

Meet the Models

Experts talk about implementing the new AM DA modeling and proof rules.

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Time for a Cease-Fire

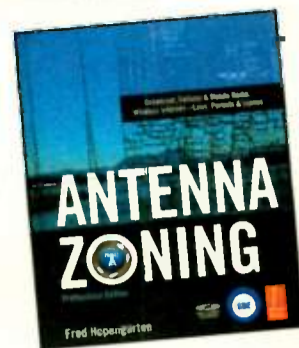
Radio needs to be realistic about its prospects with a performance royalty.

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'Put Aside the Black Hat'

Expert Fred Hopengarten makes an in-depth study of zoning in his new book.

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Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

June 3, 2009

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NewBay Media

THE FCC AT 75

When the Federal Government Stepped In

Though the FCC Was Created in 1934, Roots of Radio Regulation Go Deeper

by James E. O'Neal

The Federal Communications Commission was created on June 19, 1934, and thus marks its 75th anniversary this month. Here, we look back to its roots.

In the beginning, there was a ponderous cacophony and great confusion. Radio, basically in the form of broadband brute force spark transmissions, had been around since the turn of the 20th century. Some businesses made use of radio for dispatching ships and reporting meteorological conditions, others engaged in the transmission of personal and commercial messages for profit; but the simple truth was that anyone could build and operate a wireless station.

The U.S. Navy was one of the early adopters of radio communications; it frequently endured perfectly legal interference from amateur pranksters.

Stations could operate with as much
See FCC, page 21 ▶



Rear Admiral W.H.G. Bullard, first chairman of the Federal Radio Commission. There are no czars, as some newspapers like to suggest; we are all equals — the commission and the public,' he said.

Portables Are Cited as an Argument for Power Increase

Could Commercial Stations Raise HD Radio Digital Power First?

by Leslie Stimson

LAS VEGAS Commercial and noncom broadcast organizations that support HD Radio are getting onto the same page regarding a so-called "managed" voluntary FM digital power increase.

Commercial advocates of digital radio generally are ready for the change now while public radio is waiting for one more round of testing. But important voices on both sides support an increase and say they're getting closer to working out the path.

Representatives of both continue to press the Federal Communications Commission for approval and hope for some kind of regulatory action by fall.

See DIGITAL, page 6 ▶



Photo by Leslie Stimson

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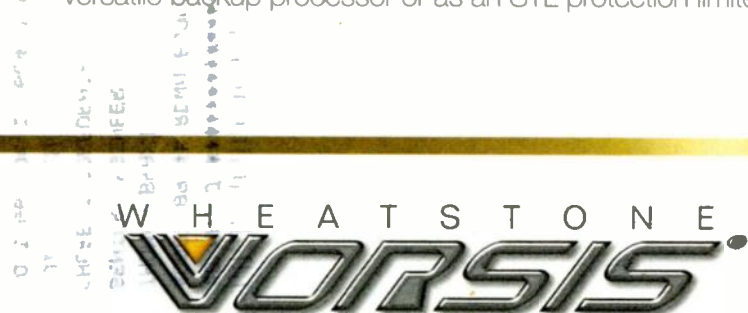
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NEWS ANALYSIS

Mega Seeks to Expand 87.7 Format

Analysts Question Ch. 6's Future; Mega Sees Aural Leases as Stepping Stone

by Randy J. Stine

NEW YORK The company that leases the aural service of a Channel 6 low-power TV station at 87.7 MHz in this city is armed with an aggressive expansion plan, eyeing the top 15 markets in the country. But it appears to face limited opportunities in the effort to grow its brand nationwide.

The New York music station is programmed by Mega Media Group, which leases airtime for its Pulse 87.7 FM format on the aural services of low-power TV WNYZ(LP), licensed to Island Broadcasting Co.

Industry critics of the arrangement say this is simply a Channel 6 LPTV acting as an FM radio station.

Island Broadcasting meets minimum FCC requirements for low-power TV because it still transmits a video signal, most often locally produced entertainment videos, even though it leases its aural service to Mega.

A handful of other LPTV licensees in this country appear to have embraced the controversial practice, which Radio World explored in the Dec. 17 issue. Such stations have been nicknamed "Franken FMs" in engineering circles because of their unorthodox nature.

Several communications attorneys have said the Federal Communications Commission appears to be reviewing such arrangements though the licensees apparently are operating within the rules. Stations are authorized by the FCC to carry video content that can be received on analog televisions in addition to audio programming receivable on FM radios.

markets without the upfront capital burden of purchasing frequencies," said Mega Media CEO Alex Shvarts.

'Proven format' in New York

Shvarts also announced arrangements in March to launch the dance format in Chicago and Los Angeles. However, Mega and Venture Technologies Group could not

It seems like a lot of smoke and little fire for technology that could soon be supplanted.

— Larry Patrick

Meanwhile, Mega Media would like to expand the concept.

The company expected to begin broadcasting its Pulse 87.7 dance brand in Washington on June 1, in a similar arrangement with WDCN(LP) on its aural service at 87.7 FM. WDCN is licensed to Signal Above LLC.

"We are pursuing revenue sharing agreements with broadcasters in the top 15 radio markets. This allows us to enter

reach final agreement to lease the aural services of Venture stations KSFV(LP) in Los Angeles and WLFM(LP) in Chicago, according to Shvarts and Venture Chairman Lawrence Rogow. Those letters of intent have since expired.

[Venture already airs "radio" formats of its own in those markets: KSFV in Los Angeles offers Spanish-language programming, and WLFM(LP) in Chicago

See MEGA, page 5 ▶

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Photo by Leslie Stinson



Danger: Zoning in Process

If Your Job Requires That You Deal With Antenna Zoning, Read This Book

Fred Hopengarten has done a great favor for anyone who must deal with zoning while planning a tower project (and these days, that's just about anyone involved with antennas).

He has written a hardcover book, with accompanying CD-ROM, called "Antenna Zoning: Professional Edition." It is a valuable addition to your broadcast management bookshelf, dense with useful information and supporting materials.

Hopengarten is a communications lawyer who spends most of his time on antenna leasing and zoning matters. He's also widely published — you've seen his name in Radio World — a popular speaker and a consultant to venture capital firms on their communications investments. I notice buried in his impressive bio that he is not only a graduate of Harvard Business School and former law clerk to the chairman of the Federal Trade Commission but, far more impressively, that he was chief engineer of his college radio station at Colby College.

A while back he wrote a book on zoning aimed at hams; Hopengarten, K1VR, is a volunteer counsel for the American Radio Relay League. This latest effort came about when Chris Imlay, general counsel of the Society of Broadcast Engineers, told him that professionals could use such a book too.

Wear the white hat

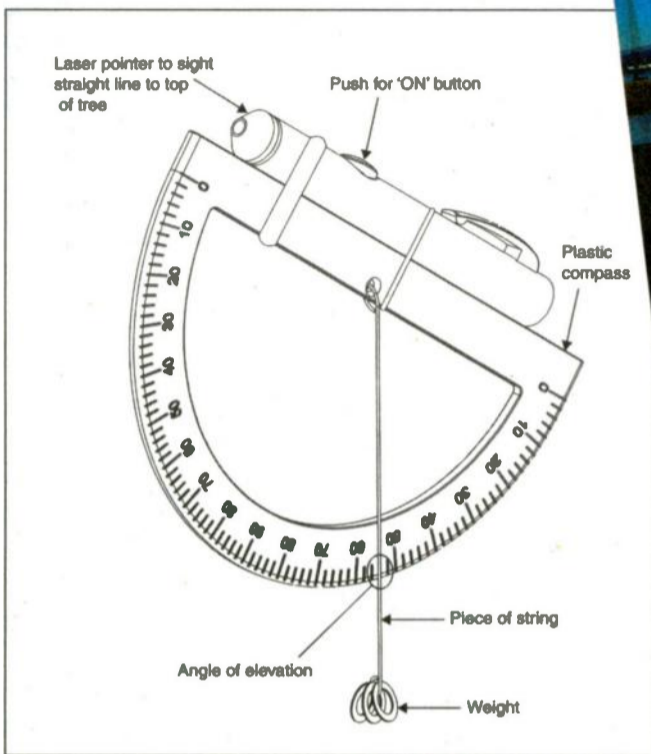
Allow me to share a few of his principles:

You must commit yourself to win — Hopengarten leads off with this key point. He instructs us that if you are willing to work hard and prepare, learning from the mistakes of others, you will find the process easier than you feared. Through preparation, you reduce the cost of legal assistance dramatically and increase your chances of winning your zoning permit or your appeal. Also you will avoid traps like a common clause that prevents you

from reapplying for a year, or even two, after being turned down.

Choose to wear a white hat — When dealing with zoning, you should be thinking about how to "wear the white hat" at all times, i.e. how to be the good guy.

How do you do this when others want



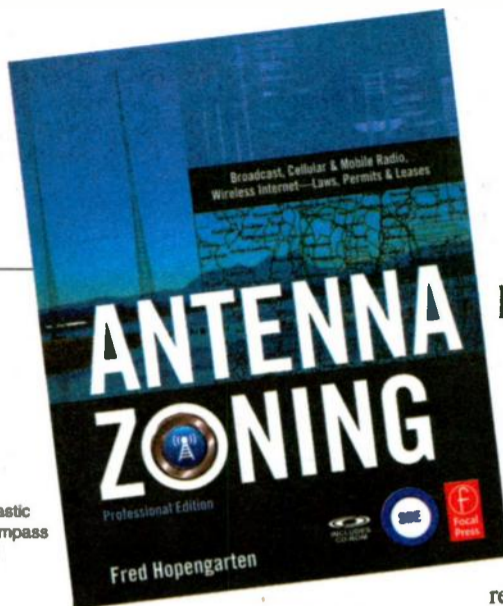
Hopengarten shows you how to build an inexpensive angle finder, to 'measure' the height of trees, using a laser pointer and a plastic compass.

to portray you as a bad guy?

You prepare a permit application that complies with the bylaw or ordinance (or better, that exceeds standards). Your company stands ready in times of natural disaster. You show consideration for the interests and concerns of neighbors. You consult with them before showing up at the hearing. You build something that won't hurt anyone.

In short, you treat others as you would like to be treated. Someone wise said that once.

Put aside the black hat — Don't come in shouting "I own this land. I have rights!" Don't start without understanding what you are asking of the board. Don't blow off neighbors' concerns. Don't proceed with-



out thinking your plan through carefully. Don't give the impression that you are haphazard people capable of building something really dangerous.

Clearly, Hopengarten knows how easy — and dangerous — it is to be high-handed when you think you're in the right.

Commit to full disclosure — Attempting to hide anything at a hearing is a bad idea, Hopengarten writes. Yet it's easy to be tempted. You might feel that a detail would be unseemly if you listed it and probably is too small to call attention to; or you might not yet have

decided about a particular point. Yet concealed information — like who really owns the property or how far a tower really is to a neighbor's property line — can become embarrassing if you don't disclose them before you are challenged.

"There is usually a convincing explanation for the issue," he writes. "There is, however, never a good explanation for not disclosing some things in the first place."

Hopengarten's book includes practical tips like the one shown in the graphic but mostly it's about things like strategies, building a winning team, objections to expect (safety issues, aesthetics, environmental issues, diversionary tactics), how to deal with the actual hearings, lawsuits and much more.

Perhaps of greatest value are the tem-

From the Editor



Paul J. McLane

plates, documents, forms, research studies, sample letters and other collateral provided not only in the book but on the CD-ROM in PDF form for easy download.

He also provides more than two dozen "answer cards" so you can be ready for common questions about things like birds, FAA concerns, interference to cell phones and so on.

Example: "Isn't this going to tempt kids to climb it? Isn't it an attractive nuisance?" Answer card: "Well, I certainly agree with [Mr./Ms.] that my proposed structure is attractive! (Pause and smile! Beam!) But I cannot agree that this structure is an attractive nuisance as the legal term implies. Nonetheless I'd like to call the attention of the Board to page xx of the application where I have shown the type of anticlimbing device that I propose to construct ..."

Hopengarten even provides accompanying photos that you can download to include in your exhibits.

For the Table of Contents for the book and other helpful materials see www.antennazoning.com. He includes a filing on behalf of Burlington Broadcasters' WIZN(FM) before the Vermont Environmental Board in an "RF as air pollution" case. It is on the Web and the CD-ROM.

"Antenna Zoning: Professional Edition" is from Focal Press/Elsevier in conjunction with the SBE. It retails for \$129.95 (SBE members get a discount at the SBE Store online).

That may sound like a lot for a book. It's not in this case. If you are active in tower projects, and particularly if you are new to zoning, this is well worth the investment. The book and CD-ROM represent hundreds of hours' worth of legal and tower expertise that you're getting for maybe the cost of 30 minutes of a lawyer's or consultant's time. ●

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Mega

► Continued from page 3
 airs country programming — branded as “The L” — both on 87.7 MHz.]

“We are a content provider and have a revenue sharing strategy that we are using to enter these markets. We believe we have a proven format in New York with some major advertisers coming on board,” Shvarts said. “However, in this current economy it has to make sense for us to enter a market and still be able to adequately promote a new station.”

Shvarts described Pulse as a “top 40 CHR approach with an element of dance to it.” Joel Salkowitz, an alumnus of music station WQHT(FM) in New York, is programming the Pulse content for Mega’s stations.

A recent announcement by Arbitron could help legitimize the impact of Franken FMs in major markets, said industry observers.

The ratings company has begun including the aural service of Channel 6

low-power TV stations that operate on 87.7 FM in its audience estimates for the Portable People Meter. Mega announced in late April that Pulse 87.7 reached a total weekly audience of 705,000 in the first week of that month; this increased from a weekly average of 671,200 in the month of March. Shvarts said being included in the Arbitron ratings report makes the station a viable competitor and allows the sales team to compete for major advertising dollars.

Shvarts said Pulse 87.7 is subscribing to Arbitron data in New York and expects



to in Washington later this year.

Industry observers say what Mega Media, Venture and others are doing is an interesting use of LPTV spectrum but they don’t expect a stampede to follow suit.

“This would work in maybe a handful of markets; but these are really marginal radio opportunities against the biggest players in the industry,” said Larry Patrick, managing partner at Patrick Communications, a media brokerage and

investment banking firm.

“Mega may be able to find a half-dozen of so opportunities but it will remain largely a fringe of the industry and not mainstream.”

Future unclear for 6

Stations like these will face another obstacle when low-power TV licensees eventually are forced to transition to digital and Channel 6 spectrum is repur-

licensees to digital effectively ends this opportunity,” Patrick said.

Shvarts said any such FCC mandate remains years down the road.

“When is eventually? I don’t envision this happening until 2012 or maybe even later. We will obviously be looking for full-power opportunities at that point,” Shvarts said.

LPTVs acting as FMs also face a competitive disadvantage through their very location off the bottom of the FM band, said John Sanders, an analyst with Bond & Pecaro.

“Simply put, a lot of radios cannot pick up 87.7 MHz. Most people won’t even scan through that area. And remember, winning radio formats are easily imitated by more powerful stations. Even if Mega does well for a time, it may not last,” Sanders said.

While the radio station in New York announced it had more than 700,000 cume persons age 6 and older during a specific week in April, it was unranked in Arbitron’s most recent listener survey of persons 12+.

Shvarts said he is also pursuing revenue sharing agreements with full-power commercial radio broadcasters in the top 15 radio markets. “We feel there are plenty of under-performing radio stations out there looking for winning content.”

The Mega Media Group has approximately 20 employees working in its radio division in Brooklyn. Launched in 2004, MMG is a multimedia entertainment holding company that offers a range of services including music and video production and distribution. ●

We are pursuing revenue sharing agreements with broadcasters in the top 15 radio markets.

— Alex Shvarts

posed, Patrick said.

Low-power television stations currently have no mandatory digital transmission deadline.

“It seems like a lot of smoke and little fire for technology that could soon be supplanted. The conversion of the LPTV

NEWS WATCH

NAB Begins Search for New Leader

WASHINGTON

The board of the National Association of Broadcasters has begun looking for a new president and chief executive officer. Joint Board Chairman Jack Sander of Belo Broadcasting told several publications that the board intends to make a swift hire.



Jack Sander

Bonneville International President Bruce Reese will head the search committee. He is on the board’s executive committee and is a past joint board chairman of the NAB.

Less than two weeks after the end of the spring convention, President/CEO David Rehr suddenly resigned. He had succeeded Eddie Fritts, who left in late 2005 after a 23-year tenure. Fritts departed after a conflict with television board members; sources suggested a similar scenario occurred with Rehr.

Rehr, formerly chief executive of the Beer Wholesalers Association, had been in the position a little over three years. He came to NAB when Republicans still controlled the White House and Congress.

TV board members are particularly unhappy the NAB was not able to convince the FCC to proceed with the DTV transition in February, failed to obtain multicast must-carry rights for TV stations and couldn’t block the FCC’s so-called “white spaces” initiative opening up broadcast spectrum for shared use by other devices.

Radio is in a tough spot as well, in the midst of a congressional fight with the record labels over paying a perform-

ance royalty for copyrighted music.

CFO Janet McGregor is managing the trade group in the interim.

Rehr released a statement: “I have enjoyed leading America’s broadcasters through this time of change and challenge. Our efforts to educate America about the digital television transition have been enormously successful, and our effort to reinvigorate radio through the Radio Heard Here campaign is positioning radio broadcasters well for the future.”

O’Shaughnessy Deplores Money Focus

NEW ROCHELLE, N.Y. Former NAB board member and Whitney Media President William O’Shaughnessy says Rehr’s departure from NAB “couldn’t have come at a worse time.” In a commentary, the broadcaster and First Amendment advocate described Rehr as the quintessential Washington insider but said, “Unfortunately, his heft and clout proceed from his roots in the Republican Party.”

He described Rehr as “a dynamic and articulate advocate and he employed all his considerable talents while in our service.” He said Rehr did his best to reflect priorities of the NAB board, “whose focus always has been on structural, competitive and ‘money’ issues ... with little time, effort or energy left for government intrusion into the product of our labors.

“The group heads, absentee owners, ‘market managers’ and conglomerateurs have spent all their time on desperate efforts to revive their penny stocks and restore investor confidence,” wrote O’Shaughnessy. “As a result, government intrusion into our profession has had to take a back seat.”

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Digital

► Continued from page 1

Attendees of the recent NAB Show heard pledges of cooperation and support for the increase from commercial and public radio entities.

Meanwhile, traffic data is growing in importance in the IBOC world, as more stations are investing in and earning ROI from this new resource (see story, page 8).

Multiple portables

Engineering sources told Radio World they've been meeting with commission staff and believe the agency's employees understand the need for speedy approval of the power increase.

These sources also expect portable devices with HD Radio capabilities — such as MP3 players, cell phones and iPod accessories — to be available by the holidays.

iBiquity President/CEO Bob Struble

Manager Jeff Detweiler reiterated this stance during an engineering session at the NAB Show.

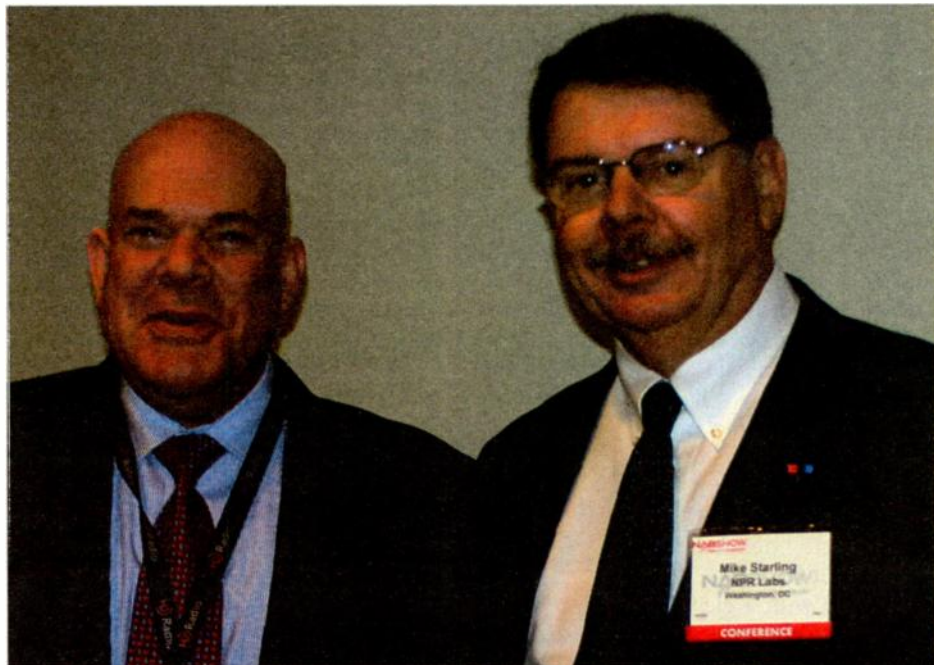
One possible scenario, he said, is that commercial stations may raise power first while iBiquity continues to work with non-commercial stations on the best way to increase digital coverage.

Struble put it this way: "We're exploring options" on the power level increase. "In no way do we want to leave non-coms behind."

An angle on this story is the focus on stations' city-grade contours. NPR wants member stations to be able to increase digital FM power yet it also seeks to protect analog coverage where donors often live. Thus it is seeking protection for the analog further out than commercial radio.

Testing update

NPR Labs has received funding from the Corporation for Public Broadcasting to complete more tests related to the power level increase (see "Unified Theory: HD-R



iBiquity's Jeff Detweiler and NPR Labs' Mike Starling share a light moment before their power level briefings.

Photo by Leslie Stimson

These are intended to be the last studies on the subject of what is a reasonable answer to managing IBOC.

— Mike Starling

concurs with both of those assessments; he told Radio World he thinks the market will see "multiple HD Radio portables at retail" this fall.

Indeed, iBiquity showed a prototype KRI portable armband HD Radio receiver in its booth. Struble described the diversity antennas in the product as a "breakthrough." The wire to the earbuds constitutes one antenna while another is embedded in the unit. The design was optimized in the iBiquity lab in Columbia, Md. The dual-antenna design boosts received signal strength, he said.

Advocates for a power hike say initial FM power levels for IBOC were set low to avoid interference to neighboring stations and/or self-interference to host analog signals. Now, they say, receivers on the market are having trouble picking up the digital signal in certain conditions.

With portables coming to market this year, a power increase is vital, according to Milford Smith, vice president of chairman engineering for Greater Media and chairman of the National Radio Systems Committee.

In portables, he said, "The antenna has to be small. It's less efficient and performs less well."

Exploring options

Paul Brenner, president of the Broadcast Traffic Consortium and senior vice president and chief technology officer of Emmis Communications, said automakers and portable device makers with whom he's spoken assume an HD Radio power increase will be approved.

"If it doesn't happen, they will turn towards broadband and other technologies" to deliver content.

In their initial filing last year advocating an increase, 18 broadcast organizations, mostly from commercial radio, urged quick action on an increase. iBiquity Broadcast Business Development

Power Tests Begin" in the May 6 issue). Commercial stations and iBiquity, while not providing funding for these tests, have offered resources such as stations and/or personnel. NPR's specific needs weren't nailed down just after the show.

NPR has lab testing underway and

plans soon to begin field testing related to indoor coverage, mobile interference and mobile impairment, host compatibility and SCA field receiver coverage. It plans to include information in its reports, expected to be finalized this fall, about other ways to increase coverage without increasing the digital transmitted power, such as employing asymmetrical IBOC sidebands, single-frequency networks and IBOC directional transmission.

One commercial radio engineer told Radio World that several of these options are "not there" yet; asymmetrical sideband use in particular may pose a problem because without it a digital signal loses some robustness and error correction.

"These are intended to be the last studies on the subject of what is a reasonable answer to managing IBOC," said Mike

Starling, NPR vice president/chief technology officer and executive director of NPR Labs.

Within NPR Labs, John Kean and Elynn Sheffield are spearheading some of the testing.

NPR has a slate of technical representatives from commercial organizations and iBiquity plans to consult. Among those providing input are Brian Kroger, Ashruf El-Dinary and Jeff Detweiler of iBiquity; Jeff Littlejohn of Clear Channel; Milford Smith of Greater Media; Glynn Walden of CBS Radio; Dave Wilson of the Consumer Electronics Association; and Doug Vernier of V-Soft acting as representative of CPB.

Peer review stations for NPR testing include member stations from American Public Media and Minnesota Public Radio, and others on which we've reported.

DIGITAL RADIO

NRSC Looks at Error Rate Data for G-201 Update

LAS VEGAS The National Radio Systems Committee RF IBOC Measurement Guideline will be updated as the industry learns more about the digital radio technology, according to NRSC Chairman Milford Smith, who's also vice president of radio engineering for Greater Media.

The NRSC voted to adopt the guideline, called NRSC G-201, at the NAB Show and planned to place it on its Web site, www.nrscstandards.org, soon.

One of the updates is underway. Harris Broadcast's Geoff Mendenhall is leading a sub-group working on a modulation error rate specification for a "factory compliance" section of the guideline; the NRSC plans to incorporate that into an updated version of the document.

Because of increased demands on transmission equipment, Mendenhall said there's a need to better characterize equipment performance. The sub-group is looking for a measurement that will characterize the amount of margin left in the signal as it leaves the transmitter.

Low-Power Firmware Load for Samsung Chipset

COLUMBIA, Md. iBiquity Digital Corp. announced the availability of a new firmware load for a Samsung HD Radio chipset (SEMHDR C200A/100A).

The new firmware drops overall power consumption down to as low as 165 mW, so the chipset can be used in portable devices such as MP3 players, portable navigation devices and personal media players.

Chief Operating Officer Jeff Jury said the development brings full HD Radio feature options to more product categories including home, automotive aftermarket and portable battery-operated devices.

The chipset was demonstrated inside prototype portable products during this winter's CES convention. Samsung executive S. G. Hong said the company has been working with its partners on portable products "that are expected to come to market before the end of this year."

Samsung EM's HD Radio chipset is based on iBiquity Digital's IC architecture, and supports all IBOC features such as simultaneous decode of audio and data, advance data applications, real-time traffic and conditional access.

More Factories Licensed To Make Devices

COLUMBIA, Md. iBiquity has licensed more than 140 companies to develop HD Radio receiver components and products. The company said it has licensed A-MAX Technology, EnGIS Technologies and Harbor Light Technology.

Twenty-three factories now offer HD Radio product production capabilities, up from eight in 2006 and three in 2005. President/CEO Bob Struble said it's significant that more companies are building HD Radio components and receivers; he said the trend demonstrates that these companies see potential in the technology.

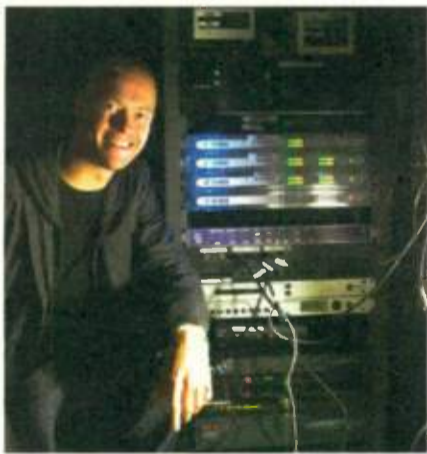
The companies include baseband chip manufacturers, tuner chip manufacturers, test equipment developers, test centers, software developers, module developers, manufacturing houses and receiver developers and brands. iBiquity's certification center in Asia allows manufacturers to lower costs and speed time to market, Struble said.

— Leslie Stimson

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Photo: Jonathan Tichler/Metropolitan Opera



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—Matthew Galek, Broadcast Engineer for The Metropolitan Opera

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Traffic Group Adds Markets, Members

Navteq Now Offers 'LocationPoint Advertising' Including Graphics, Sound and Mobile Coupons

by Leslie Stimson

The Broadcast Traffic Consortium now covers more markets and has added additional members.

It will soon envelop 82 U.S. markets with traffic data via RDS and 74 via HD Radio, in addition to the top seven Canadian metros served with RDS, according to Paul Brenner, consortium president and senior vice president/chief technology officer for Emmis Communications.

He said 77 FM-RDS markets and 63 HD Radio data markets are active, with the remaining BTC committed markets to be completed in the second quarter.

Its commercial prospects are expanding. Indeed, at the NAB Show, digital map data provider Navteq said that using HD Radio, it can now offer "LocationPoint Advertising," including detailed graphics, sound and mobile coupons.

BTC is working with Navteq, which is owned by Nokia, for vehicle navigation and location-based products.

'Growing strength'

The consortium, made up of 16 radio broadcast owners with 1,500 stations, uses RDS and HD Radio technology to deliver real-time traffic and other location-based information like weather and fuel prices to portable navigation devices and automobile in-dash systems from companies such as Sony and Garmin.

Its largest competitor for traffic services is Clear Channel, Brenner told attendees at the Public Radio Engineering Conference, held concurrently with the NAB. Clear Channel's Total Traffic network has more than 700 stations to distribute data over RDS and HD Radio signals for 125 metropolitan areas.

Journal Broadcasting, Regent Communications, Saga Communications and Corus Entertainment in Canada have



Paul Brenner, president of the Broadcast Traffic Consortium. 'By leveraging our strengths ... we are re-establishing this industry as an innovative means of engaging consumers.'

joined the BTC. Founding members are Beasley, Bonneville, Cox, Emmis, Entercom, Greater Media, National Public Radio and Radio One. Subsequent additions include Cumulus Media, Lincoln Financial, Hubbard Broadcasting and Cobalt Media.

"Each organization's commitment to this consortium represents the growing strength of collaboration which unifies the bandwidth capacity and skills within our industry," said Brenner. That's important because "most phone carriers don't see HD Radio as a threat." They "see radio as fragmented and not able to come together."

Brenner sounded an ambitious note in talking about the consortium. Its purpose, he said, is to further accelerate consumer HD Radio receiver penetration and create new revenue. "By leveraging our strengths — low-cost distribution, localized content, nationwide coverage and digital capacity

— we are re-establishing this industry as an innovative means of engaging consumers."

The effort also represents a low-cost national data distribution channel that can allow broadcasters to expand beyond audio programming when using HD Radio, he added.

Though he declined to discuss figures, Brenner said BTC members share revenue according to a formula based on Arbitron population coverage. The percentage of revenue shared from Navteq is increased with a higher level of bandwidth commitment.

Digital map data provider Navteq said that using HD Radio, it can now offer 'LocationPoint Advertising,' including detailed graphics, sound and mobile coupons.

The BTC says Navteq can accomplish several things with the data because of how the BTC system handles the HD stream.

The consortium "refreshed" iBiquity's data part of the HD Radio stream, essentially re-organizing it, leaving member stations and Navteq "with a big, fat data pipe" that can handle other kinds of data besides traffic, a broadcast engineering source told Radio World. The BTC essentially reverse-engineered and re-wrote the code for the data portion of the IBOC stream. "By parsing what the encoder does (with the data) Navteq has more control over it," this source said.

FCC to Review Arbitron PPM

WASHINGTON After FCC Commissioner Jonathan Adelstein first called for an investigation into the methodology of the Arbitron Portable People Meter last year, now, just before he plans to leave the agency, the commission has issued a Notice of Inquiry. Officially, the NOI will review the impact of "Arbitron audience ratings measurements on radio broadcasters," according to the title, though really, the inquiry will focus on PPM.

Hispanic and black-owned stations have said the PPM undercounts minorities; Arbitron has worked to improve the PPM samples to include more minorities, however the Hispanic Broadcasters Association and the National Association of Black Owned Broadcasters say more needs to be done. Advertising revenues can be hurt by low ratings, they say. The HBA and NABOB assert PPM undercounts and misrepresents the number and loyalty of minority radio listeners, which could affect their ability to provide service to African-American and Hispanic audiences.

Arbitron welcomed the inquiry, calling it an opportunity to better educate all parties about its PPM and its advantages over the diary-based system. The audi-

ence research firm has met with commission representatives over the past few weeks on PPM and in filings, "consistently expressed our willingness to participate in a Notice of Inquiry," according to spokesman Thom Mocarsky.

In fact, in the notice, the FCC states: "We have a strong interest in encouraging innovative advancements that lead to improved information and data."

The commission says its inquiry will focus on the impact of PPM methodology as well as whether the audience ratings data is sufficiently accurate and reliable to merit the commission's own reliance on the data. Acting Chairman Michael Copps noted that the agency relies on Arbitron data to evaluate the buying and selling of stations as well as to issue industry trend reports and conduct congressionally mandated reviews of our media ownership rules. "Without confidence in the underlying data, those important functions could be undercut," he said.

Noting that the FCC does not regulate Arbitron, Copps said, "We do not regulate banks either, and yet we should — indeed, we must — take into account the difficulties of access to capital if we are

going to develop effective rules. Anything that affects media diversity and minority ownership — and the instant item does not draw any conclusions — affects our ability to do our job."

"If there is an adverse impact, we seek comment on further steps the commission can and should take to address these issues," states the agency in the notice.

The sole GOP commissioner, Robert McDowell, focused on whether the agency has the authority to do anything no matter what the probe turns up. "I expect to pay particular attention to analyses of the commission's authority to take any further action in this arena," McDowell said.

Arbitron said an NOI is not the same as the formal investigation sought by the groups protesting PPM. Mocarsky said an NOI is an open proceeding in which all parties may express their views on several issues — very different from a closed, adversarial proceeding before an administrative law judge that would likely lead to "freezing" the parties into litigation-like adversarial postures.

Comments to Docket MB 08-187 are due 30 days after the item is published in the Federal Register.

NEWS WATCH

News Roundup

HARRIS: Broadcast revenue was down 17 percent in the third fiscal quarter at Harris Corp. compared to a year earlier. The company said broadcast brought in \$132 million (it does not break out radio revenue within that). Operating income was \$2 million compared with \$7 million a year ago. "The global recession and postponement of capital projects further weakened demand," the company stated. "However, the impact of lower revenue on operating performance in the third quarter was mitigated by ongoing cost-reduction actions." The parent company reported net income for the quarter of \$114 million, compared with \$108 million a year ago. Revenue for the third quarter overall was \$1.36 billion compared with \$1.33 billion for the prior-year quarter.

SIRIUS XM: The satcaster showed a decline in subscribers, down slightly from the preceding quarter. It reported \$605.5 million in pro forma revenue, up 5 percent over the first quarter of 2008, and \$108.8 million in first quarter pro forma adjusted income from operations, as compared to a year ago when it reported a pro forma adjusted loss from operations of \$70.2 million. The recent merger has helped the satcaster reduce operating costs 23 percent, demonstrating Sirius XM's "focus on improving profitability despite slower automobile sales and a 2 percent sequential decline in satellite radio subscribers," said Karmazin. But it ended the first quarter with 18.6 million subscribers. That's up 3 percent from a year ago but down 2 percent from fourth quarter 2008.

CLOSING SHOP: WIT Inc. shut down its business. The company was manufacturer of the easi-8 remote monitoring and control system. The firm, based in Salt Lake City, said it would honor warranties and provide customer support until June 30. "We will also maintain our Web site with current software updates and downloads for another year or until June 30, 2010."

PERFORMANCE ROYALTY: Spanish-language broadcasters told congressional staffers a performance royalty charged for music aired on radio stations could devastate small broadcasters financially. In video highlights supplied by the Free Radio Alliance, which sponsored the event, Bustos Media CEO Amador Bustos said, "The performance tax would be the added and final nail in the coffin for these small broadcasters like ours, and I think that it is just absolutely ludicrous that the record companies are trying to sort of bite the hand that feeds them." However the National Hispanic Conference of State Legislators said it is backing the royalty, approving a resolution that calls upon Congress to enact the Performance Rights Act. Sponsor Rep. Mara Candelaria Reardon, D-Ind., called it a matter of fairness.



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World Radio History

'Practical' Is the Byword at PREC

Conferees Also Honor Danko & Kean and Hear Latest on Conditional Access

by Leslie Stimson

LAS VEGAS Schedulers for this year's Public Radio Engineering Conference focused on practical, long-term planning issues.

In particular, discussions centered on how to integrate IP-based digital broadcasting and transport into facilities, how to reduce distribution costs for a station group by delivering HD Radio over satel-

lite, how to avoid problems with multiple audio codecs in production and air chains, and how to make smart investments in the RF plant given what is now known about IBOC broadcasting.

Discussions included a transmission panel to complement SBE Ennes sessions about the IBOC FM power increase.

Some 70 participants took part in this year's conference, fewer than in the past. In view of the economy, the event ran only one day to make attendance more affordable, and organizers said they were pleased with the turnout. In years past, it lasted two days and some sessions were shared with PBS.

This was the ninth year of the meeting, previously run by NPR and now organized by the Association of Public Radio Engineers.

Several highlights:

DICE CONDITIONAL ACCESS RADIO DELAYED

Mike Starling, vice president/chief technology officer of NPR and executive director of NPR Labs, and John Kean, senior technologist of NPR Labs, discussed additional testing for elevated FM IBOC levels (see story, page 1).

However the first thing Starling did was thank long-time NPR employee Jan Andrews for his work in helping to organize the PREC for several years before the hand-over to APRE.

Andrews, whose job was cut last fall in NPR's big round of budget reductions, is back with the lab and involved with the latest IBOC testing. He is studying how analog SCA receivers are affected if the FM digital power level is raised, according to Starling.

Starling said he believes a Dice HD Radio unit that includes conditional access capability with the Radio Reading Service function — model ITR100A — may be on the market by early 2010. The company pushed back its target date from this summer due to the poor economy, he said.

As RW has reported, NPR demoed over-the-air captioned radio for conditional access on election night in 2008. The next step are refinements, including making the associated Web stream and Web sites captioned and accessible to comply with state requirements.

Some 139 countries have signed an accessibility convention. Starling said the North American Broadcasting Association expects the United States will sign on this year. Of approximately 70 parts of the accessibility convention, about half relate to broadcasting, he said.

CPB OPENS NEXT DIGITAL GRANT ROUND

The Corporation for Public Broadcasting opened another round of funding

for HD Radio conversions soon after the show on May 18.

"Conditional access is something we're looking at," said Doug Vernier, president of V-Soft Communications, who is also an HD Radio consultant to CPB. Money for digital translators and boosters is *not* going to be provided in this round, he said.

CPB is accepting grant applications for Priority I digital radio transmitter conversions and secondary Priority II & III projects. Priority I also provides funding for HD equipment that was unavailable to early adopters.

Priority II covers projects that facilitate digital content delivery and services to existing digital infrastructure, such as multicasting and other advanced HD Radio applications. Priority III covers demonstration projects that add and establish the feasibility of unique public service applications of digital technology, such as accessibility.

The grant applications are due June 15.

To date, CPB has approved funding for the digital conversion of 697 public radio transmitters. More than 430 public radio stations have completed conversions and are transmitting digital signals. Of those, 137 are multicasting for a total of 181 multicast streams.

The previous round of funding applications closed in November.

A CAUTIONARY TOWER TALE FROM WHA

Wisconsin Public Radio Director of Engineering and Operations Steve Johnston said environmental issues turned what should have been a 12-month job into a three-year project. His was a cautionary tale about how "NIMBY" concerns can delay a project and increase its costs.

The public radio organization wanted to replace an aging tower for WHA(AM), Madison, located in a wetland bordering an arboretum.

See PREC, page 12 ▶



Photos by Leslie Stimson

Engineers work long hours, hence the bags under Roger Karwoski's eyes. He was master of ceremonies for the APRE Engineering Awards dinner.

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Steve Johnston discussed a tale of woe about a tower rebuild for WHA(AM), Madison, Wis.



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World Radio History

PREC

► Continued from page 10

An inspection in 2006 showed that rust had eaten through the tower legs. The tower, dating from the 1970s, had to be replaced; but WPR didn't want to erect the replacement in the same spot because the concrete base under the tower legs was sinking, as were the guy anchors.

The only way to move the tower was to go directional or reduce coverage because other stations had built up their towers right at the edge of WHA's coverage areas, said Johnston. The station chose to rebuild close to the old site.

"The arboretum people reacted in horror" at the prospect, he said, adding that they liked the station but not its tower. They denied the original purpose of the land, which served as a nature reserve and water runoff.

The state provided grant funding for the replacement because it was afraid the tower would fall; but environmental studies delayed the project, sending the total project cost, including the tower itself plus an environmental impact assessment, to about \$330,000.

There's a happy ending, though. While the ground system isn't yet completed, Johnston has noticed that signal coverage of WHA has improved "due to decreased losses in the system." He's also seen "significant improvement" in the station's HD Radio signal. And the neighbors have been satisfied.

KEAN, DANKO RECEIVE AWARDS

The Association of Public Radio Engineers honored the recipients of its 2009 Engineering Achievement Awards: John Kean and Don Danko.

Roger Karwoski of KBIA(FM), Columbia, Mo., made the presentation on behalf of the Awards Committee at the PREC dinner.

John Kean is the senior technologist at NPR Labs and the technical brains behind its elevated power testing project, which examined digital coverage for radio stations. This project advanced the art in predicting coverage and using new methods to study the effects of possible increases in digital signal levels, the group said in its announcement.

As we've reported, Kean invented and tested a measurement antenna where no standard existed and designed and implemented tests to study different sub-



APRE Engineering Achievement Award recipients Don Danko, left, and John Kean flank presenter Roger Karwoski.

carrier levels. APRE said his work also has helped advance the level of knowledge of radio propagation.

The awards committee kept Kean's honor a surprise. He appeared stunned and pleased as he accepted his award.

Don Danko is vice president for engineering of Cincinnati Public Radio, consisting of WGUC(FM) and WVXU(FM). WGUC was the first public radio station in Ohio to broadcast using HD Radio technology.

CPR partnered with NPR and Harris Broadcast in the early rollout of digital transmitters; now Danko is working with Harris to experiment with increased power levels. He has also been instrumental in testing and using surround sound technology for recording and broadcasting concert performances. Radio World reported WGUC was America's first surround sound station.

Attendees of the dinner heard that Danko likes a good joke. For instance he once lit his boss's house for Christmas while the executive was away on vacation; this might have been a nice gesture except Danko did it in July.

In addition to Karwoski, this year's awards committee consisted of Gordon Carter, WFMT(FM), Chicago, Ill., chairman; Rich Parker, Vermont Public Radio; Jobie Sprinkle, WFAE(FM), Charlotte, N.C.; and Bruce Wahl, NPR, Washington.

In addition, the APRE chose three people for partial scholarships to attend this year's conference.

The winners were Eric French, senior broadcast technician, WOSU(FM), Columbus, Ohio; Asa Sourdiffé,

engineering associate, Vermont Public Radio; and Brian Sanders, network operations manager, KNAU(FM), Flagstaff, Ariz., part of Arizona Public Radio. Each received PREC registration, a ticket to the awards dinner courtesy of APRE and its PREC sponsors, plus a \$1,000 stipend for travel expenses courtesy of Harris Corp.

Managers, supervisors, mentors and friends could recommend applicants. Preference was given to those new to the public radio industry because APRE believes they would most benefit from attending the event.

In a written message to dinner attendees, Carter wrote that managers nominated several individuals, telling him that "people notice when things are done well."

Parker, the scholarship committee chairman, said, "It's nice to be able to give back. We hope to have scholarship recipients every year."

Other PREC sponsors are Axia/Omnia/Telos, Broadcast Electronics, DTS/Neural Audio, ERI, Nautel, NPR Labs and the Public Radio Satellite System. ●

Make Money With Multicast Channels

Broadcasters looking for real-world ways to flourish in a struggling economy can turn to HD Radio and its multicast channels, advocates for the technology say.

In an NAB Show session devoted to the topic, panelists pointed to HD Radio's growth. Nearly 2,000 stations are broadcasting digital signals and more than half of those are airing multicast channels. For consumers, there are more than 100 models of HD Radio receivers on the market, and the automobile industry is driving up interest with installations in more than 70 models of vehicles.

Rick Greenhut with iBiquity Digital called HD Radio "the first killer application for radio in more than 40 years." The technology offers broadcasters opportunities to venture into new, untapped markets — if they're willing to think outside the traditional advertising box, he said.

Opportunities at broadcasters' disposal: tying HD Radio with Web banner advertising to create combination sales, bracketing programming to appear more attractive to advertisers and using HD multicast channels as a gateway for smaller companies that might not be able to afford primary-channel rates.

"You can create a market where none has existed before," Greenhut said, citing as an example a radio station partnering with the local high school to give budding broadcasters the chance to call a high school football game.

Not only do stations that do this serve their community, they will likely lead a handful of new subscribers to invest in an HD Radio, he and other panelists agreed.

HD Radio multichannel capabilities give stations the chance to bracket certain demographics tightly — for example, targeting sports programming to adults aged 18–30 on an HD2 channel, then building advertising around those niche packets.

For the HD Radio market, ESPN allows broadcasters to "build your own little fun radio station," said Jim Roberts of ESPN Radio, by plucking individual ESPN programs and binding them together in a lineup that appeals to a certain market.

Receivers are also gaining strength in the market thanks to new features. The Navteq HD Radio receiver, for example, offers users dynamic traffic and fuel and weather data, said Steve DeVries of Navteq.

HD Radio also allows broadcasters to target underserved niche markets more closely, said Brad Herd of WorldBand Media, whose firm creates HD Radio programming specifically for ethnic listeners.

— by Susan Ashworth

A version of this article appeared in the NAB Daily News. It is ©NAB.

New Hampshire Public Radio Celebrates New Studios

New Hampshire Public Radio is settling into its new broadcast center in its Concord, N.H. headquarters. An open house in early May was complete with tours to celebrate the new studios. NHPR says it reached its \$6.5 million capital campaign goal for the project.

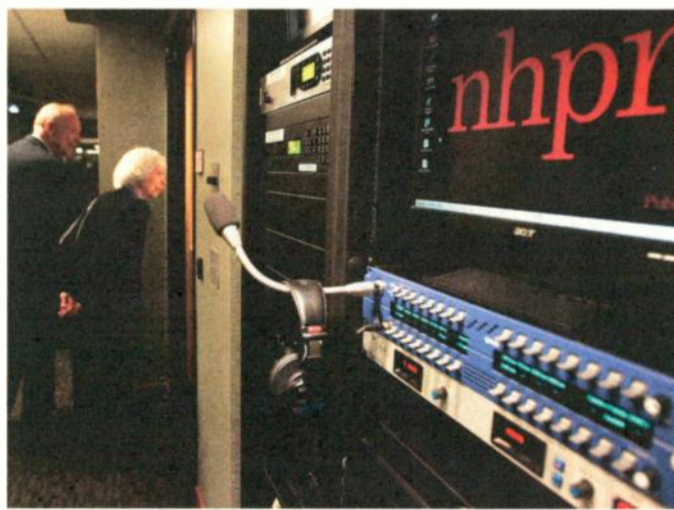
NHPR operates six transmitters and four translators and counts more than 150,000 listeners each week. It broadcasts in HD Radio from Concord, Keene, Hanover and Nashua. Digital service in Berlin and Jackson is pending in the next 12 to 18 months, according to a spokeswoman.

The new production and broadcast center provides a venue where live call-in programs, interviews and feature stories can be produced. A technological operations center helps distribute NHPR programs to and beyond its network of transmitters and satellite uplinks.

The station's new home includes a large community venue where local shows will be broadcast with in-studio audiences and well as special events such as performances and lecture series.

As RW reported earlier, the organization has said the facility will be home for up to 75 reporters, producers, hosts and administrative staff. Construction was by North Branch Construction. The facility was designed by C.S. Carley Associates, an architecture firm, in association with Russ Berger Design Group. Construction broke ground in June. Technet Systems Group did systems integration work.

Betsy Gardella is president and chief executive officer of New Hampshire Public Radio (www.nhpr.org), Michael Saffell is director of engineering and Steve Donnell is station engineer.



New Hampshire Public Radio



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World Radio History

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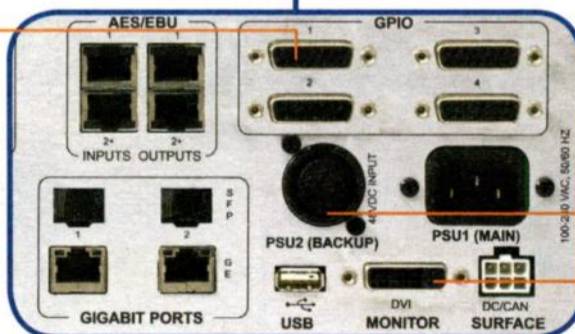
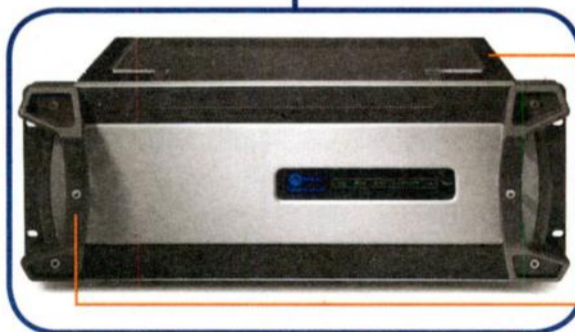
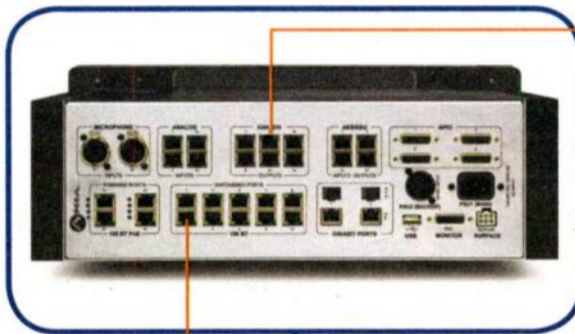
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Easy as π • PowerStation combines a console DSP engine with audio and logic and a network switch, **all in one box**. As its name implies, there's a whole lot o' muscle inside that burly frame, but that doesn't mean it's complicated. In fact, setting 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 Oh! • **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.



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**.

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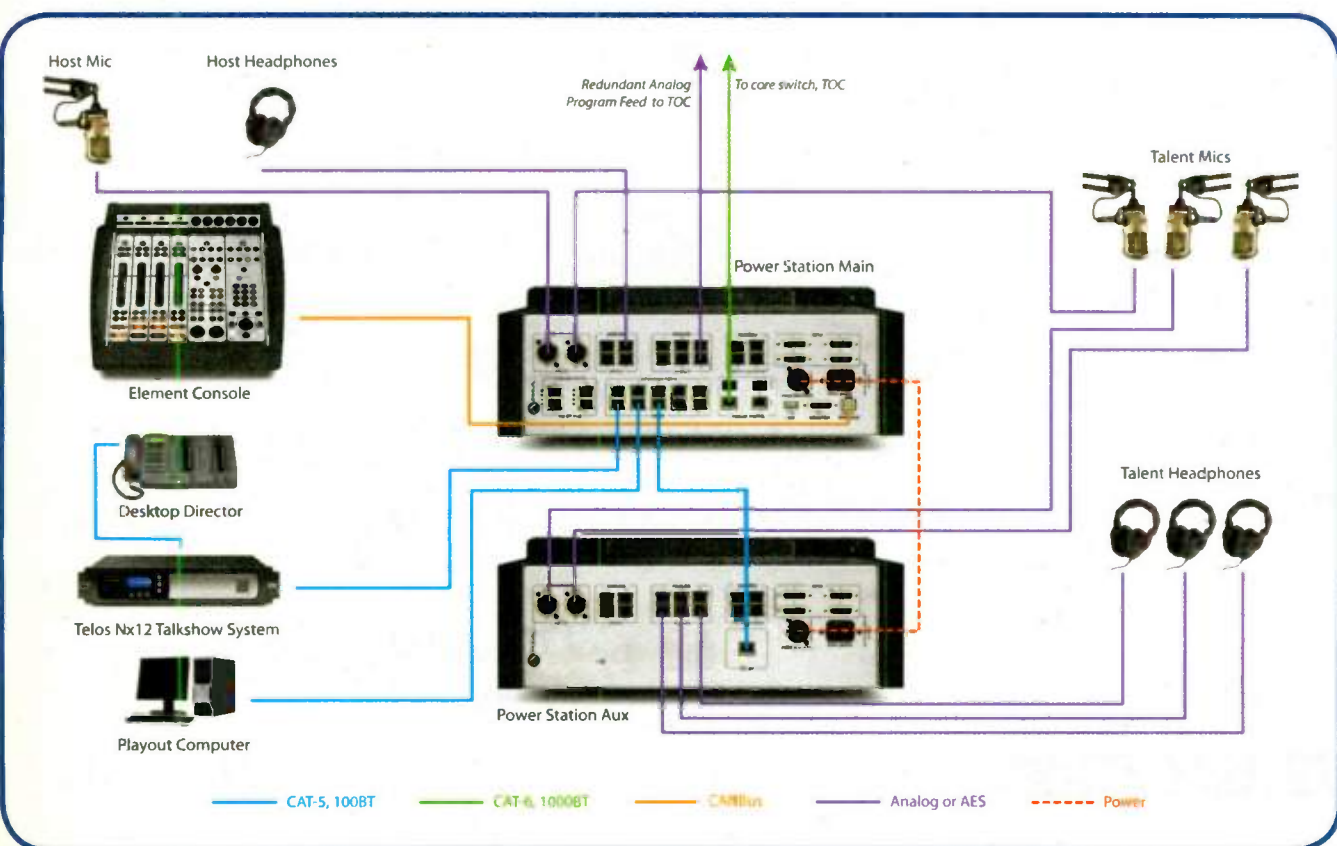
Element shown in Silver/Brushed metal color scheme. Also available: Bronze/Brushed metal and Marine Gray.



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

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

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



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Workbench

Radio World, June 3, 2009

Past columns are archived at radioworld.com

Use Your FIM to Locate Buried Treasure

You Might Not Find Gold, But This Tip May Save You Some Coin

by John Bisset

Here's a cool trick for *Workbench* readers from Stephen Poole, chief engineer of Crawford Broadcasting in Birmingham, Ala.

Stephen needed to replace a badly burned AM sampling line but questioned whether he should call in a cable locator. His experience with contractors was less than stellar and they are costly for a few minutes of work. There had to be a better way.

He discussed his options with CBC Director of Engineering Cris Alexander and they had an idea: Why not just use the field strength meter?

Stephen took an RF signal generator and set it for 560 kHz; there were no stations around operating anywhere near that frequency.

He then disconnected the sample line to the tower in question at the transmitter building, and connected the hot lead from the generator to the cable's shield. The ground clip was connected to the building ground.

The process worked great. While standing at the base of the tower and pointing the field strength meter toward the ground, Stephen walked around until he saw a strong indication on the meter. This happened whenever he was right over the sample line.

The next step was to bring in a backhoe operator and start digging. All the coaxial lines were exposed in a matter of minutes.

The location was right at the end of the soil pipe that swept the lines up under the ATU. Stephen was able to pull the replacement cable right through the pipe



Fig. 1: Keep the soil pipe plugged with foam or insulation.

and into position. Don't forget to plug this open pipe where it enters the ATU cabinet or building (Fig. 1).

If you try this technique you will find that it takes surprisingly little signal, even with a deeply-buried line.

Choose a relatively low frequency that's well away from any local stations and you're good to go. You'll also have to turn off your own transmitter while you do this to prevent interference.

The other key is meter orientation.

Stephen was able to pull the replacement cable right through the pipe and into position.

You already know how to aim a field strength meter; its antenna is bidirectional, with maximum signal strength in the plane of the meter (i.e., to the "sides").

In this case, you point the side of the meter down, toward the ground. Don't swing it around; keep the meter at a fixed right angle to the ground and in line with the transmitter building and tower. Carefully walk around, watching for the highest indication, and you'll find your line.

I've used this technique to find ground radials — or the absence of them! No need to use a signal generator here, the AM transmitter is your signal generator. By holding the antenna close to the ground and sweeping it from side to side, you can "follow" a radial as it stretches out from the tower.

Thanks to Cris Alexander and Stephen Poole for sharing an inexpensive way to find buried coax.

Engineer Randy Howard sent in a note after reading our discussion in the March 25 issue about troubleshooting three-phase or even single-phase circuits.

The only place to check voltages is across the fuse, Randy writes.

If you put your probes on each end of the fuse and see *nothing*, the fuse is good. (There is no voltage "drop" across the fuse.)

If you measure line voltage, or *any* voltage, the fuse is open, or at least not good. (The open fuse permits a voltage drop to be measured across it.) Turn off the primary power to the box, change the fuse and turn the power back on.

I make it a point to measure again — too many times have "good" fuses turned out to be bad.

If everything works, your fuse died of metal fatigue.

If the fuse pops again, turn off *all* loads to that box, replace the fuse (see See FUSE, page 18 ▶

Model 730

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Can a radio console be over-engineered?

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

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Beneath the surface

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

government sucks in taxes.

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

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

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

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

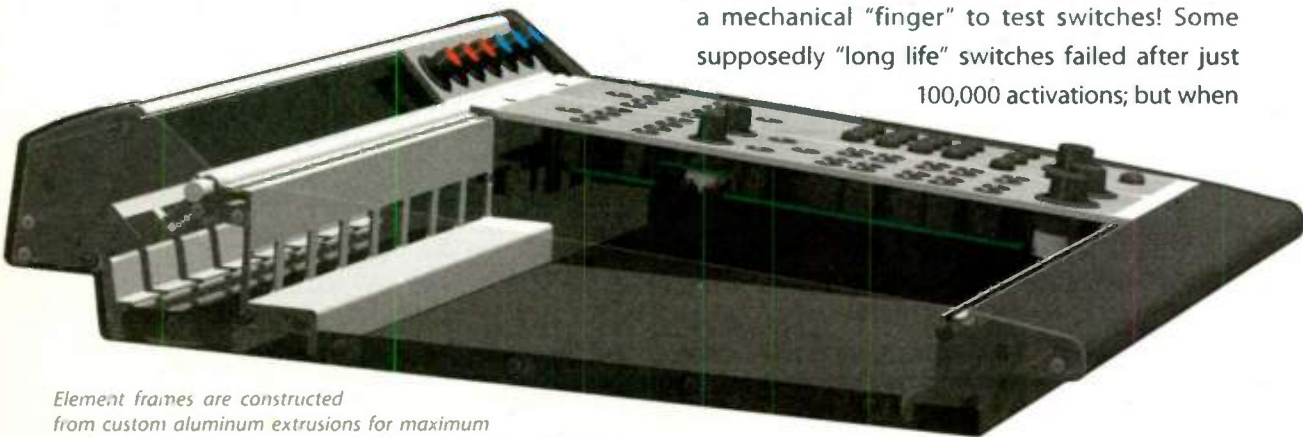
More than just products

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

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


Proudly Over-Engineered

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



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

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

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

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

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

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

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

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

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



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



TECH TIPS

The New AM DA Proof Rules and You

Experts Talked About the Practical Implications at a Useful NAB Session

by Tom McGinley

A session of the NAB Show Broadcast Engineering Conference provided an excellent opportunity for engineers to engage the industry's best-known experts on the proper implementation of the new AM directional antenna modeling and proof rules.

Crawford Broadcasting Director of Engineering Cris Alexander, a Radio World contributor who has been active on this issue, chaired the program, which featured consultants Ben Dawson and Ron Rackley, plus Clear Channel Vice President of AM Engineering John Warner. A panel discussion that included CBS Radio Director of Engineering Glynn Walden followed the presentations.

Building the model

Dawson, president of Hatfield and Dawson Consulting Engineers, helped craft and guide the new Method of Moment modeling rules through to adoption by the FCC. He led off the session by laying out the background of how the MoM model is constructed and why MoM DA proofs offer a much more accurate and predictable method of tuning and proofing most AM arrays.

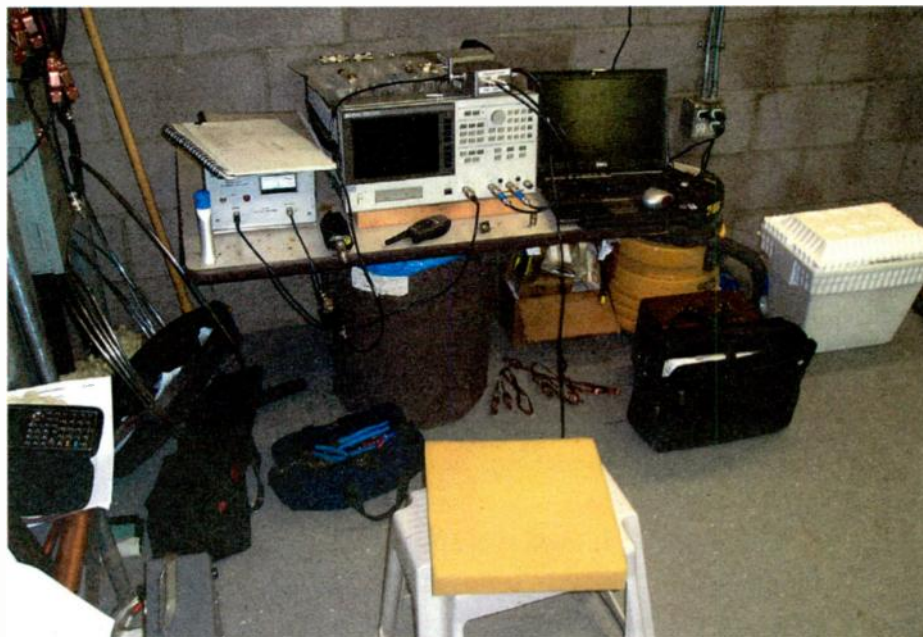
Dawson explained that the new rule-making limits the use of MoM for proof purposes to common and straightforward cases. Only series fed elements qualify and must use a calibrated sampling system to drive a calibrated antenna monitor. Unequal height towers do qualify. The model must closely match the measured base impedance matrix.

Certain adjustments to the physical measurements of the towers may be applied in the modeling to accommodate velocity factor effects since RF does not propagate through steel at the speed of light. The equivalent electrical height of a tower can be between 75 and 125 percent of its physical height while the equivalent radius can vary by 80 to 150 percent of the physical radius.

An MoM antenna array model depicts every tower in Cartesian or geographic coordinates (depending on the program requirements) with appropriately assigned length and diameter geometric constants. Loads such as STL dishes, top loading skirts and base reactive elements are also included.

The electrical behavior of each tower in the array is analyzed in segments. Depending on tower height, 10 to 20 segments offers adequate resolution of current/voltage distribution. The moment method program drives each element of the array with a current source and generates the open circuit voltages at the elements, from which an impedance matrix is created.

The resulting data is then used by the program to generate the current distribution and impedance drive requirements when a desired set of far-field parameters is provided as program input. Actual measurements of each tower's driving point impedance while the other towers are grounded and/or floated then are made with an impedance bridge or network analyzer. Such measurements can be made right at the tower base or at the ATU output (or both). Measurements at



Ben Dawson provided this photo of the equipment setup at an AM site. 'Essentially all the necessary measurements can be made from one safe, dry, indoor location when one uses Ron's high-power external directional coupler techniques, by making all the 'outdoor' measurements using the sample lines to extend the measurement location to each tower base,' he says. 'Since one has to have good, high-quality coax connections to each ATU, there's no reason not to use them for the measurements.'

the ATU output are desirable if current sample transformers are used to drive the antenna monitor.

The measured results need to agree with the MoM model results to within 2 ohms or 4 percent for both resistance and reactance. When the mathematical moment method model is created, to match the measured data, the rules allow

for a 250 pFd maximum of total base shunt capacitance and 10 uH of maximum connecting feed line inductance or an actual measured value.

Dawson illustrated examples of modeled towers showing how small changes in equivalent height impact base impedances much more than changes in the equivalent radius.

Sampling loops need to be placed at the elevation of the current minimum if the tower were to be effectively detuned. That height can be calculated by MoM and is generally at 1/3 the height above ground. Current sampling transformers should be placed at the same physical positions for all towers close to the ATU feed-through insulators. The pattern is then set to the theoretical parameters as read by the antenna monitor with any appropriate offsets as calculated with the MoM model.

Dawson summed up his presentation by citing the various MiniNec and NEC resource tools that can be used to construct the reference model and theoretical solutions for comparison to field measurements.

MiniNec Broadcast Professional for Windows by J.W. Rockway and J.C. Logan is the current MiniNec version used by many practitioners and consultants. Versions of NEC, particularly NEC2, can be used; and the book "Basic NEC" by J.L. Smith is a good reference.

There are a number of other moment method programs that can be used for AM array analysis, but they generally are designed for other purposes and can be quite awkward to implement.

Making the measurements

Ron Rackley, partner of du Treil, Lundin & Rackley, focused his presentation on how to properly make all of the required field measurements to support an application for license using the MoM modeling rules.

He first outlined the required list of system components that need to be measured. He advised that such measurements are most easily made with a network analyzer but can also be made with a calibrated impedance bridge.

See MoM, page 20 ►

Fuse

► Continued from page 16

above for safety) and start reapplying the loads one at a time (Fig. 2).

When the fuse pops as you add another load, you've found the culprit and need to troubleshoot that piece of gear or circuit.

Most transmitters allow measuring individual legs of three-phase applied to them. One leg that has voltage but is different from the other two by more than a few Volts is suspect.

Randy adds one other tip. Some older transmitter sites may be powered with "open delta" 240, three-phase service. Watch that third leg. Instead of 120 VAC, it's closer to 180 V to ground, and called the "wild leg." It will fry most 120 VAC broadcast equipment connected to it.

Randy Howard can be reached at rwilliamhoward@aol.com.

★★★

Have you priced replacement tube transmitter blower motors recently?

Mike McCarthy and Bill Bowin had an interesting exchange on the Radio-Tech listserv on Broadcast Net recently.

Mike had bought a replacement motor but planned on having the bearings replaced on the dead one and to use that as a spare.

He was concerned about the life cycle of rebuilding these motors, however. Bill Bowin of Columbus, Ohio, brought up



Fig. 2: After replacing the main disconnect fuse, turn on each sub panel breaker one at a time.

the issue of bearing quality.

Using a cheap bearing will not save you money. Bill suggested contacting a bearing distributor like Applied Industrial Technologies (formerly Bearings Inc.) for the best quality bearing for the blower motor. It may cost a bit more but the difference is worth the price, he says.

Applied Industrial Technologies can be found at www.applied.com.

Bill added that back in the late 1980s, he was having problems with even good blower bearings lasting only a year or two. A quick disassembly of a new sealed bearing assembly revealed very little grease inside.

After that, he started carefully prying

off the dust seals and packing new bearings with wheel bearing grease. Bill admits it's a messy job, but effective. He found that bearing life increased eight- to 10-fold.

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. ●

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Great Low Price



Google Earth compatible

NetClock IP Based Broadcast and Studio Reference Time Clock



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Just plug it into your network and get server or world time accuracy in any room or studio.

Great Low Price



Bravo Studio Mixer

Delivers great sound quality while working 24 hrs a day 7 days a week. Affordable price suitable for small and medium-sized radio stations.

Great Low Price



Reliable and Affordable



MoM

► Continued from page 18

ATU output impedance measurements are made generally at the ATU output port with the other towers' ATU output ports open circuited or shorted to ground to calibrate the MoM tower model and base conditions. Exact sampling line lengths and characteristic impedances are determined to each tower with the sampling devices disconnected and reference impedance

measurements, including the added shunt reactances of iso-couplers, lighting and sampling isolation coils and Austin ring transformers.

The series inductive reactance of each feed line and lightning loop has to be included in the model. Impedance bridge test lead impedances, which can have values like 1 ohm R and 1.5 ohm X_L with the test clips shorted also have to be accounted for to set the actual zero ohms reference. Dual modeling of the base hookup circuits and the tower base impedances must be done to arrive at the best overall match with

Clear Channel's John Warner chronicled the challenge of building the country's first AM DA system completed and licensed using MoM rules.

measurements are made with the sampling devices connected. The sampling lines can be used to expedite ATU output impedance measurements at each tower base from the antenna monitor location if a network analyzer is used. Each base sampling device must be measured individually and verified to comply within the manufacturer's rated tolerance.

He discussed the various real-world influences that can alter actual tower base

the actual measurements using an iterative analysis technique.

Rackley detailed how precise sampling system calibration is done.

Each sampling line is swept over a range of spectrum to determine adjacent zero crossing frequencies near the carrier frequency of the station. Impedance zeroes occur at each odd multiple of 90 degree line length. The 90 degree multiple closest to the operating frequency is



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From John Warner's presentation.
Here's a view of the site before rock was added ...



... and after.

used for reference in determining the carrier frequency length to compensate for delay distortion effects along the lines at AM frequencies.

Since the measured impedance magnitude of a line will equal its characteristic impedance every odd multiple of 1/8 wavelength (45 degrees), 45 degree offsets are used to calculate the real impedance values of the sampling lines.

A carefully constructed sampling system should yield line lengths essentially identical within a few tenths of a degree and a few tenths of an ohm for both resistance and reactance.

Sampling loops all have to be physically identical. When connected to their sampling lines under measurement, reflection coefficients can be calculated and used to determine line length differences. Fortunately the sampling lines do not have to be pulled off the loops for the required biennial certification tests. Sampling toroid transformers can be measured side-by-side and verified in compliance using either a network analyzer or the antenna monitor itself. Both phase and magnitude components must be measured. Measurements must be made of the impedances looking into the antenna monitor ends of the sampling lines at carrier frequency with the sampling devices connected.

When toroid current transformers are used, the impedances will be in the neighborhood of 50 ohms resistance if the toroid pickup units are in good condition, as they are internally terminated. Sampling loops terminate the lines with the loop inductance rather than 50 ohms, so significant mismatches will be found

looking back into them. Sample loop impedance measurements must be avoided with magnitudes greater than 200 ohms. The frequency for sample loop measurements may be offset from carrier frequency to meet this requirement.

After the sampling and antenna monitoring system components are measured and fully documented, an MoM adjusted pattern must also be measured in the field with a minimal number of actual field intensity readings. Three points must be chosen and measured on each minima and each maxima radial of the pattern.

Rackley clarified that these are not "monitor points" that must be maintained or regularly checked in the traditional sense, but merely markers for future reference should changes or interference issues arise. In practice, the FCC appears to only require such measurements on the minima radials, a.k.a. those that would be MP radials in a conventional proof.

The final measurement needing certification in a MoM proof is the verification of the as-built array physical geometry or tower locations. A land surveyor can make such measurements, typically for about \$1,500 to \$2,000. No error tolerances are specified in the new rules but preliminary indications are that tower locations within 1.5 electrical degrees of Cartesian coordinate references will be acceptable.

A struggle in New England

Clear Channel's John Warner chronicled the challenge of building the country's first AM DA system completed and licensed using MoM rules this February.

Champion Broadcasting host station

See MoM, page 22 ►

FCC

► Continued from page 1
power as they wished and for as long as they wanted. Call signs, if they were used, were self-assigned. In some cases, the identical call signs were used by multiple parties in various parts of the country.

Order out of chaos

By the early 1910s, radio looked as if it were here to stay, and the United States and other governments had begun to step in to police an increasingly disorganized, sometimes dangerous situation.

A first stab at regulation in the United States came with the Wireless Ship Act of 1910, in which control of the airwaves was assigned to the secretary of the Department of Commerce ("... the Secretary of Commerce and Labor shall make such regulations as may be necessary to secure the proper execution of this Act by collectors of customs and other officers of the Government"). It was limited in scope and essentially just mandated the carriage of radio gear for larger passenger ships.

Baby steps

Two years later saw the passage of the Radio Act of 1912. This legislation was much broader in scope, and though it failed to bridle the "wild west" nature of radio operations, it can be viewed as the foundation of the modern Federal Communications Commission.

United States entered the conflict, little was done to correct flaws in the 1912 legislation.

One effect of the "Great War" was a ban by the federal government of all commercial and amateur radio activities beginning on April 7, 1917. Most stations were shut down and dismantled or pressed into government service. It became illegal for a private citizen to even possess an operational transmitter or receiver.

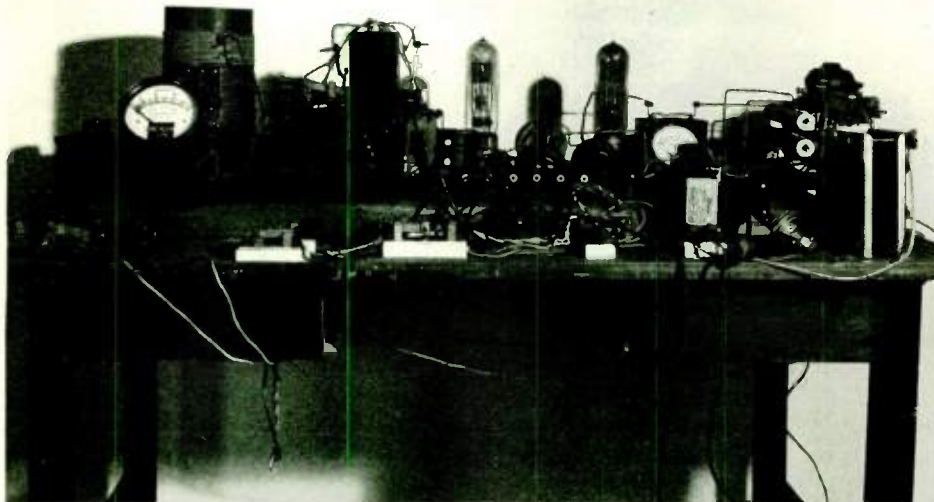
This monopolizing of the U.S. airwaves continued until 1919 and the return of U.S. soldiers from the European front.

Broadcasting takes off

The importance of radio in wartime operations did not go unrecognized.

It was not long after the end of hostilities that the idea of "broadcasting" as we know it became fairly widespread. Certainly there had been experimentation by a number of individuals before the war, but this was viewed as little more than a hobby by most.

Though the FCC was created in 1934, the Radio Act of 1912 can be viewed as its foundation.



Early government regulators were responsible for inspecting broadcast transmitters like this. Most were homebrewed and one of a kind. This unit served as the main transmitter for Washington radio station WDM between 1921 and 1924. One of the FCC's early achievements was type acceptance of broadcast transmitters.

The act had some of its roots in the Berlin Convention, an international radio accord reached in 1906. The 1912 legislation for the first time defined allowable wavelengths and purity of transmitter emissions, forbade the use of "unnecessary" power, established "SOS" as a standard distress call, proscribed the divulging of contents of transmitted messages, established the use of government issued call letters, required the licensing of stations and operators and established penalties for violations of the law.

It also covered distress operations and protection of government communications from interference.

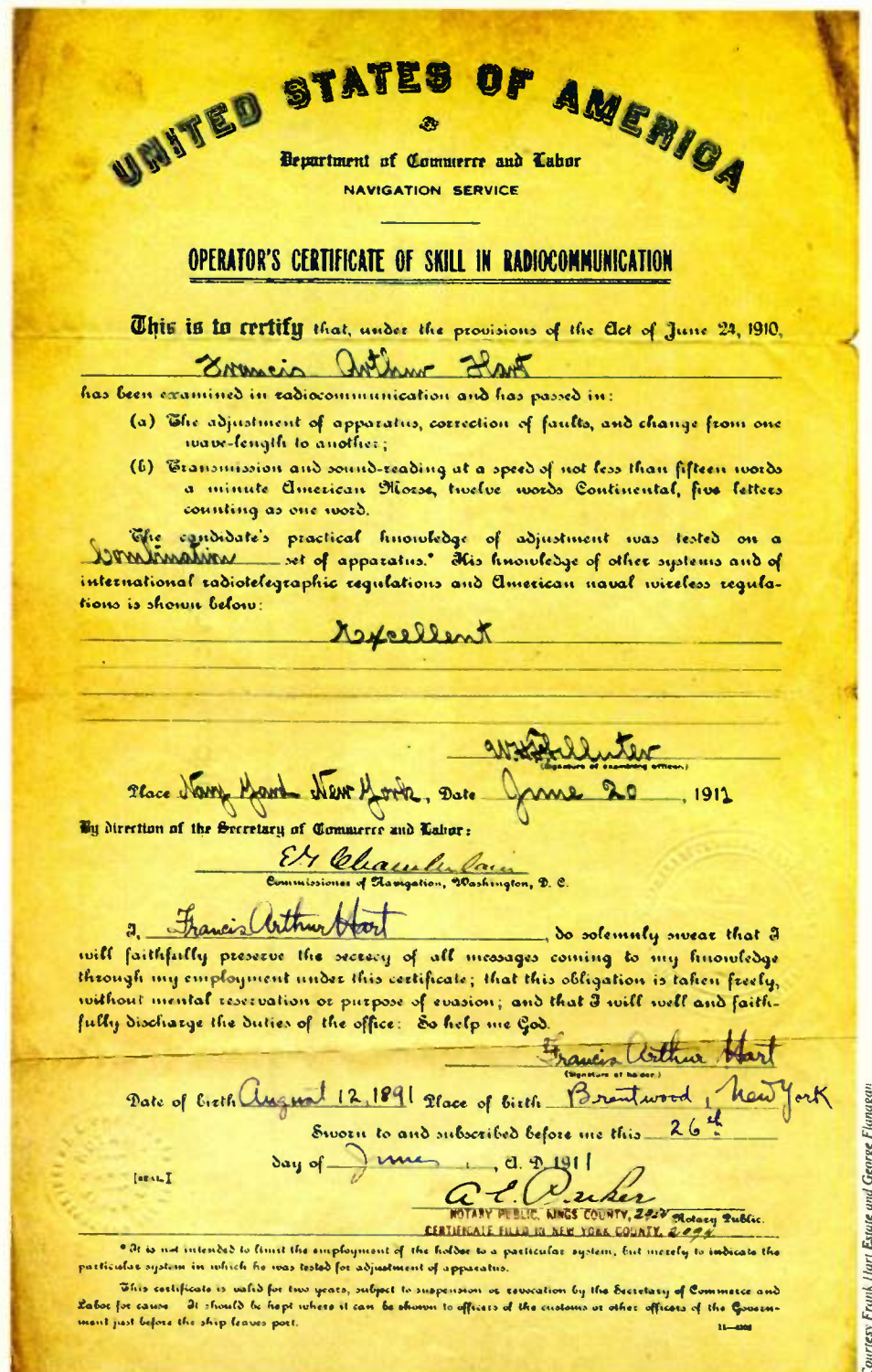
While the act essentially confined radio transmissions to a portion of the spectrum now defined as the AM broadcast band, it did not address broadcast operations. Further, due to its legal language, it was, by and large, unenforceable.

Following the outbreak of war in Europe in 1914, and especially after the

One returning amateur, Frank Conrad, began to ramp up his experiments in transmitting to a general audience. This led to interest by his employer, Westinghouse, in creating a full-fledged radio station, KDKA, in 1921.

The nation — and the world — were ready for radio to enter homes in the early 1920s, and the chaotic situation that existed earlier now played out again. Stations sparred for dominance of a certain frequency. Frequency control was minimal; most transmitters were little more than modulated power oscillators, where even the changing capacitance of an antenna blowing in the wind would shift frequency. Hours of operation and power limits were subject to the whims of station owners (many of these were amateurs who were broadcasting "just for fun").

In the year following the meteoric rise of civilian broadcasting, Herbert Hoover called the first of several special national conferences about radio. He was secretary



One of the first radio operator licenses issued by the U.S. government, as required under the Radio Act of 1912.

of the Department of Commerce and was trying to deal with the somewhat suicidal success of this new entertainment medium.

Little good resulted from these meetings, aside from the addition of a second wavelength (400 meters or 750 kHz) to the existing single channel set aside for broadcasting (360 meters, or 833 kHz). Power was capped at 1 kW and the use of radio for advertising was frowned upon.

Hoover however was outspoken against the prospect of using radio to advertise:

"I believe that the quickest way to kill broadcasting would be to use it for direct advertising," Hoover declared in 1924 at the third of the conferences, according to Robert L. Hilliard in his book "The Federal Communications Commission — A Primer."

Despite a succession of four conferences aimed at untangling the airwaves mess in the early and mid-1920s, stations kept proliferating and interfering with each other.

Increasing the number of channels and encouragement of time-sharing did little to ease the whistles and beats as transmitters vied for supremacy of the ether. Time-sharing also meant that each station owner could use his or her facility for only a portion of the day, in some cases no more than a couple of hours.

Hoover, to his credit, tried valiantly to sort things out. But the 1912 legislation did not recognize the concept of broadcasting; and courts were full of cases that more or less successfully sidestepped any teeth in the law.

Dill-White

The sense of the times is apparent in a comment by Nevada Senator Key Pittman in the Congressional Record:

"I do not think sir, that in the 14 years I have been here there has ever been a question before the Senate that in the very nature of the thing Senators can know so little about as this subject."

Before the Fifth Estate could be done in by its own meteoric rise, President Calvin Coolidge in 1926 stepped in and asked Congress to enact legislation to deal with the situation.

This led to the passage of the Dill-White Radio Act of 1927, which among other things created a special five-member commission to deal with growing pains of this radio infant. The unit was known as the Federal Radio Commission; it was the direct precursor of today's FCC.

One of the provisions of the legislation was the division of the country into five "radio districts," with a commissioner

See FCC, page 22 ►

FCC

► Continued from page 21

appointed to represent each. The 1927 act also provided sufficient regulatory "tooth" to fight abuses perpetrated by the spate of broadcasters hitting the airwaves.

The first chairman was Rear Admiral W.H.G. Bullard, who was in charge of stations in the "second zone," which encompassed Pennsylvania, Virginia, West Virginia, Ohio, Michigan and Kentucky.

He assumed office with a simple "open door" philosophy: "The only motto we have is the doormat welcome, and there are no czars, as some newspapers like to suggest; we are all equals — the commission and the public — striving to solve many different problems and propitiate the ire of perhaps some disgruntled ones," he wrote in a report to Congress. Bullard died in November of 1927.

One of the first actions of the FRC was to silence some 150 of the nation's more than 700 stations. Additional broadcasting channels were opened up and non-broadcast traffic was migrated outside the 550 to 1500 kHz band.

Still that was not enough.

One of the new commissioners, Henry A. Bellows, in an address to the League of Women Voters remarked on the terrible congestion that broadcasters were enduring.

"A broadcasting station is in many ways akin to a newspaper, but with this fundamental difference: There is no arbitrary limit to the number of different newspapers which may be published, whereas there is a definite limit, and a very low one, to the number of broadcasting stations which can operate simultaneously within the entire length and breath of our country.

"This limit has not only been reached; it has been far overpassed; the demand from every section of the country is to cut down the number of broadcasting stations in the interests of the listening public."

Another FRC action was the establishment of metrics necessary for a broadcaster to hold a license. Among those were requirements that a station must serve the public interest, convenience and necessity, which carry forth to this day.

It should only take a year

The 1927 Radio Act empowered the FRC only for one year; however, the commission's tasks were so daunting that Congress annually renewed the FRC's licensing authority on a continuing basis. The problems it faced in regulation of the country's growing communications systems showed no signs of going away, and a fresh Band-Aid each year was not really a solution.

It was in 1934, during Franklin Roosevelt's first term as president, that a more permanent organization was created, the Federal Communications Commission.

The "New Deal" politics of the Roosevelt administration were not the driving force in this shift from a temporary radio regulatory body to a permanent commission.

In addition to the radio boom, the decade of the 1920s also saw the coming of television and other forms of telecommunication not covered by the 1927 Radio Act.

Further, the regulation of the country's telegraph and telephone services could be described as a crazy quilt at best. The Interstate Commerce Commission claimed



Eugene O. Sykes, a Democrat, was the first Federal Communications Commission chairman, assuming office on July 11, 1934. He remained with the FCC until 1939.

jurisdiction over a portion of these systems, as did the Department of State and the U.S. Post Office. Communications within the

MoM

► Continued from page 20

WUNR (1600 kHz, 20/5 kW DA-2) collaborated with Clear Channel's WKOX (1200 kHz, 50 kW DA-2) and Beasley's WRCA (1330 kHz, 25/17 kW DA-2) to finish this long-awaited undertaking. All three stations are licensed to Boston suburbs and beam their major lobes over the metro area.

The project presented a host of unusual complications faced by few who have ever built an AM DA, let alone a high-power multiplex. The first hurdle was winning local approval to build the five-tower triplexed system over the objections of wealthy neighbors. That process consumed almost eight years.

The blue spotted salamander played a major role in this saga. Before building permits could be granted, local environmentalists forced a five-year study of the life cycle of the reptilian rascals, who populated the nearby woods. They wanted to determine if radio tower construction might interfere. Fortunately the little guys didn't seem to mind.

Another imposition by the locals was the requirement the transmitter building had to be rebuilt to look like a residential house but at the same overall footprint size. This required Warner to design and install a compact two-story Kintronic phasor layout to serve WKOX.

Yet another challenge was dealing with a three-foot water table that partially flooded portions of the ground field and also made construction of new towers rather interesting. Warner was compelled to haul in many tons of rock to build roadbeds to each tower base location. But then he had to remove all of the rock after construction was complete. LTUs and tower base piers all were raised above the statutorily mandated flood plain for flood protection.

The neighborhood on three sides of the site was older mature construction with lots of overhead power and telephone lines. The deep null side of all six patterns was immediately adjacent to a huge swamp with no access. Warner realized

United States were burgeoning; it was time for a new consolidated regulatory body and a reworking of existing statutes.

The present-day Federal Communications Commission, created by the Communications Act of 1934, opened its doors for business on July 11 of that year. Seven commissioners were selected to lead the organization, with Mississippi Democrat Eugene O. Sykes named chairman. This number was later reduced to the present-day five. Previous regulatory efforts were placed squarely in the hands of this new organization and the FRC ceased to exist.

Since its inception, the FCC has added aircraft, cable, satellite, business and citizen's radio and other wired and wireless communications services to the FRC's authority over marine, military, amateur radio and commercial broadcasting.

During the next several decades, the new organization had a full plate. Among its memorable decisions are the creation of superpower broadcasting, with an experimental 500,000 watt license issued to Cincinnati's WLW; two extensions of the AM broadcast band; a reshuffling in 1941 of virtually all AM broadcasting frequencies; establishment of the 6 MHz television channels; creation of spectrum space for both FM and television broadcasting; the setting of standards for TV

transmissions; commercialization of both television and FM broadcasting; the shift of the FM band from its original 42–50 MHz slot to the present 88–108 MHz spectrum; a complete reworking of television broadcasting allocations between 1948 and 1952; creation of additional television channels; later reductions in the number of TV channels; approval of the non-backwardly compatible CBS 405-line color standard in 1950; approval of the compatible "NTSC" color television broadcasting system in 1953; and approval of the present-day FM stereo system in 1961.

James O'Neal is technology editor for TV Technology and a frequent Radio World contributor. He thanks John Reiser for his assistance in reviewing this material.

Further recommended reading: "A History of Broadcasting in the United States: Volume 1, A Tower of Babel. To 1933," by Erik Barnouw, published by Oxford University Press in 1966; "Stay Tuned: A History of American Broadcasting," by Chris Sterling and John Michael Kittross, published by Lawrence Erlbaum Assc. in 2002 (3rd edition) and "The Radio Act of 1927 as a Product of Progressivism — Vol. 2, Number 2" by Mark Goodman, available online at <http://tinyurl.com/fccrw>.



John Warner visits a tuning unit on an inspection trip to Kintronic.

that along with battling the wild variations of New England seasonal effect, doing a traditional field proof in this environment would be very problematic and could be extraordinarily costly. Instead, he seized upon the new MoM Rules.

Tuning up the three station DAs and performing all of the required system measurements for the very first MoM proof filing with the FCC turned out to be straightforward, with virtually no complications. To minimize seasonal effect variation, Warner picked his three field point measurements on each minima and maxima radial between 1.5 and 4.5 km from the site.

Warner believes the project saved some \$250,000 by not having to do a field proof.

Predictable costs

The panel answered questions about MoM proofing and discussed classic cases in which attempts to license DAs in difficult environments proved almost impossible.

Radiation problems that cannot be resolved or controlled plus surrounding terrain or access complications have always challenged AM DA proofs but

they are becoming more and more common. Untold millions have been spent on stations facing these issues to try to convert long-running STAs to final licenses. Many were probably not worth the amount of the investment.

All the panelists agreed that MoM proofing gives most AM broadcasters faced with moving and/or maintaining DAs in difficult environments an additional licensing option.

Rackley observed that consultants cannot even predict or estimate the hard costs that may be needed to complete traditional proofs in such scenarios. The costs of doing a MoM proof, he said, are almost all predictable, and in most cases, much more reasonable than doing traditional field proofs.

The panelists concurred that tuning a DA with MoM instead of traditional field measurements and ground wave analysis will more likely produce a pattern that more closely matches the theoretical design, especially for vertical angle radiation and far field protection considerations.

The author is Radio World technical adviser.



People News

Several employees and contributors of **Radio World** and **NewBay Media** were honored in the inaugural INKY Awards, hosted by **LOI International**, a marketing communications company, during the NAB Show.

RW Publisher **John Casey** was named Kick-Butt Sales Rep for U.S. radio. Contributing Editor **Skip Pizzi** was named



Skip Pizzi

Stupendous Staffer in the radio/audio category. RW contributor **James O'Neal** took that honor in the TV/video category for his work with sister publication TV Technology.

NewBay's **Caroline Freeland**, **Mark Hallinger**, **Vytas Urbonas** and **Craig Norris** also were honored in various TV categories.

Marsha J. MacBride joined **Sciarrino & Shubert** as counsel. She was National Association of Broadcasters executive vice-president for legal and regulatory affairs for six years and was chief of staff for Chairman **Michael Powell** at the Federal Communications



James O'Neal

Commission. She's also a former VP of Walt Disney Co.

Arbitron Senior VP of engineering and CTO **Dr. Taymoor Arshi** was named to the Academy of Distinguished Engineers at **Oregon State University**. He came to the company in 2008 after a 22-year career at Intel, where he was director of engineering of several divisions. He has three U.S. patents to his credit.



Taymoor Arshi

The Association of Public Radio Engineers presented Cincinnati Public Radio's **Don Danko** its National Engineering Achievement Award. "Don has met every technical challenge we've thrown his way," stated Richard Eiswerth, GM/CEO/president of Cincinnati Public Radio. "His leadership has allowed Cincinnati Public Radio to be at the forefront of the most innovative broadcast technology available, and we couldn't agree more with the Association that he deserves this honor."



Don Danko

Envision Radio Networks COO **Laura Orkin** was honored as one of the top 10 female business owners in Cleveland by the **National Association of Women Business**



NewBay INKY recipients **Mark Hallinger**, **Craig Norris**, **Caroline Freeland**, **John Casey** and **Vytas Urbonas**.

Owners.

NPR's **Michele Norris**, host of "All Things Considered," was named Journalist of the Year by the **National Association of Black Journalists**.

Westwood One appointed **Steve Harrison** as VP, director of sports sales and marketing for its network division. Harrison will lead Westwood One's sports sales efforts and will be based in Orlando, Fla., reporting to Senior Vice President of Sales **Susan Love**.

The **Radio and Television News Directors Association** and the **Radio and Television News Directors Foundation** have appointed executive directors. **Jane Nassiri** was named to the position within the RTNDA and **Kathleen Graham** was selected for the RTNDF post. **Barbara Cochran**, president of both, retires this month.

Vishal Sharma was named senior VP of strategic initiatives at **Clear Channel Radio**. He'd been with the **Boston Consulting Group**.

Send announcements to radioworld@nbmedia.com with "People News" in the subject line.

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The Big Picture



Photo: Gary Hayes, BBC

by Skip Pizzi

In the May 20 issue we discussed the disaggregation process taking place in the media world, as the Internet's impact is felt across all traditional media sectors.

This time let's assume that such disaggregation has become the widespread norm — as it appears to be destined to do — and consider how radio broadcasting could remain relevant and successful within that context.

New metrics

One thing that will have to change is how the impact of any content provider is measured.

No one's numbers will be very big, and there will likely be a lot of providers

Ponder This

We Explore What a Disaggregated Media World Might Be Like

or will it simply be the next incremental step in media maturity?

Beyond formatics

We've lived with radio formats seemingly forever, but this was not always the case.

Prior to the coming of television, radio stations had far more varied and less uniform content across their dayparts. Television came along and co-opted this successful model, so radio came up with formats to take its place. (Later, with the explosion of content channels experienced when cable TV emerged as a force in the 1980s, radio's format model was also taken up by some new services like MTV and CNN.)

Now the near-infinite environment of Internet radio has made the concept of radio formats as we know them seem dated and insufficient. Without scarcity, the lowest-common-denominator criteria used in radio formatting make little sense.

What will radio use to guide its content choices in this next reinvention?

with roughly equivalent, low values — as gauged by whatever tool is used for such counting.

This implies that the real value will be in *qualitative* delivery of eyes and ears, not their simple quantities. Advertisers will look for a service's affinity to their product, along with other highly targeted micro-demographics it delivers (assuming it even accepts advertising).

The old adage that "Half my advertising money is wasted, I just don't know which half" will be replaced by far more fractional analyses, and equivalently higher expectations of return.

Ratings companies — and media sales forces — will necessarily have to become much more sophisticated to remain viable.

Pyramid scheme

Another traditional process that may need to change is the dissemination of news.

Today's wholesale/retail model of networks and wire services as primary content sources for affiliated outlets will be replaced by a far more complex web of content originators and distributors.

One practical issue is how pool reporting will be handled in such an environment. Certain news-making events will never warrant or allow direct coverage by large numbers of news outlets, so some centralized reportage will still be required. But with such a Balkanized "last mile" to the news consumer, how will such rarified content be fairly and feasibly shared up at the "first mile"?

Of course, this distribution model has already changed a lot in the last decade or two (see diagram), and we've managed to keep up with it. Will increased complexity provide diminishing return,

So what will radio use to guide its content choices in this next reinvention? Will it fight fire with fire and move to selected microformats, or come full circle and return to a variety schedule? Or could some form of hyperlocalism find its way back into broadcasters' DNA, emerging from an almost forgotten chromosome?

Another question: If those old, pre-TV days of variety radio were truly its "golden age," will today's formatted radio be remembered as its "platinum era" — or its "plastic period"? The answer will have some bearing on what comes next: Are today's station formats a good foundation to build upon, or should they be rejected in favor of a more radical departure?

At the moment, everyone acknowledges these questions, but no one has many answers.

One response may be to embrace change and thus much experimentation may follow, which could provide a greatly needed invigorating effect — regardless of the intrinsic prevalence of failure that is always the most likely outcome in such speculative efforts. At the other extreme is denial, and we all know where that reaction ultimately leads.

Giant shoulders

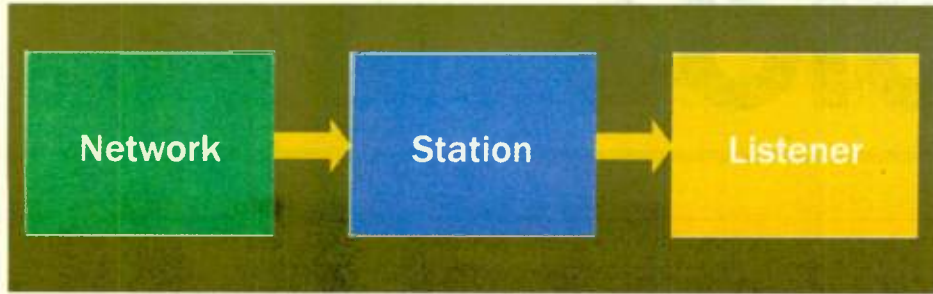
Isaac Newton said, "If I have seen further, it is by standing on the shoulders of giants."

Who are those that can give such a horizon-extending boost to today's would-be visionaries?

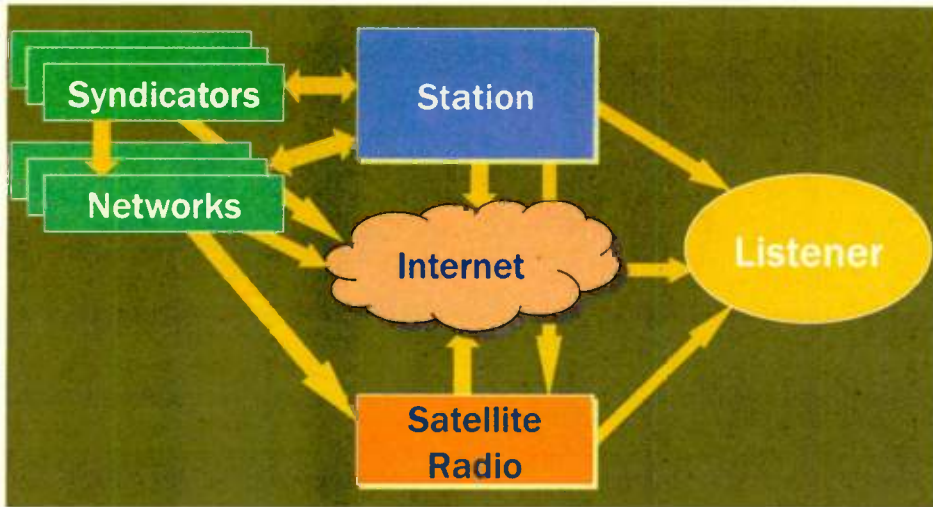
Buckminster Fuller's shoulders are one good vantage point, given his penchant for interdisciplinary crossover, his belief that so much of successful essence was "invisible," and his predilection to always do "more with less."

Fuller's self-description as a "compre-

Post-Broadcast Paradigm



Old Radio Content Flow Model: Simple



New Radio Content Flow Model: Complex

hensive anticipatory design scientist” made him the intellectual equivalent of Wayne Gretsky, whose well-known dictum of not skating to where the puck was

but to where it *will be* had a lot to do with his being ultimately dubbed “The Great One” within his athletic milieu. We could all use that sort of predictive ability

in our various worlds right now.

Another perennially good target is Arthur C. Clarke. His oft-cited assertion that “Any sufficiently advanced technology is indistinguishable from magic” could again provide helpful guidance. Wouldn’t a pocket-sized communications and rich-media terminal that could instantaneously access nearly anyone or any content on the planet at a whim seem like a near-magical device say, 20 years ago?

Finally, the current economic climate strongly reminds us of commerce’s cyclical nature, yet technology seems to only proceed in a single, forward direction. The nuanced interface of these entrepreneurial polyrhythms is likely another key to the next breakthrough. Timing is everything, it seems.

One more related quote for these troubled times is variously ascribed to several sources, but most notably of late to Presidential Chief-of-Staff Rahm Emanuel. It advises us that “a crisis is a terrible thing to waste,” and it provides the insight that this difficult economy perhaps brings us rare opportunity for more dramatic change than might be possible in bountiful times. Carpe diem.

And so broadcasters’ search for appropriate next steps continues. If you’re looking for clues and possible inspiration, consider adding the above-referenced gentlemen to your summer reading list.

Skip Pizzi is contributing editor of Radio World.

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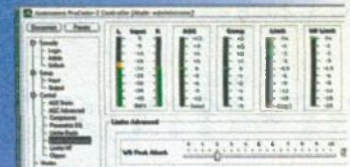
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Radio World

Audio Processing

June 3, 2009

USER REPORT

Omnia Takes on Many Tasks for SkyWest

Processor Does More Than Process For This Western Broadcaster

by Ted Tucker Jr.
Chief Engineer
SkyWest Media

TUCSON, Ariz. Versatility, ease of use, excellent sound quality and attractive price point have placed the Omnia One at the helm of many of my SkyWest stations. If it isn't an Omnia One, chances are that its big brother, the Omnia 6, took its place.

From FM classic rock to AM adult standards, Omnia processors have operated loud and proud without a single problem since I purchased my first unit almost a decade ago. Consistent software updates and free 24/7 support keep my mind at ease and confident that I have an up-to-date product.

To the rescue

When faced with the problem of not being able to have a traditional 950 MHz STL link to our transmitter site, an Omnia One and Axia Audio Node together with unlicensed wireless link came to the rescue.

The hop was 17 miles with little possibility of a traditional STL frequency being available. An Axia Audio Node was installed in the studio to output the digital LiveWire signal. We employed a Motorola PTP 600 Canopy to hop the signal to the site and utilized the LiveWire port on the back of the Omnia One to

receive it. The Omnia One then fed the exciter composite. We had the units talking and delivering beautiful uncompressed audio within minutes.

During the initial rollout of the Omnia One, the AM style was not yet developed. After I expressed my burning need for an AM version, my wish was granted.



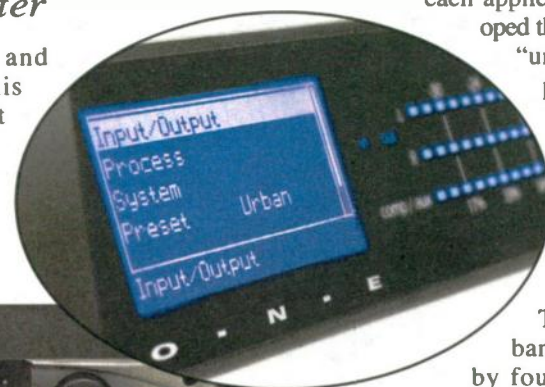
Omnia supplied me with the Omnia One AM beta software for my major-market AM. After unzipping my e-mailed firmware from support, I uploaded it to the unit and swapped my old audio processor with my new Omnia One. Instantly my phone starting ringing with questions of "how did you make it sound so much better?"

As embarrassing as it is to admit, my beta software sounded so good and was so stable, I am still using it more than a year later.

The Omnia One is also available in "Studio Pro" and "Multicast" styles.

The Studio Pro is exactly what the name implies. It delivers minimally delayed processed audio for applications that don't require absolute peak limiting. It's also the first studio processor to include a four-band compressor/limiter.

The accuracy and flexibility of this processor make it an invaluable tool for any signal processing application, not just on-air audio.



The Multicast version includes a new audio conditioning technology that Omnia calls Sensus. The primary application of this style is for situations where little transmission bandwidth is available. The idea behind Sensus is to breathe life back into bit-reduced audio. This processor can be so precisely customized that we will maintain our signature sound even under the constraints of bit-reduced transmission.

A home in my rack

This highlights a valuable feature of the Omnia One, style switching.

I'm not talking about loading different presets or filters, but the ability to completely repurpose the processor into any of the application styles needed for use in the studio, transmission and even networked applications.

Frank Foti and the gang thought way out-of-the-box when developing this processor. Instead of building a different product for each application, they developed the Omnia One as a

"universal hardware platform." All of the I/O, processing power and other hardware requirements are integrated into this single rack-unit box.

This includes wide-band AGC followed by four bands of AGC and four bands of peak limiting, browser-based remote control and configuration, analog XLR balanced I/O, digital AES/EBU input, output and external sync output, input fail-over on audio loss and even an Ethernet/Livewire IP audio connection.

Omnia has made the processing styles available for download, for free. All I need to do is load the software into one of the two memory banks, and fire up the style I want. I can literally change this from a full-featured FM processor to AM, with the advanced functionality that I need, in a matter of minutes. With future format or hardware requirement changes, the Omnia One has the ability to adapt easily to my needs.

Omnia's approach to the Omnia One followed the KISS principle (Keep It Simple Stupid), yet with the ability to open up the hood and play around as much as you like. From simple interfaces to groundbreaking technology, Omnia products will always have a home in my rack.

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

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TECH UPDATE

Eletec Offers The Monster

The Monster FM processor from Eletec Broadcast is a six-band processor in a jumbo box. The processor offers multiband program-dependent, distortion-free limiting.

Also included are a stereo encoder and six-band parametric equalizer. Frequency, gain and Q are adjustable. The clipper level is also adjustable. Processing presets are included.

Connections include an SCA-RDS and composite MPX output.

The Monster is also remote controllable. A front-panel LCD monitors performance. A security lockout is available. An RDS encoder is an option.

For information, contact Eletec Broadcast in France at 011-33-493-019-999 or visit www.broadcast-eletec.com.

USER REPORT

Big Performance in a 'Mini' Box

Maryland College Uses BW Broadcast Processor to Sound Like the Big Boys

by John Devecko
Operations Manager
WLOY(AM)
Loyola College

BALTIMORE In my hot little hands is the new DSPXmini-AM processor from BW Broadcast, a U.K.-based manufacturer of audio processors and FM transmitters.

With a simple set of text and status displays, a shuttle wheel control and three buttons on the front, the IRU box is nice and clean. Balanced analog I/O, AES/EBU I/O and synch input, RS-232 connection, remote trigger port, LAN port and a ground lift switch round out things on the back of the unit.

By reducing some of the chassis features found on their much more expensive units, BW is able retail this processor for a mere \$1,750.

Like a good sleeper car on the street, what's under the hood is not reflected on

and eight user-definable presets. Users can save modifications for their own presets, and load presets from a PC via the LAN connection. BW runs www.audio-processor.com, which includes an area dedicated to each of their processors. Users can upload their settings and download others to try.

This is, of course, where the sound geek comes out to play.

Fine tuning

After listening to the presets, I settled on "Music Bright" as a starting point for the Pop-centric '60s/70s format we were testing. Adjusting the audio is incredibly intuitive on this interface. We did initial testing sitting between the speakers of a nice home audio system, with a portable, single speaker radio sitting in the middle for A/B comparisons.

Speaking of A/B comparisons ... one of the most exercised features on the

the next few months of playing, it will keep getting fine-tuned, and saved. Sooner or later it will be uploaded to the BW site for others to share.

The bargain feature on this box is day-

ing programming with ease — whether it's a Saturday morning kids show or a Friday night sports jam, users will be able to punch it up as hot as they want.

Test and measurement was done using a Belar AMM-1 monitor and transmitting on a 100 mW Hamilton RangeMaster AM1000 transmitter. You know this box is good when you're able to make a 100 mW signal sound competitive with a 50 kW in town!

Overall, the sound, ease of remote



The Remote Screen for PC Use

the outside. Hidden horsepower comes in the form of a fast 8-bit microcontroller, six 24-bit DSPs and 24-bit A/D and D/A converters.

Bootloader

The unit is new so I needed to hook up my PC via the serial port and update the software. I set the unit to "bootloader" and fired up Hyperterminal, and it was about a minute for the system to run a full update and restart operation, without losing my place or settings. Simple and clean, like the whole unit.

After updating, I connected up the various audio cables and plugged in the LAN connection to my network.

The DSPXmini-AM allows you full control over the IP and MAC addresses of the unit. Rotating the selection knob and pressing in to select, users navigate to the System menu and LAN Config. Set an IP, default gateway, MAC address and port number and then load up the remote control software on the PC. Primary control is done on the remote interface, in part because it's easier to see and jump around than using the jog wheel on the unit. Once a user has loaded up the software, entered the IP and port information into it, click "connect." As soon as the display pops up with all the proper audio settings, it's off and running.

I really like the clean interface on the software. You have an immediate, easy-to-read set of audio indicators along the top center of the interface: input, four-band AGC, four-band limiter, output and MPX. Down the left side is an operating menu, with a logical folder-style layout. Above that menu is a menu/preset selector. Click on the preset tab and the left side display switches to show all of the existing processing presets loaded in the system. On the upper right side of the display is a large Disconnect/Connect button and an A/B selector. The lower 2/3rds of the screen is the control area — altered by the selections from the left menu.

The unit ships with 12 factory presets

remote software was the A/B button. This lets the user bounce between the preset originally started with and the tweaks made on the fly. It was a great way to fine tune settings and keep working through subtle changes.

Saving the tweaked setting in the users section for future use, I took the laptop out to the van, hopping into wireless mode. Listening to the station on the van radio while using the laptop to adjust some more for that environment is a killer app if ever there was one. With the A/B comparisons, I was able to set up a processing sound that was equally at home in the car and in the house. Given


parting. A feature virtually every station wants and needs but can never be found on a lower-priced processor. The DSPXmini-AM allows users to set eight dayparts by day of the week (or all days), hours and minutes of the change and hours and minutes of the duration.

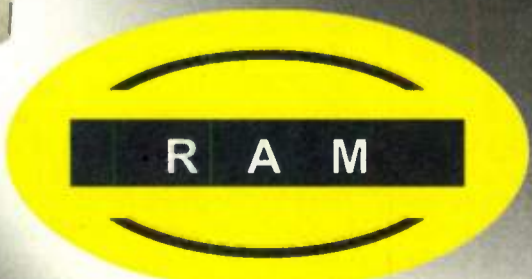
By designing it well, users can set a standard daypart function for the whole week and then create deviations for other times. Each daypart is tied to a selected preset of the user's choosing. This is a fantastic feature that allows for fine-tun-


management and the price are just fantastic. What else can one say about a low-cost processor that lets you tweak everything from your modulation symmetry to the daypart in which to apply it? This processor represents an absolute bargain for lower-budget broadcasters that want to kick the big boys out of town.

Thanks to Chuck Begin of 1630 Bar Harbor for assistance in the listening tests.

For information, contact BW Broadcast at (866) 376-1612 or visit www.bwbroadcast.com.







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USER REPORT

Vorsis AM-10HD Delivers AM Punch

This New Digital Processor Gives Jay Rose and Will Kemp Reason to Smile

by Jay Rose
Consulting Engineer
KMZQ(AM)
Kemp Broadcasting

LAS VEGAS, Nev. As a second-generation broadcaster, I knew at 8 years old that I was going to be a broadcast engineer.

I was exposed to radio from birth as a son of legendary KFRC San Francisco top 40 DJ Dr. Don Rose, lucky enough to be around some of the greatest engineers in the industry.

One thing I learned about audio processing is that you have to have a built-in reference. You must remember how music and voice are supposed to sound, and then use that as an absolute reference. The other thing is you have to be competitive — the market place will ultimately dictate how you need to sound. If your station sounds great and you're competitive, you've done a real service to your station and your listeners.

The Q

After years of chief engineer positions in San Francisco, I decided to go it on my own as an engineering consultant. My favorite client is Will Kemp, a Las Vegas businessman and lawyer. He's one of the most serious broadcasters I ever met, with a passionate fever to win. Will started building Kemp Broadcasting in 2000; I was fortunate to be involved from the beginning.

Will Kemp asked me to consult on technical aspects of putting his new AM station on the air. I liked working with him so much that I moved my family to Las Vegas. We built the studios in the same location as Kemp's other Las Vegas station, KVEG(FM), and built a four-tower 50 kW transmitter site. KMZQ — the "Q" — went on the air in May 2008 with a classic rock "best of the '70s and '80s" format.

As part of the transmitter facility buildout, I installed the same popular AM processor that I had used in the

past. Will Kemp was instantly disappointed. He knew what AM radio could sound like, and this wasn't it.

No matter what I tried, we sounded okay on our monitors but not on radios in the field. Thin, not enough high-end, I couldn't get it to be punchy; kick drums dragged down the lower mids and it was inconsistent across different program materials. And to top it off, the user interface wasn't great either. I knew our pattern was tricky but also knew there had to be a way of getting it to sound great.

At the NAB Show last year, Doug Tharp of SCMS and Wheatstone's Jay Tyler told me about the brand-new



Vorsis AM-10HD processor from Wheatstone. To tell you the truth, I was skeptical. I tried what was supposed to be the best and failed. Maybe it was the transmitter, or maybe the antenna array, but we had to try something.

With nothing to lose, I put the Vorsis AM-10 on the air. Right out of the box, it sounded better using the "begin here" factory preset than the previous box using custom presets that we spent many hours on. I knew at that moment that all was going to be okay. The owner drove around town while I sat in the passenger's seat, laptop online via my built in 3G wireless card, Vorsis software connected to the processor at the transmitter. I made a few adjustments and we listened.

Five minutes

After five minutes of tuning, the owner had a big smile on his face. The AM-10HD turned around his opinion of the station. Overnight, a huge difference, and bliss ever since.

I was wondering about the unit's 10 bands of limiting. After all, no other (non-Vorsis) processor has nearly as many. But the sound we achieved answered that question.

We're now far more consistent, with the wide range of music balances typical of our classic rock format, and we're more consistent across pattern changes and even in the nulls.

There's no pumping. When a kick drum hit comes along, the Vorsis deals with it without affecting any oth-



The author is shown, with the AM-10HD in the rack

er part of the music. There's a ton of punch. We have twice the high end. The box is extremely powerful and is capable of beating even FM stations with comparable program material.

I set the AM-10HD for 10 kHz NRSC filtering since we're not broadcasting HD. I'm really pushing it to be as loud as anything else on the dial. I did have to clean up some marginal components in the phasor to handle the modulation.

The Vorsis software user interface, which runs on a PC, is impressive. Even on my laptop in the field, there was no perceptible delay, and it had incredible metering. The unit has to date never failed, and continues to impress many local radio buffs.

I never thought AM could sound this good. We're actually sounding as good or better than most of the FMs in the market. Our air sound reminds me of the old KFRC — where I first got hooked on radio — and the other big AMs of the past that I remember. I must say that Wheatstone has the right players and the drive to produce incredible DSP products. You owe it to yourself and your station to try this.

Bottom line: One of the best broadcast equipment purchases I've ever made.

Oh, and we're using the Vorsis M-1 Voice Processor on every mic in the station. But that's a story for another time.

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

TECH UPDATES

Audemat Digiplexer Is a 'Radio Station in a Box'

Audemat describes its Digiplexer 246 and 2/4 as "Radio Stations in a box." Now the Digiplexer 246 and 2/4 add advanced audio backup to the growing list of features. The flagship "Radio All in One" product offers a digital audio processor, stereo encoder and built-in RDS encoder alongside additional functionality such as FM transmitter, TCP/IP and I/O remote control.



With advanced audio backup, broadcasters can ensure that their station not only stays on air in the event of STL loss but also continues to provide appropriate content to their listeners with minimal detectable disruption. The user can upload numerous audio files and create up to 10 playlists that can be used as a local backup audio source should the main link fail.

Other new advancements to the Digiplexer range include the Scripteasy-EasyLink, a prewritten API enabling remote control and monitoring of the Harris Z Platinum series and the Ecreso line of FM transmitters. Other transmitter brands can also be integrated on demand.

There are also several enhancements to the units' audio processing algorithms which enable the user to configure the gating for each band ensuring exceptional audio performance.

The "Radio All in One" approach adopted by Audemat's Digiplexer equipment provides a clear on-air signal with measurably cleaner performance than standalone equipment, the company says. The integrated system provides reliability and is competitive in terms of cost and the resultant audio quality.

For information, contact Audemat at (305) 249-3110 or visit www.audemat.com.

Symetrix Ships AirTools Voice Processor 2x

Symetrix is shipping a new member of its AirTools family.

The AirTools Voice Processor 2x features two independent channels of what it calls ultralow-latency digital signal processing that are customizable from a computer software program.

The unit includes the processing necessary to make the voices of on-air talent rich and attention-grabbing. Up to 50 customized presets may be saved and recalled to make a station lineup sound its best.

The Voice Processor 2x occupies one rack space and interconnects with the rest of the studio via two mic/line analog inputs, two mic/line analog outputs, two AES digital outputs and a word clock input. Available processing includes lush-sounding compression, equalization, de-essing, downward expansion/gating, high-pass filtering, low-pass filtering and voice symmetry.

The included Windows software application enables control of critical parameters and interfaces with the hardware unit via Ethernet connection. Once a desired sound is dialed in, settings can be saved as named presets for later recall, allowing a given studio mic to be optimized for a diverse air staff of male and female voices. Presets may be recalled with front-panel controls, optional hardware remote(s) or a third-party control protocol.

Paul Roberts, director of sales for Symetrix, said the processor should appeal to engineers for its feature set and straightforward programming as well as to air talent because it is simple to use. He also noted the unit can process two microphones independently in a single rack space. He said the processor will "maximize intimacy and impact" of on-air voices.

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



TECH UPDATES

DaySequerra Processor Aligns HD-R, Analog Signals

The M4DDM Diversity Delay Monitor is a single-box solution designed to solve what DaySequerra calls one of the most nagging problems facing HD Radio station engineers, the drift of time alignment between the analog and HD1 audio.

Using its selective off-air tuner and a new proprietary TimeLock algorithm, the M4DDM measures the MPS analog and HD-1 digital audio diversity and generates a continuous stream of correction vectors to keep the analog and digital audio accurately time- and level-aligned.

These correction vectors can be processed internally by the M4DDM to delay the digital program audio or sent via Ethernet to an HD Radio Embedded Exporter or audio processor to provide the necessary adjustments to the analog audio delay.

The M4DDM has a full-time digital output for confidence monitoring and six



assignable alarm outputs for loss of carrier, program audio and OFDM sidebands as well as HD Radio data and RBDS data payloads.

The system comes with DaySequerra's DDM Remote Dashboard software, a PC-based application for remote control monitoring, logging and alarms with e-mail/SMS notification.

The M4DDM is compatible with exist-

ing HD Radio NE-IBOC Gen I and Gen II AM and FM installations using the M4DDM's internal digital audio delay, audio processors such as Omnia's Omnia-5EX HD with the appropriate Ethernet protocol or iBiquity MPS Framework version 4.3.2 or later. The M4DDM is also compatible with any new installation of Embedded Exporters from Broadcast Electronics, Continental,

RVR, Harris and Nautel.

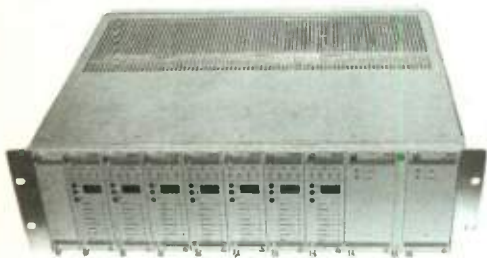
The algorithm used in the M4DDM is based on a new digital audio correlation methodology developed by Harris and DaySequerra. This algorithm represents an improvement compared to the original HD Radio correlation algorithm, the developers contend. While the original algorithm can correlate audio that is already within 300 ms of alignment, the new TimeLock algorithm is capable of resolving up to 14 seconds of program diversity and is much more robust against processing differences and other artifacts.

For information, contact DaySequerra at (856) 719-9900 or visit www.daysequerra.com.

Jünger Audio Tries a Little Magic

Radio stations are aware of the need to deliver a steady audio level to listeners. Lack of clarity, combined with surprise level changes, can be tiring and annoying if it results in the listener having to adjust volume constantly to achieve a comfortable listening environment.

Jünger Audio's solution is the Level Magic system, a series of level control devices that rely on an adaptive level control algorithm that is designed to adjust the level from any source at any time, with no pumping, breathing or distortion.



Level Magic works by combining an AGC, a transient processor for fast changes and a "look-ahead" peak limiter for continuous unattended control of any program material, regardless of its original source.

Available as standalone units or as part of a modular, frame-based system for larger broadcasters, Level Magic is mainly used prior to transmission and has proved effective at controlling level and loudness for a number of radio broadcasters including RTL in France and MediaCorp in Singapore, the manufacturer says.

In recent months Jünger Audio has introduced a number of new Level Magic cards, including a high-capacity eight-channel AES card and the ANA Series of input/processing cards, which are designed to help terrestrial rebroadcasters tackle loudness and synchronization issues.

For information, contact Jünger Audio in Germany at 011-49-30-6777-2145 or visit www.juenger-audio.com.

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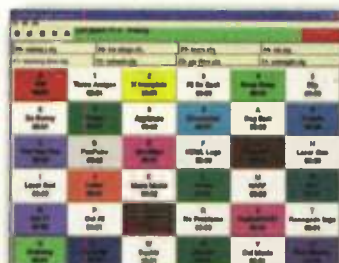
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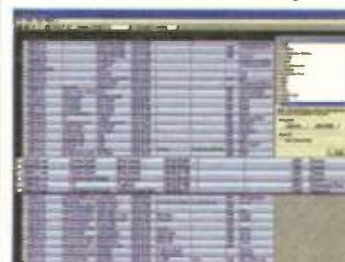
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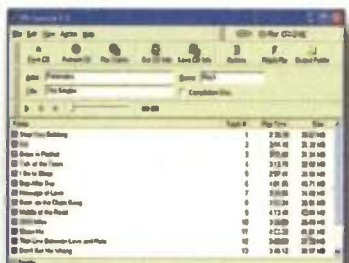
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USER REPORT

Processor Aids Big Station's Performance

Orban 9300 Optimod-AM Helps Nebraska Rural Broadcaster Belt Out Signal

by Rod Zeigler
Director of Engineering
Nebraska Rural Radio Association

LEXINGTON, Neb. When an engineer takes a new position, one of the items first on the employer's mind is getting some longstanding issues taken care of quickly.

This was my experience when assuming the duties of director of engineering for the Nebraska Rural Radio Association.

First and foremost was the perceived loss of coverage with KRVN, our 50 kW AM. It sits in a beautiful 30 millimhos per meter ground conductivity area surrounded by areas of 15 millimhos per meter on three sides. The coverage had noticeably decreased over the years and the first "order" from the board of directors was to get our range back.

Diagnosing

All of the normal problems were checked by the engineering staff. Jim Liffbrig, our AM supervisor, Ray Bitner, staff engineer, and Mark Voris, FM supervisor helped out as well.

Transmitter power was true and consistent. No problems were found in the array. Monitor points were normal and stable.

We contracted with Kevin Kidd from AM Ground Systems Co. to come in and do a thorough check of our ground system and plant. I felt that having an independent engineering firm audit our plant after an engineering management change was a prudent exercise for many reasons.

Kevin found nothing out of the ordinary except for our processing. Our processor was not keeping the audio at a consistent level between peaks, which was giving us an average modulation level of around 60 percent on some of our programming.

We serve the agricultural community of Nebraska and a large part of Kansas. Much of our programming is received by phone and the audio levels and quality on these phone calls can vary wildly.

The Nebraska Rural Radio Association's mission is to give our 4,000+ listener/owners the information they need, when they need it.

One piece of information that they



Nebraska Rural Radio Association crew from left: AM Supervisor Jim Liffbrig, author Rod Zeigler and FM Supervisor Ray Bitner.



need is up-to-date livestock auction information. If there is a bit of noise, or a varying audio level on the phone line from the many sale barns that have us air their reports, that is okay, as long as the information is intelligible.

Many hours were spent trying to get the legacy processor to work correctly, all to no avail.

Kevin had suggested getting a "demo" processor in and trying it. Due to the age and checkered history of our existing unit, I contacted Gary Tibbotts at Broadcasters General Store and asked if we could demo an Orban 9300 Optimod-AM. I had just installed one of these at my previous place of employment and was quite satisfied with it.

Gary was gracious enough to send us

a new unit, which we installed within 24 hours.

We put it in the rack, powered it up and performed the "audio quick change." We unplugged the audio cables from the old processor and immediately plugged them into the 9300. Without even setting the levels, the audio quality of our signal was absolutely astounding. Four sets of jaws dropping at once is quite a sight to see!

One thing we did not do was perform the primary level adjustments with the transmitter off, as the manual instructs you to do. This is not something I would recommend that anyone attempt. We were watching the modulation level and transmitter very closely when we performed the installation and just got lucky.

Setting up the 9300 was easy. It had

been a while since I had done any adjustments to one so I and the rest of the engineering crew read the manuals before starting. They were plain to follow and made the initial installation simple.

We went through the steps in the manual and when we were done we were more than pleased with the results.

The cure

While discussing this article with Jim Liffbrig, he said that setting up the 9300 was little more than adjusting levels, picking a preset and letting it run.

It does allow custom settings for those so inclined, but for our purposes the presets fit the bill perfectly. When we found a preset we thought would be the best for our situation, we left it alone so we, and others, could critically listen to it for the next few days. Usually having four engineers in a room and setting a processor is akin to heated political or religious debate, but in our case an easy and affable consensus was reached, and we drove home that night listening to our "new station."

I called Gary at Broadcasters General Store the next day and told him to send us the bill, we were keeping it. We did

make a few minor tweaks over the next few weeks, but for the most part the hard work was done in less than an hour.

Reports from listeners from all over the state proved that our signal was back to where it had been many years ago. The board of directors was extremely pleased with the outcome as well.

Fortunately I was able to attend this year's NAB Show in Las Vegas and made a point of stopping at the Orban booth so that I could thank the folks there, especially Bob Orban himself. They have made many fine products over the years and I could not be happier with the 9300. They made the engineering department look awfully good to my new employers.

For information, contact Orban at (480) 403-8300 or visit www.orban.com.

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TECH UPDATES

Audessence Introduces ProCoder-2

According to **Audessence**, older FM stations can have their sound upgraded and at modest cost thanks to its ProCoder-2.

Many transmitters and audio links suffer from overshoots that make it impossible to optimize loudness and audio quality, the company argues. ProCoder-2 includes a low-frequency compensator and high-frequency overshoot-inhibiting algorithms for getting the best modulation yield (and therefore coverage) out of FM transmission sites.

The ProCoder-2 also solves the problem of where to locate FM audio processing by taking care of all the audio processing and peak control tasks required at transmission sites, bringing modern DSP technology to solve problems that equivalent analog products may not. Preferred multiband processors can be located at the studio for convenience, and ProCoders deployed at the FM site or sites set to sonically transparent mode.

Peak control is accomplished by overshoot-compensated 16 kHz low-pass filters, anti-aliasing main clippers and a digital composite clipper (running at over 1.5 MHz) if required. Post-clip filtering options allow experts to optimize sound quality and loudness trade-offs.

Composite connections include 19 kHz

sync output and an RDS/RBDS/SCA input. Inputs include digital (AES-3) and balanced analog, and these can fall back to a secondary input if primary audio fails.

Functional blocks input high-pass filter, advanced AGC, compressor, optional brightness enhancer, peak limiter with pre-emphasis options, main clippers, 16 kHz low-pass filters, stereo encoder and composite clipper with pilot and subcarrier protection filtering.

There is a front-panel USB port and a rear-panel RS-232 port for control with an optional TCP/IP mode. A total of nine presets are held in ProCoder's nonvolatile memory. DSP software is upgradeable via the GUI (Windows software included, with free upgrades). Future enhancements planned include a stereo enhancer and RDS/RBDS encoding options.

Useful operational features include a fanless, DSP-based design, a boot time that is 1 second to full operation and audio latency approximately 5 milliseconds. The system has a three-year guarantee.

For information, contact *Audessence/Independent Audio* on (207) 773-2424 or visit www.audessence.com.



Inovonics Upgrades Model 261

Inovonics says Rev. 2 firmware update for its Model 261 DSP-based digital stereo "utility processor" adds an independent high-frequency limiting function to protect the pre-emphasis characteristic of FM broadcasting. It is offered free to existing users.



Model 261 is a low-latency design using look-ahead limiting technology. It combines three basic audio processing functions: gated, gain-riding AGC; program dynamic range compression; and final peak control.

The unit is menu-driven from the front panel and may be configured to provide a single basic function independently, or to use all processing options for comprehensive program audio control in LPFM and other modest air chain applications.

Inovonics says this gives the broadcaster an economical and unobtrusive means of normalizing and controlling audio levels in an all-digital or mixed-signal plant.

For information, contact *Inovonics* at (800) 733-0552 or visit www.inovon.com.

Nautel Places 'Orban Inside' Transmitters

The engineers at **Nautel** and **Orban** have worked together to integrate a digital Orban Optimod-FM 5500 processor into the Nautel NV series of transmitters.

It's the fruit of a collaboration announced a year or so ago at the NAB Show.

The functionality of the 5500 processor is contained on a compact DSP card mounted in the Nautel NVE digital exciter, and the control of the processor is done on the Advanced User Interface (AUI) 17-inch color touchscreen on the exterior of each NV series transmitter.

In addition, as the NV series AUI is also a Web server, all of the screens for monitor and control of the 5500 can also be accessed from anywhere with a PC, laptop or even a smart phone.

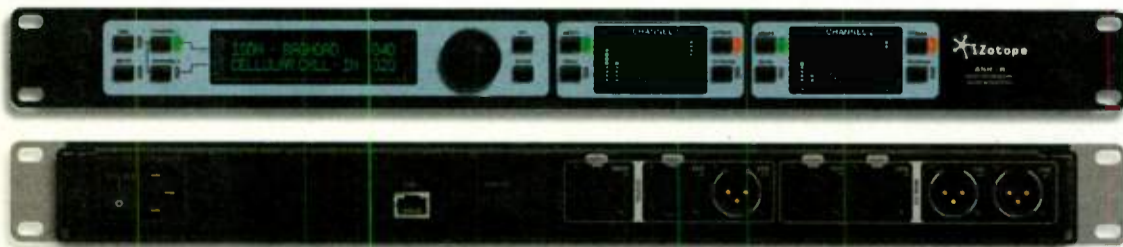
The Orban Optimod-FM 5500 provides five- and two-band Optimod processing. With the processor inside the exciter, worries about ground loops and RF interference are a thing of the past, the companies say.

The "Orban Inside" option for the NV transmitter is scheduled for first shipments later this year.

For information, contact *Nautel* at (877) 662-8835 or visit www.nautel.com.

iZotope ANR-B Adaptive Noise Reduction Unit

The **iZotope ANR-B** is a 19-inch, single-space rackmount unit that uses noise reduction technology to identify and suppress environmental broadband noise, hum, phone line artifacts and the like. The company says it increases the quality of radio and TV call-in programs and on-location broadcasting.



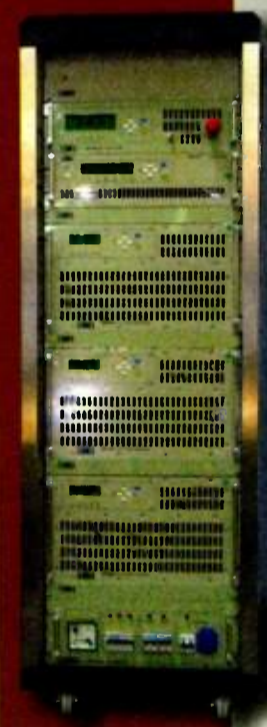
Unlike other noise reduction solutions, iZotope's ANR-B detects noise in real time and adapts to changing noise over time; its single knob noise suppression allows for fast real-time operation for live broadcast applications.

Two-channel (or stereo) operation has presets for ISDN, cell phone and more. Adapt Mode is used for automatic operation while Train Mode captures a noise profile for tailored suppression. It is designed for professional broadcast applications, with balanced XLR analog I/O, AES/EBU digital I/O, DARS and AES/EBU sync, 10/100 BaseT Ethernet and nine-pin D-sub RS-422 remote connections.

For information visit www.izotope.com.

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TECH UPDATES

TC Electronics Introduces DB2

Launched at the 2009 NAB Show, the TC Electronics DB2 Loudness Consistency Processor has the tools necessary for trouble-free broadcasting in one rackmountable unit and



adds to a scalable family of processors that covers regional stations to network centers, from podcast to HDTV, from AC-3 (Dolby Digital) to linear, and from mono to 5.1.

DB2, the new, smaller sibling of TC Electronics DB4 and DB8 multichannel processors, is a suitable choice for dual mono or stereo operation for AES-3, MPEG, AAC, AC-3 or linear audio transmission paths; the company says it is an ideal solution for DAB processing. Additionally, the DB2 has 50 μ Sec and 75 μ Sec

pre-emphasis curves built into the limiter for analog audio paths. Performance is similar to its siblings and presets are compatible across the range.

Like the rest of the DB family, DB2 offers

loudness correction without metadata dependence and is compatible with the latest ITU and EBU audio standards.

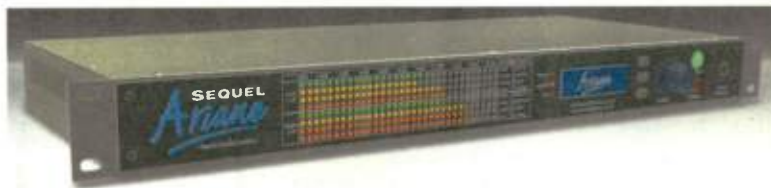
The DB2 sports 24-bit analog I/Os as well as a 75-ohm AES-3 digital interface on BNC connectors. Control of the DB2 comes from TC's ICON software interface for Windows and Mac, via RS-232. A USB converter is included with the product.

For information, contact TC Electronics at (818) 665-4902 or visit www.tcelectronic.com.

Ariane Sequel Levels Problems

TransLanTech Sound's Ariane Sequel is a single RU digital audio leveler.

The Ariane Sequel analyzes the RMS energy in the mono and stereo components independently to provide the user with improved gain and stereo image control according to the company. It can also operate with traditional left and right stereo processing.



The key to the Ariane line is its multiband, release gated, "windowing" feed-forward RMS control. Other features include 32 kHz, 44.1 kHz or 48 kHz sample rates, TCP/IP remote control and user presets. Processing software is upgradable.

Ariane works with standard broadcast applications as well as IBOC, Web, remote or satellite feeds.

For information, contact TranLanTech Sound at (212) 222-0330 or visit www.translantech.com.

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Prophet Wizard full automation system with several workstations and audio server, all or part, located in Northern CA, cheap or trade for RF equipment. M Miller, 530-591-0549.

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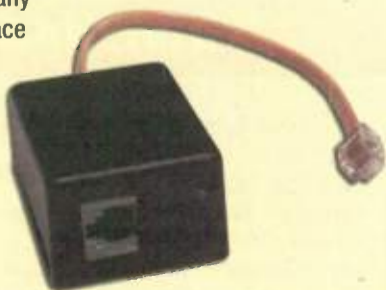
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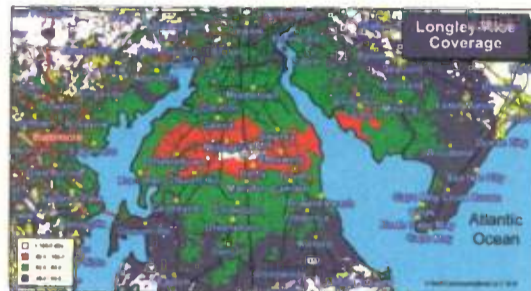
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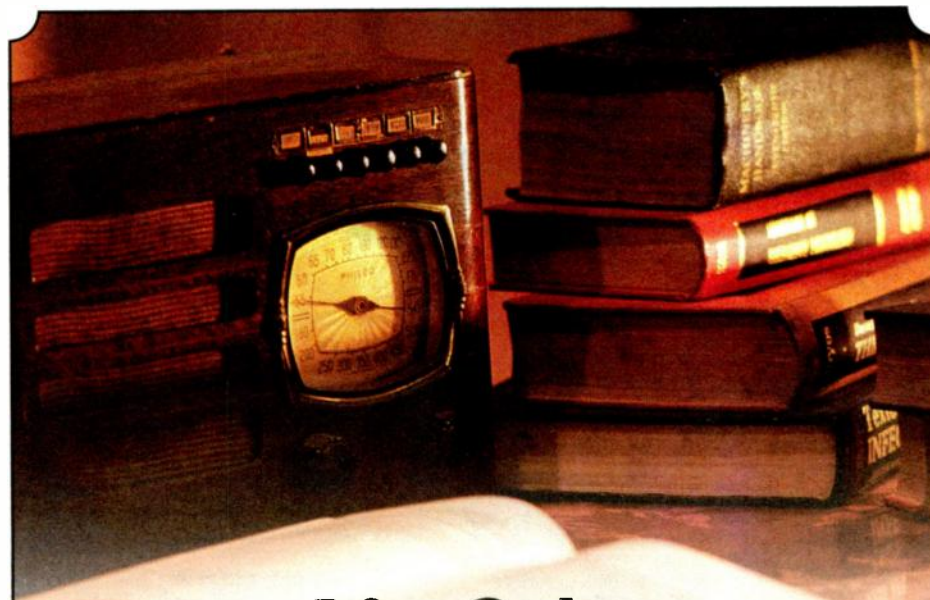
Triumph of the Centuries

Paul, I heard John Doremus read this one night on our station. I thought you'd like to see it. Perhaps Radio World readers would be inspired by it?

John made comment that it was written in the early 1900s, probably as radio was taking hold in America.

I did research on the Internet and was unable to find any information on who Robert H. Davis was.

Tom Jones
KNXR(FM)
Rochester, Minn.



I Am Radio

By Robert H. Davis

Distance nor barrier opposes me. Through all space I fling my mysterious reverberations.

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I am the rhythm to dancing feet. I sway the world in rhapsody to the measure of beating hearts. I am the universal orchestra in tune with carnival. I am the life of the marketplace, the thrill of the race, the roar of the ring, the fury of the forum, the cheers of the coliseum. I am the comrade of the sick, the courier to the lonely, the ally that knows no frontier.

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◆ READER'S FORUM ◆

Stifling Innovation

In his April 8 commentary ("Fix Drugs and Rock & Roll"), Dave Wilson says that copyright terms of life plus 70 years exceed the constitutional standard of a "limited time," and as a result, they stifle innovation. He goes on to blame the recording industry for these lengthy terms.

While the Sonny Bono Copyright Term Extension Act of 1998 was named to honor the late recording artist and congressman, credit (or blame) for the act generally is given to the Walt Disney Company. Mickey Mouse and other characters from its early history were soon to have entered the public domain. However, Congress may simply have wanted to harmonize U.S. policy with that of Europe, the ostensible purpose of the act.

The act was challenged on various constitutional grounds, including the one advanced by Mr. Wilson, but the Supreme Court upheld it by a 7-2 vote.

Nonetheless, many of Mr. Wilson's points are well taken. The courts have affirmed that the purpose of copyrights and patents is to motivate creative works that the public can ultimately enjoy freely. Having protections last for only "limited times" is essential for achieving this goal.

Therefore, I would hope Mr. Wilson might join me in protest over FCC action to date on IBOC digital radio. Authorizing the system with secret specifications in perpetuity is itself contrary to the "limited times" restraint on government-granted rights. And as a consequence, as Mr. Wilson says, innovation in digital radio has been stifled.

Jonathan Hardis
Gaithersburg, Md.

Who Says?

What Dave Wilson puts forth in an April 8 full-page tirade "Fix Drugs and Rock & Roll" cries out for correction of some of his misguided and inaccurate conclusions and premises (though before doing so I will admit that I do agree with the tenor of the headline ... but that's another matter entirely).

His lament and woes pertain to the copyright laws. Let's look at flaws and fallacies in his arguments.

He declares that the music industry fights to block technology that would enable folks to store, sort and playback copyrighted material. Not so.

In the 1970s Sony case, the court ruled that, in effect, "if you can receive it you can record it." How you handle the recording is immaterial, so long as the recording is for your own use and is not given, lent, rented nor sold to another party. Moreover, a broadcaster is entitled to code his transmissions to prevent recording. This applies to aural as well as audio-visual transmissions.

He tells us that copyright life should be the same as patent life.

Well, in a word, why? Who says that the 20-year patent life is proper for either patents or copyrights? (I'm a patent holder as well as a copyright proprietor.)

One reason for the lengthy copyright life ("life + 70") of today is that there is so

much competition in the songwriting field that many songs do not get immediate acceptance. In fact, most songs written are never used commercially. You know of only the ones that you broadcast.

One other aspect to this is that the United States must comply with the copyright laws of other nations. If others agree to life + 70 but we agree to a more limited life + 50, the foreigners will not protect our songs in their jurisdictions for that additional score of years (no pun intended) unless we protect their works for the full 70, even though we wouldn't be protecting our own works for that long.

Thus, American writers would be at a disadvantage, as they were not too long ago when our copyright protection lasted only 56 years anywhere, while foreign songs lasted for the life of the last surviving author plus 50 years ... even in the United States. Should foreign writers be treated better than our own?

Who says that the 20-year patent life is proper for either patents or copyrights?

— Oliver Berliner

And let's look at Disney, whose animal characters are protected by copyright and trade-mark rights ... the latter being limited. When their copyrights expire folks who didn't contribute to the public recognition of these creatures will be able to profit from them at no cost.

While I have no fondness for Disney yet have provided them advice with respect to terms related to broadcasting and copyright in their artist contracts, I feel it's unfair for folks to be able to get something for nothing. This sort of thing serves to stifle creativity.

The recording industry is not fighting technology. Instead, it's fighting the piracy that technology has generated and which has encouraged folks to steal from writers rich and poor. The 1909 copyright act provides that writers (and publishers) be compensated not just for sales of recordings of their works but for the performance of their creations, whether live or via someone's playing records in local venues and over the air.

Mr. Wilson goes on to complain that certain releases he likes contain less than 50 percent new songs. Well, blame that on the artist and the record label, but not on the copyright laws. Remember too, Mr. Wilson, that you bought all those reissues by your favorite artist because you liked the songs that he played.

The artists and his label gave you the songs they thought you wanted to hear. And they sacrificed a lot of other material recorded by that same artist ... songs that their writers created in hopes they'd see the light of day.

April 8, 2009

DAVE WILSON

Fix Drugs and Rock & Roll

The Public Needs to Understand How Our Copyright Law Is Hurting All of Us

by Dave Wilson

Here's a brief, true story. Not long ago I began broadcasting on a couple of FM frequencies with programming that is 100 percent locally produced spoken word. No music whatsoever is broadcast on either frequency. About a month after I began operations I received a bill from the American Society of Composers, Authors and Publishers, ASCAP, for money from broadcasters. Web sites and anyone else who plays music created by the people it represents when the music is played in a commercial enterprise or public forum.

Because I was not and am not using any of the material that ASCAP's members have copyrighted, I disputed this bill. I received another a month later but the matter was resolved rather painlessly soon after that.

This got me thinking. What if the cable industry monitored local real estate transactions and automatically started invoicing all new homeowners? People would be outraged. There would undoubtedly be allegations of fraud, and complaints filed at the Federal Communications Commission, the Federal Trade Commission and with lawmakers. Yet ASCAP apparently does essentially the same thing and few people seem to care.

Why is this? Well, one reason might be that ASCAP is targeting only a small segment of society and that these people are accustomed to being abused by the music industry. But whatever the reason

that it should be for a limited time. And the very first Congress in 1790 provides a good indication of what the framers of our constitution were thinking: a 14-year copyright term with a privilege of renewal for one more 14-year term.

One hundred and fifty-two years is a farcical interpretation of "limited time," yet today that's how long an 18-year-old copyright owner will have protection if she lives to be 100.

The general public needs to understand how our current copyright law is hurting all of us. People need to know what's wrong and what they can do about it.

Stifling Innovation In short, what's wrong is that we are being denied the opportunity to have innovative new products that would dramatically improve our lives.

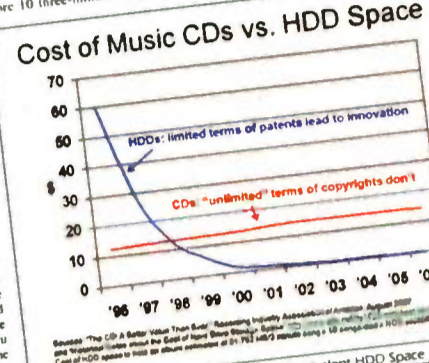
Imagine being able to buy a low-cost portable media player that comes pre-loaded with every song that hit the Billboard charts in the '70s or '80s, and imagine being able to copy and share those songs freely with anyone you choose. If copyright owners had the same protection as patent owners, this is exactly what you'd be able to do.

Imagine if radio receivers could automatically store every song broadcast by a radio station, enabling consumers to play them back whenever they want, wherever they want. The technology to do this is simple today, but it's practically impossible to find in the marketplace because the greedy music industry likes to stifle

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strong incentive to produce new music that would still have copyright protection. And we would undoubtedly have many more modern remakes of popular songs from the past. The accompanying graph compares the retail cost of a CD with the cost of the amount of hard disk space needed to store 10 three-minute songs. It clearly illustrates how our patent laws have encouraged the consumer electronics industry to bring better and better products to market, providing dramatically more value to society over time. And it illustrates just as clearly how our copyright laws have stifled innovation.



the market. Within a year more generic versions were on the market and the price per capsule had plummeted to \$0.32, with generics taking almost 90 percent of the market. This is the way our intellectual property rules are supposed to work. This is the way they did work for both patents and copyrights, until the recording industry went to work in Washington in the last century and got Congress to legislate lifetime copyright protection that extends 70 years after death. We should all thank our lucky stars

fling innovation, but people's blatant illegal use of copyrighted material is also stifling innovation. Much time is spent trying to make copyrighted material "copy proof" that might be better spent on new creations.

I am not condoning the RIAA's lawsuits or some of the more onerous enforcement measures. But something needs to be done. It's a huge mess.

Creators should have the right to decide how their work should be used and how they might derive income from it. It should be a specific, limited period of time.

Yes, the length today is too long. However, hand in hand with that is the public use of that material. We need to redefine what is acceptable copying for "personal use" and what is stealing. And once we decide what stealing is, we need to enforce it.

Unfortunately, changing copyright law is going to be very difficult. Too many large corporations have a vested interest in the outcome. (And it's not just the music industry.)

But as a creator, I want to have control over how my creations are used. In general, the public has a "help yourself" attitude about copyrighted material. If they

Maybe on the 49th CD by your favorite artist — tho' it may not be a CD, per se (technology, you know) — those unsung songs will be able to have their place in the sun and live long enough that the writers and their families will enjoy the fruits of their labors for sufficient time to make it worthwhile being a songwriter.

Oliver Berliner
SoundDesign Engineers
GramOphone Music Co.
Bozeman, Md.

The Public Is Part Of the Problem

I am in total agreement that the length of copyright protection is unreasonably long. We can thank big corporations for persuading Congress to keep changing it. Unfortunately, for now it is the law of the land.

But Dave Wilson missed the other large part of the problem: How do we get the masses to respect copyright law?

We need to redefine what is acceptable copying for 'personal use' and what is stealing. And once we decide what stealing is, we need to enforce it.

— Margaret Bryant

Even if the copyright term was shorter, how do we get people to understand that just because they bought a piece of software, it does not give them the right to make copies to give to their friends? Just because a photo appears on the Internet does not mean you can copy it and use it on your Web site to sell widgets.

Maybe the length of a copyright is sti-

can take it without compensating the creator, most will. That needs to change. But we are talking about a societal change. Talk about difficult!

Margaret Bryant
Carrollton, Texas

The author, a broadcast engineer for 30 years, is now a photographer.

Radio World

Vol. 33, No. 14

June 3, 2009

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Next Issue of Engineering Extra June 10, 2009

Next Issue of Radio World June 17, 2009

For address changes and subscription renewal, please visit radioworld.com and click on the "Subscription" button. To submit letters or story proposals, to request writer's guidelines, or for other editorial matters, e-mail the editor at radioworld@nbmedia.com.

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Radio World Founded by Stevan B. Dana

Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by NewBay Media, LLC, 810 Seventh Avenue, 27th Floor, New York, NY 10019. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at New York, NY 10079 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 282, Lowell, MA 01853. REPRINTS: For reprints call or write Caroline Freeland, 5285 Shawnee Rd., Ste. 100, Alexandria, VA 22312-2334; (703) 852-4600; Fax: (703) 852-4583, Copyright 2009 by NewBay Media, LLC. All rights reserved.

—Printed in the USA—



Time for a Cease-Fire

Radio's Performance Royalty Strategy Is Troubling

When David Rehr announced his resignation from the top staff position at the National Association of Broadcasters, we were in the middle of writing an opinion piece that began: "The current, intensifying debate over a performance 'right' or 'tax' is evidence of a failure of leadership on both sides of the debate."

We still feel that way.

Whether Rehr's departure was influenced by unhappiness on the board about that particular issue we don't know. More likely his resignation was the result of many factors.

But we do feel that both Rehr and others at NAB have chosen an unwise course by pursuing such a high-profile, even nasty campaign about performance royalties.

We've praised Rehr in the past for being feisty but this is one battle we think NAB ultimately must lose based on the merits as well as the politics. Therefore we think the decision to stake out radio's position in such a provocative way will serve stations poorly. (As if to reinforce the point, the House Judiciary Committee voted in favor of a royalty not long before we sent this issue to press.)

Broadcasters, performers and record labels can agree that their relationship historically has been beneficial. Indeed the NAB and royalty coalition both have continued to give lip service to the concept that broadcasters and the music business are "partners" even as they count noses on legislation on Capitol Hill and bash each other with ever-increasing ferocity through press releases flung back and forth across the webosphere.

They don't sound like partners to us, unless maybe in a divorce proceeding.

Further, if the relationship is so important, how can responsible leadership on either side have allowed things to get to this point?

We regret the tone of NAB's opposition. But the labels, meanwhile, have shown astonishingly little appreciation themselves for the outstanding exposure and decades of symbiotic support that radio has provided, falling into an easy trap of complaining about "corporate radio," everyone's favorite bogeyman.

The music industry is far from unsullied; and when NAB uses words like "fat cats" and "brazen money grab" to describe

the RIAA-led effort, it's easy to agree.

This is a marriage that needs counseling, not a divorce decree. Things never should have gotten to this juncture (which we said a couple of years ago, anticipating just this situation); but that's history now.

We would like to think that the leaders of the NAB and decision-makers on the Recording Industry Association of America side secretly have been in touch and are working on compromise; some on Capitol Hill have called for them to do just that, but with little obvious effect.

How about some real leadership? Let's see NAB and RIAA/musicFirst risk the hostility of their members and agree jointly to stop issuing cute press releases about this topic for a six-month period. Ask Congress to put its bills aside for a while. Then appoint a panel, led by a neutral mediator and involving elected officials from both parties, to forge a compromise that will not only address the immediate issue of artist compensation but put a solution in place that can stand up over time and also recognize the special history of this relationship and the precarious financial situation facing broadcasters.

Is compromise by radio the same as caving? Rather, we think it's realistic.

While NAB might win a given vote on the Hill, over time broadcasters can't win using the strategy it has staked out. Ultimately, we think, regulators will determine that the music industry, not broadcasters, are the ones who should decide whether and how to charge for their creations — even if, as NAB argues, this amounts to "biting the hand that feeds it," even if, as broadcasters say, such a change would "decimate" free and local radio. The argument that the creators should control the fate of their content is simply too strong.

Thus we think it would better serve radio station owners and employees to work out a solution that recognizes this reality rather than heighten the confrontation that exists between these "partners." Because at the end of the day, we still need this marriage.

— Radio World

◆ READER'S FORUM ◆

Badly in Need of QC

Re: Jim Jenkins' March 25 letter ("Live Radio, Indeed"):

Having been mostly at arm's length from it for nigh on 16 years, let me comment simply as a consumer of radio. It stinks — everywhere, big city, small city — with only a few exceptions, and that's where live radio exists, not just for morning and afternoon drive, but live and local for the greater part of the day.

Dare it be said to the general manager (he's probably called a vice president) of a local cadre of stations that radio in your fair city is bad; he launches into a diatribe of denial: "Why, we have a talk station, a Spanish station, a rock station, a" And he calls that "serving the community."

No, what I'm talking about is what I hear: 20 minutes of a telephone (or some kind of) hum, only to be interrupted by network news, a few local spots and a return to hum for another 20 minutes; syndicated programs cut short because of out-of-sync clocks and computers; two audio sources being broadcast at the same time; part-timers who pull a three-hour stint as a morning gab fest host with little preparation; a music major from the local university who can pronounce the names of classical composers with ease but, hired as a reporter, can't handle the name of a

town a few miles away and who, in general, seems to read for broadcast at a third-grade level.

I realize that today's radio environment isn't what it was when I first fell in love with it 48 years ago as a sophomore in high school. And I have never worked on the high-management side. But for

two weeks the station was running the programming of a sister facility. He decided to take action.

A call to the station brought a conversation with the receptionist and a period of being on hold. No, he was told, the station is on the air. Yes, he replied, but it isn't carrying the shows that it should and

Dare it be said to the general manager of a local cadre of stations that radio in your fair city is bad; he launches into a diatribe of denial.

— Bob Cockrum

goodness' sake, I know that trying to operate like a grocery store on volume (in this case, number of radio stations, number of hours on the air, number of per inquiry commercials for questionable goods and services) instead of having a quality on-air product is no way to win listeners and influence advertisers.

An acquaintance of mine, enamored with the CBS Radio of old, once rejoiced at the return of such an affiliate to his city; he seems to live for the on-the-hour "bong" he grew up with, although the broadcast that follows it is far from what it once was.

Recently, he told of his distress that for

it's been that way for two weeks. Another period of silence. Then a "thank you" for calling and a promise to look into it. A short time later, he was able to hear his beloved "bong" again.

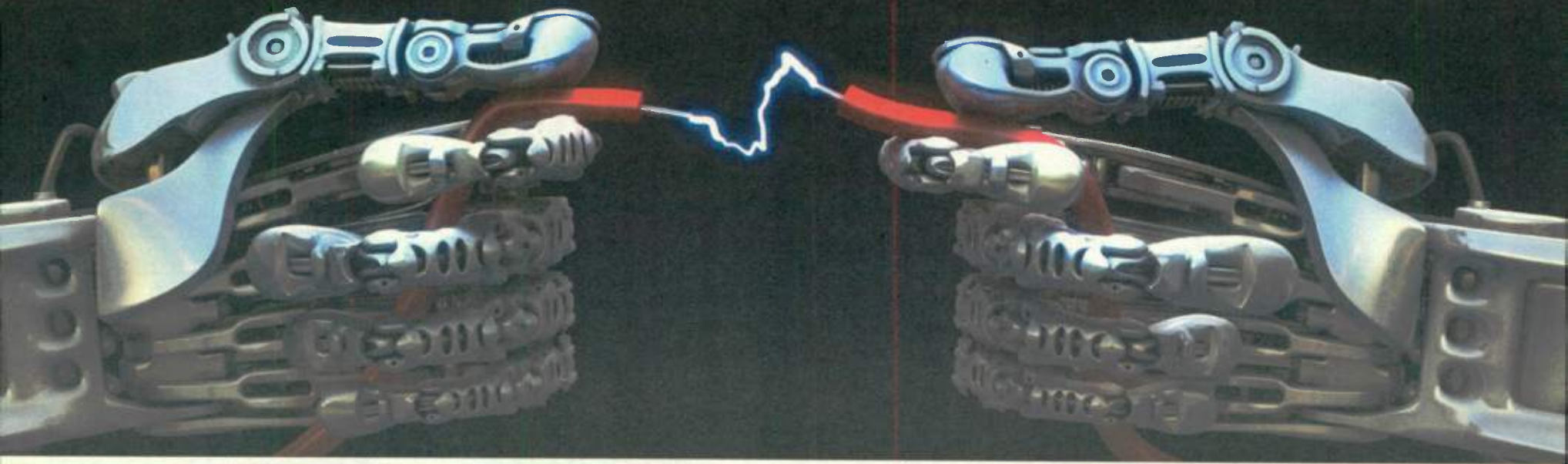
"How can they let something like that go on for two weeks?" he groused to his wife. "Because, dear," she said, "you're the only one listening."

Ahh, the wisdom of a wife. I hope some managers and owners are reading this tale, for therein, with your canned programming from far away, lies your future, if not your present.

Bob Cockrum
 Lubbock, Texas

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



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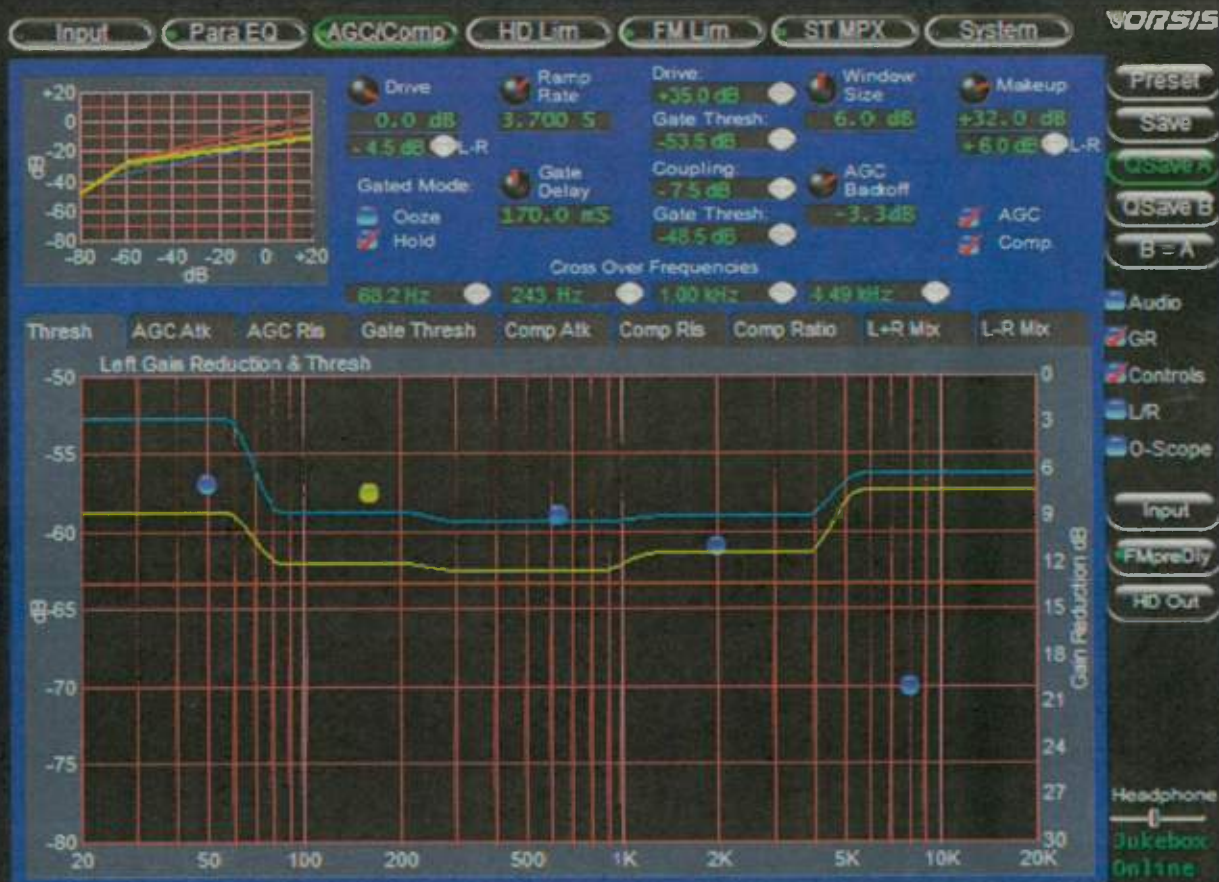
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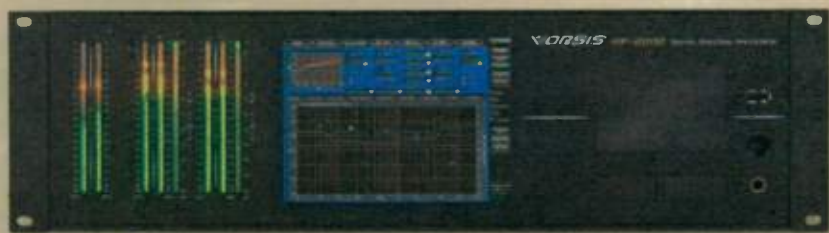
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