will be at the fall NAB Radio Show in Philadelphia and in suppliers' booths at the NRB and NAB conventions in early 2010. "Look for the funny triangles!" Johnson said.

For information contact the company in Virginia at (800) AMB-0004 or visit 800AMB0004.com.

CLEAR CHANNEL SATELLITE OFFERS XDS-PRO1 RECEIVER

Clear Channel Satellite Services is promoting the XDS-Pro1 satellite media receiver, which it says costs less than $1,000.

The receiver from X-Digital Systems handles live broadcasts, store and forward, copy split-spot insertion, live audio record/playback (time shifting) and addressability.

"The XDS-Pro1 media is incorporated on the same hub system that allows both networks and affiliates to check on the health status of the receiver," the company stated.

Clear Channel Satellite's Don Harms said its arrangement with X-Digital gives clients "an easier way to incorporate, migrate and augment their existing or new network over to a more cost-effective approach. Our ability to provide highly sophisticated capabilities, without a large investment in hardware, has enabled us to achieve an industry first and deliver to the market a professional-grade receiver at an affordable price."

For information contact Clear Channel Satellite in Colorado at (303) 925-1708 or visit www.clearchannelsatellite.com.

SUBMIT PRODUCT NEWS

Radio World welcomes news of new products and features as well as tech bulletins, product updates and notable installations. Send announcements via e-mail to **radioworld@nbmedia.com**

WORKBENCH

(continued from page 12)

The police also found black PVC dust on a Sawzall blade in the guy's truck.

The thief told authorities he knew who stole the earlier line sections and figured he'd try it himself. Whether it was him all along is anyone's guess. Fig. 3 shows the scene after the third try in April; note the cut line near the diesel tank.

This last attempt also involved copper grounding strap as well as the power ground.

Lessons learned here: If you don't have off-air and pressure alarms tied to your remote control, you're taking a chance. With people looking to turn a quick buck selling surplus copper, your transmitter sites are prime targets.

In the July 1 *Workbench*, we also mentioned that vandalism and damage to a broadcast facility can elevate the crime to a federal level; but I guess that depends where you live.

Bill reported these thefts to the Federal Communications Commission and the Federal Bureau of Investigation. He says the commission office in Tampa had absolutely no interest because the individual — who'd been caught and subsequently pled no contest — had not caused unauthorized transmissions. (Of course, he did silence an authorized one.)

Bill says the FBI person he reached really wasn't interested either, and when Bill mentioned homeland security he became angry and asked if Bill was trying to cause trouble. At that point, Bill let local law enforcement handle the incidents. Unbelievably, the sentence was probation and restitution for the line section and labor to replace it.

Bill Sullivan is doing contract work in Tampa and has also joined viaRadio to help in getting the HEARO alert system deployed in Florida. He can be reached at *wsullivan9@cfl.rr.com*.

Philip Vaughan is a chief engineer for a group of stations in Colton, Calif. With an eye toward renewing his SBE certification — *Workbench* submissions qualify for recertification credit — Philip writes about something that has helped him considerably. The subject? Internships.

Especially with today's economy and everyone pulling back their spending, engineers are finding themselves doing more with less. In Philip's mind, internships are a hugely untapped resource in the engineering community.

Many engineers think that interns don't have a place in broadcast engineering because of the specific knowledge and education one needs to do this job, but there are things that an intern can do with minimal knowledge and leave you with the time for the "heavy lifting."

Philip has used interns for years. One of the first things he teaches an intern is how to solder. This opens up a world of possibilities. By learning proper soldering technique they can make cables and even de-solder or solder components on equipment you may be working on. These tools are useful especially if you are in the middle of a new or existing wiring project.

The next thing to teach them is your wiring infrastructure. If you can teach them the layout and make up a single-line drawing, they can put in wiring for you. The trick here is to give details in the explanation and check up on their progress often. Either way, it will save you a ton of time.

If you think about it, there are many tasks in the engineering and IT shops that could be done by an intern with minimal training.

When looking for an intern, you don't want to grab just anyone. Philip tends to look for people taking college courses in IT or electronics. Job fairs are a great place to meet some of these candidates, but a call to the local high school or community college/university works just as well.

Not only is this a great opportunity to recruit some free help, but it is also a great way to solicit new people into our industry.

In 2007 the NAB Education Foundation launched an internship program geared toward aspiring professionals in broadcast technology and engineering fields, but it appears to be dormant. Under the program, several college seniors and recent graduates were selected to participate in an eight-week paid internship program at radio and television stations. (If you think it's important to keep that program going, let them know! We'll tell you more if we hear further.)

Do you know of an internship or similar program that can be used to benefit the engineering profession? Share it here.

Philip Vaughan can be reached at *philv@kfrog.net*.

John Bisset has worked as a chief engineer and contract engineer for 39 years. He is international sales manager for Europe and Southern Africa for Nautel and a past recipient of the SBE's Educator of the Year Award. Reach him at johnbisset@myfairpoint.net. *Faxed submissions can be sent to (603) 472-4944.*

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

World Radio History

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World Radio History

PowerStation: the new console system from Axia.

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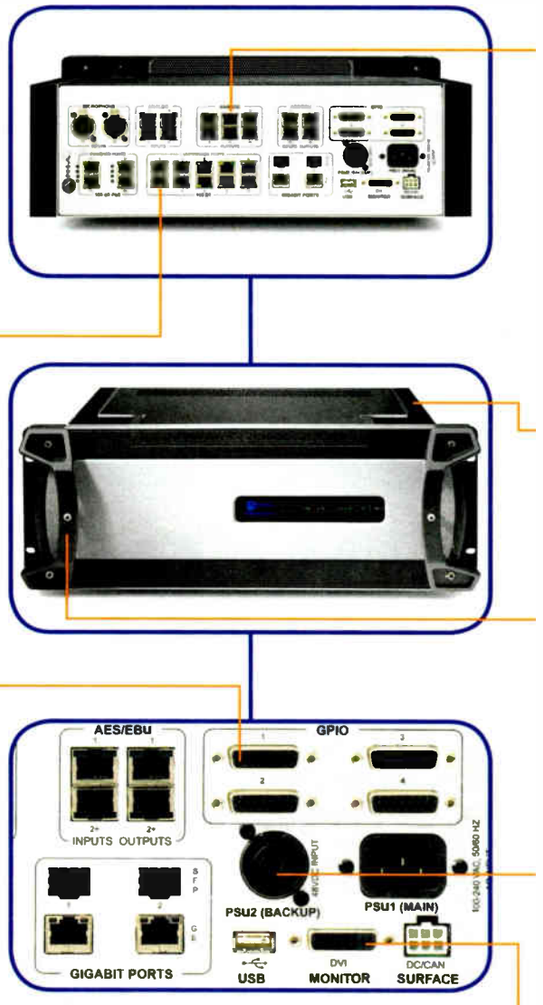
Because there's no such thing as too much uptime.

All stops removed • Twenty years from now, you'll have forgotten this ad. But you'll still have your PowerStation, the full-featured one-box IP-Audio console/router system hardened with **industrial-grade components** and redundant power capabilities. Tough enough to take a football to the groin and keep on going. PowerStation **minimizes setup** and **maximizes "bang for the buck."** Engineered without compromise for broadcasting without interruption.

Easy as π • PowerStation combines a console DSP engine with audio and logic and a network switch, **all in one box.** As its name implies, there's a whole lot o' muscle inside that burly frame, but that doesn't mean it's complicated. In fact, setting up PowerStation **couldn't be easier:** connect your studio gear with standard CAT-5 cables, connect your console with just one cable, name your sources and set preferences with a browser, and you're ready to rock. PowerStation makes building studios about 3.14 times easier than ever.

GPI 0h! • **GPIO ports are built in** to PowerStation — no breakout boxes or add-on converters needed. One day, you might not even *need* logic ports: more and more products from companies like 25-Seven Systems, Audio Science, ENCO, Google Radio Automation, International Datacasting, Omnia Audio, Radio Systems and Telos (to name just a few) use the Livewire™ standard to send their audio and logic control directly to Axia networks over a **single CAT-5 connection.**

Everything's included • Yeah, we said *everything*: PowerStation combines half-a-dozen essential tools into one compact unit. No hidden extras to buy, no "gotchas" after purchase. Inside that muscular chassis you'll find a **bulletproof mixing engine** capable of handling consoles up to 40 faders, a beefy power supply (with optional **redundant power**), machine control ports, and **audio I/O**, all in one box. And of course, since it's from Axia, the IP-Audio experts, a studio built with PowerStation can stand alone — or it can become a part of a large network quite easily. Thanks to **PowerStation Simple Networking,** you can daisy-chain up to 4 PowerStations directly for easy multi-studio installation without the need for a separate core switch. Just another way Axia makes IP-Audio easy.



You're covered • Axia has the most comprehensive warranty in the industry — **5 years parts and service.** And (not that you'll need it), **free 24/7 technical support,** 365-days-a-year. We've got your back, my friend.

E-I-E I/O • Finding space in the equipment racks is like living in a barnyard: too many chickens, never enough coops. So our team of obsessive designers fit **an entire studio's worth of inputs, outputs, logic and network connections** – plus an advanced DSP mixing engine and a massive console power supply – into just 4 RU. There's inputs for 2 mics, 4 analog inputs and 2 AES/EBU inputs, with 6 analog and 2 AES outputs. 4 GPI/O logic ports round things out. Want even more? Just connect the PowerStation Aux to instantly *double* the I/O — or plug some Axia Audio Nodes into its **built-in Ethernet switch.**

Fan free • PowerStation is **silent and fanless.** Because studios today are already full of PCs, laptops and playout servers clicking, whirring and generating heat — who needs more of that? Not only is there no in-studio noise with PowerStation, those **big extruded heat sinks** are just plain cool. No pun intended (or maybe it was. We're like that, you know).

Built like a tank • Remember when consoles were built to last? We do. At Axia, we're all about the long haul. **There are no compromises:** PowerStation uses only best-of-the-best components. Like studio-grade Mic preamps and A/D converters. A rigid, steel-framed, EM-tight chassis that shrugs off RF like Walter Payton brushing off tackles. An industrial CPU designed for high reliability in harsh environments. Beefy extruded heat sinks. Big, brawny handles to make rack-mounting easy. (And it looks cool, too.)

Redundant power redundancy • The power supply is the heart of any broadcast equipment, right? That's why PowerStation is **hardened against failure** with a **super-duty power supply** that sports enough amps to power an arc welder. And for those of you who like to wear a belt *and* suspenders, there's even a connection for **redundant auxiliary backup power** – with automatic switchover, naturally – that kicks in if it's ever needed.

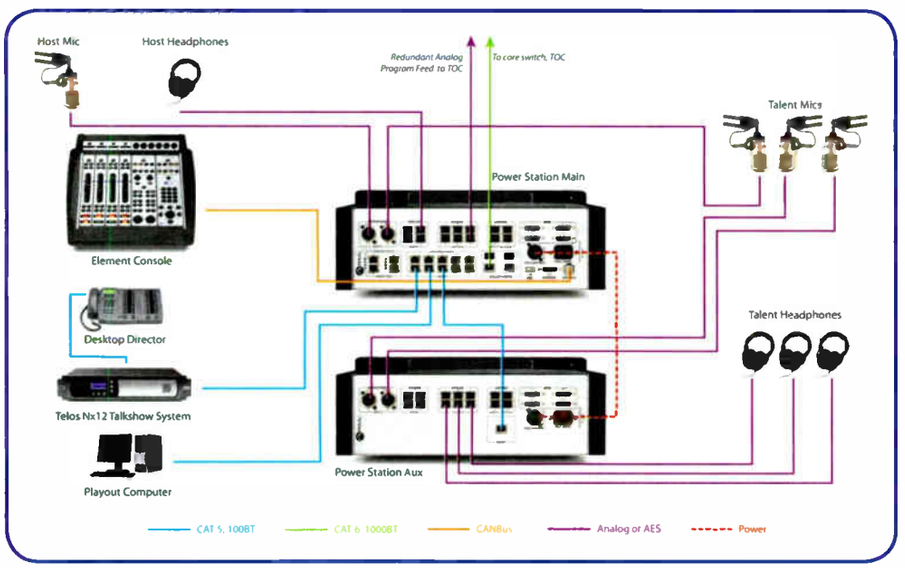
Screen play • Yep, that's a DVI connector. **Your favorite monitor** – standard or widescreen – plugs in to present the console operator with Axia's "so easy an overnight jock could do it" **info-center display.** Meters, timers, fader assignments, mix-minus settings and more, all on-screen, on-demand.

World Radio History

Element 2.0 • With more than 1,000 consoles already on the air, Element is a huge hit. And now, thanks to suggestions from our clients, it's better than ever. Element 2.0 has cool features like Omnia™ **headphone processing** presets to give talent that "air sound", **super-accurate metering** with both peak and average displays, **one-touch phone recording** with automatic split-channel feed, **automatic mix-minus** for every fader, an eight-channel **Virtual Mixer** that lets you combine multiple audio streams and control them with a single fader, and metallic bronze or silver module overlays. And we haven't even begun to tell you about Element's **Show Profiles** that instantly recall talent's favorite settings, its **built-in Telco controls**, fully-integrated **talkback/IFB** and **Mic processing** by Omnia. And durable? Element is nearly indestructible, ready to take whatever pounding ham-fisted jocks dish out and keep going. You want examples? Element's **avionics-grade switches** are rated for more than two million operations. What look like ordinary rotary controls are, in reality, **bullet-proof optical encoders** — no wipers to wear out or get noisy. The silky-smooth **conductive-plastic faders** actuate from the side, not the top, so dirt and grunge stay out. The **high-impact Lexan** module overlays have their color and printing applied on the back, where it **can't wear or chip off**. The frame is made from **thick aluminum extrusions** that are stronger than truck-stop coffee. To find out even more about Element, visit **AxiaAudio.com/Element/** . Grab some coffee and prep for a good, long read — remember, our marketers get paid by the word.

Come together, right now • Now that you know what you can do with PowerStation, let's build a studio. The diagram below shows how a typical Talk Studio might look. Mics and headphone feeds plug into the built-in Mic inputs and Analog outputs... your playout PC, using the **Axia IP-Audio Driver** for Windows®, connects to a built-in Ethernet port... and so does the Telos Nx12 Talkshow System (which sends 12 lines of caller audio, mix-minus and take/drop/next commands over **one skinny CAT-5 cable**). Send a **backup audio feed** to your TOC for extra peace of mind. And after all that, there's still plenty of I/O left to plug in the turntables for the Saturday night Oldies show.

The standalone network • You want your console to be more than just reliable — you want it **built like a battleship.** You want the absolute peace of mind that comes from knowing your gear will **never let you down.** And if you take one studio down for maintenance, you want the rest to be completely unaffected. So we designed PowerStation to be the world's **first networked broadcast console that doesn't *need* a network.** It's completely self-contained: sure, it plays nice with others, but unplug its network cable and it keeps right on truckin'. Build just one studio, or a dozen, at any pace you choose — your PowerStation network is ready to expand when you are.



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World Radio History

RADIODNS

(continued from page 1)

for locating resources on the Internet.

For those unfamiliar with the process, in simple terms the Domain Name System is the equivalent of a distributed "phone book" or "directory assistance switchboard" for the Internet. When a user types a Web address into a browser, the query goes first to DNS, which essentially redirects the connection to the server that holds the desired content.

DNS knows where to send the user's query because it is a hierarchically structured system that can quickly poll all the name servers on the Internet to quickly determine where the sought content is stored, and once located, route the user's connection to that server.

This network of name servers constantly is updated with the latest resource identification and location records by the appropriate registration agencies, and any such updates entered into any one name server are soon propagated throughout the entire DNS.

Part of the DNS process includes a translation of the loosely structured alphanumeric URL string entered by the user to a tightly specified numeric IP address, which is used by Internet routers to complete the connection to the target server.

The DNS method, originally specified in 1987 by the Internet Engineering Task Force (IETF) in its RFC 1034, was made intentionally extensible (even beyond the Internet) — and has in fact been compatibly updated in numerous ways since.

Another such extension is now presented in the RadioDNS proposal.

OLD MEETS NEW

RadioDNS envisions a new class of devices that include both a radio receiver and an Internet connection, either periodic or continuous.

These Web-connected radios could listen to broadcast content like any radio, but obtain enhancements to the content via the Internet, either automatically or upon request of the user.

Although not long ago this concept would have seemed quite forward-looking, we are already seeing the first of these types of devices on the market, so the proposal is not a moment too soon — and the concept could before long become fairly commonplace among new product offerings.

Unlike the typical method of seeking online content via manual data entry to a browser by the user, RadioDNS would make this process far simpler for such "connected radio receivers" by establishing a standard scheme for determining the corresponding URL whenever a particular radio station is tuned in.

VHF/FM

The VHF/FM system supports identification of a radio service through transmission of meta-data by using the Radio Data System (RDS) (*IEC 62106:1999, "Radio Data System", RDS Forum*) or Radio Broadcast Data System (RBDS). The FQDN for a VHF/FM service is compiled as follows:

```
<freq>.<pi>.(<ecc>|<country>).fm.radiodns.org
```

The parameters are populated as follows:

Parameters	Description	Value	Status
`ecc`	**Extended Country Code (ECC) and country code** The broadcast RDS ECC code, concatenated with the first character of the broadcast RDS PI code (country code), must be supplied if available	*3-char hexadecimal*	*mutually exclusive*
`country`	**ISO 3166-1 alpha-2 country code** In the event that a broadcast ECC is unavailable, an ISO 2-letter country code must be provided	*2-char string*	
`pi`	**Programme Identification (PI)** The broadcast RDS PI code	*4-char hexadecimal*	*mandatory*
`freq`	**Frequency** The frequency on which the service is received, formatted to 5 digits in units of 10KHz. Frequencies below 100Mhz must be supplied with a leading zero (for example, 95.8Mhz would be represented as 09580, 104.9Mhz would be 10490)	*5-digit integer*	*mandatory*

A RadioDNS draft technical specification discusses how to build Fully Qualifed Domain Names, or FQDNs, for broadcast platforms including FM, shown here, as well as for DAB, DRM, AMSS, HD Radio and IP-delivered services.

This would allow the station's enhanced content (if any exists) to be delivered to the radio via the Internet without any user intervention other than tuning in the station. The RadioDNS-enabled device, RadioDNS name servers, the Internet and the station's Web site would do the rest "automagically."

This is a fairly simple concept — the RadioDNS core spec is only 12 pages long, quite short by standards' standards — but it is presented elegantly and comprehensively by the proposal. Of course, it can be so concise because it leverages the power of the existing DNS, essentially adding only a specified process for the connected radio receiver to resolve the appropriate domain name, and to discover content and supported applications at that location.

Notably, it covers both analog and digital radio broadcast formats, allowing online enhancements to be compatibly added by broadcasters as extensions to the massively deployed legacy services of AM and FM radio, when received on next-gen radios or other "converged devices" such as wireless devices and 3G/4G phones with FM receivers on board.

To be included in RDNS, however, it is required that FM stations provide RDS service, and AM broadcasters include the AM Signaling System (AMSS) in their transmissions.

RadioDNS can also be used by Internet radio services. In these cases, the domain obviously is already known by the receiver, but it can still benefit from the convenient enhancement-discovery and -delivery processes that also will be defined by RadioDNS.

For those interested in the specifics of the process, they are presented in the RDNS01 spec, available freely at *http://radiodns.org*.

Its core functionality can be summarized as follows: RadioDNS uses information already known by the receiver — gained from its tuner settings and/or metadata provided by the tuned service — to automatically generate a unique Internet domain name for every radio signal the receiver tunes in.

The receiver accomplishes this by sending a query to a known RadioDNS name server via its Internet connection, and that server replies with a specific URL for the currently tuned radio service. The receiver can then access the resources available at that Internet location for enhancement of the service being broadcast on that radio channel. (These RadioDNS name servers do not yet exist, of course, but their establishment and operation are also part of the proposed RadioDNS process.)

For example, in the case of FM, the receiver would use the frequency of the currently tuned station, plus data found in one or two of the station's RDS fields, and format it in a standardized fashion (specified in RDNS01) to create the RDNS query. The RDS fields used here are the PI (Program Identification) code and the ECC (Extended Country Code). If the latter is not provided by the radio station, the two-character ISO country code can be used by the device instead.

The latter would presumably be set upon initialization of the device by the user — and changed by the user whenever the receiver was operated in a different country — or it might be automatically

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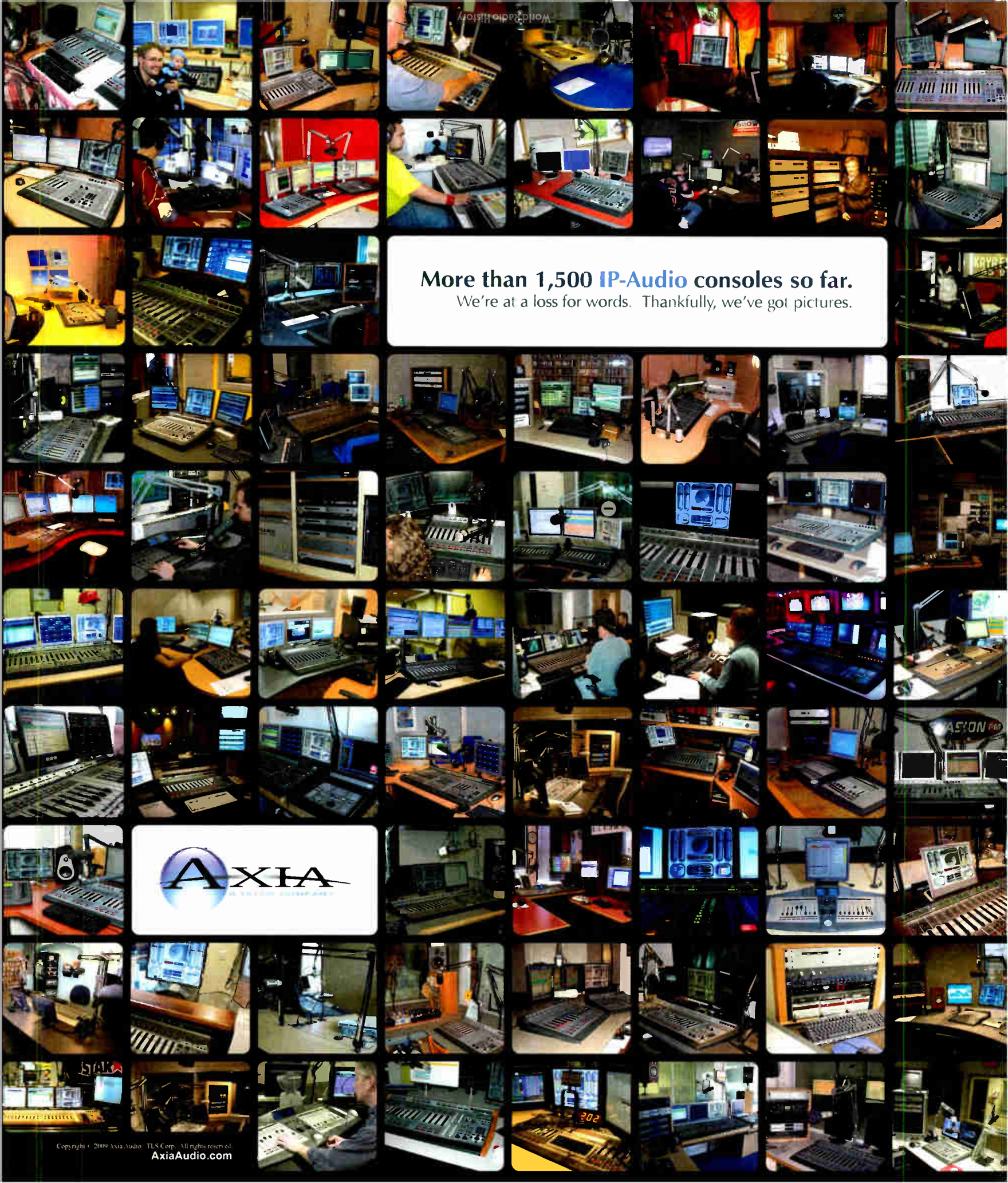
World Radio History


More than 1,500 IP-Audio consoles so far.
We're at a loss for words. Thankfully, we've got pictures.
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Steve Lampen, Guilty as Charged

When It Comes to Grounding, You Don't Wanna Be in the Loop

BY STEVE LAMPEN

It really all began with my second stint as chief engineer. Sadly, the station, the studios and the format for that channel are all gone. There might be a vestige or two of me at their transmitter site.

WIRED FOR SOUND

Columns are archived at radioworld.com

When I arrived, I found this little peanut-power (1850 Watts ERP) station, with studios that were lovingly dovetailed into an old Victorian building at 1509-1/2 Webster Street in Alameda, Calif. (When we moved to new digs, we had a contest with the prize being the "1/2" on the door.)

The previous owner was a legend in the San Francisco Bay Area broadcast community. He was the only person I have ever heard of, before or since, who *bartered* for STL transmitters and receivers. He got a hi-fi chain to buy the stuff, and traded them 10 times their value in spots. Amazing!

The two STL transmitters stood in a rack at the end of the building (actually in the engineering "shop"). One day I noticed that they were each plugged in with a 3-to-2 AC adaptor leaving them, essentially, ungrounded. I knew that this was unsafe, to say the least, and swiftly switched between them so I could turn them off and plug their three-pin cords into a three-pin outlet.

The hum on the air that resulted was not to be believed. So I rapidly went back to the "illegal" adaptors and it stayed that way until we moved to new studios a few years later.

That was my first real lesson on "ground loops." Yes, I left them "unsafe." Guilty as charged!

Oh sure, I knew what ground loops were and where they came from. But there's nothing like the real thing to set your brain in motion.

That's why, when I began to design the new facility, I started with two weeks of putting in a real copper-strap, low-resistance "star" ground system. The fact that these new studios were right across the street from an airport was another good reason for a good ground system. And when we finally went on the air from the new location, all my hard work paid off; not a hum, buzz or fizzle anywhere.

> **Even if** you could solve your ground problem with plastic isolators, this would mean that the safety ground is also isolated.

There are really two kinds of grounds, a "safety" ground to prevent you from killing someone by being a path to ground, and a "signal" ground, which allows interference inside a cable or outside a cable to exit the cable before the signal itself enters a piece of equipment. (I could here easily segue into a "Pin 1" discussion, but I won't. Just go Google "Pin 1 problem." You'll be impressed.)

So I have recently seen a company pushing these little plastic isolators for lifting the equipment in a rack off of ground. They claim this will solve all those noise and buzz problems caused by bad grounds.

Unless you lift the ground on the power cord, I don't think this is true. Even if you isolate the box itself, it is still tied to ground through the third pin on the power plug and the two boxes attached with grounded signal cable can still potentially (pardon the pun) have a ground loop.

ANSWERS

There are three real solutions for ground loops.

The first real solution is a star ground system, where very large copper strap (or very large copper wire) is attached to every rack, and therefore to every piece of equipment, in your facility.

The trick is that you need to pick a central point and then every "arm" of the star has to be exactly the same resistance (i.e., the same length). If one rack is seriously closer than the others, you still need all that cable (or strap) and you must hide it somewhere. And that cable to strap cannot touch anything metal along the way.

The second way is to cut the ground at one end of each cable. This will only work if you are running balanced lines, where the ground is only a ground and not a signal-carrying part of the circuit (like it is inside unbalanced cables or coaxial cables, for instance).

Of course, if the ground is required, such as phantom-powered microphones or intercom systems, then you'll have to hook up both ends and we're back to a star ground system to solve any ground loop problems. If you do lift one side of a shielded balanced-line cable, you

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RADIODNS

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set by the device's Internet connection.

BUILDING CONSENSUS

Ideally, the sorts of applications offered to receivers by broadcasters at these domains would also benefit from some standardization, and the RadioDNS development consortium has targeted this as a next step.

A primary example is an electronic program guide. In this case, a connected radio contacting the currently tuned station's Web resources via an RDNS would learn that EPG is among the offerings there, and the receiver could then download and display the EPG for that station.

The developers of RDNS are among those responsible for DAB's unique success in the United Kingdom. What's most interesting about RDNS, however, is its applicability to other (including analog) broadcasting formats. The current spec includes RDNS methods for FM, DAB, DRM, AM, HD Radio and Internet radio, and it could be extended to cover other formats as needed.

The RadioDNS "promoters" — their organization has no official name other than "RadioDNS" as yet — are now seeking broader input from the radio industry, as they move toward finalization of their inaugural document drafts. Besides the technical specification, they have proposed an organization/governance structure for the RadioDNS process, and various applications and use cases. Find out more at *http://radiodns.org*.

Skip Pizzi is contributing editor of Radio World. Follow him at Twitter.com/skippizzi.

World Radio History

MARKETPLACE

TIELINE HELPS CREATE SPORTS BROADCAST OVER WIMAX IP

Calling it a "world sports first," Tieline Technology said it helped broadcast live audio over WiMax IP of a match between Premier League soccer team Manchester City and the Kaizer Chiefs in Durban, South Africa.

"The broadcast was initiated by Siemens and the South African Broadcasting Corp. and conducted with Broadcast and Installation Engineering and Multisource Telecoms, who are trialing the technology in the lead up to the FIFA World Cup in South Africa next year," Tieline stated.

According to the project summary, engineers connected a Tieline Commander G3 IP codec to an Airspan MicroMAXd ProST WiMax (wireless Ethernet) standalone base station and broadcast between ABSA Stadium in Durban and the SABC Broadcast Center. The Tieline gear facilitated sending 20 kHz stereo audio to the Broadcast Center via the WiMax link at 256 kbps and received a return feed of the same quality that hosts used as foldback/IFB.

The company quoted Russel Jones of Broadcast and Installation Engineering saying the connection sounded much clearer than SABC's regular ISDN connections and that audio latency was "barely noticeable."

Tieline's Darren Levy said in the statement, "The potential for using WiMax technology in broadcast applications is only just being recognized," not only for remotes but also permanent STLs and network audio distributions.

WiMax provides broadband IP wireless transmission. As Tieline put it, "These links act as an outdoor 802.11b/g wireless Ethernet bridge, effectively creating a reliable high-speed, long-range (2 km–100 km) private LAN connection between two points or multiple points."

For information contact the company in Indiana at (888) 211-6989 or visit www.tieline.com.

GROUND

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must lift the *source end*. Lifting the destination end sets up a very interesting RC filter that will affect the response of that line.

Of course, lifting one end reduces shield effectiveness by 50 percent (one wire instead of two) so you become even more dependent on the twisted pair to reject noise. In which case, why not just go the whole way to UTP, unshielded twisted pairs, such as Category 5e or 6? No shield, no drain wire, no ground, so no ground problems. Of course, you are totally dependent on the balance ("CMRR") of the source and destination devices, but the pairs in Category cables, especially "bonded" pairs, are the best balanced pairs ever made.

And even if you could solve your ground problem with plastic isolators, this would mean that the safety ground is *also isolated*. The whole point of a safety ground is that, if something happens to the power wiring inside the box, if there is a "fault," the juice will flow through ground, not through you. If you isolate the box, anyone touching a box with a "fault" will become the next best path.

The point of having electricity flow to ground is to blow the circuit breaker. That protects everyone. However, the amperage necessary to accomplish this is more than enough to kill you.

Steve Lampen has worked for Belden for 16 years and is its multimedia technology manager. His latest book, "The Audio-Video Cable Installer's Pocket Guide," is published by McGraw-Hill. His "Wired for Sound" columns are archived at radioworld.com.

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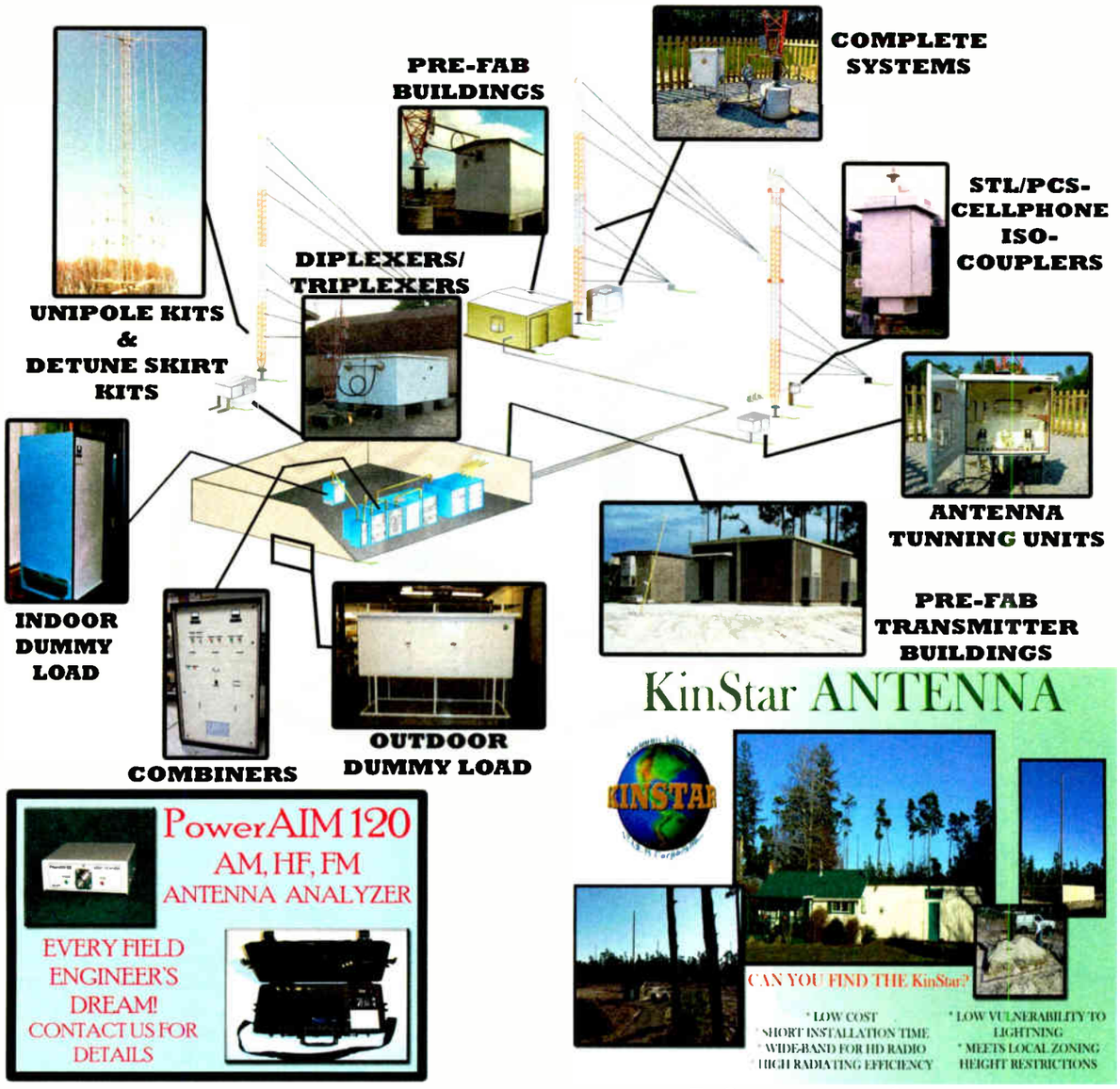

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World Radio History

Beethoven Radio Embraces HD Radio

Classical Operation in Connecticut Sees Benefit in AM, FM and Online Channels

BY JAMES CARELESS

There are broadcasters who are ambivalent about the benefits of HD Radio. Then there's Nicole Marie Godburn, program director of classical music Beethoven Radio at WCCC(AM) 1290 in Hartford, Conn.

"HD Radio is fantastic," she tells Radio World. "It makes our AM signal sound like FM."

Owned by Marlin Broadcasting, WCCC and its sister station WCCC(FM) "The Rock 106.9" began broadcasting in HD Radio in 2004. "We were the first stations on the state to do so," says Godburn, "It opened up real possibilities for Beethoven Radio when we threw the switch for HD Radio."

In addition to making the AM sound better, she says, HD Radio also has given the operation a new FM footprint. Before, Beethoven Radio could only be heard in the area on WCCC's analog Class D AM 1290 signal. Now, besides being heard locally on that frequency in AM HD, Beethoven Radio is also broadcast as the HD-2 channel of WCCC(FM). The result is a vast improved reach for the content of the only remaining classical radio station in the state.

The station is also heard on the Web at Beethoven.com. In a twist on the usual air-to-Web progression, the format started on the Web, then replaced a WCCC(FM) simulcast on the AM.

As well, thanks to Beethoven.com's strong listener base, WCCC(AM) has been able to build its workplace, in-office listenership in New York City via the Web.

"Our format for the dot-com and our delivery was originally very global. On air we focused on our global audience and happenings around the world," she said.

"When we launched the AM, we decided to change our on-air delivery and started to focus more on our own backyard. We started local news, local contests, local weather etc. But the irony is, we never lost our international and national audience.

"They stayed with us for two reasons: They enjoyed the music programming, and they enjoyed our hosts and light delivery.

"So now we view ourselves as a very local AM station in Connecticut with a great dot-com audience. This is in fact the complete opposite from how we started. We learned you have to be flexible to stay marketable and we hope we have shown that through our growth."

The question, of course, is the impact of HD Radio on Beethoven Radio's audience base: Are more people tuning in?

Lacking Arbitron data that distinguishes between analog and digital listeners, Godburn cannot say for sure. But she does feel that people are tuning in via HD Radio, based on listener feedback.

"More and more people are telling us, 'I have an HD Radio and I listen to you on it," she says. "I'd say one out of every eight listeners we talk to says this. Not so long ago, it was one in 12."

To push growth of this new medium, Beethoven Radio and WCCC(FM) take pains to promote HD Radio wherever they can, on banners, signage and corporate vehicles.

"We constantly have people seeing our materials and asking us, 'What is HD Radio?'" Godburn says. "We direct them to our Web site and other sources where they can learn about HD Radio. We also tell them where they can buy HD Radios, and why they would want to do so."

When it comes to HD Radio, Godburn sees the investment as money well spent.

"It cost our company about $40,000 to put Beethoven Radio on HD Radio," she says. "For that money, we took an AM-quality audio signal confined to Hartford and extended it statewide in FM quality; without losing the stake we had in the AM band.

"The result is a much larger classical music audience at a time when our competitors in this niche have disappeared. What could be better than that?"

Comment on this or any article. Write to radioworld@nbmedia.com.

Beethoven Radio staff Scott Birmingham, Justin Norse, Nicole Marie Godburn and 'Sir Stewart' Crossen.

World Radio History

PEOPLENEWS

The **Tennessee Association of Broadcasters** earlier this year recognized **Roy Stewart** of the Federal Communications Commission "for his tenure in helping broadcasters' meet their community needs and working through tough issues."

TAB President Whit Adamson called Stewart "a dedicated public servant and a true friend to broadcasters." Stewart started at the commission in 1965; he is senior deputy bureau chief of the Media Bureau. ...

The Tennessee Association of Broadcasters honored Roy Stewart of the FCC, left. He's shown with Paul Tinkle of Thunderbolt Broadcasting.

Wegener Corp. VP of Marketing **Kamy Merithew** was elected president of the 2009 Board of Directors for the **Society of Satellite Professionals International** Southeast Chapter. ...

Kamy Merithew

Cumulus Media Inc. named **Linda A. Hill** as its corporate controller and chief accounting officer. She was corporate controller and chief accounting officer for GateHouse Media, a publisher of local newspapers and related publications and 250 Web sites. She also is former manufacturing controller for the United States and Canada for Eastman Kodak Co. ...

Vycon promoted **Frank DeLattre** to president. **Vatche Artinian** transitions from president and CEO to CEO and chairman of the board. DeLattre most recently was chief sales officer. ...

Michelle Duke was promoted to vice president for the **National Association of Broadcasters Education Foundation.** Previously Duke was VP for diversity services and development. The new position will entail overall responsibility of day-to-day operation of the foundation. She will report to President Marcellus Alexander. Duke serves on the boards of Society of Professional Journalists, American Women in Radio and Television and the National Association of Minority Media Executives. ...

Dale Miller, president and CEO of West Virginia Radio Corp., and **Andrew Skotdal**, president and general manager of KRKO(AM) in Everett, Wash., were appointed to the **NAB Radio Board of Directors.** Miller oversees 26 radio stations in West Virginia and western Maryland. The company also owns MetroNews Radio Network and Pike-

Dale Miller

Andrew Skotdal

wood Creative, a video post-production company. Skotdal has served on the Washington State Association of Broadcasters Board of Directors since 2000 and was its chairman in 2007.

Miller fills a radio board district seat vacated by Commonwealth Broadcasting President and CEO **Steve Newberry**, who was elected chairman of the NAB Joint Board of Directors. Skotdal fills a district seat vacated by **Peter Benedetti**, CEO of BMG Billings, who is no longer associated with radio stations in district 25 (Oregon, Washington state). Benedetti owns five stations in Montana. ...

The **Ennes Education Foundation Trust** awarded four scholarships for 2009. Each scholarship this year is for $1,500.

Harold E. Ennes Scholarship recipients are **Marissa Acosta** and **Ruben Berlanga-Randall**. Receiving the Robert Greenberg Scholarship is **Russell S. VanderHorst**. The Youth Scholarship went to **Jeffrey E. Miller.**

World Radio History

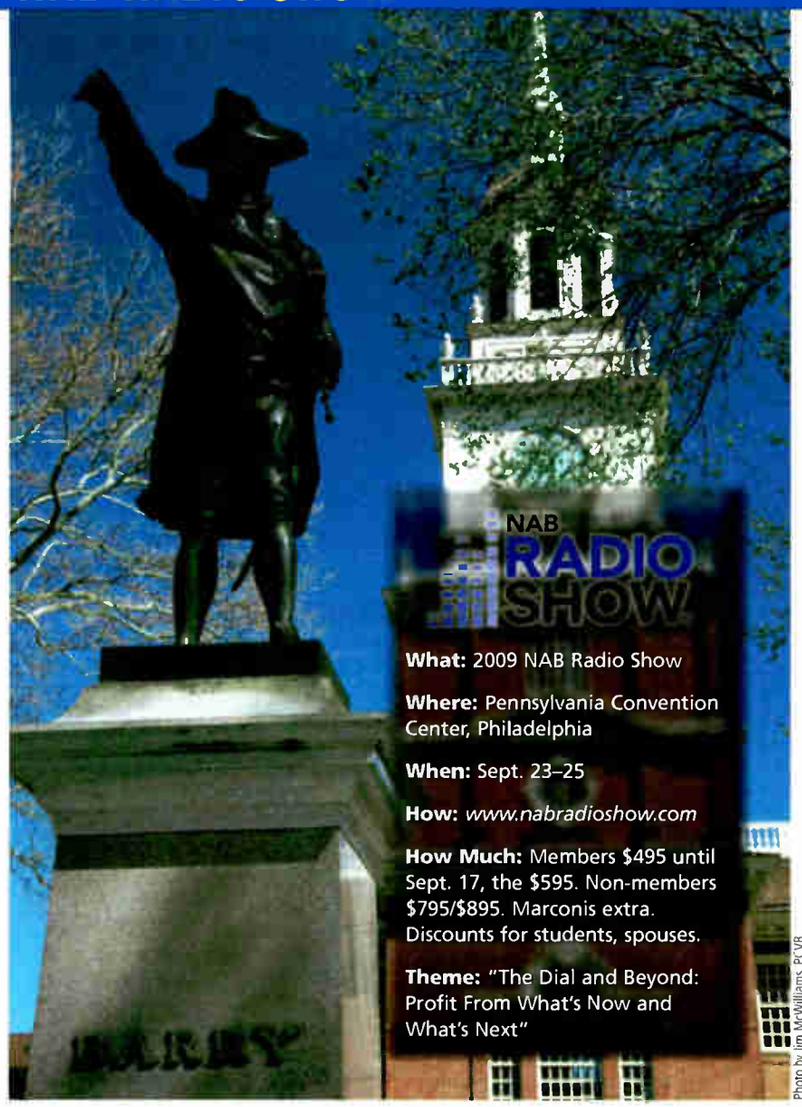


Photo by Jim McWilliams, PCVB

'Interactivity Is a Blessing'

Radio Gets a Handle on Its Digital Business

BY JAMES CARELESS

Streaming, podcasts and video too: These are just some of the new business areas with which radio managers are grappling in the new digital age.

So how can you profit from the "new media" without risking financial ruin? To find out, Radio World brought together three experts, all of whom will participate in the NAB Radio Show's "Digital Think Tank Super Session" on Sept. 23.

Peggy Miles is the session moderator and president of of Intervox Communications. Mike Agovino is CEO of the Triton Media Group and Deborah Esayian is founder/co-president of Emmis Interactive.

***RW:** Radio's online and new media ventures have proliferated in the recent past. What do you see as the most successful recent new media implementation for radio?*

Miles: I'm starting to see life in once-dull static Web pages that now go deeper into what the DJs are doing, what the stations are doing right then and there, and adding live blog notes to home pages, plus Twitter messages, and the ability to connect in a number of ways, not just by the "contact us" page. To take the live persona to new media efforts is the next biggest challenge.

Esayian: User-generated content and listener involvement in creation of our product.

The ability to know each individual listener intimately — to have a dialog with them — to tap into their needs and involve them in shaping the experience we deliver is simply incredible. Social networks contribute significantly to this phenomenon.

Agovino: I'm not sure that I'd agree that radio's online ventures are proliferating at this point.

Whether your evaluation is based upon actual engagement metrics or based upon revenue, the industry clearly has a long way to go ... Most broadcasters are still finding their way and are trapped between gaining some understanding in using the new digital tools to their advantage and their previous tactical approach that merely reflected their on-air content to their Web site. Stations have been slow to realize that they should approach this with a different strategy, treating it as a new medium.

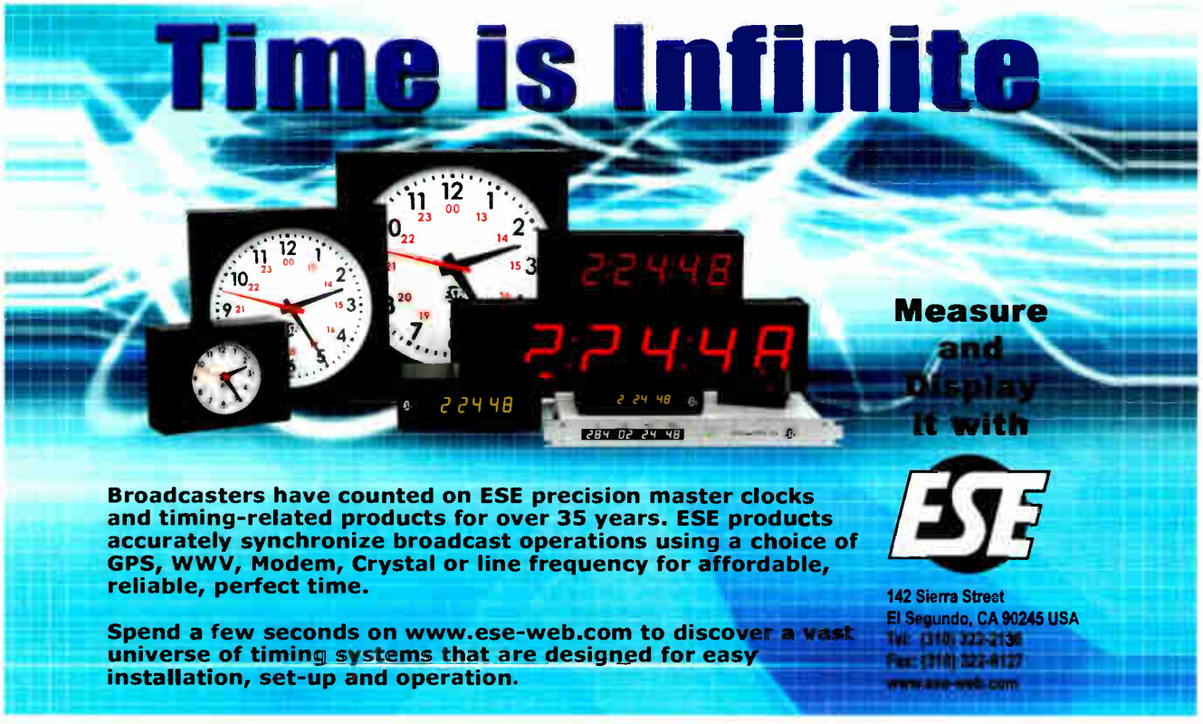
***RW:** What is the most important next step for radio stations wanting to succeed in the digital/new media realm?*

Esayian: They must recognize the importance of using enterprise-level technology and have partners who keep up with advances in the digital world. They must focus on using technology to produce a superior brand experience and develop the skills to monetize what they deliver.

Miles: Those stations who will find overall consistent success understand you can assign value, ads, sponsorships, creative promotions to all that you do on any interactive platform, promotion, tool or communication. They watch trends, stories and developments happening in this space and implement them according to a risk and reward criteria. A needed skill is to be aware and be prepared.

Agovino: The industry needs to shift away from the "talk" and into the "walk." Most companies are migrating less than 5 percent of their on-air audience onto their digital platforms.

The overwhelming majority of the marketplace is still with us. We still cume 92 percent-plus of the available audience. It's not too late. Many have the right tools in place. Let's go!



World Radio History

***RW:** Which broadcasters are having the most success in this area and why?*

Agovino: Three I would highlight from working closely with them are CBS, ESPN and Gap Broadcasting. The common traits are a significant investment made to build out platforms that are substantial; leadership that believes in the mission and leads by example; a team that is inspired to execute; models built that reward people directly for delivering the KPIs and the revenue; and a strong cultural willingness to take risks.

Peggy Miles. 'Mobile apps are hot, and rightfully so ... but there is a lot of clutter out there.'

Miles: Success can be seen as either promotional or branding success — seen in ratings increases — or financial success. Like any akin to radio promotion that you do, it would depend on the goals of the particular station.

Look at the stations that have the most online activity and it is typically translating that they would be receiving a higher portion of the ad buys. Some stations sell applications, merchandise or music. It's not a full-time business to do this for the majority, but there are select cases of these things working in particular cases.

Deborah Esayian. 'Every client of Emmis Interactive has made a decision that they are going to offer sophisticated, non-traditional digital solutions for their advertisers.'

Esayian: I'd like to define "success." Success for us means running a profitable, sustainable interactive business ... Every client of Emmis Interactive has made a decision that they are going to offer sophisticated, non-traditional digital solutions for their advertisers — some are experiencing interactive revenues constituting up to 14 percent of their entire station revenue, making up for the declines they are seeing on the spot side.

Mike Agovino. 'Stop the pity party. You are not victims. You control your own attitude.'

***RW:** Where do streaming, podcasts and video fit into the digital mix?*

Esayian: Our findings are that streaming is more of a programming and marketing necessity vs. a great revenue opportunity.

We think will definitely change over time, but currently the advertising community struggles with valuing in-stream advertising — so if you stream you can hope to try to break even with your costs, but making streaming the lynchpin tactic of your interactive business is likely not going to be enough.

Miles: Podcasts can't be separated out of what radio is — it's the segments, clips, parts, pieces that make up radio. It's an essential extension of radio, and stations should look at the resources and software outputs that allow you to put up as many podcasts as practical.

However, make sure you track your podcasts to see what's working, who's downloading, when, where, how, and what type of content is of interest.

Agovino: Video is simply critical. The Web is a multi-media medium. There are affordable and simple to manage tools, Triton has one, that allow you to create/upload content to the Web, run UGC promotions and provide quality on-demand video content to the audience.

***RW:** What about radio and mobile platforms?*

Miles: Mobile apps are hot, and rightfully so, due to their popularity, but there is a lot of clutter out there and thousands of new applications coming out daily ...

Make sure your station can be heard on mobile applications. That was hard a couple of years ago, but getting easier every day. It's great to experiment, as you don't know which will be profitable, but perhaps the best bet is to partner now on mobile applications.

(continued on page 26)

See us at NAB Radio Show Booth #309

World Radio History

INTERACTIVITY

(continued from page 25)

RW: Where are revenues coming from today and is this where broadcasters should spend their efforts?

Esayian: The larger-ticket campaigns are ones that involve video, interactive components like user-generated content and measurement of success.

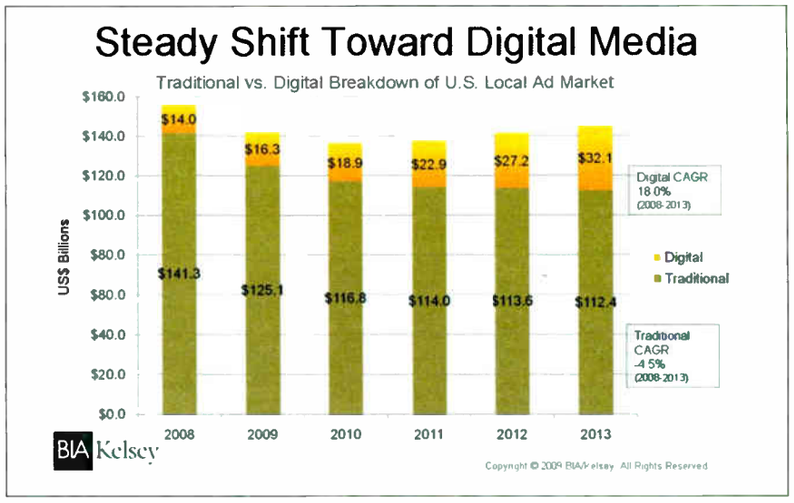
We find that once our client stations get past the basics, they quickly get the hang of putting together very on-target, multimedia integrated campaigns with sophisticated recaps for each client showing exactly what they delivered in terms of demographics and geography.

As time has ticked on, this marketplace has become very evolved — so to compete realistically for the serious interactive dollar, you have to be able to deliver experiences online — not banners and tiles.

RW: Where will future revenue come from?

Miles: Revenues have and will continue to come from these ways, and the mix is depending on your product/service/broadcast or Internet/interactive output.

Those ways are advertising, sponsorship, subscription, referral and/or direct selling, and if you are a bigger entity, it might be developing a standalone business and spinning it off/selling it.



BIA/Kelsey foresee continuing growth in the 'digital' local ad market.

Esayian: Local, targeted, measurable interactive opportunities are the source of the largest growth in the interactive space and will be for some time to come.

It's not there's a magic solution in one area of interactive — for example, the answer to this question isn't one singular tactic like "social networks" or "podcasting." Rather it is having an array of interactive opportunities and capabilities to meet a variety of customer needs in many different ways.

Agovino: The holy grail is the one-to-one piece. Offering relevant information, content and messaging to individuals based upon their consumption, interest, lifestyle and attitudes is our future. Harnessing the power of that bond by inviting marketers to share in that relationship on a one-to-one level is our future.

RW: Finally, what tips can you offer to a broadcast manager based on your own experiences?

Esayian: You are going to have to spend some money to have the necessary capabilities to compete effectively in a world that has evolved to a very sophisticated and advanced level already.

You must seriously educate your staff — great interactive skills and success must be cultivated with intention — broadcast managers are not born knowing how to do this correctly.

Find partners who have actually lived this experience and know how to avoid costly mistakes.

Educate your managers so they make good choices and manage their new interactive personnel intelligently.

Miles: One size doesn't fit all. Some of your audience will never contact you, others will become heavily involved and prefer contact via phone, or tweets, or Facebook forwards, games, live events or by email.

Continue to break down your Web and interactive audiences into groups that you market to in just the way they want. Think in advance about behavior and segmentation and set up the systems accordingly. If you outsource, keep in very close contact with your suppliers or consultants, and learn from them, and ask what they are doing better than your competitors both in radio and those music sites outside of radio.

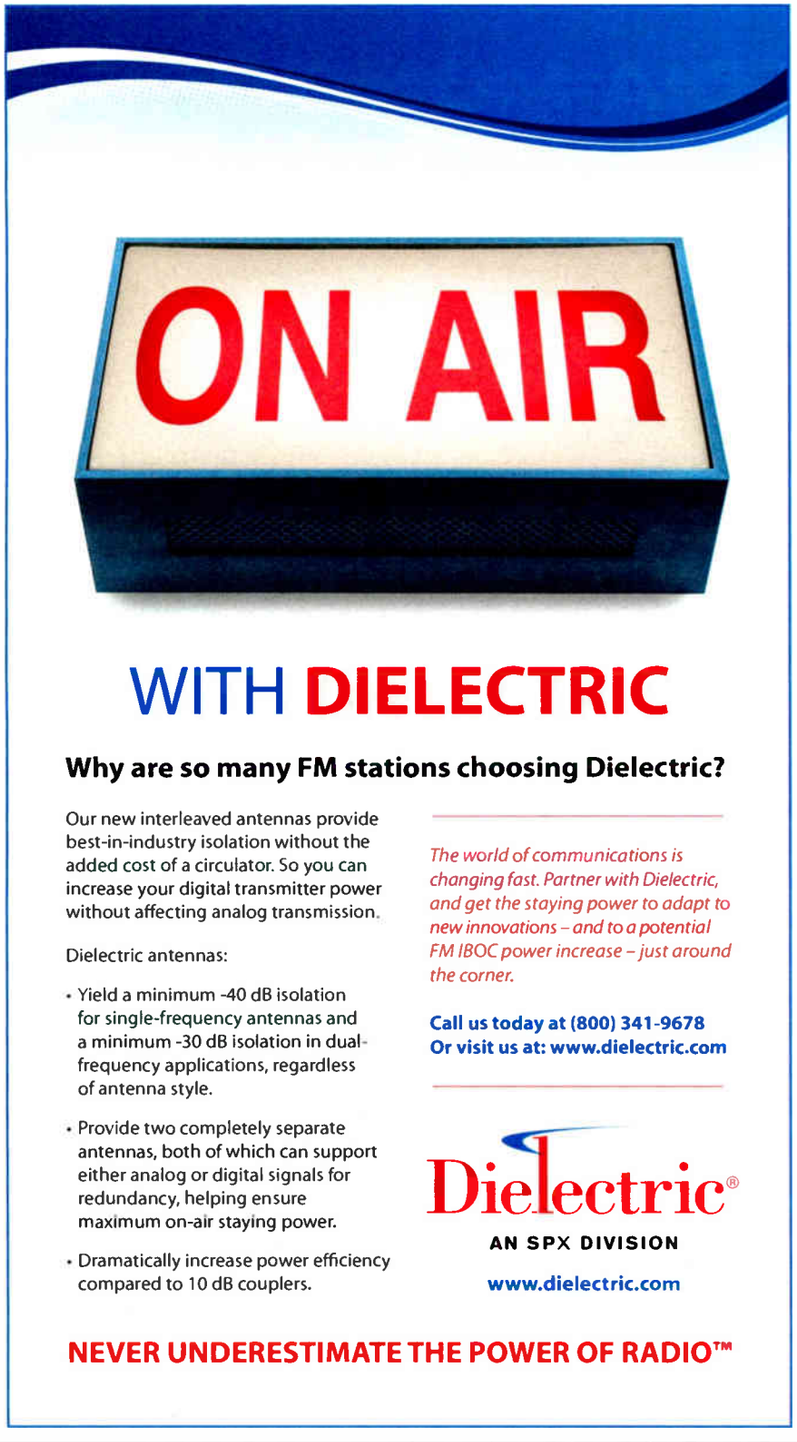
Agovino: My biggest one would be to accept responsibility and accountability for where things stand. Stop the pity party. You are not victims. You control your own attitude and the attitudes of those that work under your charge.

Be courageous, it will be infectious. People don't care how much you know until they know how much you care. Hold yourself accountable for their development during this perfect storm. You can come out of it stronger on the other end.

The above is just as true with your audience. Be just as courageous and trusting with them ... Invite them into the conversation and listen to their voices.

Interactivity is a blessing. Too many broadcasters try and convince the audience to care about what the stations wants them to care about instead of relating to the things the audience already cares about.

The "Digital Think Tank Super Session" is part of the opening address session on Wednesday Sept. 23 at 2:30 p.m. Also participating are David Goodman of CBS Radio and Paul Krasinski of Ando Media. Opening remarks are by Charles Warfield, president/COO of ICBC Broadcast Holdings, chairman of the NAB Radio Board.



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NAB Radio Show Exhibitors

Exhibit hours are Wednesday Sept. 23, 4–7 p.m., and Thursday Sept. 24, 9 a.m.–5 p.m. with a closing party starting at 3:30. Booth list is as provided by NAB in late August; see on-site program materials for late changes.

Company Name	Booth
Adswizz	328
AEQ S.A.	521
Air Force Recruiting	102
Armstrong Transmitter	212
Army National Guard	427
ATI-Audio Technologies Inc.	503
Audemat - APT Inc	433
AudioScience	103
Axis Pro	312
Barix Technology Inc.	107
Belar Electronics Lab Inc.	603
BIAfn Financial Network Inc.	308
Broadcast Electronics Inc.	202
Broadcast Software International	211
Broadcasters General Store	604
Broadview Software Inc.	514
Burli Software Inc.	617
Buzztxt.biz	126
Clear Channel Satellite	435
Coaxial Dynamics	222
Communication Graphics Inc.	502
Comrex	209
Continental Electronics Corp.	403
Davicom, a div of Comlab	605
DaySequerra Corp.	104
Dielectric Communications	203
Digigram	320
Digital Alert Systems LLC	217
DSI RF Systems Inc.	110
EMIRAT AG	137
ENCO Systems Inc.	422
ERI-Electronics Research Inc.	407
Family Minute with Mark Merrill	116
Federal Communications Commission	129
Harris Corp.	303
HD Radio	134
Inovonics Inc.	504
International Demographics/Media Audit	220
Intertech Media	610
Kelly Music Research	529
Larcan USA	314
Lawo AG	322
Liquid Compass Streaming Media	423
Logitek Electronic Systems	516
Mackay Communications	210
Marketron Broadcast Solutions	105
Mayo Clinic	326
Media Monitors	113
MediaSpan Online Services	100
Moseley Associates Inc.	206
MusicMaster	532
Myat Inc.	421
NAB	639
NAB FASTROAD-HD Radio EPG	310
Nautel Ltd.	315
Nielsen Company	417
NPR Satellite Services	124
OMT Technologies	508
OneDomain Inc.	511
Prime Image	108
PromoSuite Software & Interactive	215
Propagation Systems Inc. (PSI)	507
Pulsecom	505
Radio Advertising Bureau	612
Radio Systems	321
Radio Traffic.com	601
Radio World/NewBay Media	233
Radiolicious/Alert FM	204
RCS	309
RF Specialties Group	420
RTT News	332
Sabre Towers & Poles	523
Shively Labs	411
Sierra Automated Systems & Eng. Corp.	506
Stainless LLC	429
Stream On!	221
StreamtheWorld	527
Sun & Fun Media	236
Trilithic	513
VeriCorder Technology	520
V-Soft Communications LLC	316
Wheatstone Corp.	415
WideOrbit	526
Women's Online Media & Educ. Network	602

See us at NAB Radio Show Booth #206

World Radio History

Show Aims to Be a Stimulus Package

Schwartz Hopes Convention Helps Managers Navigate 'Worst Year in Memory'

BY JAMES G. WITHERS

Audience fragmentation, ratings methodology, competing technologies and a rough economy. All were topics of intense discussion at the NAB Radio Show last fall.

A sampling of session topics at this year's convention indicates these are still on our collective plate. Further, the Federal Communications Commission has decided it will award FM translators to certain AM stations. Mobile apps and Internet radio are more of a presence than ever. The rollouts of the Portable People Meter and HD Radio are another year older, both with their share of controversy. Performance royalties dominate the debate in Washington, and a new administration is in office.

And of course, that economy thing is still with us.

NEW NORMAL

In spite of the issues facing the industry, Joe Schwartz, president and CEO of Cherry Creek Radio, is enjoying his job as chair of the 2009 NAB Radio Show Steering Committee.

"There's no question that we face challenges," he said. "As an industry, we've had the worst year in memory, down 15 to 30 percent, and no one knows what is going to happen in the next months, let alone years." Indeed the Radio Advertising Bureau reported in late August that U.S. commercial radio revenue from all sources was off 23 percent in the first half of 2009 compared to a year ago.

According to Schwartz, that is why this convention is important. "We're bringing in a lot of state-of-the-art guys to the show this year to give attendees the tools they need to navigate what we at Cherry Creek are calling the 'new normal.'"

Specifically, he said, several sessions address financing and station economics.

A session sponsored by Dickstein Shapiro is "Broadcast Financing 2009" (with the apropos subtitle "Surviving the Meltdown"), which presents financing options and strategies in the current economy.

Schwartz says there is indeed money out there, though both buyers and sellers have to be creative.

"Banks will loan," he said, "but a buyer is going to have more luck with a local bank than with a huge national institution. When that does not work — and sometimes it doesn't — there is always seller financing, where the seller takes back 'paper' from a qualified buyer."

In short, he said, when a buyer and seller want to get a deal done, there is a way to do it.

With a lighter title but on the same critical subject, "Deon's Awesome Finance Session" is a panel moderated by Deon Levingston, vice president and general manager of WBLS(FM) in New York. The goal is to shed light on the fundamentals of the U.S. economy in ways that even those who hate to balance a checkbook can understand.

PROTECT THE GUTS

"We've all got to find ways to operate without taking the guts out of our stations and companies," Schwartz said.

"There is a lot of controversy surrounding this. Some companies have stripped away so much manpower there's not much of a company left." At Cherry Creek Radio, he said, "We've been committed to examining every job, of course, but always with an eye toward maintaining the integrity of our operations. That's really the best anyone can do in this environment."

Cherry Creek, a Denver-based company with stations in eight states, focuses on small markets; Schwartz thinks that is a terrific place for his company to be.

"Radio is the perfect medium for small markets," he said, adding, "the ability of radio to address the issues and programming needs of a small-market audience is unparalleled. It's all about driving customers and selling product for our advertisers. We do that by being local, local, local."

Joe Schwartz

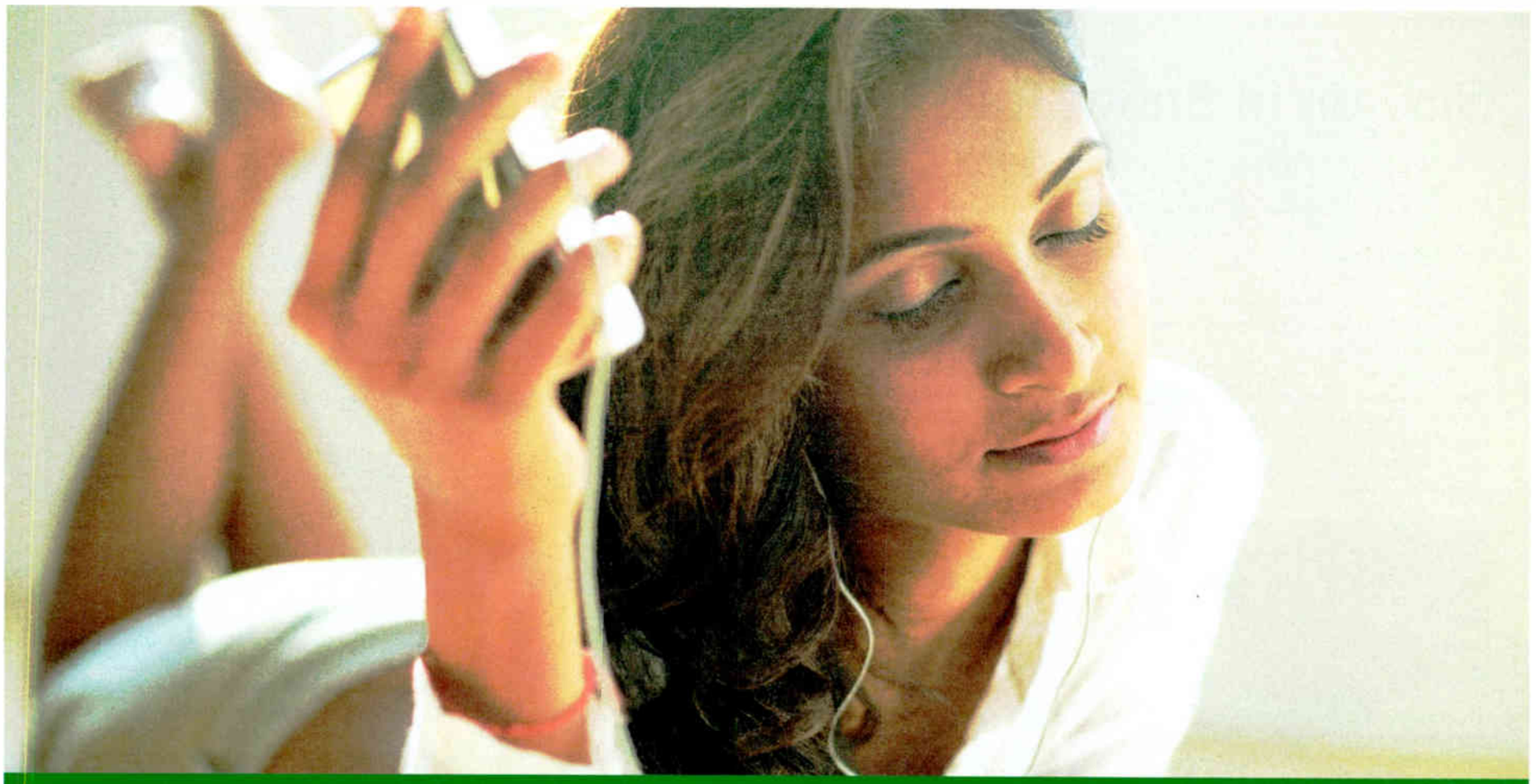
Those are also hot topics at the Radio Show, with sessions like "Great Client Marketing Strategies With Small Budgets" and "Small-Market Budget Beaters for 2010," in which marketing gurus from markets of various sizes share plans for helping businesses achieve results using radio as an advertising medium.

"The Dow at 9000 does not mean much for our business in Missoula or any other market we operate in," he said. "What really affects our business is local unemployment and local consumer confidence."

When consumer attitude is positive, his stations, as well as his competitors' stations, do just fine. That correlation between consumer and advertising is one that is common across radio

(continued on page 30)

World Radio History



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World Radio History

Stay on in Snow, Rain or Gloom of Night

'Operating Under Emergency Conditions' Kicks Off Engineering Sessions in Philly

BY TOM VERNON

"Always have a backup" has been a maxim of broadcast engineers since the beginning of radio.

This used to mean having two redundant systems running in parallel. Today's installations are much more complicated, and staying on the air in times of crisis can sometimes be more difficult than it once was.

Weather has the unique capacity to take your facility down instantly and with little to no warning.

Steve Davis, senior vice president, engineering and capital management for Clear Channel Radio, will speak on this topic at the NAB Radio Show in Philadelphia.

Davis notes that across the Clear Channel organization, off-air emergencies happen on an average of every other week, although they can occur more often during hurricane season.

"Hurricanes are somewhat predictable, but we also need to be ready for all kinds of natural disasters, blackouts and even bomb scares."

FREE READINESS

A significant number of outages come from loss of T1 lines through "backhoe fade," so, "If you have T1 service, don't get rid of your STL backup." (In the case of Clear Channel, there is also the VSAT Safety Net, a satellite-based backup system about which Davis spoke at the NAB Show in April.)

Being ready for off-air emergencies involves planning, people and hardware components.

"A disaster readiness plan costs no money, and is a good place to start. First off, decide where people will meet if your studios are no longer available. For example, there may be reciprocating agreements with other broadcasters to use their studios in emergencies, or you may have backup facilities at your transmitter site."

He adds that a plan needs to be updated regularly as employees and phone numbers change, and everyone should keep a copy at home.

A call tree for emergency personnel to reach your station should also be a part of the plan. If no one is available at the studio, cell numbers for engineering and management personnel should be next. In the case of Clear Channel, Davis explains, the call tree ends with the company's technical headquarters in Cincinnati, which is manned 24/7.

Davis emphasizes that relationships with employees, clients and emergency services personnel all need to be nurtured.

"Having icemakers, water, food and essentials to distribute to employees can help them stay focused on the job. Stocking additional supplies to give to citizens in need can have a tremendous impact on community relations, and many of these materials can be obtained inexpensively from the local surplus store."

Davis recalls a station that was able to do a trade with a local hardware store

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Disasters can happen at any time. Here a station has lost its STL tower but was saved by Clear Channel's VSAT backup system.

SCHWARTZ

(continued from page 28)

markets, which is why it will be a major focus at the show, according to Schwartz.

TECH TALK

Technological changes also face the radio industry this year. HD Radio applications and radio's extension to portable devices are in the forefront. Satellite radio, Internet radio and personal entertainment devices all affect stations.

Schwartz noted that the show's steering committee wanted to make sure that all were addressed, though he has not seen much impact in the markets in which Cherry Creek operates. He thinks the technology behind HD Radio, for example, is finding more interest in bigger markets than small. Likewise for satellite radio and other technologies.

"Of course," he added, "HD and satellite receiver penetration are both driven by new car sales, and we are looking at a 9 million unit year, down from 16–17 million last year, so that will obviously have an impact."

However, he said, broadcasters should recognize the importance of the competitive landscape as well as the technical improvements offered by HD Radio, and the show will have plenty of information on both.

"HD Radio Initiatives: Today's New Opportunities" addresses multicasting opportunities with HD Radio and allocating resources so as to maximize return on investment, which proponents believe can be significant.

Not surprisingly, then, the chair of the Steering Committee feels that this year's show is a "must-see." Perhaps less expectedly, he feels that our industry, which has survived competitive threats almost from the day it first signed on, remains vibrant and compelling even today. He noted that one broadcast owner has recently invested more than $50 million in two deals to build assets in Portland, Ore.

"A number like that," he says, "shows that there is still a lot of belief out there in traditional radio."

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World Radio History

EMERGENCY

(continued from page 30)

Clear Channel maintains a fleet of disaster recovery vehicles around the country. Equipment shown is at the Tulsa, Okla., hub.

to make small emergency generators available to those in need.

It's also important to establish good relations with first responders.

"These folks need to know in advance who you are, and what you are prepared to do, because they may not have time to talk with you when there is an emergency. Take them out to lunch, get to know them, make friends in the neighborhood."

He adds that if a station doesn't have a news department, it might try to build a relationship with a local news organization such as a broadcast news team.

HUB SYSTEM

Clear Channel has employed a strategy that aims to put the right gear in eight hubs throughout the United States.

Davis said that trucks with portable transmitters, generators and a portable antenna are small enough so that one doesn't need a commercial driver's license to operate them, an important consideration. Clear Channel also has a fleet of modified RVs that can sleep six and are used for crew housing.

Emergency generators and portable gear are standardized on diesel fuel. A truck with a 100-gallon tank is available to refuel generators. This is the maximum capacity that can be carried nationwide without requiring hazardous materials permits.

Also important: equipment must work when you need it.

"Backup transmitters and generators need to be run regularly, and there should be a log of equipment checks and meter readings. Fuel level for generators should be frequently checked."

Spare parts for emergency gear also need to be on hand. Davis emphasizes that the electrical hardware and heavy cable necessary to connect generators to the AC service may not be available from a store during disasters and should be obtained in advance.

One mistake broadcasters should avoid, according to Davis, is requiring anyone to be at the studio during a disaster.

"This can expose personnel to safety hazards. Staying on the air is vital, but it is better to have a plan for offsite access. Many pieces of equipment can be remote-controlled via a laptop and Internet connection, but you need to have the passwords at hand, and operators need to be drilled on how to do this."

While Davis' talk will emphasize studio and transmitter facilities, he adds that a station's online services should also be covered in disaster plans.

"Online listenership is growing, and having backup servers and UPS is important, as well as having a third party to monitor a station's site for Web connectivity." Davis adds that ultimately a station's online service is at the mercy of the Internet, which is not under the broadcaster's control.

Davis will present his session "Operating Under Emergency Conditions" on Wednesday Sept. 23 at 8 a.m.

Read more about Clear Channel's VSAT "safety net" from Steve Davis in an April interview by U.S. Editor in Chief Paul McLane. Visit radioworld.com, *keyword VSAT.*

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World Radio History

Laptops, PDAs and Smartphones for News

The Warrior Has No More Worries When Using His Laptop or Newfangled Mobile Devices

BY PAUL KAMINSKI

The seventh column in this series is our first look at laptop computers and their use as a newsgathering tool.

Since computers have morphed into other devices, such as PDAs and the now omnipresent cell phone, we'll also touch on how those devices can give reporters another method of transmission when others may have gone down or gone away.

RADIO ROAD WARRIOR

Columns are archived at radioworld.com

Laptops usually are used to process audio that is rendered into an audio editing program from an external recorder (which is the process used when audio from a MiniDisc or other recorder is recorded into a file in the audio editing program) or process files directly from the recorder itself (which is what happens when a file from an external device or drive is opened in the audio editing program).

With audio editing programs such as Adobe's Audition or its ancestor Cool Edit, Sony's Sound Forge, Digidesign's Pro Tools or the freeware Audacity programs, among many others, the kinds of touches that make a report stand out — such as the introduction of natural sound, and multiple cuts of newsmaker actuality between breaks in the narration — are accomplished with a few mouse clicks and key strokes. Levels can be matched and set so little operator intervention on the receive end is necessary.

SENDING HOME

Once the report is completed, it can be saved as a high-rate MP3 file (128 kbps encode rate or better) or a WAV file and then transmitted back to the newsroom. The report can be attached to an e-mail and sent to an address back at the newsroom, or, as the Performance Racing Network does for its "Garage Pass" daily NASCAR racing news program, sent back by file transfer protocol (FTP).

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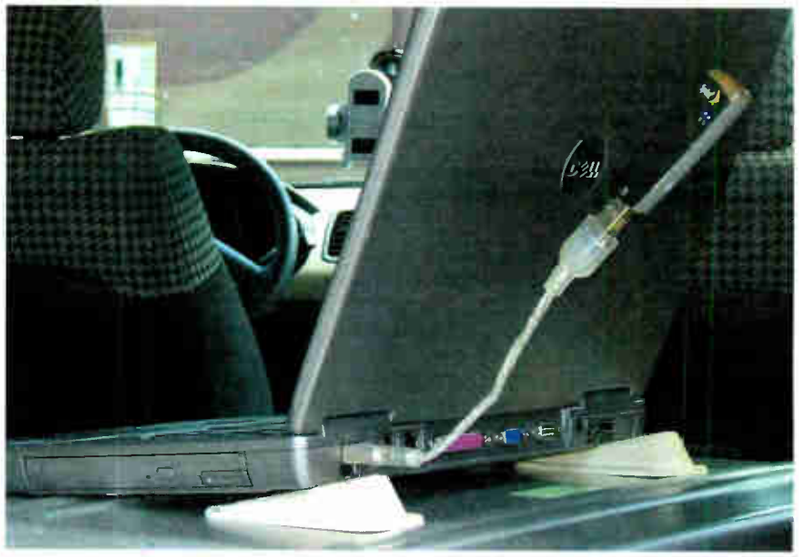

Two door stops make a simple way to give your laptop keyboard a better angle for typing. Bonus benefit: the laptop won't slide away on a slick surface.

World Radio History

WARRIOR

(continued from page 33)

Kent Bernhardt, production co-coordinator for PRN broadcasts, says, "An FTP site is simply the basket between the two (field and studio) where the file gets passed back and forth." In his experience, Bernhardt has found the FTP process to be faster and more reliable than e-mail. PRN encodes field submissions into mono MP3 with a 128 kbps encode rate.

Kent has a tip for field users: "The more users can get it (a report) into finished form the easier it is to process." The "Garage Pass" program sometimes runs into deadline pressure, where qualifying has finished scant minutes before the program airs. "We can be much more topical. A lot of the program can be preproduced on qualifying day, and then once the final segment is produced and uploaded to the FTP site, it can be inserted in the program and be ready for air. We've done this many times with literally just minutes to spare" before air.

There are three ways a laptop typically connects to the Internet: by Ethernet connection, by a Wi-Fi network or by wireless broadband from a cell phone provider. The first two methods will provide the faster connection; the wireless broadband is useful when the main connection is unavailable, or the reporter is working out of a car. It's not quite as fast as an Ethernet or Wi-Fi installation, but quick enough to browse the Web or send reports by either e-mail or FTP.

For example, Sprint has a robust 3G cellular network that supports the Rev. A EVDO protocol, which allows for those much faster downloads and quicker uploads. One of its "air cards" is the Sierra Wireless 597, which also has a slot for a micro SD card. The extension USB cable allows a user to bend and raise the 597 so the internal antenna gets a better signal. One can use the 597 like a USB thumb drive, even while the unit is connected to the Sprint network.

Micro SD cards can also be used to transmit short voice reports from a smartphone, like a BlackBerry Curve, for instance. It'll take some forethought, but if a user has an SD audio recorder, it's relatively easy. The reporter can mount a micro SD card in a full-size SD adapter and put the adapter in the SD slot of the audio recorder. Next, the reporter would record the audio report as an MP3 file. After that, the reporter would unmount the SD card from the recorder and put the micro SD card with the recorded report into the smartphone. Then the reporter would send the MP3 file back to the studio as an attachment to e-mail from the smartphone e-mail program.

PDA

Don Perkins, now the operations and engineering manager for the Central New York Radio Group in Oneonta, N.Y., set up a news bureau for the Family Life Network in Bath that covered news and events in Upstate New York.

When he started, Don was carrying around a cassette recorder and ancillary equipment; he phoned in submissions to the Bath newsroom for production and broadcast. Laptops and MiniDiscs followed but the bag never seemed to get lighter. When the bureau closed down in 2006, Perkins was even more mobile, using a HP IPAQ hx2495 PDA for his street reporting.

Don is a broadcast engineer and amateur radio operator (N2IVW); he put his ingenuity to work and found the Resco Audio Recorder, a Windows Mobile audio recording program for the IPAQ.

"It gave me the ability to interview news makers like [then-] New York Governor George Pataki, go out in the lobby and assemble a package and then find a public wireless hotspot to file my story," he recalls. Perkins used the Resco Audio Recorder and Vito Sound Explorer, another Windows Mobile audio recording program, to upgrade the dictation-quality audio recording of the base IPAQ.

Shawn Kramer is a former technician with Lantek Computers in Kutztown, Pa. He says keeping a laptop running smoothly in the field requires a reliable, frequently updated good anti-virus program, a frequently updated anti-spyware program and keeping the operating system (Windows, for example) up to date.

"Other than that, the obvious things a non-technical user can do is to browse with discretion, not open any e-mail attachments from people you don't

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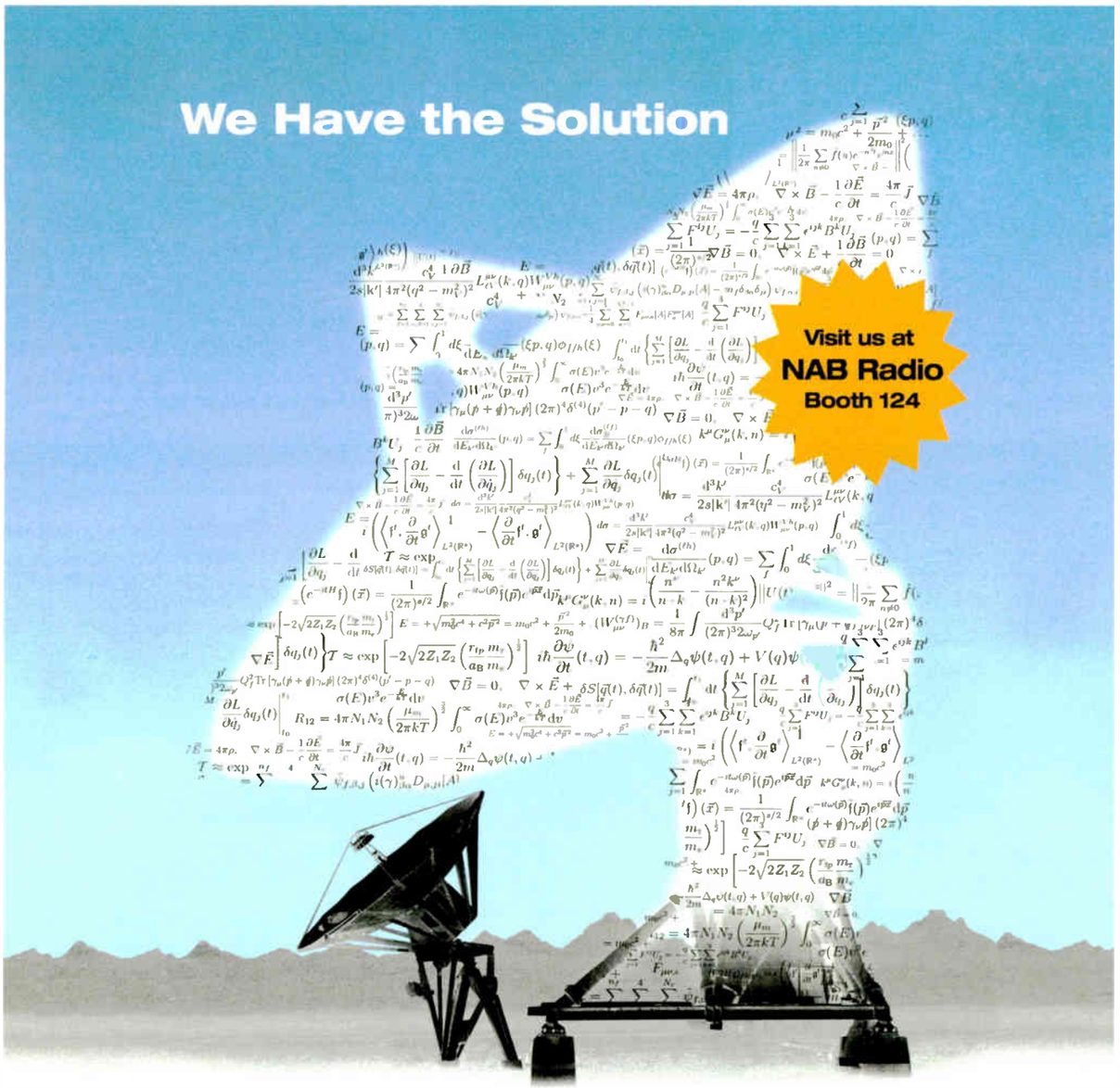

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- Axia consoles are rock-solid, and they automatically take care of operating details (like generating mix-minuses), freeing talent to concentrate on making great radio.
- Axia networks are easy to install and operate.
- You can quickly examine and modify any part of the system using a web browser, without leaving your desk or home office.
- Axia is the only IP-Audio company with dozens of hardware and software partners – playout systems, codecs, profanity delays, audio processors, phone systems, satellite receivers, even transmitters – whose products feature single-cable network connection, eliminating setup time and expense.
- And Axia is part of Telos. With free 24/7 tech support and a 5-year warranty no one else can match. You can feel safe choosing Axia.

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World Radio History

PRODUCTGUIDE

AUDIO ARCHITECTURE AND IMAGIO GO ONLINE

Sound library supplier TM Studios has launched Web sites for its Audio Architecture and Imagio sound production and imaging libraries. The sites, www.audioarchitecture.com and www.imagio.com, catalog all cuts and make them available for immediate online download.

File format is BWAV (16-bit, 44.1 kHz) or hi-resolution MP3 and includes Soundminer metadata. Files are expected to be compatible with all major DAWs, including Adobe Audition and Digidesign Pro Tools.

The Audio Architecture site promises about 18,000 tracks and Imagio has 13,000. Both are updated weekly and offer extensive search options. There are 18 main categories to search in Audio Architecture. Current users of either library may register for free.

For information, contact TM Studios at (972) 406-6800 or visit www.audioarchitecture.com.

SURROUND STUDIO MONITORING FROM STUDIO TECHNOLOGIES

The Studio Technologies StudioComm 76DB/77B are surround sound monitoring systems optimized for broadcast.

"This loudspeaker monitor control system is especially well suited for the growing number of broadcast master control rooms with digital-input loudspeakers," a recent announcement stated. "By eliminating the need for an add-on analog-to-digital converter, the all-digital StudioComm 76DB/77B Surround Monitoring System maintains the fidelity of the 5.1 digital signals from the source to loudspeaker and ensures that broadcasters derive the full benefit of their investment in digital, both in loudspeakers and routing infrastructure."

The system, comprising a control console connected to a rack-mounted central controller, provides two 5.1 surround inputs, three stereo inputs, pre-fade and post-fade 5.1 surround outputs. Features include flexible source selection, Dolby E dialnorm support and a two-channel auxiliary output for applications such as monitoring site-event cue signals.

The Model 77B Control Console, typically located near the user, provides control over monitoring functions. The rack-mounted Model 76DB Central Controller handles the digital signal I/O and performs source selection, downmix, channel solo, level adjustment, reference level and dim.

For information, contact Studio Technologies at (847) 676-9177 or visit www.studio-tech.com.

TASCAM OFFERS NEW DIGITAL HANDHELD RECORDER

TASCAM's new DR-07 is a digital handheld stereo recorder based on its larger DR-1 design.

The battery-operable DR-07 records to SD cards in WAV or MP3 formats with 16 or 24-bit resolutions and 44.1 kHz or 48 kHz sample rates. Features include pitch and looping functions.

The dual microphones are electret condensers. A USB 2.0 port can facilitate downloading recorded files. A mic stand mount is in the base. The DR-07 ships with a 2 GB card, two AA batteries and a windscreen.

For information, contact TASCAM at (323) 726-0303 or visit www.tascam.com.

DIGIGRAM PYKO HANDLES VARIED DUTIES

For PYKO, Digigram decided that smaller (and cheaper) is better. PYKO is a pair of dedicated IP audio products, an A/D converter and a D/A converter. Applications range from STL duty to in-store audio and intercom.

The PYKO-in converts analog audio to MP3 or PCM audio. It also can provide an output for intercom systems. The PYKO-out converter takes digital audio and converts it to analog. It also has the ability to play "local" audio supplied by an onboard USB port. Furthermore it can decode SHOUTcast/icecast audio streams. PYKO units have terminal and GPIO blocks along with RS-232 D-subs on the rear panels. They also have a rail-mount system for mounting.

Both units can be managed by Digigram's Audio Manager network managing application. PYKO units can also be managed via a standard Web browser. PYKOs can interact with Digigram's Visiblu network system.

For STL Digigram said it can offer a solution for less than $1,000. The company describes its offerings thus: "Digigram now offers an extensive range of STL solutions, from PYKO, the most affordable yet reliable solution, to IQOYA *LINK and IQOYA *SERV/LINK topping the range with N/ACIP interoperability capabilities, +24 dBu audio quality and multiple failover methods."

For information, contact Digigram at (703) 875-9100 or visit www.digigram.com.

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WARRIOR

(continued from page 34)

know and not to load any programs you are unsure of, like pirate copies of software, things e-mailed to you and anything that looks unusual."

Effective anti-virus programs can be set to run automatically. If yours is not, Kramer suggests a weekly scan, more frequent if the computer is slowing down dramatically.

When setting up the anti-virus program, make sure it scans removable devices like USB thumb drives automatically. You may have heard about the Department of Defense banning the use of thumb drives on its equipment because of the introduction of malware from a USB drive. An automatic scan would have caught that.

Laptops need to run cool because of the electronics inside. A cost-effective way to get that ventilation and afford a little protection in a protective sleeve is the use of two rubber doorstops, available from a typical "dollar store." It also gets you a better typing angle on the keyboard.

Our next column revisits the favorite microphones of other road warriors along the trail. If you have suggestions for that column, some suggestions on laptops for a future column or any other topic relevant to field radio reporters, please send them to me or our editors.

Paul Kaminski is news director for the Motor Sports Radio Network and a contributor for CBS News Radio and has been a Radio World contributor since 1997. His e-mail is motorsportsradio@msrpk.com.

World Radio History

A Spiritual Anchor, a Local Identity

WPOZ Builds a Christian Success With Z88.3 Chain in Central Florida

BY KEN DEUTSCH

Since Janet Jackson's right breast made an unscheduled appearance at the 2004 Super Bowl, radio may have muzzled some of its most edgy morning shows. But few stations would go so far as to position themselves as "safe for the little ears."

WPOZ(FM) in Florida does.

Known in Orlando as Z88.3, the noncommercial contemporary Christian station is owned by Central Florida Educational Foundation Inc. CFEF owns three other stations and seven translators around central Florida, all of which simulcast WPOZ. The station is live-streamed at ZRadio.org.

It was recently awarded the Gospel Music Association/Christian Music Broadcasters award as major-market station of the year. That may not have come as a complete surprise to station management, though; WPOZ won related awards the last four years as well.

Dean O'Neal and Jim Hoge are familiar faces at GMA/CMB award ceremonies. Here they celebrate the 2008 honor for large-market radio station of the year.

"With the caliber of competition in this town, even we are stunned at the level of success we have had with a 13,000 watt signal," said President/CEO Jim Hoge.

"In an era of cutbacks and consolidation, many stations are forced to work from within their building out to their listener. We go the opposite way. Listeners have a lot of choices, and if you aren't in their world, it's a lost opportunity."

SEEKING THE PASSION

Hoge comes by his interest in radio naturally. His grandmother was a radio and TV personality in the 1950s. As a young man Jim built an experimental (read that: "illegal") station for a ninth-grade science fair. "It was a wonder they didn't put my father in jail."

His first radio job was at WHIS (AM/FM), Bluefield, W.Va. "I had to take the boss's Lincoln around to the loading dock and wash it. I got to mail out prizes, paint the newsroom and run the board at night," he said. "After six months or a year I finally got on the air."

From there he graduated from college with a degree in business and pursued a

(continued on page 38)

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World Radio History

Z88.3

(continued from page 37)

patchwork career in radio. Hoge landed in the audio processing business for Texar; later he worked for a physician who owned several AM Christian radio stations.

In 1987 Hoge bought an FM application under the Docket 80-90 rules after his doctor/employer passed on it.

"I had always been a Christian and had some brushes with Christian radio, none of which was successful," he said. "They were always a disaster. No one listened and there was no passion. What was different about this one? I decided to run it like a radio station."

Hoge felt he could either run a brokered operation or target a mass audience with adult contemporary music. He chose the latter. He hired Dean O'Neal, a young programmer from Kansas City. The two have worked together since and WPOZ has prospered.

The station now operates on a budget of $3.8 million each year, 93 percent of which comes from listener support. Some income is derived from real estate owned by the station.

"We also give non-profit organizations paid access to our airwaves, and we allow up to 10 of them to promote events only," he said. "When one drops out we take on another. You can't gain access like this elsewhere in town. We offer them by the week for about $1,500. We don't have a traffic department and everything is made available on a run-of-schedule basis."

MAKING MORE WITH LESS

"Our station is an attempt to survive in a 100,000 watt world without the 100,000 watts," said O'Neal. "Our main signal is just 13,000 watts at 1,333 feet, but we supplement our FMs with translators to try to shore up our signal in West Orlando. We reach a potential audience of about 1.5 million people a week. While reception in buildings is sometimes a problem, we do very well with in-car listening."

Operating with a full-time staff of 23 and a few part-timers, the station uses live talent with the exception of midnight until 5:30 a.m., when voice-tracking is used.

"The music is the platform we build on," said O'Neal. "But if all you have is music, you're in competition with iPods, satellite and Internet radio.

"What makes terrestrial radio powerful is its ability to be local and involved with the community. Jim and I feel an obligation to be a servant to the area, which is why we are the EAS LP-1 station. We were already providing that kind of information, along with Amber Alerts, and the market recognized this and asked us to take that responsibility officially. Weather is a passion of ours, as we get a lot of thunderstorms and hurricanes down here in Florida."

Web development also is done in-house.

"Our Web master, Ray Hill, is so stinkin' talented that it's unbelievable," said O'Neal. "He also develops the 'creative' for our outdoor campaign and everything else. It is a blessing to have someone like this on staff so we don't have to call in third parties."

ZRadio.org gets more than 617,000 hits a day; the station also airs HD Radio including HD-2 and HD-3 channels. "Y-hot 88.3 HD-2" is a hip-hop R&B Christian format; "88.3 HD-3 The Rock" is Christian alternative rock, both of which are voice-tracked.

O'Neal is a big believer in Internet radio but thinks that the industry needs to communicate a better story about HD Radio.

"The pitch terrestrial radio has made wouldn't make any consumer take on the expense of going out and buying a digital radio," he said. "If we don't get into more dashboards quickly, we'll have a problem."

"We should even pay to get into dashboards," Hoge added. "Currently this is not in the [HD Digital] Radio Alliance business model."

FUN

Hoge feels that many terrestrial stations have let down their audiences.

"The big stations now have syndicated shows on mid-days," he said. "Let's face it. The 1996 deregulation didn't work. It destroyed the broadcasting industry. If this were 1995, you'd see a lot of other stations employing our strategies.

"These big groups paid too much for their facilities and they have a bottom line to meet. Since most of them are publicly traded, they look at quarter-to-quarter earnings, not year-to-year. If they have to cannibalize the station to hit those quarterly numbers, they do it."

WPOZ has an audience and a Christian message. But more important to O'Neal and Hoge, they enjoy what they do.

"We might be the last two guys in radio who are actually still having fun," said Hoge.

Visit WPOZ online at *www.zradio.org*.

Ken Deutsch is a former broadcaster who has written for Radio World since 1985.

STATION SERVICES

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TEACHERS TURN OUT FOR K92FM EVENT

Cox Radio's WWKA(FM) in Orlando broadcast live at the Lakeshore Learning Store in August to collect school supplies for Central Florida teachers. Hundreds of educators turned out to snag the thousands of dollars of school supplies that were donated through the country music station's event.

World Radio History

Automation

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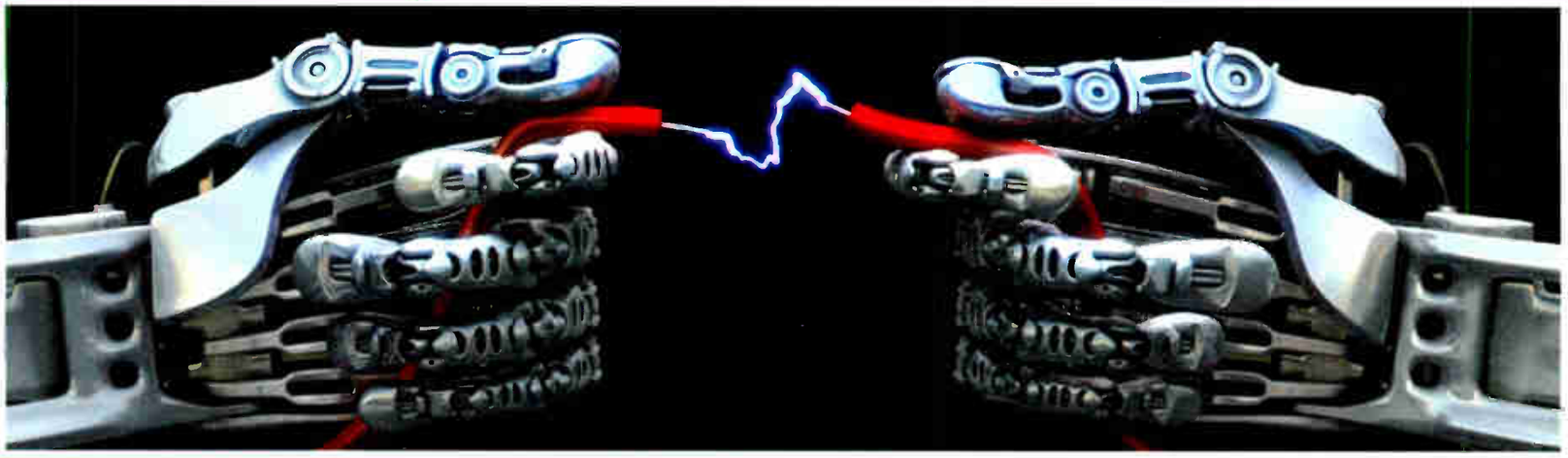

Not since Axia audio-over-IP was introduced to the broadcast industry have we at BGS been so excited! It is with great enthusiasm we'd like to invite you to take a look at the new Op-X Radio Automation delivery system for any single or multi-station cluster. Op-X works seamlessly with Axia IP-Audio networks or as a stand-alone system.

*"The merging of traffic and music logs takes a mere :30 seconds, making it among the easiest I have ever worked with. Once you get used to your adjustable personal color scheme, everything is pretty easy to follow. The best part about this system is the LACK of "dead air" or "hangups" during automation. PD's will breathe a sigh of relief at this. Another thing that stands out is the absolute ease with which you can build your personal hot keys for each air talent. If you organize your show properly ahead of time and know where you are going, this system will make your show much easier and let you concentrate on *sounding good* on the air."*

~ Jim Franklin, Program Director
WVBO, Appleton/Oshkosh - Wisconsin

"Finally, an automation system that keeps in mind that not every jock is also a computer whiz. This system is easy to operate from the word go.....
yet offers all the bells and whistles that help make your station sound great. The clock builder option makes interfacing with satellite shows very easy. Plus, it has the best voice-tracking capabilities available."

~ Matt Scurry, Operations Manager
WWFN/WHLZ, Florence - SC

"A fast paced station needs a system that can keep up and is easy to use. Op-X gives us the tools we need to deliver the sound Houstonians have come to expect from KRBE."

~ Leslie Whittle, Program Director
KRBE, Houston - TX

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World Radio History

Should You Care About Recall?

With PPM It's Tempting to Think Not. Don't Be Lulled Into That Error.

PROMO POWER

Mark Lapidus

Read more Promo Power articles online at radioworld.com

Recently an industry expert told me that the need for recall had been eliminated by the Portable People Meter.

On the surface this logic makes sense. With paper ratings dairies, we relied on listeners to remember a radio station and write down the frequency or call letters. If the radio station had great recall, it won! Now the PPM determines the station being listened to and keeps track of the data. No need for the listener to remember anything about the radio station, right?

Wrong.

If listeners don't remember stuff about your radio station, there isn't really a compelling reason for them to return, or to talk about your station with friends who might end up sampling.

Create a jukebox with no real personalities, zero promotional activity and no controversy — and watch your ratings suffer. Be forgettable, and that's just what you'll be.

With the fall season, it's time to tune up your station to create the recall you need to be sampled and remembered.

Start with your personalities. — Does each member of your air staff work on their own brand? What are they doing to connect with potential fans?

If they're personable, are they out a lot in the community? If they prefer to reach out via social networking on Facebook and Twitter, do they do it enough to engage mass numbers?

Do they do a real show every day with a roadmap of what they're talking about, or are they just voice-tracking titles?

Challenge your personalities to come to you with fresh ideas for building their brand in your city.

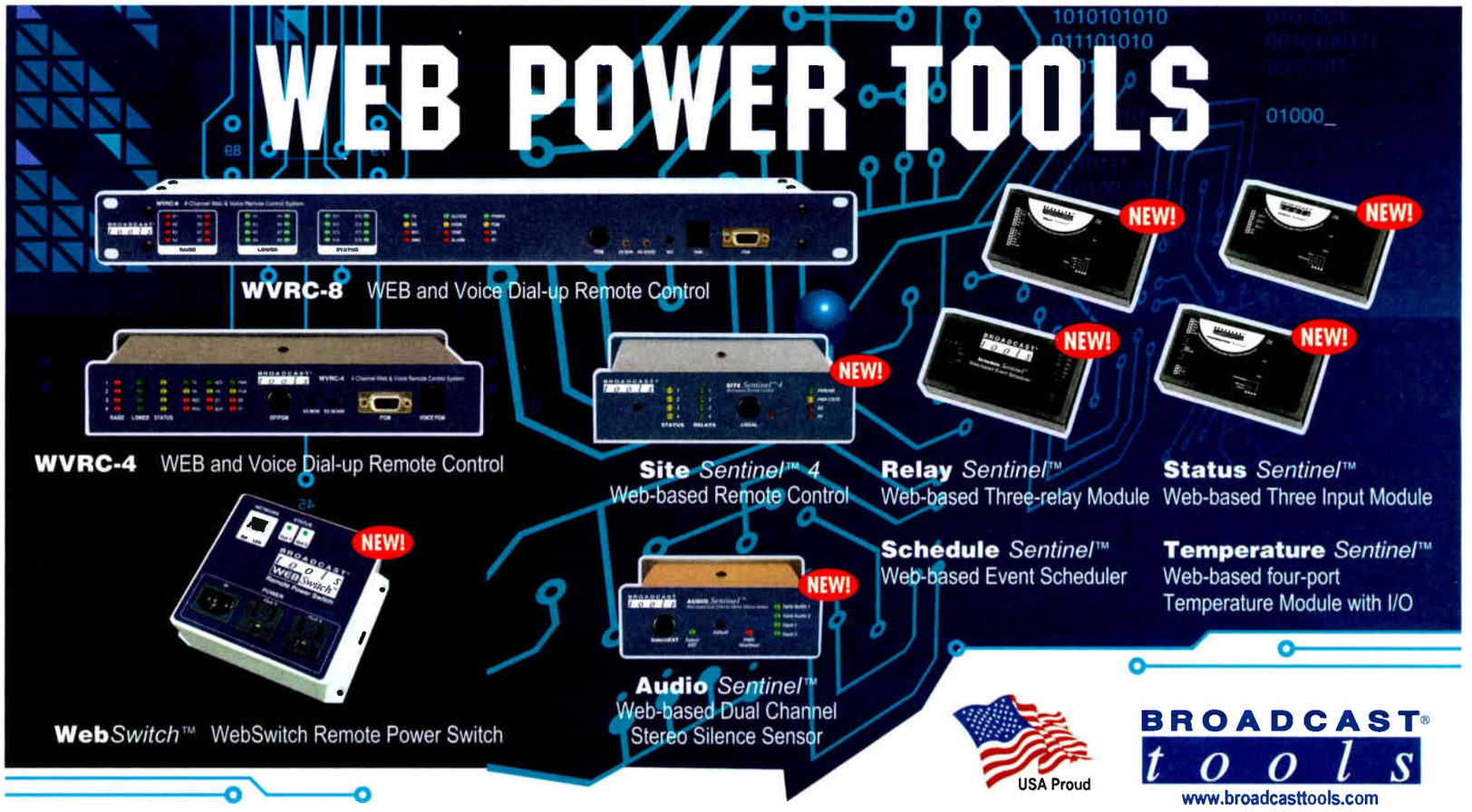
Create a promotional calendar. — Smaller staffs have made it difficult to do more than just execute day-to-day to operations. You're not alone in feeling as if there aren't enough hours or bodies around to do the work.

Your job as a manager is to prioritize and there are few tasks more important than developing and sticking to a promotional plan.

Contesting, raising money for great causes, hosting exciting money-making events and properly acknowledging and celebrating holidays that make life special ... all are vital to being memorable.

If you're a rock station and you missed the major party holidays last year — St. Paddy's, Cinco de Mayo, Mardi Gras, Halloween, Day After Thanksgiving and

Ryan Seacrest isn't just a personality, he's a brand. Does each member of your air staff work on theirs? What are they doing to connect with potential fans?



World Radio History

READER'SFORUM

YOU'LL BE GLAD YOU DID!

Hi Rod, I really enjoyed your article ("Great Copy Will Deliver for Clients," June 17). Great copy = more repeat customers and a higher percentage of budget being shifted to radio. Great copy can also make a commercial enjoyable to the listener instead of a tune-out.

I once worked at a station that had the receptionist write copy because the phones weren't usually too busy. The GM gave her one short training session and put her to work.

My least favorite cliché is "You'll be glad you did." This is often used at the end of a spot. The final few words have the highest retention, so the listener may remember they'll be glad they did ... but they may not remember just what it is they are supposed to do to make them glad they did.

I hope radio stations will post your list of clichés to avoid like the plague and that Radio World will publish some additional ones.

Dave Dworkin
Radio Mall
Minneapolis

OPERATORS ARE STANDING BY

Guaranteed to make me shiver:

"All the trimmings"

"Looking for ___?" or "Need ___?"

"The boss is out of town"

I can think of a few more, but these are my favorites, so to speak.

Juan Gualda
Fort Pierce, Fla.

UP IN ARMS ABOUT CLICHÉS

Here's Rod Schwartz's original list of clichés heard in radio commercials:

"for all your _____ needs"
"conveniently located at _____"
"the friendly folks at _____"
"the professionals at _____"
"your _____ headquarters"
"and much, much more"
"just in time for _____"
"like never before"
"the sale you've been waiting for"
"lowest prices of the year/season/ever"
"it's that time of year again"
"we sell the best and service the rest"
"our service is second to none"
"our friendly, knowledgeable staff"
"you heard it right"
"it's happening right now"
"(Season) is right around the corner"

DON'T READ THIS COPY (ALOUD)

Some of us walk around the office repeating many of the clichés in our bad attempt at humor. Here are some more:

"There's never been a better time"

"Located at ..." (Why does every address need "located"? "Jones Dairy, 1234 Main Street" will suffice)

"Think you can't ___? Think again!"

"It's summer!/winter!/fall!/spring!" (It's stupid!)

"Hi folks!"

(Late in the spot): *"So, remember ..."*

"Attention ___!"

And please add one more:

"You'll be glad ya did!"

Ugh.

Dave Silverstein
Raser Communications
Utica, N.Y.

HOW TO

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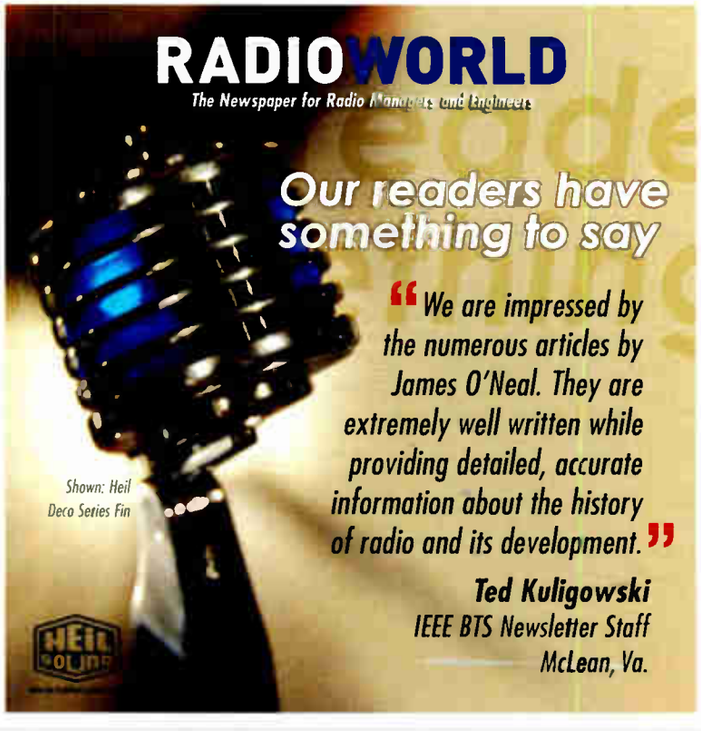

World Radio History

READER'SFORUM

NOTHING NEW UNDER THE SUN

A recent Radio World story on the 30th anniversary of the invention of the compact disc ("From Pinkeltje to Ubiquity: CD Turns 30," May 20) prompted me to compare the CD with my grandfather's first analog disc. He was Emile Berliner, inventor of the microphone and the disc-playing gramophone, which made voice and music broadcasting possible.

The similarities are incredible. Take a look at the 1996 CD from Deutsche Grammophon (a label founded and named by Emile and once owned by CD inventor Philips Co.) and the Berliner Gramophone Co. 1889 disc.

1. They're the same size (approximately 5 inches in diameter)
2. They each have a center hole
3. They're "single face" (recorded on one side only)
4. There's no paper label (contrary to that found on "78s")
5. The CD is recorded on the bottom (as specified in the Berliner 1887 patent, though even Emile didn't record that way)
6. The CD is inside-start (as shown in the patent, and innumerable radio transcriptions were recorded thusly)
7. The recordings are in the form of a spiral, the CD with pits, the analog with a groove
8. The CD is replicated on a press, just like the analog disc (Emile Berliner's invention for mass-producing unlimited perfect copies of a single master recording created today's recorded music industry)

But there's one big difference between the two discs: The Berliner analog disc will be playable a hundred years from now. The CD won't be.

Oliver Berliner
Bozman, Md.

WAMU MULTICASTING

Mark, the reason you'll never hear "Go to WAMU Dot Org to print out your 25 percent off coupon to purchase an HD Radio from Best Buy this week only" is that it would (probably) be illegal for WAMU to do so ("Why Should I Buy an HD Radio," July 15).

They're a noncommercial station, and that one sentence violates all three of the core no-no's for noncoms: price info, inducement to buy/sale info and calls to action.

It's possible that if there was no fiscal connection/relationship whatsoever between Best Buy and WAMU, it might be legal, but it certainly would sound weird for a noncom to be so blatantly shilling for a business, especially a for-profit. That's rather a no-no in the noncomm world … listeners would probably be too annoyed for it to be worth it.

Aaron Read
General Manager
WEOS(FM)
Geneva, N.Y.

Mark Lapidus replies: Very true Aaron, and since I used to write those "non-commercial" commercials about 30 years ago at WOUB in Athens, Ohio, I should have remembered that! I believe we called them under-writing announcements. I'm sure a clever wordsmith could construct such a statement that follows the rules but still communicates the message from 88.1 to 91.9! Thanks for reading RW and for catching my error.

LITTLE PITCHERS HAVE BIG EARS

Radio is a dying medium. Or at least that's what I'm told. I don't believe it one bit. A recent experience reconfirmed my belief that children are listening to the local terrestrial as opposed to their MP3 player or on the Web.

My son was a first grader this spring at Chandler Elementary. His teacher, Ms. Jackson, allows each student to be Star of the Week during the school year. This is an opportunity for the child to tell a little about his or her interests or hobbies and for the other children to learn something extra about one of their classmates.

It was my son's turn and I was given the opportunity to speak to his class. I walked into class with a hand-truck full of beacon, an incandescent unit that I had in my garage. (Rest assured, I took one of the bulbs out before I brought it into class because I knew that they would ask me to plug it up.)

I walked into the room and set the dolly down and purposefully said nothing. They asked what it was; I responded by asking what they thought it might be. Finally one little boy had figured it out. "Is it a can opener?" I haven't laughed that hard in a long time.

"Great guess, but no," I told him. I explained what exactly I had brought with me, and told them that I was chief engineer for six radio stations and that it was my job to keep them on the air.

Then I pulled out several pictures of our air studios. The first set I showed was of our country station.

Suddenly a group of jingle singers that I must not have noticed when I'd walked into the classroom began to sing the station jingles in a choir of little voices. This made me smile.

The next set of pictures was from our heritage CHR. Again, familiar music burst out in the classroom. Somehow I'd missed *two* sets of jingle singers in the room.

I displayed the third batch of pictures, this time of our heritage AC station. I said that their parents or grandparents may listen to this particular station — at which point one little girl in the middle of the pack belted out the weather jingle. Then in her best radio voice she said, "A service of South Central Radio Group!"

Hilarious. She'd actually committed to memory a phrase that is buried inside of a legal ID played once an hour.

These kids knew more about our stations than I would have ever expected. Proof of radio's viability? Maybe not. But it is a positive indicator that the next generation is interested and actually *listening*.

Jeff Yates
Chief Engineer
Evansville Radio Group
South Central Media
Evansville, Ind.

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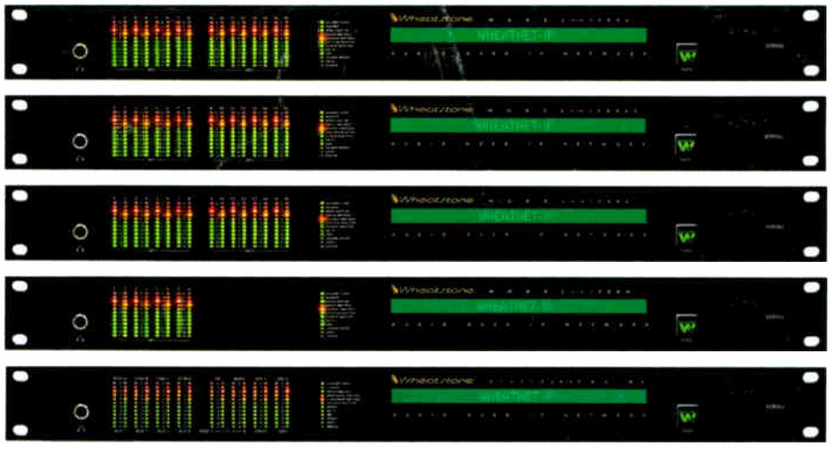


AUDIO-OVER-IP ROUTING. SOME TECHNICAL STUFF.

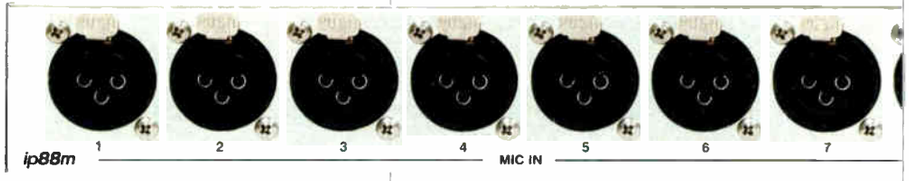
WHEATSTONE and WheatNet®-IP

WheatNet-IP is the new name for Wheatstone's Audio-over-IP networking, routing, and mixing system. First introduced at NAB 2008, it now accounts for the vast majority of networking systems that Wheatstone quotes and installs.

First, a quick overview, and then why WheatNet-IP has been so successful, not only in converting Wheatstone's loyal clients to AoIP, but also in convincing clients of the su periority of Wheatstone's technology over other choices.

WheatNet-IP BLADES

We call our I/O and mixing hardware and software "BLADEs"... way beyond the cutting edge, they're sharp and to the point (and yes, pun intended). Each BLADE is designed for a specific function—we don't cram unrelated tasks into one box making a central point of failure; we all know about "putting all your eggs in one basket."



BLADEs are access points in and out of the network. They interface seamlessly with Wheatstone's Evolution Series Console Control Surfaces, the Glass-E Virtual Console Control Surface, most of the popular automation systems, and streaming audio.

Three BLADES are line level I/O interfaces, one all analog, one all digital, and one half of each. Our newest BLADE provides mic level inputs. A fifth hardware BLADE mixes the audio for a Wheatstone console control surface. Each of the BLADEs and each Wheatstone console control surface connects to the network with a single CAT5E/6 cable.

BLADES are loaded with lots more sharp features: Each includes two 8x2 virtual utility mixers that can be used for a wide range of applications, a front panel headphone jack with source select and level control to monitor any system source, SNMP messaging for alerts, and silence detection on each output that can trigger alarms or make a routing change.

There's also WheatNet-PC, a software BLADE that you install on automation system computers, news workstations, or even the PD and GM's desk computers—to control, play and record audio on and off the network. It eliminates the expensive sound card, and replaces tons of audio and control wiring with a single CAT5E/6 cable.

EASE OF INSTALLATION

The relatively small channel count of each I/O BLADE allows you to conveniently locate it close to your equipment. In TOC/Master Control, there's no need for a back wall full of punch blocks, a BLADE (or occasionally two) in each rack keeps audio and control wiring entirely within the rack, allowing for a fast and clean build-out. In the studio, usually just one line-level BLADE is required; they're silent, so you can locate them with live mics.

FAST AND SIMPLE SETUP

Wheatstone's goal was a system that's extraordinarily easy to implement without the need for super-complicated network engineering, and where you don't need to be concerned about setting priorities to assure that those signals that are most critical are available.

WheatNet-IP setup is easy, intuitive, and takes only a few minutes until you're on the air. The front panel setup wizard in each BLADE gets you up and running in moments. Extensive front panel metering and status indicators provide quick confirmation that all is well. WheatNet-IP's web interface and WheatNet-IP Navigator software let you further customize your system, locally or remotely, with input and output names, logic associations routing and much more.

RELIABILITY

Audio everywhere all the time, and keeping you on the air, were foremost in the design of WheatNet-IP.

Wheatstone chose Gigabit Ethernet (1000BASE-T) because 100BASE-T just can't simultaneously handle the large number of audio channels prevalent today in large broadcast plants without the very real risk of audio not being available when you need it. Gigabit protocol means all audio everywhere with extremely low latency.

WheatNet-IP is completely self-contained—no PC is required to perform any of the system functions, including routing, mixing, salvos, and logic control. The PC is needed only for configuration changes.

Each BLADE carries a complete map of the entire connected network in its onboard CPU flash RAM. Talk about redundancy, a system with 36 BLADEs has 35 backups! Need to replace a BLADE? Assign its ID number and connect it to the network—it will query the other connected BLADEs and import all the necessary configuration settings!

BLADES

ip88m ANALOG MIC I/O BLADE: 8 fully balanced reference-grade mic preamps with phantom power, 8 analog outputs, 12 universal logic (GPIO) ports programmable as inputs or outputs, routable throughout the system.

LINE LEVEL I/O BLADEs: 16 input channels, 16 output channels (switchable 8 stereo, 16 mono, or any combination), and 12 universal logic (GPIO) ports.

ip88a ANALOG I/O BLADE: 16 analog in/out.

ip88d AES DIGITAL I/O BLADE: 8 AES (16 channels) in/out.

ip88ad ANALOG & DIGITAL I/O BLADE: 8 analog in/out, 4 AES (8 channels) in/out.

ip88e WheatNet-IP MIX ENGINE BLADE: Handles all of the mixes from Wheatstone Evolution Series Console Control Surfaces and the Wheatstone Glass-E Virtual Console Control Surface, distributing the four stereo PGM, four stereo AUX SEND, per-channel MIX-MINUS, monitor outputs and other bus signals to the network. Once on the network, they are available as sources and outputs anywhere. This creates an extremely flexible system, where program outputs from one surface can be a source on any other surface; for example a news mixer's program bus as a source on the air studio surface. While the ip88e doesn't house audio I/O, it does include 12 universal logic (GPIO) ports.

WheatNet-PC BLADE: Installs on Windows PCs to replace the sound card; interfaces eight stereo audio signals in/out, plus automation control data (start, stop, etc.).

See us at NAB Radio 2009 Philadelphia, booth 415

Audio Networking—Simply Evolved

WHEATNET-IP

Wheatstone

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