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RADIOWORLD

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Former U.S. senator and new NAB President/CEO Gordon Smith 'can't wait to get started' in his new gig, which begins Nov. 1.

© NAB

NAB Radio Show to Morph

New Platforms, New Commissioners and a New President Highlighted This Year's Event

BY LESLIE STIMSON

PHILADELPHIA — It seems the NAB Radio Show will look much different next year, with a different type of venue and smaller overall feel. Though plans have yet to be finalized, some details were known by the end of this year's event in Philadelphia.

What follows is a sampling of news from the confab.

At this year's show, several types of HD Radio portables were displayed, with some available now and others expected during the holiday season. Look for IBOC news from the show on page 12.

With a new administration comes three new faces at the top of the Federal Communications Commission; two of those three made their first appearance before broadcasters at this event and spoke of how much has changed at the Portals under the new chairman.

And NAB's soon-to-be chief executive, former Sen. Gordon Smith, addressed broadcasters for the first time in his new role and was visible in the sessions and on the exhibit floor.

(continued on page 6)

Why an NPR Labs Digital High-Power Study?

We Need to Know What People in Their Cars Will Hear

BY MIKE STARLING
NPR LABS

We must boost HD Radio power to improve indoor and portable HD Radio reception. A solution can't come too soon. But we cannot trade a solution to one problem for a new set

COMMENTARY

of unacceptable long-term outcomes. HD power should — and can be — increased in ways that will protect existing analog radio listening, particularly the listening experience for the vast numbers of people who tune in while in their cars.

To provide the Federal Communications Commission and industry with the research needed to inform sound decision-making about HD power levels, NPR Labs has completed an intensive five month study into the issue.

While the final reports won't be released for several weeks, the topline results were unveiled at the

(continued on page 3)

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STARLING

(continued from page 1)

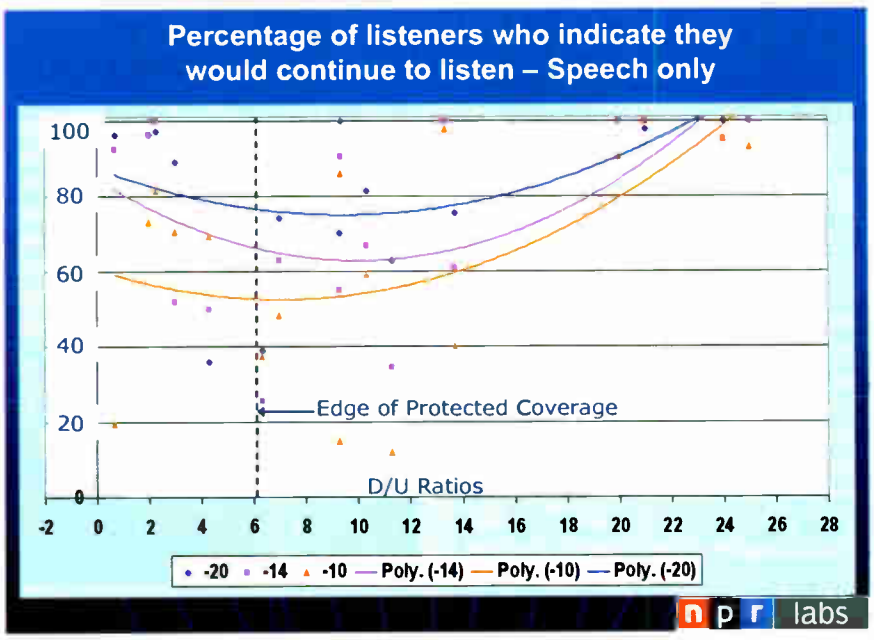
NAB Radio Show in Philadelphia — and it is sobering information all in radio should understand.

To iBiquity's credit, they have now endorsed the expedited deployment of asymmetrical power and single-frequency network booster solutions that create sensible increase alternatives, particularly for congested markets.

CONSUMERS ARE DRIVERS

NPR Labs comes to this work as an unabashed advocate of HD Radio, indeed as one of its leading and most enthusiastic innovators. Nearly two-thirds of public radio stations are operating digitally (more than 460 stations) and public radio has spearheaded both multicasting and efficient bitrate coding to add new program channels and new datacasting services.

HD Radio presents the opportunity for all radio broadcasters to create important public service enhancements unavailable to our analog audiences. Captioned radio for those who are deaf or hard of hearing is just one recent example of NPR Labs' innovations with HD.



Based on initial results, listeners noticed interference in the audio, with nearly half indicating they would likely turn off the radio when power was turned up to –14 dB and –10 dB on closely spaced stations with lightly processed formats such as news and classical music in some portions of a coverage area. Vertical axis is percentage of listeners who would continue to listen; horizontal is signal strength of the desired station over the undesired interfering station.

While we remain focused on HD's all-digital (if distant) future, we will be living in a hybrid digital radio system for a long time. Today's total radio analog audience is at an all-time high of 238 million, and the dominant dayparts remain morning and afternoon drive time.

This is the bedrock of our industry — both commercial and non-commercial. Our shared audiences do not sit at home in their easy chairs carefully attending to a meticulously installed high-fidelity receiver in their living rooms. Today, the driving public drives the radio industry.

We need to know what people listening in their cars will hear when the power levels are increased, and to carefully document whether the quality of what they hear will lead them to turn us off. We also need an appreciation for how power increases may affect especially vulnerable analog radio reading services for those who are blind or otherwise print-impaired, and how NCE stations might be uniquely affected — areas that had not been previously studied. That's why NPR Labs embarked on our recent study.

Our studies were informed and made more robust by healthy debate with our commercial colleagues and other interested industry stakeholders. For example, our commercial colleagues insisted that laboratory-generated audio did not possess the same qualities as field-collected audio, and within the time constraints of our study we had to agree with them.

IMPACT INSIDE PROTECTED CONTOUR

Thus, we relied solely on field-collected audio and exclusively analyzed impact inside the protected contour. This is the first time that mobile analog IBOC interference has been the basis for a study of listener behavior.

> **This is the first time** mobile analog IBOC interference has been the basis for a study of listener behavior.

And we studied only single-interferor scenarios to determine whether a single station's power increase could affect an adjacent station's protected

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RADIO SHOW

(continued from page 1)

2010 SHOW IN D.C., EXHIBIT CHANGES AFOOT

Next year's radio show will be in Washington, two months before the mid-term elections in Congress, giving attendees a chance to visit congressional offices. The show may also be timed to coincide with the annual Group Head Fly-In.

NAB Radio Board Chair Chuck Warfield, president and chief operating officer of ICBC Broadcast Holdings, announced the choice of city, although the dates and specific venue were not final in late September. The trade association is still talking to exhibitors about planned changes in the structure to integrate displays better with the rest of the show, according to spokesman Dennis Wharton, who said this could result in a smaller exhibit area.

The trade association is considering using tabletop displays rather than larger booths; NAB could then choose a hotel, rather than a convention center, to hold the show, and save money and staff time, according to the association.

Presumably, the cost to exhibit would go down as well, and vendors would save money in this scenario by cutting their shipping costs.

While a tabletop approach wouldn't change exhibit plans much for programmers, it could have big ramifications for some transmission and other equipment manufacturers, whose customers like to see the gear set up and working.

One representative of an RF manufacturer said the changes would turn the radio event more into a regional show, speculating that the schedule would include "dark" times for exhibits while sessions were taking place and vice versa.

Pointing to a transmitter in a booth, another company's representative said, "We could have this conversation whether this was here or not. [But] having the dialog about upcoming projects is as important as what's under the hood."

A representative of a third transmission manufacturer, asked about the likely impact of changes, simply said "We'll see." His concern was that customers would be left seeing gear at only the spring NAB Show; he said some customers won't travel to Las Vegas for religious or other reasons.

Several hardware vendors told Radio World that the proposed changes would not be a concern because much of the floor already consists of smaller booths. However the head of one transmitter company said a tabletop approach would be "terrible" and would seem to send a signal that the industry is "giving up."

Wharton also confirmed the changes are only being discussed for the radio show, and would not affect the spring event.

NEW FCC TOUTED

"Welcome to the new FCC."

That's how new Commissioner Mignon Clyburn, a Democrat, characterized the mood at the agency these days as staffers seek more input from outside the beltway and open lines of communications within the commission itself.

Chairman Julius Genachowski, she says, is giving the agency bureaus and office a more robust role in decision-making than they've enjoyed previously.

The FCC's new Media Bureau Chief Bill Lake has pledged to clear up a backlog of several radio decisions, saying at a session that his department is "paid to make decisions and not put them off." Lake said the bureau, in concert with the Audio Division, has been working to make some decisions about radio items that have been languishing.

© NAB

'Welcome to the new FCC,' Commissioner Mignon Clyburn said as she introduced an agency panel.


© NAB

From left: Peter Doyle, audio division chief; Bill Lake, Media Bureau chief; Sherrese Smith, media legal advisor to the chairman; Bill Freedman, acting media legal advisor to Commissioner Meredith Attwell Baker; and Rick Kaplan, acting media legal advisor to Commissioner Mignon Clyburn.

Panelist Bill Freedman, an acting legal advisor to Commissioner Meredith Attwell Baker, a Republican, agreed. "You're going to get faster, appropriate decisions." When licensees go to the Portals, he said, they'll see "people with smiles on their faces." There "really is a fresh breeze" blowing through the commission, he said.

INPUT ON 'RADIO RESCUE' PROPOSAL SOUGHT

The commission is now taking public comments on the so-called Radio Rescue Petition submitted in July by the Minority Media Telecommunications Council. Comments on Report # 2899 or RM # 11565 are due Oct. 23. The notice came out during the show.

This is a step just before a rulemaking. After reviewing the comments, the commission could then issue a Notice of Inquiry or a Notice of Proposed Rulemaking, a source close to the agency told Radio World.

The 17 proposals in the petition would modernize "archaic broadcast engineering rules" that "operate as market entry barriers, effectively stifling diversity and impeding competition," according to MMTC in its document.

The group believes the changes would make it easier for women and minorities to buy their first stations. MMTC supports the Broadcast Maximization Committee proposal to re-purpose analog TV Channel 5 and 6 and expand the NCE service, reallocate LPFMs and allow all interest AMs to migrate to between 76 to 88 MHz.

MMTC also proposes the FCC eliminate nighttime coverage rules, give AMs more flexibility in finding tower sites, limit third-adjacent spacing, hold owners to 10 translators apiece and extend new station construction permits to three years.

TRANSLATORS FOR AMS DEEMED A 'GREAT SUCCESS'

Rules allowing some AMs to operate on FM translators became permanent on Oct. 1.

In June, the commission changed its translator rules to allow AMs to use currently authorized FM translators to retransmit their AM service within their current AM coverage areas.

Audio Division Chief Peter Doyle said the rule changes have been a "great success," with 250 AMs rebroadcasting on an FM as of late September. Some of those AMs are originating programming at night for the first time, with lots of Friday night football games, Doyle added.

Another 10 to 20 new applications are filed each day. It's not clear how many of those would be approved. "It's an issue of spectrum supply and broadcaster demand," he said, noting that owners need to figure out of they have the programming and advertising to justify the move to FM.

As of Oct. 1, Special Temporary Authorizations allowing AMs to operate on FM translators were to be cancelled.

As for FM translators in general, what to do with pending applications is high on the commission's list of radio items to act on, according to Media Bureau Chief Bill Lake. Since 2005 the FCC has frozen new grants and later it proposed limiting applicants to 10 translators a piece. Subsequently filers proposed raising the cap to 50.

HOW MUCH LPFM SPECTRUM IS THERE?

Legislation is pending in Congress to remove third-adjacent-channel protections for full-power stations to make room for more LPFMs.

But could there be room for more low-power FMs even without that change? The question was put to the panel at the FCC session.

There are more than 810 LPFMs on the air. Audio Division Chief Peter Doyle said it is debatable how much spectrum is available. The commission has said it would open a window to accept applications for new LPFMs next — before the next AM window or non-com translator window. The FM translator cap decision (see story above) may translate into more spectrum for LPFMs; however it's hard to judge demand.

Doyle said the agency would like to do a better job of coaching permittees and applicants, to explain the construction process. The commission issued 1,300 construction permits in the first LPFM window but more than a third of those expired, Doyle said. Some coaching might help get those applicants to licensee status, he said.

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RADIO SHOW

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BAKER SUPPORTS FMS ON CELL PHONES

At least one commissioner supports efforts to get radio onto cell phones, inspired by Apple's decision to include FM in its new iPod Nano.

Commissioner Meredith Attwell Baker's acting media legal advisor Bill Freedman said, "Our belief is the commission should try to facilitate this" but let the marketplace work it out rather than try and legislate the effort.

Noting that he has used a crank radio his wife recently bought for emergencies, Freedman said he wished he had a cell phone with radio capability instead. He quipped he'd grown "arms like Popeye" from cranking their emergency radio.

SMITH: 'I'M YOUR CHIEF ADVOCATE'

As he made his debut before broadcasters, incoming NAB President/CEO Gordon Smith said he's ready to hit the ground running and positioned himself as someone who can reach across political aisles to get things done.

"This is a strong industry with a bright future. And I am very excited to be a part of it."

Calling himself a "chief advocate for America's broadcasters," the former two-term Republican U.S. senator from Oregon said he's aware of the public service that free, over-the-air broadcasters provide, and he knows that part of his job is making sure that regulators and the public understand how much broadcasters do for their communities.

Smith, who officially starts his new job on Nov. 1, received a standing ovation from several hundred attendees. He met the association staff the previous day and had been named to the position the week before the show.

Getting content on different platforms, like streaming and FM on cellphones, are the future of radio, he said.

Several attendees told Radio World they're relieved and glad NAB now has a leader to chart a new course.

NAB, SMITH TO BE PROACTIVE ON NEW TECH

Gordon Smith began his first term in the U.S. Senate in 1997, a time when the FCC was still implementing the Telecom Act. At the time, FCC Chairman Reed Hundt said Congress left many details up to the commission, which worked on implementing sections of the act in six-month increments.

> **This is a strong industry** with a bright future. And I am very excited to be a part of it.
>
> – Gordon Smith

Smith met with press soon after he greeted radio show attendees. Radio World asked what his biggest challenge for radio is; he believes it's the performance royalty issue.

"Whether you call it a fee, a fine or a tax," he said, it affects broadcasters' ability to do business. "The truth is, artists need broadcasters and vice versa."

As for his plans to lead the NAB in the direction of new technologies, Smith plans to "reach out to [the] Apples and Microsofts and producers of new technology about including FM radio in their products."

NAB Board Joint Chair Steve Newberry expects the organization to embrace new technologies. When looking for a new leader, he said, the search committee specifically sought someone proactive in that arena.

Smith formerly chaired the Senate GOP High Tech Task Force; he has entree into building partnerships with these companies, as opposed to waiting for those companies to tell broadcasters what they have in mind, according to Newberry.

D.C. IS SMITH'S HOME

Smith represented his family's home state of Oregon in the Senate but grew up in Bethesda, Md., (where he now follows Maryland Terrapin basketball). He told reporters at the radio show his favorite station was the former WEAM(AM).

Smith, one of 10 children, moved to Washington when he was 2 years old. His father was on Dwight Eisenhower's presidential staff; his cousin Stewart Udall became secretary of the interior for John F. Kennedy.

Smith says he understands trade associations and the importance of their work. When his father left government he

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NPR PLANNED MOVE HAS RAMIFICATIONS FOR DISTRIBUTION

Photo by T. Carter Ross

Elevated FM IBOC power was hot, but so were other topics at the Association for Public Radio Engineers meeting in Philly in late September. They included NPR's planned move to a new building, shown, its backup operations center and earth terminal refurbishment.

Several elements of these projects need to be completed, or nearly so, before NPR's planned move to a location a few minutes drive from its current Washington site.

Dick Kohles of NPR Distribution told APRE attendees that the tentative plans are to move and consolidate the headquarters and distribution structure, the offices of which are spread out at different Washington locations, into the new site and begin transmitting from North Capitol Street by June 2013.

NPR Distribution conducted a successful test Aug. 30 from its backup National Operations Center in St. Paul at Minnesota Public Radio headquarters. Now the relevant MPR staff is being trained in how to bring up the NPR Distribution system without help from Washington in the event of a catastrophe in the nation's capital or at NPR HQ, or if NPR personnel have to vacate their building during an emergency. A test for this kind of event was tentatively planned for late this month.

Construction for the new building Networks Operations Center is slated to begin in the next 18 to 24 months, Kohles said. That center would be built in the current headquarters and tested there so that by the time of the move, it is debugged, he said.

"Our systems are so complex, the days of shutting down one building and moving to another one overnight are long gone."

The point of the earth terminal refurbishment is to prepare for the next 8 to 10 years. In Q1 of 2010, NPR plans to query member stations about the state of their satellite dishes and support hardware.

Sound Off

Comment to Radio World about anything you read in these pages. E-mail *radioworld@nbmedia.com* with "Letter to the Editor" in the subject line.

NEWSWATCH

INSIGNIA STATION DISCOUNT: Broadcasters can buy the Insignia HD Radio portable player for $34 each (plus applicable tax and shipping) through Best Buy for quantities of five or more. That's $15.99 off retail. Refer to Model NS-HD01 and SKU #9375071. For more information, contact *highdefradio@bestbuy.com*.

FM IBOC TRANSMISSION QUALITY: Earlier this year the National Radio Systems Committee approved guidelines for measuring IBOC signals. Now an NRSC subgroup has okayed a standardized way to measure the transmission quality of an FM IBOC signal called Modulation Error Ratio. The hope is that equipment manufacturers will be able to offer improved devices to measure signal quality.

Geoff Mendenhall, vice president of transmission research and technology at Harris, led the team developing the measurement standard. Engineers from iBiquity, Broadcast Electronics, Continental Electronics, Harris Broadcast, Nautel and others worked on it and reached consensus on the standardized method for measurement, they reported.

Mendenhall said the change would give "broadcasters confidence that their HD Radio transmission system is truly delivering a high-quality signal to their listeners." The technique is described in an iBiquity reference document that the company submitted to the NRSC's Digital Radio Broadcasting Subcommittee. The group will consider incorporating the technique into the NRSC-5 IBOC Digital Radio Broadcasting Standard as well as NRSC-G201 guidelines for measuring FM IBOC RF mask compliance, adopted this spring.

FM DIGITAL BOOSTERS: Broadcasters are a step closer to being able to use on-channel FM digital boosters to expand their coverage area. iBiquity Digital Corp. and the NAB FASTROAD technology advocacy program said the first stages of the project are complete. IBiquity is doing the work, which is co-funded by iBiquity and FASTROAD. The boosters, strategically located within a station's coverage area, would transmit only the digital portion of the hybrid IBOC signal. IBiquity is targeting a booster design that is interoperable among transmission equipment manufacturers. The technology is reverse-compatible with existing receivers and supportable by existing FM IBOC broadcast products, such as exciters, through upgrades.

RADIO SHOW

(continued from page 8)

worked at what was then the National Canning Association. Smith told reporters his wife now heads the family business, American Frozen Foods, which processes about 10 percent of the nation's peas and corn.

Smith visited radio stations when he was in Congress and purchased political ads on stations as well. He acknowledged voting to increase indecency fines ten-fold for broadcasters after the Janet Jackson wardrobe malfunction, saying he "was joined by 99 other senators" and cast his ballot as constituents wanted. "My job now is to help broadcasters who do not favor indecency to deal with the legal ramifications of local community standards."

HOW MANY CAME?

NAB said just over 2,500 people preregistered for the NAB Radio Show in Philadelphia. That compares to 2,649 for Austin, Texas last year — a 5 percent drop, which was smaller than many observers feared.

The trade association expressed satisfaction with the attendance, "given the challenging economic environment of the last year," a spokesman said.

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FCC Ready to Move on Power Increase?

Tension Over a Hike Is Show Backdrop; Portables Also Draw Attention

BY LESLIE STIMSON

PHILADELPHIA — Discussion of the controversial elevated power increase proposal was at the forefront of IBOC news from the NAB Radio Show, while portable receivers — some available now on store shelves, others soon to be — garnered attention in iBiquity's booth. After the show, the power hike story continued to evolve.

Here is a sampling of IBOC news from the convention.

INTENSE TALK ABOUT POWER FOCUSES ON 6 DB, FOR NOW

IBiquity and NPR said they were working toward a compromise recommendation on the FM IBOC elevated power issue, one in which stations voluntarily could raise digital power by 6 dB as an interim step towards a full 10 dB jump.

No agreement had been reached by the end of the show, but shortly afterwards NPR told the FCC it believes a 6 dB interim increase could be implemented to increase digital coverage if sufficient safeguards and other measures are implemented.

It stressed those should include expedited development of HD technology to permit asymmetrical side band transmission, single-frequency boosters and a low-bitrate coder for radio reading services, as well as an enhanced remediation process to address harmful interference resulting from high-power HD operations. In describing its findings to the FCC after the convention, it used cautionary language about interference in certain cases (see story below).

HD Radio developer iBiquity and the so-called "joint parties," major radio groups that have invested in the technology, want an increase. But NPR has differed with them over how much of a boost could be implemented without hurting the analog signals of radio stations. The 6 dB increase to –14 dB digital power had been suggested by iBiquity pending further consideration of a 10 dB hike.

Photo by Jim Peck

The elevated power panelists before a two-hour long session on the topic, which drew intense debate.

Before and after the show, iBiquity lobbied several commissioners and pressed the FCC to approve such an intermediate increase. NPR and the joint parties also had differed on the timing of any increase, as NPR wanted to wait for initial test results before making a recommendation to the FCC.

In Philly, FCC staff sounded ready to move on the issue. Audio Division Chief Peter Doyle said they intended to provide options to new Media Bureau Chairman Bill Lake for the chairman soon and urged all parties to tell the FCC what they would like to see in rules governing an increase.

Doyle said it's clear to the commission that the current power level "is fraught with problems" and he said the agency has seen a slowdown in the number of notifications from stations converting to IBOC. And while the commission has received interference complaints, "most of them have been for listeners outside the protected contour," he said. "There is no formal complaint before us."

During a session on the elevated power issue, iBiquity Director of Broadcast Business Development Jeff Detweiler said iBiquity did endorse NPR's proposal of asymmetrical IBOC power and single-frequency network digital boosters as ways to increase digital coverage.

NPR has put forth specific formulas for how non-commercial and commercial stations could increase their digital FM IBOC power (Radio World, Aug. 1, page 10).

Detweiler also ticked off a list of concerns iBiquity had about the latest NPR Labs testing, though he stressed the company had not yet had a chance to review the NPR data.

Potential issues with the mobile testing were that only one type of car was used and that test participants sat in the passenger seat, rather than the driver seat, where they "might be less focused on the audio."

Representatives from iBiquity and the Joint Parties sit on a review panel that helped NPR shape the tests; Detweiler did not explain why iBiquity subsequently had qualms about the tests. However, "If we don't get something significant, the industry won't move on this. Three dB won't be enough," he said.

Transmission manufacturers who

(continued on page 14)

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POWER

(continued from page 12)

spoke at the session said a power increase is critical to keep the HD Radio rollout from stalling out.

"Unless we can figure out a way for broadcasters to make back their investment, this may be a futile effort," said Tim Bealor, vice president for sales at Broadcast Electronics. He said his company would like to see some monetization of IBOC services.

Mike Troje, sales manager for Continental Electronics, agreed. "It's a task to come up with what the right responses are for the industry when we don't know what the end game is." He added that market penetration for HD Radio is about 20 percent of stations and consists mostly of FMs.

"Just raising the power of HD is not going to solve this," Troje continued. "If this stagnates, we all lose. We need action from the FCC." The next group of adopters, such as small-market stations and mid-market groups, need to see a reliable business model, he and Bealor said.

"We need more receivers and for HD to be standard in cars. For five years I've been hearing, 'Show me the Ford dealer who's got it in their cars and I'll buy an HD transmitter,'" Troje said.

Doyle of the FCC also said the agency is looking for ways to manage the power increase responsibly and is now considering possible notification procedures or application categories, as well as "better complaint procedures." He urged broadcasters to contact the commission with suggestions, presumably via e-mail and/or filed comments to MB Docket 99-325.

NPR LABS FINDS IMPACT ON LIGHTLY PROCESSED FORMATS IN CARS

The results had not been fully analyzed as of early October, but NPR Labs said its summertime tests into the impact of a 6 or 10 dB power hike raise concerns about the impact on certain listeners, specifically those in moving cars and those listening to lightly processed formats on first-adjacent closely spaced stations.

In a meeting with FCC Media Bureau staff, NPR executives summarized their test findings, including an overarching conclusion that "high-power HD Radio would uniquely cause significant first-adjacent analog interference to more closely spaced NCE-FM stations within the station's protected service contour." That's according to an ex parte filing with the commission on Oct. 8.

"This is all about determining the impact of FM IBOC at higher power levels, especially for closely spaced stations," said Mike Starling, vice president and chief technology officer at NPR and executive director of NPR Labs.

At a meeting of the Association of Public Radio Engineers preceding the convention, he characterized the bits and pieces gleaned so far from the studies as leading to a "strawman of what might be a managed power level policy," meaning an initial conclusion to be massaged by peers and industry advisors for a final recommendation to the FCC.

NPR intended to give the commission "top-line" results in October. It planned to give full results both to the agency and CPB, which funded the studies, in mid-November.

NPR Labs is crunching these numbers to determine actual population impact assessment scenarios. Closely spaced stations would be affected most by elevated power levels, and the engineers are trying to determine the potential population that would be affected if specific adjacent stations were to go for a blanket digital power increase of 6 or 10 dB.

Photo by Leslie Stimson

HD Radio iPod and iPhone accessories from Gigaware, including the pictured 120-0646, enable the user to use iTunes Tagging to tag songs for later purchase and download. The Gigaware accessories are expected to be available this holiday season.

Towson University.

The problems were noted on some formats and in some cases, within the 6 dB to 20 dB desired/undesired signal power ratio, inside the protected coverage contour.

Researchers saw most of the effect at 60 miles per hour in cars, Starling said.

In contrast, commercial radio high-density (highly processed) music produced good results, he noted, as road noise decreased listener sensitivity to IBOC interference.

Photo by Leslie Stimson

Roy Sampson of iBiquity shows an HD Radio portable to incoming NAB President/CEO Gordon Smith.

Based on the initial results of the listening tests, listeners noticed interference in the audio, with nearly half of those surveyed indicating they would turn off the radio when the power was turned up to –14 dB and –10 dB on lightly processed formats, such as news and classical music, in some portions of a coverage area, according to Dr. Ellyn Sheffield of NPR Labs and

Nearly 100 noncommercial public radio stations operate in the "non-reserved" section of the band — i.e., from 92.1 to 107.9 MHz. Interference-resolution scenarios must be included in whatever the FCC approves, NPR and its member station advisory group believe.

A peer review group made up mostly of public station engineers will have input into the NPR report that goes to the FCC. The report will include text of the technical differences the working group and NPR had on the methodology and the scope and NPR's response in terms of how it chose to frame and conduct the study.

The working group that helped to shape the test plan included Greater Media, CBS, Clear Channel, Harris, iBiquity, CEA and others.

LAKE PROMISES ACTION ON POWER INCREASE

Before he became the new Media Bureau Chief, Bill Lake was involved with shepherding the DTV transition. In a session at the show, Lake promised his staff would try to "turn to the power increase sooner rather than later."

He did express relief that the commission doesn't face a hard date to enact digital radio like it did with television, but said of IBOC in general: "We want to promote it and encourage its adoption."

Recognizing the pending power increase proceeding, now awaiting action by the commission for over a year, he said the FCC would get to it "as soon as we can. It's not going to languish."

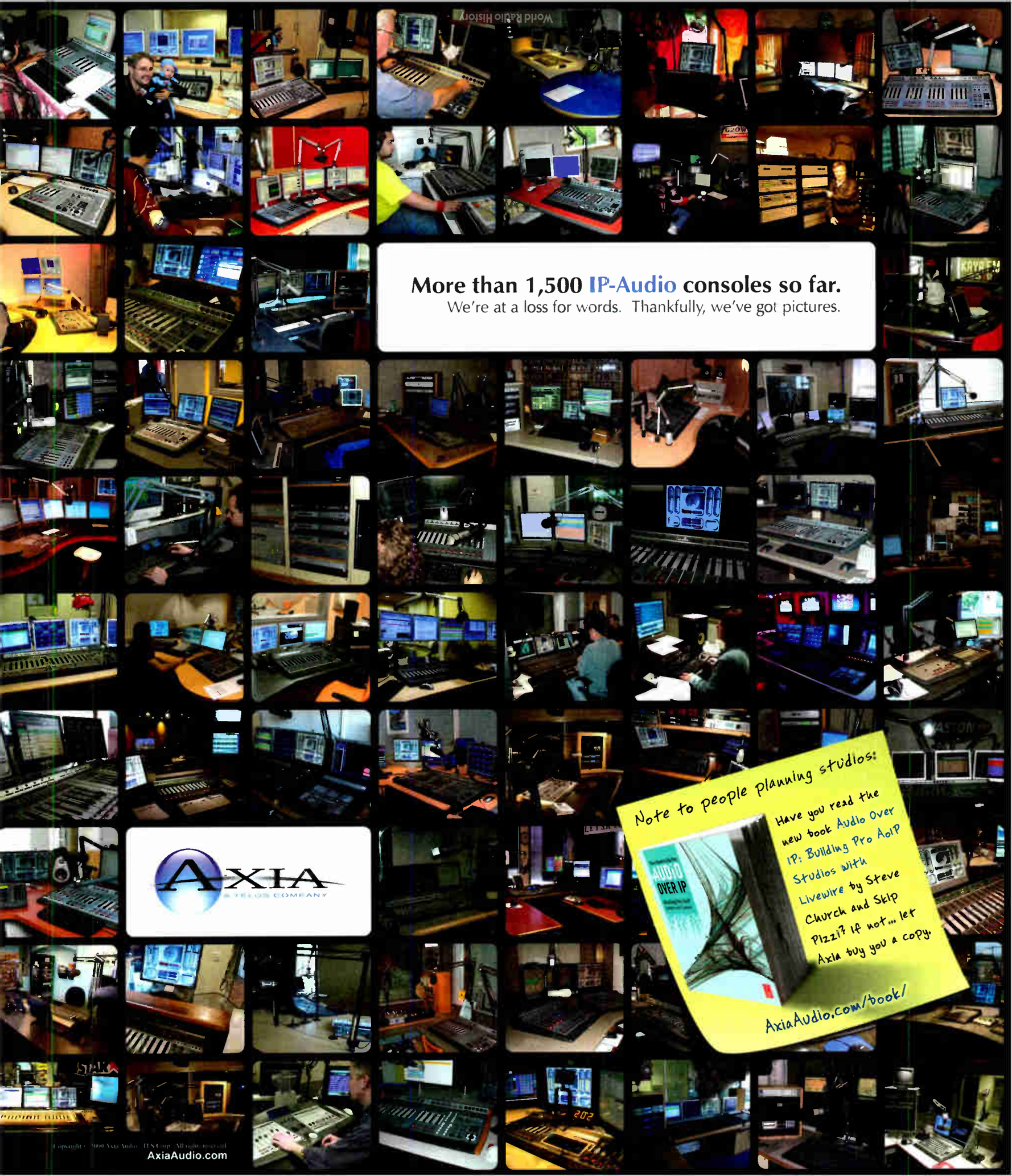
PORTABLE HD RADIO FEATURED

IBiquity Digital had several new demos and products on the exhibit floor. In addition to the new Zune HD and Insignia HD portables, two HD Radio iPod and iPhone accessories from Gigaware were featured that enable the user to use iTunes Tagging to tag songs for later purchase and download.

The Gigaware 120-0645 attaches directly to the bottom of an iPod while the 120-0646, which includes a remote contol, sits on a cable between the iPod and the earbuds. The Gigaware accessories are expected to be available by the holiday season.

The company also displayed personal navigation demos showcasing HD Radio's real-time traffic capabilities, including a prototype of the first commercially available portable navigation device from Cydle with a built-in HD Radio receiver and real-time traffic updates from Total Traffic Network. The unit also features an electronic program guide that displays station and program information.

Also featured was a prototype vehicle power adapter with built-in HD Radio receiver from Kiryung Electronics displaying Navteq Traffic.



More than 1,500 IP-Audio consoles so far.

We're at a loss for words. Thankfully, we've got pictures.

AXIA
A TELOS COMPANY

AxiaAudio.com

PowerStation: the new console system from Axia.

COOL STUFF AWARD Radio World 2009

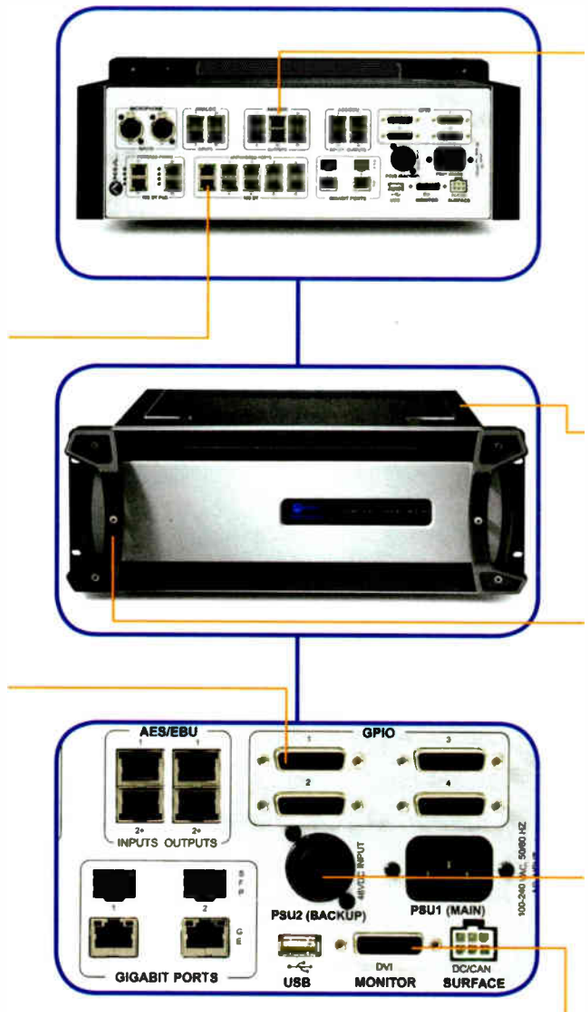
Because there's no such thing as too much uptime.

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.

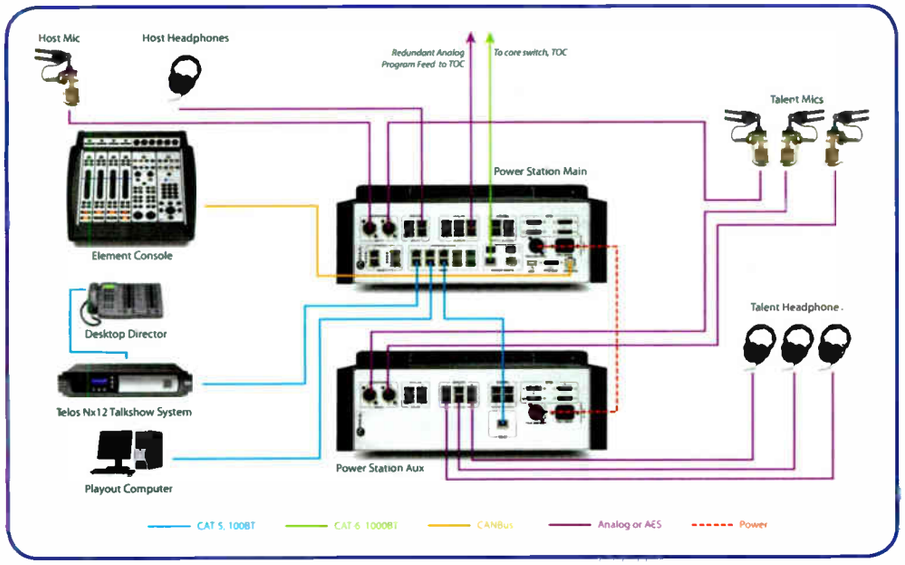
Screen play • Yep, that's a DVI connector. **Your favorite monitor** – standard or widescreen – plugs in to present the console operator with Axia's "so easy an overnight jock could do it" **info-center display.** Meters, timers, fader assignments, mix-minus settings and more, all on-screen, on-demand.

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.

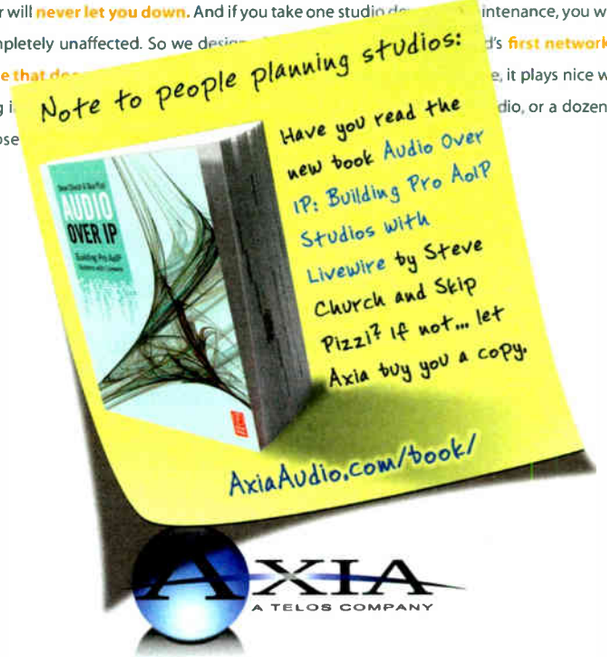
Come together, right now •

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 d… intenance, you want the rest to be completely unaffected. So we desig… d's **first networked broadcast console that do**… e, it plays nice with others, but unplug i… dio, or a dozen, at any pace you choose.



AxiaAudio.com

Lawn Guy Listens Hard to Radio

The Music Goes Round and Round and Comes Out … His Ear?

WORKBENCH
by John Bisset

Read more Workbench articles online at radioworld.com

Every once in a while we get a great engineering horror story to share. This one is from Citadel's Bill Frahm, who handles engineering for Citadel's Boise properties. We'll call this "Listening to a Water Pipe."

So there's this lawn guy who has been hired to spray for weeds around a 50 kW tower. Against instructions, he doesn't tell anyone he's arrived early and goes out to the tower, ahead of the engineer (and the power reduction).

Wanting to do a thorough spray job, he scales the six-foot fence, ignoring the "No Trespassing" and RFR signs. He hears talking and music coming from "that copper water pipe" — and proceeds to put his ear up to it!

Fortunately, he wasn't killed, just a bad burn on the ear.

It seems no matter how hard we secure our sites, someone will be intent on defeating the security. Bill Frahm can be reached at *bill.frahm@citcomm.com*.

As I noted briefly last issue, the "bees" we mentioned in Tom Ray's Sept. 1 item actually were paper wasps that had made their nest on the door of the tuning unit. (And the hive seen under the stepladder in our Oct. 7 column is typical of what bald-faced hornets build.)

Yes, "bees" refer to honey, bumble, killer and carpenter varieties.

As a kid, I was allergic to stings, so anything that flew and stung was a bee to me and to "bee" avoided. Guess those old definitions die hard!

Thanks for making the distinction and setting things right. I hope your encounters with these insects will be minimal in the months ahead … "Raid to the rescue."

Here's a neat product for experimenters. L-com, a manufacturer of wired and wireless connectivity products, has released a panel-mount USB surge protector. The product, AL-ECF504-AB, pictured in Fig. 1, is a commercial-quality device designed to protect a computer's sensitive USB ports from surges and spikes from attached devices.

Fig. 1: Finally, a USB surge suppressor.

At issue with this kind of protection is to ensure that USB speeds are not affected by the surge-limiting components. The device uses ultra-low capacitance diodes to protect the data lines. In addition, a protection device clamps the power lines to safe levels. This USB surge protector is ideal for protecting a PC from USB-connected devices including USB hubs, WiFi USB client adapters and USB-enabled surveillance cameras. The surge protector costs less than $16.

More information can be obtained from *www.L-com.com*.

LEDtronics offers the S6 Right-Angle Candelabra LED Bulbs. These LED bulbs fit almost any S6 screw base sockets, as seen in Fig. 2, and include a right-angle mounting fixture-to-lens setup.

These high-quality LED bulbs produce little heat, consuming 0.935 watts of power compared to the usual 4 or 7 watts for an incandescent bulb.

For a data sheet, visit *www.ledtronics.com/ds/slr463/default.asp*.

Speaking of light, Buc Fitch's replacement LED meter lamps for the Marti STL-10 Transmitter brought a lot of positive comments. It looks like Buc's not the only one tired of burned-out meter bulbs.

However, the R10 STL Receiver needs a different current limiting resistor than what was used in the STL-10 Transmitter. Fig. 3 shows a single 680 ohm 1/2 watt current limiting resistor, and once again, a 20 ma white LED.

Buc cautions, though, that some of these receivers (like the STL-10 transmitter we covered in the Aug. 1 *Workbench*) have a diode ahead of the lamp supply. So be sure to check the polarity on the supply (or clip lead test the LED) before soldering it in place, as the voltage can be DC.

(continued on page 19)

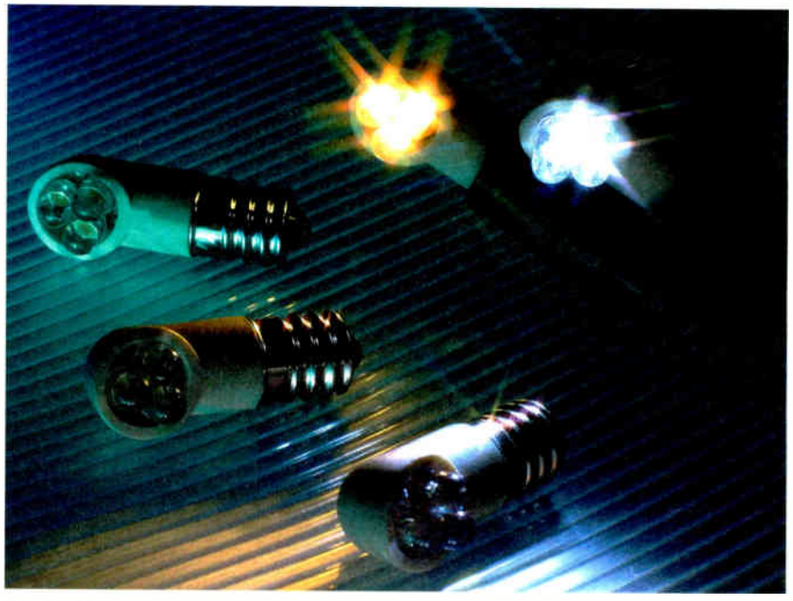


Fig. 2: LEDtronics' new screw-in white LED right-angle 'bulb.'

Fig. 3: Use a 680 ohm resistor in the Marti STL-R10 Receiver to convert to LED meter lighting.

Fig. 4: Adding a resistor, foreground, to the meter switch ends pegged meter indications.

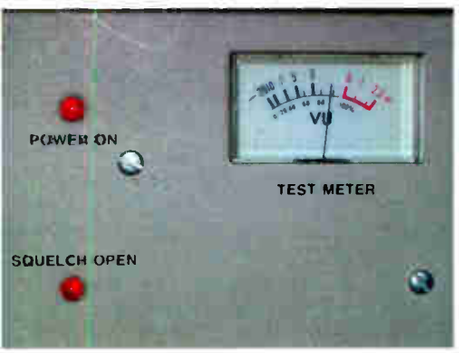


Fig. 5: Normal meter indication, after Buc's resistor mod.

Buc offers one more useful mod to this workhorse STL receiver. Fig. 4 shows a 10 k resistor added in the "mixer" line to the meter switch. Many of these Marti R-10s had this reading literally off-scale (well pinned) even when properly adjusted. If you are bothered by "off-scale" readings, just add this resistor in series with the green/white wire before the switch, and the peak will appear about "0" on the meter VU scale, as shown in Fig. 5.

He adds a reminder to remove all the dust and cobwebs before returning the device to service.

Buc Fitch can be reached at *fitchpe@comcast.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 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.

The Boombox With a Browser

The Elusive 'Connected Radio' Debuts. Will It Gain Traction Where Similar Attempts Failed?

THE BIG PICTURE

Skip Pizzi

The recent announcement in the United Kingdom of the first RadioDNS-enabled radio receiver — Pure's Sensia model — has been received by responses raging from ecstatic to ho-hum. Many radio folk in the United States are still trying to figure out what it even is.

To help those in the latter category: The Sensia is a tabletop radio sold in the U.K. that receives FM and DAB broadcasts and includes built-in WiFi that allows it to receive visual enhancement content from radio stations (via the Internet), to be displayed on its 5.7-inch (diagonal), 640x480 touchscreen. Numerous U.K. broadcasters are already providing synchronized enhancement content to Sensia users there.

This could be what it takes to create a true digital radio platform.

UNDER THE HOOD

The RadioDNS open standard, which was discussed here in the Sept. 9 issue, enables this process.

RadioDNS allows the radio automatically to find an appropriate Web site when a station's over-the-air signal is tuned.

Sensia also implements a specific application of the RadioDNS system called RadioVIS, short for "Radio Visualisation," which addresses how the visual enhancement content should be formatted by broadcasters and displayed by receivers.

The RadioVIS draft specification establishes messaging and subscription protocols, by which a user quickly can select a program-related image or synchronized slideshow to be delivered to the receiver via its Internet connection. The spec also presents display recommendations to receiver manufacturers on preferred screen size, resolution, aspect ratio, image-scaling parameters, buffer size and the like.

Details and the draft specifications are available at *http://radiodns.org*.

THE 'I-WORD'

The currently preferred term for the device class of which Sensia represents the vanguard is "connected radio."

Few have used the term "interactive radio" to describe it, but that's essentially what it is. Whatever you call it, it bears a potentially worrisome resemblance to the many attempts to bring interactivity to the television world.

So let's look at the similarities — and differences — between interactive TV (iTV) and connected radio, and perhaps define a course whereby the new radio option might succeed where its television predecessors have not.

First recall that the term "interactive TV" has been applied to many things over the years. At its broadest, iTV can be defined as anything that moves beyond standard television content to allow user choice on what is presented (beyond traditional channel selection and volume, of course).

Although today's popular TV EPGs and DVRs originated in the iTV space, what most often comes to mind among broadcasters when discussing "interactive television" per se is the additional, program-related content that it could provide, which is where iTV generally is considered a massive flop.

Yet these so-called "enhancement" features are what RadioDNS largely promises to bring to the radio environment. Can it, or will it, do any better at this than iTV did?

Sensia is a tabletop radio sold in the U.K. that receives FM and DAB broadcasts and includes built-in WiFi that allows it to receive visual enhancement content from radio stations via the Internet, to be displayed on a touchscreen.

SIMILARITIES AND DIFFERENCES

To get a good answer, let's probe deeper.

Like RadioDNS, iTV required purchase of new equipment by the consumer (the interactive set-top box). It also required the transmission of additional data over the air (in a standard form) by broadcasters — which RadioDNS does *not*. This implies that iTV was subject to a classical chicken-and-egg problem, which RadioDNS largely could avoid.

You may further recall that the iTV market fragmented among multiple proposed "standards" (initially ATVEF, Liberate, JavaTV and others, subsequently followed by standardization attempts in ATSC-DASE, DVB-MHP, ACAP, OCAP, et al.). This and the above chicken-and-egg issue combined to doom the technology to failure, since neither broadcasters nor consumers were ever comfortable choosing a format by which to either deliver or receive iTV content. Two variables = no single solution.

In contrast, RadioDNS leverages the Internet's ubiquitous, uniform deployment, and (at least to date) it stands alone as an open standard for presenting radio enhancement content.

Admittedly it's still early, but we can at least hope that implementers realize the value of a level playing field, and continue to follow the singular, open and low-cost approach that RadioDNS provides, thus avoiding the dreaded fragmentation. (Note that ATVEF and some other iTV formats also leveraged the Internet for delivery of enhancement content, but this couldn't overcome the fragmentation issues.)

Meanwhile, there was another approach to iTV that fared somewhat better for awhile: the so-called two-screen method, utilized most notably by ABC-TV in the early 2000s.

This technique avoided the format-fragmentation issue by delivering all enhancement content via the Internet to PCs in the same room with the television. The only real connection between the two delivery systems was an occasional announcement on the TV broadcast of the URL for the interactive content.

This worked pretty well for awhile, and no new hardware or commitment beyond a PC and Internet access was required. For example, it allowed TV viewers in Internet-enabled households to play along with game shows like the "Who Wants to Be a Millionaire?" on their PCs as the live program was broadcast. (Cleverly, the online component for this program only displayed the multiple-choice *answers* — viewers had to watch the TV show to get the questions.)

Ultimately the extra effort wasn't deemed worth the expense by the program's producers, however, and this two-screen iTV "format" also evaporated.

RadioDNS can split the difference between these approaches, utilizing the Internet's broad availability with the need only for new receiver hardware of a single format. Broadcasters need not add anything to their transmissions, and only have to provide a new link or redirect-pointer at their Web site, plus a little optimization of online content for display on new, small-screen devices (which they should already be doing for mobile Internet users anyway).

NO PAIN, NO GAIN

Sure, it's more work for radio broadcasters to provide a real-time enhancement stream to these devices, but third parties are already emerging for this purpose. And while broadcasters are waiting for RadioDNS devices to be deployed, this new content could be viewed on traditional Internet browsers on PCs and handhelds, used alongside a traditional radio like the old two-screen iTV approach.

Anyway, the fact that additional effort is required to succeed in the new-media world is a given. Radio must compete by improving and extending its services into the digital environment, largely through the addition of program-related metadata. It's not just "going digital" that sells it to consumers; it's what new content and service the digital technology delivers.

The palette that RadioVIS offers for this metadata presentation is a far cry from what most leading-edge radio stations do today in getting jiggy with an eight-character text display for title and artist data on RDS. It could actually make radio programming fun again, and provide significant attraction for next-gen creative types.

Meanwhile, the kind of enhancements that RadioDNS offers could be the real difference-maker for "digital radio," and finally convince a critical mass of audience that it's now worth plunking down some bucks for a new receiver because it truly offers enough obvious, additional functionality to be worth it.

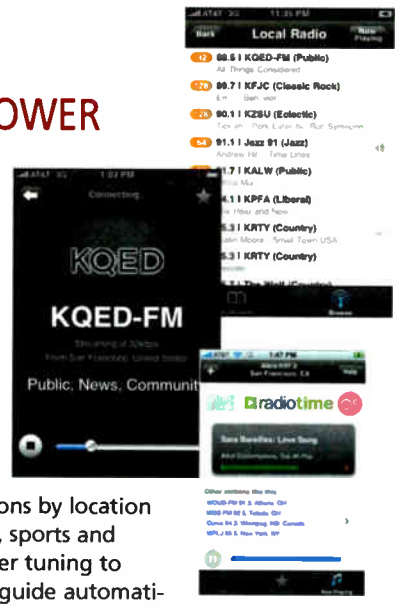
This could be what it takes to create a true digital radio *platform*. Oh, and by the way, HD Radio could hitch a ride on this deployment train by being incidentally on-board the RadioDNS-enabled devices.

Given all these potential advantages, it's therefore not too grandiose to conclude that the best-case convergence potential of "connected radio" enabled by RadioDNS could ensure the very survival — and perhaps the future prosperity — of radio broadcasting.

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

TECHUPDATES

RADIOTIME.COM IS THE POWER BEHIND POPULAR APPS



The increasing popularity of smartphones such as Apple's iPhone, BlackBerrys and Windows Mobile-based devices presents a significant opportunity for broadcasters to reach online listeners without tethering them to their computers or home devices, RadioTime.com says.

The company powers several mobile radio applications that transform a user's phone into a worldwide radio tuner. The RadioTime guide enables users to search stations by location and more than 400 genres such as music, talk, sports and entertainment. Users can save presets for faster tuning to favorite stations and leverage the RadioTime guide automatically to detect what is airing on their local stations, browse by affiliates and search for specific programs or on-air personalities.

Wunder Radio was developed by RadioTime and Weather Underground. Wunder Radio for iPhone was awarded the title of Best iPhone Radio Application (terrestrial division) at this year's MacWorld Expo and has been downloaded by more than 250,000 iPhone users; the company says it is a leading, if not the leading, paid radio application for Windows Mobile devices on Handango.

Wunder Radio includes integration with Twitter, which lets users Tweet in real time about what they're listening to and communicate with air personalities.

RadioShift Touch was developed by Rouge Amoeba as a compliment to its RadioShift desktop application. It lets a listener tune to thousands of Internet radio streams from around the world on his or her schedule. If the listener is playing a stream and quits the application, it will start automatically when next launched.

RadioIn enables users to browse tens of thousands of radio stations and turns their iPhone/iPod into a DVR for radio. Users can browse local stations with GPS or Wi-Fi location, and pause, rewind and fast forward live radio streams for up to 30 minutes.

For information, contact RadioTime.com at (866) 917-9797 or visit www.radiotime.com.

STREAMGUYS AIMS FOR FULL-TIME DELIVERY

StreamGuys is offering a new service called SGalerts that provides immediate notification of downtime or other service issues and interruptions of the live Internet stream.

The supplier says it seeks to guarantee 100 percent uptime with the actual streaming as part of its premier service. Unfortunately, there is still the possibility that other parts of the production chain may drop from time to time. SGalerts allows broadcasters and other streaming services to stay on top of their businesses and protect their revenue streams by providing an additional layer of confidence monitoring.

With SGalerts, e-mail alerts are sent to engineers, IT professionals and other users if the monitored service goes down. An additional e-mail is sent once the service is back up and running. This allows the broadcaster/service provider peace of mind when staff is away from the studio or office.

SGalerts provides monitoring of and alerts based on streaming encoders, individual live streams, Web pages, and various hardware components related to network connectivity, disk space and other equipment. StreamGuys can also design and enable custom alerts based on specific requests.

For information, contact StreamGuys at (707) 667-9479 or visit www.streamguys.com.

OMNIA A/XE PROCESSES AUDIO FOR WINDOWS

New from Omnia Audio, Omnia A/XE is its next generation of Windows-based audio processing, which now includes real-time encoding capability.

Omnia A/XE recaptures control of audio streams with the familiar Omnia sound for audio workstations. It can process audio for a variety of applications, bitrate-reduced and linear. It runs in the background as a Windows service, can be managed and configured remotely with a Web browser. It also can process and encode multiple streams in various formats simultaneously.

Encode directly to MP3 or AAC, feed a Shoutcast-style or Windows Media Server in the MP3 format, or stream to Adobe Flash clients through a Wowza Media Server. Users can pair Omnia A/XE with existing Windows Media, Real, mpgPRO or MP3 streaming encoders.

The new Virtual Patch Cable allows Omnia A/XE to receive, process and send audio to other software on the PC. Internally encoded Shoutcast or Wowza server streams can be "tagged" with "now-playing" information received from automation systems or another application.

Omnia built in a scheduler to allow streams to be started and stopped at specific times, as well as processing presets that can be changed on a schedule, perhaps processing the morning show differently than the afternoon one.

Omnia A/XE features adjustable wideband AGC with a three-band compressor/limiter, EQ and low-pass filter, and a precision look-ahead final limiter to prevent clipping. Resulting streams are cleaner, clearer, and with more presence and detail.

For information, contact Omnia Audio at (216) 241-7225 or visit www.omniaaudio.com.

RADIOSTREAMHOST.COM OFFERS CUSTOMIZABLE STREAMING

RadioStreamHost.com specializes in audio streaming services for radio stations, Internet-only broadcasters and businesses.

It is owned by Broadcast Matrix LLC in Seattle. The owners are former major-market radio broadcasters and say their staff understands the unique needs of radio.

The company customizes plans and pricing for clients of any size. Clients can choose to start small without long-term contracts and grow without spending money on bandwidth and other optioins they might not need at first.

RadioStreamHost.com has the capacity to handle large network-level enterprise clients. It says servers are located in world-class data centers with multi-homed Tier 1 connections to the Internet through major bandwidth providers such as AT&T, Level 3 and others. The firm says this means its offerings are high in quality and reliable.

Listening is made easier with customizable Flash players. These embeddable or pop-up designs can be customized to the look and feel of a station or network brand theme. The Flash player system can also rotate audio or video pre-roll messages.

Additionally, the station keeps any revenues. RadioStreamHost says it does not profit-share or "junk up" the player with national ads. The player has space for banner ad that can be sold locally. Clients are provided with optional player links for Windows Media Player, RealPlayer, Winamp, iTunes and QuickTime, making it easy for listeners to listen.

Setup is simple; stations install encoder software on a PC, plug the audio into the PC and put the player code into the Web page. Most stations can be operating in less than 30 minutes.

RadioStreamHost.com clients are provided with a Web-based server control panel that gives them complete control of their server in addition to detailed listener statistics, listener timers and much more

For information, contact RadioStreamHost.com at (206) 774-9196 or visit www.RadioStreamHost.com.

SELF SUFFICIENT BUT CAN PLAY WELL WITH OTHERS

AUDIOARTS D-75

DIGITAL · NETWORKABLE · AFFORDABLE · INCREDIBLE

It's no secret that Wheatstone is the #1 name in radio consoles and networking, known for top quality performance and ruggedness. That heritage is apparent in every aspect of the Audioarts D-75 Digital Audio Consoles.

Fully modular plug-in construction. Built-in mic preamps. Analog or digital inputs wherever you want them. Optional dual phone mix-minus module. Four stereo output buses. Built to last and last. Hinged meter bridge for easy access to wiring and logic programming without having to crawl under the furniture.

Need to network your plant? Easy! Install Wheatstone or Audioarts network I/O frames and a switch in your TOC/rack room. Install D-75N consoles in your studios. The D-75N includes six networked input channel modules that access any source from anywhere in the network, plus two locally connected sources that appear on your consoles and on your network. And the D-75N's four output buses are available on the network as well.

When we conceived the D-75, the idea was to make it digital, affordable and networkable. And it's incredible just how fine it turned out. We're proud of the D-75 and it's ability to play well with others. We think you're going to find it pretty incredible, too.

D-75 major market features:

- Fully modular
- 18 slot frame with 12 input modules
- 26 slot frame with 20 input modules
- Input channel A/B source select
- Optional dual phone mix-minus module
- Optional line selector and control modules
- Opto-isolated control ports on every input module
- Four stereo output buses: PGM, AUD, AUX, UTIL
- Clock and timer
- External rackmount power supply

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TECHUPDATES

CGS PROVIDES THE LATEST SPORTS SCORES

CGS Automation has introduced an automated high school sports score collection and update system, ScoresNow.

ScoresNow uses both phone and Web automation to collect high school scores, then automatically updates the information to multiple Web sites along with sponsor and/or station graphics.

The information is also made available internally for the station via a browser-based content management system. High school coaches and or designated officials have the option to call into the system and enter a user ID and password. They are then stepped through a series of touch-tone prompts to enter their score, or can choose to simply jump online and enter the information through a secure, password-protected form. ScoresNow fully automates a labor-intensive task, allowing station personnel to focus on other duties. In addition, it can tap into automated sports wire feeds to update national and collegiate scores to the station Web site.

For information, contact CGS Automation at (859) 299-4081 or visit www.cgsautomation.com.

RADIOSHOW CROSSES PLATFORMS

RCS said its RadioShow offering is intended to keep stations in front of the listener, no matter where they are or what they are doing — and no matter which digital platform they are using.

The system enhances a station's programming on the air, in the car, on the Web or on a hand-held device. It creates a reason for listeners to come to a station's site with a Web browser, cell phone or other digital platform, according to RCS, to see information like song titles and artist names of the music playing on the air. RadioShow displays what's on the air in real time, synchronized to your terrestrial station's audio.

RCS RadioShow provides animated graphics and information from artist notes to RSS feeds. Visuals can be added and synchronized to the audio stream. The branding can match a station's look with features such as CD covers, artist graphics, station photos and sponsor logos.

RadioShow gives stations the opportunity of selling visual advertisements synchronized to existing audio inventory. Listeners can buy the song they are hearing, order concert tickets or click through to more information about the advertisements they are hearing.

For information, contact RCS at (914) 428-4600 or visit www.rcsworks.com.

VORSIS VP8 FOR STREAMING AUDIO

Bitrate compression can make a mess of carefully tailored sound. Two of the Vorsis VP8's six operating modes (Streaming > 48k and Streaming < 48k) are designed for processing audio prior to a codec. Precodec processing is especially necessary when the codec's bitrate is low in order to extract the highest perceived audio quality at the output of the decoder. Two Vorsis-designed tools improve audio quality at low bitrates: Spectral Energy Gate and the Adaptive Bandwidth Controller.

The Spectral Energy Gate, adapted from the 31-band limiter technology of the AP2000 processor, operates in the multiband domain to spectrally manage program content potentially troublesome for a low bitrate codec. Using a series of look-ahead calculations it finds opportunities for lowering the priority of audio energy that due to spectral or temporal characteristics contributes minimal improvement to the reconstructed signal at the decoder.

Dynamically decreasing the workload of the encoder makes more bits available for coding more prominent (and therefore more audible) signal data. The resulting audio quality at the codec output is enhanced, which the company says greatly improves the listening experience.

The Adaptive Bandwidth Controller operates in conjunction with the Spectral Energy Gate and a pair of user-adjustable "Mask" controls, manipulating incoming audio to reduce codec artifacts commonly referred to as "splashiness" and "swirliness." It operates by analyzing and controlling certain characteristics of the program content after other processing has been performed by the VP8 (but before reaching the final look-ahead limiter).

After processing by these and other Vorsis-specific algorithms audio at the output end of a low-bitrate codec has a perceived quality approaching that of much higher bitrates.

VP8 installation takes minutes. The included software installs on a Windows PC and allows fast basic setup as well as advanced audio tailoring, letting users custom create their own sound from the dozens of factory-installed presets.

For information, contact Wheatstone at (252) 638-7000 or visit www.vorsis.com.

GOING IP - AUDIO? GET AXIA

AND GET A FREE PHONE SYSTEM

Everyone is thinking about upgrading to IP-Audio. If you are, too, choose Axia. Why? Axia invented IP-Audio; others are just imitations. So it's not surprising that they're the most successful IP-Audio company, with over 1,500 Axia consoles and routers on the air. No one else even comes close!

- 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.
- And for a limited time let us sweeten the pot: Buy an Element 2.0 console with power supply and mix engine, and at least one audio node, and we'll give you a Telos Nx12 12-line Talkshow System - Telos' most advanced multi-line phone setup, worth $4,480.00 MSRP - absolutely free.

Ready for real IP-Audio? Experience counts.

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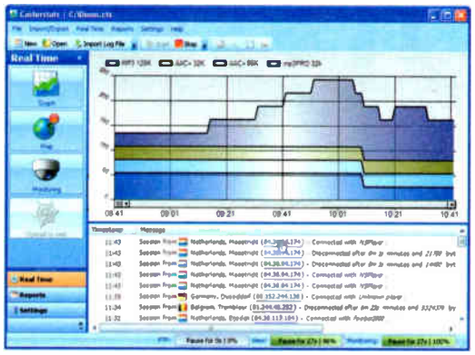
TECHUPDATES

CASTERSTATS HELPS BROADCASTERS KNOW THEIR AUDIENCE



CasterStats Beta v1.4 is a free Windows-based desktop application that generates detailed audience reports based on streaming server log files.

Broadcasters are able to access real-time and historical reporting at a click even if they use a third-party stream host. As well as generating reports on the number of listeners they can access information about where their listeners are located.

Broadcasters can also collect audience information from servers using FTP, FileSystem or XML status fetching (Shoutcast in version 1, Windows Media Server, Icecast and others in future versions).

Features include: Real-time audience reporting, showing all events in the previous five hours plus the audience geolocation; automatic HTML export and upload, suitable for publishing audience information online; historical reporting, generating detailed reports on contacts, sessions, peaks, players and geolocation; infrastructure monitoring, allowing monitoring of activity on all the servers in a project with failures visible onscreen and notified to the user; geolocation, in which every view can be geolocated using an IP-to-country and IP-to-city database, the accuracy of the database ensured by monthly updates and seamless integration with CasterStats Server.

CasterStats Server version will be available to stream-hosting companies providing statistical services to their customers or large media enterprises.

CasterStats Server will collect information about audiences and store it to a database. It also exposes Web services for retrieval of aggregated audience information stored in the database such as historical reports and real-time data (in raw format ready to be interpreted). CasterStats Server obtains demographic data from external applications (media players, etc.) which can be used to report on a wider range of information than data collected from the stream alone, e.g. reports can link IP to age or sex of the audience.

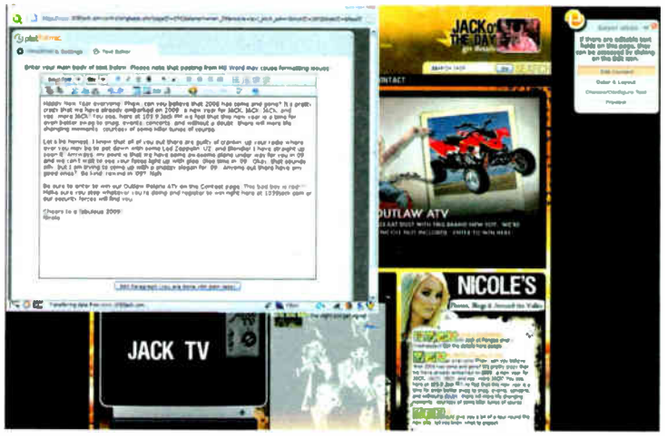
CasterStats v1.4 Beta is available and can be downloaded free from the Web site. Version 1.5 Beta, containing new features and major bug fixes, will be available for download soon.

For information, contact CasterStats at 011-32-85-25-20-17 or visit www.casterstats.com.

PLATFORMIC SIMPLIFIES WEB DESIGN

Platformic is an online Web development and content management platform that allows corporations, as well as broadcasters and media companies build and update Web sites in real time — without sacrificing professional or creative standards or writing code, according to the company.

Web developers and other users no longer have to rely on entering Photoshop files into Dreamweaver, "FTPing" content to a site, entering code and rebuilding the same elements on page after page. With Platformic, flattened Photoshop files are imported and are used to guide users in visually building sites in their Web browser. Visual design and point and click coding functionality ensure rapid deployment of professional-grade layouts.



The manufacturer says its broadcast users include Tribune Co., Bicoastal Media, Peak Broadcasting and Broadcast Company of the Americas, which use Platformic to roll out and manage feature/content-rich sites on a national basis. Large corporate teams and business units can collaborate using the platform's tools to design, build and maintain their online presence.

For information, contact Platformic at (866) 309-9414 or visit www.platformic.com.

PRODUCTS & SERVICES SHOWCASE

"WOW, I COULDA HAD A VP-8!"

VORSIS VP-8 IS THE BEST AUDIO PROCESSOR FOR UNDER $3K. PERIOD.

The Vorsis VP-8 Digital Audio Processor delivers clean detailed sound at a great price. In fact, you can easily spend two to three times more and still not match the VP-8's performance.

Installation and setup takes only minutes. The VP-8 is loaded and ready to go for FM, AM, FM-HD, AM-HD, streaming, and studio processing. It's great sounding presets are carefully tailored for your format and media. No need to spend endless hours tweaking, the VP-8 will make your station sound great, right out of the box.

For FM stations, expect a sound that easily holds its own with your high-power major market competitors. Listeners comment that with the VP-8 they now hear the rest of the music! AM stations often experience a dramatic increase in coverage area along with greatly improved intelligibility and sound quality.

The VP-8 is also ideal for streaming audio, studio processing, as a versatile backup processor or as an STL protection limiter.

Of course, if tweaking is your thing, VP-8 lets you under the hood with a complete toolset – in the VP-8, nothing is hidden. With its 4-band AGC/compressor and 8-band limiter, the VP-8 boasts more bands than any other processor in its price range to give you a very clean, loud, competitive sound that doesn't destroy the music.

It also includes features rarely found even on top-of-the-line processors: a reference-grade stereo encoder for FM, built-in test oscillator, diversity delay, multi-point headphone monitoring, and extensive metering.

The bottom line? The Vorsis VP-8 gives more bang per buck than any other audio processor in its class (and then some). And since Vorsis is designed and built by Wheatstone here in the US, you know it'll hold up and be supported 24/7 for years and years.

Intrigued? Call us or visit us on the web to learn more or set up a demo. You'll be happy you did. Vorsis—more listeners listening more.

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BROADCAST EQUIPMENT EXCHANGE

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1990 3-bay ERI end feed 3in connector antenna tuned to 99.3, $1500 and 6-bay Jampro penetrator end feed, bought in 1997, tuned to 101.9, $3500. S Yates, 936-634-4584 or radioman@yatesmedia.com.

AUDIO PROCESSING (INCLUDES ON-AIR)

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AM phasors and parts. bob@wwok.net or 864 918 4740.

Teletronix LA-2A's, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST - 214 738-7873 or sixtiesradio@yahoo.com.

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It's free and it has been expanded. The only cost is to keep us informed as to how the system is performing and let us know how you are using it. DIY-DJ, is a Linux based radio automation system and now sports a record scheduler (DIY-DJ-RECORDER) which allows you to schedule the recording of a network or any other program for replay later as well as a basic logging system. Beside these additions the system schedules music, does voice tracking (ALWAYS hit the vocal), create a shell, live assist, exact time events, join satellite feeds, automated temperature announce, do unattended remote events and more. Call (406) 679-0527 or email krws@digitaldevelopment.net for a copy today.

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RCA 77-DX's & 44-BX's, any other RCA ribbon mics, on-air lights, call after 3PM CST, 214 738-7873 or sixtiesradio@yahoo.com.

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WANT TO BUY

etc, I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at ronwtamm@yahoo.com.

RECORDING & PLAYBACK HARDWARE

WANT TO BUY

Large or small collections of 16" transcriptions or 12" transcriptions, not commercial LPs. Bill Cook, 719-687-6357.

Collector wants to buy: old vintage pro gears, compressor/limiter, microphone, mixing consoles, amplifiers, mic preamps, speakers, turntables, EQ working or not, working transformers (UTC Western Electric), Fairchild, Western Electric, Langevin, RCA, Gates, Urei, Altec, Pultec, Collins. Cash - pick up 773-339-9035

2" plastic "spot" reels 6.5 or 8" diameter, as used for quad video. Wayne, Audio Village, 760-320-0728 or audiovlg@gte.net.

Equipment Wanted: obsolete, or out of service broadcast recording gear, amplifiers, preamps, outboard, radio or mixing consoles, microphones, etc. Large lots acceptable. Pickup or shipping can be discussed. 443-854-0725 or ajkivi@gmail.com.

I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA,

Schnader telescriptions 16 mm musical films produced in the early 50 s. Bill Cook, 719-687-6357.

Drive belts for Otari ARS 1000 playback machines. R Weaver, WPGW Radio, 260-251-1863.

Standard Short-tune series. Bill Cook, 719-687-6357.

REMOTE & MICROWAVE

STATIONS

WANT TO SELL

For Sale: AM in Rome, NY, xlators in Enid, OK, Jacksonville, NC, Temple, TX. Email mraley@bbnradio.org.

FOR SALE: West Virginia AM 1190 WVUS, $65,000 (and assume TX lease for which you must credit qualify). Visit website for tour www.daytripnews.com or 304-265-2200.

DISTRIBUTOR DIRECTORY

The following distributors serving the broadcast industry would be glad to help you with any of your requirements.

TAX DEDUCTIBLE EQUIPMENT

Donations Needed: All Volunteer, Non-profit Low Power community radios stations need Equipment. Will offer tax deduction letter, You determine donation value, We will pay shipping. Equipment shared between three Wisconsin stations. Looking for Mics, Mixers, field equipment, etc. You name it. Email: Dan@WIECradio.org.

TEST-METERING-MONITORING

WANT TO SELL

Gentner GSC3000 I/O 15 main unit, $595; Voice/DTMF unit, $495; Relay output unit, $195. garyw@k104fm.com.

TRANSMITTERS/EXCITERS/TRANSLATORS

WANT TO SELL

Energy Onix ECO-4 FM transmitter in perfect working condition. Has new plate blocker and tube socket. New final tube and full power spare tube. Currently on 101.1 mhz. Includes Energy Onix FM Exciter. Contact Pete Wolff at 251-578-1992 or 251-513-7599. Asking $12,500 OBO.

Harris HT20FM 20kW FM xmtr; Belar FMM-2 FM modulation monitor; Belair FMS-2 FM stereo monitor; Belar SCM-1 FM SCA monitor; Bird Wattcher # 3127A; Burk TC-8 remote cntrl, all are still in service & available Spring 2010 after move to new site, $10000/all, will consider donation to non-profit organization. Mark Brockmeyer, kmaengineering@kmaland.com or 712-246-5270.

Versacount Loral EX-80 exciter, good cond, $750. M Taylor, 417-451-5636.

CCA AM 10,000 D – Call John KQSS **928-595-0263** between 10 & 6 PM Pacific Time.

WANT TO BUY

25kW AM xmtr wanted. bob@wwok.net or 864-918-4740.

AM Phasors, Phasor Parts, Phase Monitors, Rf Switches, AM Transmitters. Continental Communications 314-664-4497, Contcomm@Sbcglobal.Net

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Are you a small market station needing a good nuts & bolts engineer in the Los Angeles area? I will make your station shine! CET, fully FCC Licensed. Available for Full/Part-time/Contract work. Available immediately. Mitchell Rakoff, 917-324-8466 mitchellrakoff@yahoo.com.

Extremely knowledgeable and articulate racing writer/talk show host Adam Amick is available for shows, correspondent, features, etc. Check out www.bleacherreport.com for samples. Call 214-384-5812 or email: adam@rubbinsracing-show.com.

LOAD MANAGEMENT

Skip Pizzi mentions a "proposal" for electric utilities to load-shed by temporarily disconnecting heavy power users.

That's a reality, not a proposal, for WXPR Public Radio, Rhinelander, Wis., and its electric utility, Wisconsin Public Service Corp. (WPSC).

READER'S FORUM

In 2003 WXPR installed a new site backup generator at its Sugar Camp transmitter site. Since then, WPSC from Green Bay can (and does) remotely switch the entire site load to backup generator when needed and for tests. The site load includes WXPR's FM and HD transmitters and the FM transmitter of a tenant commercial station. In return, WXPR gets a substantial power bill discount.

WPSC's load-shed control is fed via a subcarrier on the broadcast signal of an area commercial FM station. A receiver at the WXPR studios decodes the command, which is fed on the STL to the transmitter site. A WPSC "shed" command automatically starts the generator and transfers the load in a couple seconds without human intervention at WXPR. Listeners usually do not notice the switch to/from generator.

This system is common for heavy power users in the WPSC service area.

I should explain why the subcarrier receiver is at the WXPR studios in Rhinelander. Normally it would best be close to the generator. However, we couldn't get a reliable off-air control signal at the transmitter site. So the receiver is located at the studios in Rhinelander.

More tech details of the system: A "disconnect" command is sent from the WPSC system control center in Green Bay via telephone line to a commercial FM radio transmitter serving the Northwoods area and transmitted on a subcarrier. Each WPSC subcarrier receiver has a unique address, so any one or all electric customers can be "commanded" to disconnect and operate on generator. It's a "failsafe" system, so loss of the command causes the customer equipment to switch back to the utility network.

At the WXPR studios a WPSC "disconnect" command closes "dry" contacts in the receiver. This is converted to a serial command and transmitted on a serial channel on our Moseley STL to the transmitter site, where it is converted back to a contact closure. A closure causes a Kohler generator transfer switch to start the generator and take the load from the utility network. It takes about two seconds to start the generator, bring up to speed and switch load. The actual load switch is almost instantaneous and usually not noticed by listeners.

A further complication is that the generator load capacity is exceeded if the two air conditioning units in our transmitter building are running. That's likely to occur in very hot weather, at the very time the utility network needs to shed some customer load. So our HVAC controller in the transmitter building inhibits air conditioner operation when the building is on generator but allows fan ventilation. The two large fan openings can be seen in the photo.

At the main WXPR transmitter site on Thunder Lake Road in the town of Sugar Camp, Oneida County, Wis.

There are four buildings at the WXPR transmitter site, three of which are partially visible, along with the base of the WXPR tower. The original transmitter building at left now houses a tenant LPTV transmitter and the generator controller. A second, partially visible, houses a tenant commercial FM transmitter. The building in the right background beyond the tower base contains the WXPR Nautel FM and HD transmitters, STL, etc. A fourth, not visible, houses a commercial television transmitter. The two TV transmitters are not served by our backup generator. The commercial FM and TV transmit and STL antennas are on a second tower.

Elmer A. Goetsch
Chief Engineer
WXPR Public Radio
Rhinelander, Wis.

HOW TO

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Terrestrial Broadcasting: The Next Generation

Change These Rules to Reflect Modern Realities

BY THOMAS OSENKOWSKY

Terrestrial broadcasters are facing increasing competition, not only from fellow broadcasters but from a wave of evolving new technologies. IPod, Blackberry, iPhone, Internet radio, satellite radio and other forms of information and entertainment erode not only listenership but all-important advertiser revenue.

Most broadcasters have Web pages to supplement their primary over-the-air product. This is a good start, embracing instead of rejecting the new technology. Employing new technology as a source of additional revenue is one way to persuade your audience to stay with and not abandon you.

With broadcasters facing declining revenues, the temptation to cut expenses instead of investing in new more diversified content often times prevails. This has the effect of driving away listeners as local news and events coverage gives way to satellite delivered programming. Many stations are automated or voice-tracked, leaving no local announcer at the studio. If the station carries news, it is no doubt from a national source. Some stations simply relay programming from another in a distant city.

CHANGE THE RULES

It is time for FCC rules to be amended to conform to the realities of modern times.

Specifically, the following should be addressed:

a. *Eliminate main studio rules.* Many small stations have few employees. The general manager is out of the studio selling advertising. He/she may also serve the capacities of owner, program director, voice-tracked announcer, production director and sales manager. There are no studio personnel other than telephone voice mail. The studio can literally be a computer in a closet or at the transmitter site with programming being relayed from a distant station, satellite receiver or a local automation system. While this is not an ideal radio station, it is reality in many cases. A toll-free telephone number should suffice for persons wishing to contact a representative of the station, regardless of where programming originates. A mailing address and telephone number can be found on the FCC's Web site under AM or FM query.

b. *Eliminate public file requirements.* Rarely does any member of the public visit a broadcast station to view or copy the public file. Most people are unaware of its existence or FCC requirement. Persons wishing to know details of ownership can visit the FCC's Web site to obtain this as well as technical information about each licensed station. Computers are available for use by the public at most libraries. Issues and programs lists have no practical value. By what means a broadcaster serves its listeners will be determined by the number of listeners and ultimately the amount of revenue, not by a program(s) that is broadcast during low listening hours to satisfy an FCC documentation requirement.

c. *Enhance and simplify EAS.* In light of the fact that many stations are unattended, the EAS system should be enhanced to allow authorized local officials to access the system to broadcast alerts that involve public safety. Severe weather and hazmat warnings are two examples. The requirement for weekly tests (RWT) should be eliminated. Stations that simply transmit the required data bursts sound like an audio failure or technical glitch. They send no useful information to the public or to other broadcast stations. Many other FCC rules require monitoring "as often as necessary to ensure compliance." The same philosophy should be applied to EAS.

The author calls for elimination of the main studio, public file and chief operator rules.

d. *Eliminate the FCC requirement for designating a chief operator.* Often this technical or contracted person does not have the authority to dismiss or reprimand an employee who may have violated FCC or station rules. The chief operator may not even be authorized to reduce power or cease transmission if a rule violation is discovered. With unattended operation being prevalent in the industry, each station should have a designee with contact information on file with the commission; that person is fully empowered to make all decisions for that station.

The above suggests a radical departure from tradition. That being said, broadcasting has matured into a business environment.

Radio stations do not exist to serve the public interest as envisioned in rules written long ago in a different reality. They are businesses and pay taxes. How many stations open their doors to let someone get a start as an overnight DJ? How many broadcast PSAs, community events, lost pet announcements, etc.? Too many are automated and unattended.

The commission has likewise entered the business world. It collects filing fees, conducts spectrum auctions and levies fines against rule violators. Their rules must change to meet the changes and challenges that have already taken place in the broadcast industry. As much as we may not like or agree with these changes, they are reality.

The author is a consulting engineer and contributor to Radio World. Opinions are his own.

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

READER'S FORUM

NOISE FLOOR ISSUES

I was very pleased to see an article in the latest Radio World about the increase in ambient noise floor being a severe problem for broadcasters, especially in that it touched on the major issue of RF noise from consumer electronics ("Can Radio Get Noise Floor Issues Under Control," Aug. 12).

Touch lamps especially seem to be the bane of my existence.

I have a solution for many of these problems, and I understand that people might consider this extreme. But many of the RF noise source issues can be solved by the FCC actually enforcing the Part 15 regulations.

There are an incredible number of products being sold today which do not even begin to meet the Part 15 emission standards. I do not think it is even possible to build a touch lamp which will meet the Part 15 standards. Manufacturers do not take the standards seriously because they know they aren't going to be enforced. In many cases, the vendors selling products in the United States are just taking something manufactured abroad and have no idea there even are any FCC standards.

Last year I was dealing with a U.S.-made computer that was purchased by a customer of mine at a local AM station, which emitted so much trash that they could not reliably receive their own station in their office.

The power supply was a cheap unit of Asian manufacture with no FCC certification. When I called the manufacturer, they didn't seem to understand what the problem was, and offered to send me an FCC certification sticker that I could put on the computer as if somehow this would magically make everything all right.

Manufacturers don't take noise standards seriously, and they aren't going to take them seriously unless pressure is put on them. Consumers don't care; they don't understand the issues and many of them are not willing to pay more money for properly designed devices for a noise improvement that may only benefit their neighbors. The FCC doesn't care for reasons that I really don't understand. But until the FCC starts to care, until we make them care, the problem is just going to get worse and worse.

Scott Dorsey
Engineer
Kludge Audio
Williamsburg, Va.

DON'T FORGET THIS NOISE SOURCE

The article "Can Radio Get Noise Floor Issues Under Control" failed to mention the digital signal of HD Radio as a contributor to the noise floor.

Stanley Swanson
Engineer
KYRM(FM)
Yuma, Ariz.

OPINION

WHO IS AN ENGINEER?

I have to take issue with the writer of "What Is a Professional Engineer?" (*Reader's Forum*, May 20).

READER'S FORUM

The Association of Federal Communications Consulting Engineers took this before the FCC back in 1974 and requested that the commission allow only state certified Professional Engineers (P.E.) to be able to file the engineering data on FCC license applications. The commission at that time rejected this notion, stating that most states' P.E. testing had nothing to do with "radio engineering" and was focused on civil, structural or mechanical engineering as a requirement for the construction of roads, bridges and other heavy construction projects. Furthermore, the states were much different in their testing as to the state of the art.

I graduated in 1971 with a BSEE and my senior class was called to a meeting with the State of Wisconsin Architects & Engineers Board to introduce senior-level engineering students to the "Engineer in Training" (EIT) application program and initial testing to become a P.E. In this state, in order to get a P.E. at that time, you had to qualify with a bachelor's degree in electrical, mechanical or civil engineering, then take the EIT test, then follow with four years of "engineering work" as a "trainee." Sample tests were passed out at this meeting, and after looking them over, they were primarily mechanical and civil with emphasis on statics, dynamics, soils, concrete strengths and other mechanical issues. The lone problem concerning electricity was a municipal street lighting network employing 500 watt incandescent lamps!

After I saw this, and with my interest in electrical power and RF, I dismissed the P.E. as a joke and never wasted my time getting it. I had received my First Class Radiotelephone License at age 17 (with Ship Radar Endorsement), and the Second Class Radiotelephone license test at the time had questions that required the applicant to actually draw the circuits, not multiple choice!

Since then I have come in contact with many who have P.E. stamps and I hate to say it, but many throw this around like they are VIPs. A municipal official in a discussion I had some years back stated that the many consultants with P.E. after their name were "Pitiful Engineers."

So as far as I am concerned, the FCC in 1974 carefully examined this and acted correctly.

With respect to the heavy construction trades, civil, mechanical and electrical projects requiring a P.E. (mainly for legal protection), it may be justified.

John C. Aegerter
Brookfield, Wis.

I TOLD YOU SO

I read an issue of *The Leslie Report* this summer with interest and did my best to avoid shouting at my computer screen, "I *told you so*!"

The headlines and text say it all: *"Indoor Reception 'Impossible' to 'Non-Existent,' Say iBiquity and Greater Media," "IBiquity, Greater Media Say Drive Tests Show 'Serious Digital Coverage Deficiencies'"* and the line I loved the best, *"Only the full 10 dB increase will permit reliable service to portable IBOC receivers and come close to replicating analog coverage"* (my underline).

As a multitude of engineers implored before this commercially-driven debacle was foisted upon us: Be sure this is the best possible system and one that will work as well or better than analog.

But noooooo … the big commercial giants decided for us and "lobbied" the commission to implement it (read: shove it down our throats).

Now that is has been unequivocally proven that it will not, or ever, be as good as analog, we are stuck with this albatross. This whole scheme was designed for one purpose only: *Make money for iBiquity!* Well, how's that working for you?

When broadcasters can't just buy a transmitter but must also buy the "rights" from iBiquity to use it, owners are just rushing to give away their money, aren't they?

This was a poorly-thought-out concept to begin with, but what do we engineers know?

What might have been a better alternative (not that I am advocating it, just presenting what might have worked better) is for all the receiver manufacturers to convert to a dual-use analog/DRM chip that would automatically decode the received format. After a decade or so, when the vast majority of radios were digital-capable, switch over all stations at once, ending analog broadcasting.

This would eliminate most all the current problems and be a seamless transition. The AM nighttime situation would also not be as big a problem, with the current iBiquity AM system being all but abandoned, just as AM stereo died its inglorious death (at the hands of Motorola).

Now that all the money has been invested (read: poured down a rat hole), it is time for the rest of the broadcast industry *not* partnered with iBiquity to take the albatross from around their neck and make their *analog* signal an engineering masterpiece, which a good analog FM is, and put some programming worth listening to on it.

Digital is not a good enough reason for listeners to flock to your signal; they need something to excite them. Radio was a fantastic medium when it was all live and always different. Digital repeater radio doesn't cut it. Get back to what works, and you will be surprised at the results.

Mike Vanhooser
President
Nova Electronics
Dallas

> **As far as I am** concerned, the FCC in 1974 carefully examined [the P.E. issue] and acted correctly.
>
> – John C. Aegerter

GOOD DIAGNOSIS, MCCOY

Great article by Frank McCoy in Radio World about WiFi radio delivery vs. terrestrial delivery ("The Problem Isn't Demand, It's Bandwidth," Sept. 1)!

That article, along with the FM option coming to new iPods, ought to have a lot of radio people sleeping a little bit better tonight.

Rob Robbins, Ph.D.
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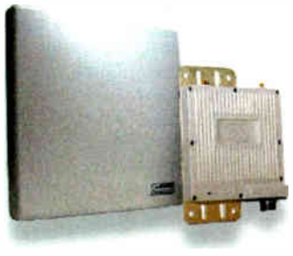

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