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ENGINEERING



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BMC Hopeful About EXB Band Proposal

Two Years Later, Goldman Says New Band Is Getting a Second Look

DALLAS — The possibility of creating a new broadcast radio band using spectrum where TV Channels 5 and 6 had aired analog audio might seem unlikely, for a number of practical and political reasons.

NEWSMAKER

But Bert Goldman, a leading proponent, says that though the idea is moving ahead slowly, he senses growing comfort with it among some brokers and regulators.

An important reason, he says, is that with many AM stations struggling, owners are looking for alternatives to make their assets more competitive.

AMs would not be the only beneficiaries. The idea for an expanded FM band, or EXB, was advanced by a group of prominent consulting engineers, the Broadcast Maximization Committee; it proposed allowing AMs, LPFMs and noncommercial stations to move voluntarily to 76-88 MHz, just below the

existing FM band, after the DTV transition (see "Could EXB Band Be Your New Home?" Sept. 10, 2008).

The idea of using that spectrum to expand radio had surfaced before, but the BMC laid out a specific migration plan supported by an engineering study and including a significant component aimed at benefitting AMs.

Goldman is vice president of Dallas-based Independence Broadcast Services and a member of the BMC. He discussed the state of the EXB proposal and of AM in general with Radio World News Editor and Washington Bureau Chief Leslie Stimson.

RW: What's your general feeling about (continued on page 6)

Why Gary Lawrence Likes H&E

Entrepreneur Invests In Legacy Consulting Engineering Firm Hammett & Edison

BY PAUL MCLANE

Gary Lawrence and Bill Hammett are Eagle Scouts; both also have sons working on attaining that Boy Scout rank.

That's one area where their interests overlap. Another is business; a third is communications engineering.

About six years ago, the men sat in a hotel lobby in downtown San (continued on page 4)

Ouch, My Ears

Why one keen listener is not a fan of the AM processing he hears these days.

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World Radio History

Preface... Clear your mind. All that anxiety that you've come to associate with the typical AoIP network install is going to leave you now... Think of cool clear water flowing into the coffee maker and the sound of sprinkles hitting fresh, hot donuts... OK. Ready?

1.OPEN

Confront your boxes. You know they're there. They know they're there. But only YOU have the power to change that. Go ahead... open them.



10:03am

2.LOOK

Take a good look at what's in the boxes. You've got a control surface mixer item and rack mount BLADE something or other. They sure look pretty. And they are. Using this stuff you are gonna be a chick magnet. Or a guy magnet. Whatever, you are going to be IN CONTROL. Cool part is, THAT is only moments away!

10:09am



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3.RACK EM UP

Rack mount the rack stuff. OK, we're going to be brutally honest here. THIS SINGLE ONE STEP takes the longest of the entire setup process (unless you have a REALLY dull knife in step 1). Of course you'll need your own rack and screws, but hey, if it's a deal breaker, we'll work it out.

10:20am



4.PLUG IN

Time to hook them up. You knew it was coming. Your little tummy is wrapped around your throat. I mean, it's gotta be a real hassle, right? Interfacing these things? Setting them up? Getting them to talk to each other? Somebody get me an antacid.

Wait... is that a CAT-6 cable? You know what that is. And that's all it takes? Mmm Hmm. Yep. You bet.

11:02am



It's literally this easy. WheatNet-IP has all your bases covered. CAT-6 cables hook up the BLADES and surfaces. Regular audio cables for the rest.

5.PUSH THE BUTTON

OK. Everything all hooked up (meaning, is the CAT-6 cable plugged in)? Great. Now we're gonna configure the system. We start by turning it on. Then?

Um... that's it. It configures itself. Every piece talks to every other piece and does what it's supposed to do. What? Doesn't EVERY IP Audio system do it that way?



WheatNet-IP does ALL the work of configuring your system EVERY BIT OF IT! It knows when you are adding on or when you are taking something out. You concentrate on content. We concentrate on getting it where it needs to be.

11:05am

6.IT'S WORKING!

You've got a system! From here on out, it's just like the analog stuff you're used to. Except ultimately more flexible. And much more reliable. And better sounding. And completely expandable. And such a joy to use. Yes - you heard it - I said A JOY TO USE! (Bet you never thought you'd hear an IP system described that way. Certainly not one from the other guys)



11:06am

7.CELEBRATE

Time for that cup of coffee and donut we talked about in the preface. Let's face it...the whole process was painless. AMAZINGLY PAINLESS. So painless, you are already up on Facebook and Twitter talking about what a stud muffin you are with your technical prowess. Don't get cocky, kid. But DO enjoy a delicious coffee and donut. And remember, next time you even think about installing new gear, you've gotta call your Uncle Wheaty...



11:07am

8.SLEEP EASY

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3:40am

AoIP ADVANCED...

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I Don't Wanna Go to Rehab

Ex-Pirates Should Be Able to Operate LPFMs

COMMENTARY

BY STEPHEN PROVIZER

Former radio pirates — people who have operated unauthorized stations in the past — cannot hold low-power FM licenses. When the FCC debated creation of the LPFM service, it briefly considered allowing such licensing, suggesting that former pirates could be “rehabilitated”; but it decided against that in the rules authorizing the service.

The restriction could change if S. 352 passes Congress. The Senate Energy and Commerce Committee has inserted such language into that bill (which also would eliminate third-adjacent channel protections of full-power FMs in order to fit more low-power stations on the band).



Stephen Provizer writes, ‘We tried to generate a sense that ordinary people should have the privilege to access media in their community and, in many cases, we made that possible.’

Look, I don't want to reduce the struggle for access to community media to absurdity, but how can the idea that ex-pirates not be given a chance to apply for LPFMs be taken seriously? It's not like you're looking to hire hookers to teach chastity classes.

In fact, if you exclude this group, you are eliminating people who have demonstrated serious interest and skills in radio, along with a concern for — as the expression goes — serving the public interest, convenience and necessity.

We tried to generate a sense that ordinary people should have the privilege to access media in their community and, in many cases, we made that possible. Notice I wrote “privilege” and not “right,” but that's another discussion.

The majority of us did not want to

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Every day, movie stars and politicians check in to rehab to clean up and get sober. My mother, who unfortunately sustained some injuries in a fall, is also now in rehab.

You gotta love that this word “rehabilitation” is being used to describe the process proposed to make ex-radio pirates fit for active legal duty as broadcasters.

I'm fairly certain I am not the only ex-pirate who has managed to escape from a life of crime.

I'm an ex-pirate myself, having started and run Radio Free Allston and Allston-Brighton Free Radio. I may have my faults, but my straight credentials are intact: I'm a family man, with a steady job teaching media to youth in East Boston. (Alright, I play the trumpet — a fairly suspect activity — but still not against the law.)

In sum, I'm hardly a candidate for rehab. I'm fairly certain I am not the only ex-pirate who has managed to escape from a life of crime.

interfere with other stations, and we either acquired the technical expertise to avoid it or got the assistance of people who could.

As far as those who were more confrontational and ignored the problem of interference: Can you really imagine these people setting up bogus non-profits and recruiting subversive shadow boards of directors; then, with LPFM license in hand, cranking up the juice of their strictly controlled, type-accepted transmitters and obliterating the signals of every KISS 108 within 250 miles?

Please. This is a self-selecting group who would rather continue playing a cat-and-mouse game with the FCC rather than be caught dead consorting with “The Man.”

So looked at objectively, not punitively, it's obvious that ex-pirates should be allowed to apply for and operate LPFMs. We are an energetic, creative and passionate bunch.

You'd think that in its current somewhat rocky shape, the world of radio would welcome our energy — if not with open arms, at least with equal access to the online FCC application system.

Provizer is a part-time teacher at the Dever-McCormack School in Dorchester, Mass., and hopes to eventually find a job with medical benefits. He says he founded the former pirate station Radio Free Allston and community stations Allston-Brighton Free Radio and Zumix Radio. He blogs about music at: bit.ly/cdF1dn.

Radio World welcomes other points of view.

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H&E

(continued from page 1)

Francisco not far from the original offices of Hammett and Edison, the consulting engineering company run by Hammett and founded by his late father Robert, and began talking about how they might work together more closely.

That conversation led ultimately to an agreement this summer: Lawrence and his firm Pacific Venture Investments would acquire controlling interest in Hammett & Edison.

The transaction puts a renewed spotlight on one of the oldest such firms and its new polymath owner Gary Lawrence, an inventor, author, lawyer and entrepreneur.

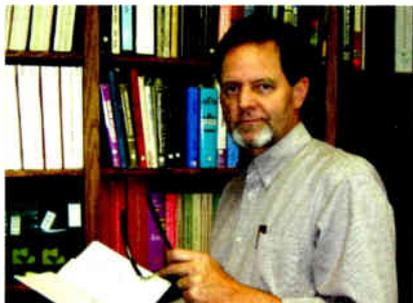
'CONTINUITY'

I asked Hammett if the sale was an emotional one, but he called it a pleasant decision. Little is changing about the practice day to day; he stays on as senior VP and retains an equity position.

"Ownership by Pacific Ventures provides continuity and security, if something should happen to me, and it promises to expand our opportunities as well," he told me. "The ownership change should not impact our clients or staff, as our operations continue just as they were," but with expanded resources and reach.

Hammett & Edison works with wireless and broadcast companies doing frequency allocation, transmission site selection, RF exposure certification, acoustic noise evaluation and antenna design.

The company was founded by Robert Hammett in 1952. Edward Edison became a partner in 1956. The



William F. Hammett

principals, both professional engineers, retired in 1988 and later were honored with the NAB Radio Engineering Achievement Award.

In 58 years the firm has worked with hundreds of radio and TV station

The company was founded by Robert Hammett in 1952; Edward Edison became a partner in 1956.

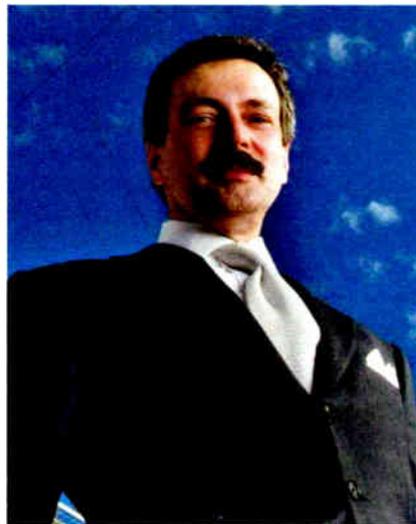
owners as well as clients as big as the Kingdom of Saudi Arabia. It recently prepared coverage maps for the FCC of the new DTV stations nationwide ahead of the NTSC shutdown. It audited public FM and TV translators for the Corporation of Public Broadcasting in anticipation of digital conversion.

It has dplexed two 50 kW AM stations in Seattle, done extensive field testing for one of the early DTV proponents and developed unique capabilities for

on-tower RF exposure assessments. Now based in Sonoma with an office in Dallas, it has a staff of 11 engineers, including five PEs, and eight support personnel.

'SPARK INNOVATION'

For Gary Lawrence, this acquisition is a strategic one, allowing him to expand his media and technology business holdings.



Gary M. Lawrence

Commending Hammett and his team for "outstanding long years of achievement and technical accomplishment," Lawrence — who'd worked with H&E as a client and venture partner — also sees an opportunity to work with Hammett to bring a sense of renewal and fresh energy to the relatively staid field of broadcast and wireless engineering services.

He talks in terms of modernizing, expanding the company's geographic

FROM THE EDITOR



Paul McLane

presence and being a "comprehensive services provider ... across the entire range of broadcast and wireless network and spectrum development and management."

His background is an interesting mix of experience in law, business and tech. For 18 years Lawrence worked at Akin Gump Strauss Hauer and Feld, eventually becoming a senior partner and heading its technology transactions practice.

"In the early '90s I started doing work with a variety of broadcast companies at the law firm, among them Clear Channel, ABC, top-flight people in the industry. You end up doing one thing in one industry sector, and it leads to another, and you start going to the trade shows; and before you know it you're deploying capital."

He was involved in proposals known as the streamlining rulemaking, which sought to change how the FCC treated the relocation, upgrade or improvement of radio signals, primarily FMs. The goal was to benefit smaller and minority owners, who tend to have more impaired or "rim-shot" signals.

"Wisely, the commission granted the preponderance of those requests, and made it easier in certain circumstances for those with impaired signals to improve them."

His interest in sparking innovation also pushed him in 1996 to start working with Ron Unkefer, a technology investor from Silicon Valley and founder of the Good Guys consumer electronics chain. The two eventually launched First Broadcasting Investments LP in Dallas, investing in spectrum enhancement opportunities including software for analyzing over-the-air signals with an eye to improving them, and owning as many as 20 radio stations.

"A lot of engineering firms — and I am proud to say that H&E is not among them — use off-the-shelf, last-generation software for analyzing signal propagation, wireless systems, AM, FM, setting up antenna arrays, you name it.

"Having been a tech investor since the early 1990s and being around the software business, Ron Unkefer and I saw the opportunity for technical innovation in all these areas. That led to a host of patents for the SpectraMax system." It is a software platform used to analyze signals and maximize network deployment.

Unkefer is now retired but Lawrence continues to expand his holdings look-

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NEWSROUNDUP

SIRIUS XM SUED: Missouri Attorney General Chris Koster obtained a temporary restraining order against Sirius XM Radio, alleging it was calling and soliciting satellite radio subscriptions from Missourians whose names were on the state's no-call list. Koster said he filed the lawsuit because of "numerous complaints." Under the temporary restraining order, Sirius may still call existing customers, unless those individuals tell Sirius to stop. Koster also is seeking a civil penalty of \$5,000 for each violation of Missouri law, costs of the investigation and prosecution as well as court costs.

HD RADIO: A factory installed HD Radio receiver with iTunes Tagging is available on the 2011 MKX luxury crossover,

the first factory-installed HD Radio car receiver with iTunes Tagging, according to Lincoln.

EMMIS: Emmis Communications ended its efforts to transition from a public to a private company. The broadcast group said Alden Global Capital had agreed to terms but then decided it would not finance the deal. Emmis said it was exploring its legal options; Alden disputed Emmis' version of the events.

DIRS: The FCC's Public Safety and Homeland Security Bureau briefly activated its Disaster Information Reporting System for 13 counties in North Carolina for Hurricane Earl. DIRS is a voluntary, web-based system that stations can use to report the status of their communications infrastructure during a crisis.

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EXB

(continued from page 1)

the state of AM? An executive who talks with group heads told me recently they're wondering if AMs are going to be around in five years because they're costing owners more money and they're not the assets they used to be.

Goldman: Some AM stations are more valuable for the land they occupy than for the radio station itself. We're starting to see a lot of attrition, especially in smaller markets. There's just not enough return on the investment there.

I think AM in the U.S. will remain for a number of years, but unless something can be done to make it more viable and competitive with other forms of audio entertainment, it may become less and less relevant. ...

RW: The AM noise floor is rising, due to man-made noise. WOR's Tom Ray recently suggested in our pages it may be time to redefine AM's service contours, saying that in many locations, listeners can't listen reliably to an AM station much beyond its 2 millivolt contour, "never mind the half millivolt."

Goldman: I think Tom may have been generous. In my work in Texas, in urban areas like Dallas and Houston, usable, reliable audio requires at least 5-8 mV/m. In downtown areas, that's more like 8-10 mV/m. Unfortunately, just because the urban signal levels must be high, if one is looking at the rural service, then signal down to about a millivolt still works for the most part.

I'm not sure how we're going to be able to redefine AM service contours when it comes to allocation and interference criteria. AM coverage maps will still show

**Bert Goldman**

coverage down to 0.5 mV/m, but they've never been considered "real." When I show coverage in urban environments I show the 2 mV/m contour as being the station's coverage for daytime and at night either night-time interference-free or 1/2 NIF as the night coverage depending on where the station is located and what frequency it's on. ...

In the end, I don't really think that shuffling power and protections and coverage definitions is much more than a Band-Aid. What's necessary is a whole new band for AM stations to go to and operate in a digital format.

RW: How are the Broadcast Maximization Committee efforts going?

Goldman: As we expected, it's going slowly, but we've noticed that there has been a steady increase in interest by the broadcast community in general and even some interest in some areas at the FCC.

Our plan calls for all AM stations who want to [to have] the opportunity to relocate to this new band with 100 kHz digital bandwidth. We have done engineering studies to show how this could work and believe it could be a huge benefit to the floundering AM band. It would finally give AM stations a competitive platform to operate from and could cut operating costs substantially for some operators.

Interestingly, Tom Ray suggested that the 2 mV/m contour is the real contour, and we agree, since the contours we reproduced for our engineering study to move the existing AMs was the 2 mV/m contour. The big difference is that the 2 mV/m day contour of the subject station would be the operating contour for both day and night, and depending on the digital platform used could support between one and three additional program streams.

Even with all AMs moved over to this new band, there would still be a large portion of spectrum that would be set aside for noncommercial and LPFM stations. Moving some LPFMs from the FM band over to the new band with a promise of better coverage could also work to unclutter the FM band. From my experience, many LPFMs are not very happy with their coverage due to the incoming interference from full-power stations. LPFMs would be fully protected in the new band.

RW: FCC Commissioner Mignon Clyburn recently proposed that the commission explore options to help radio, like using Channels 5 and 6 for radio, and I wondered

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if that signals some movement at the agency on this idea.

Goldman: We have heard that there is some interest by some at the commission in our proposal, and as you might expect less enthusiasm by others.

We always knew this would be a long process, but as time goes on, we and the commission are finding that Channels 5 and 6 are not particularly good places to put DTV, so the physics and the public interest points to using that spectrum to relieve the huge amount of pent-up demand for radio facilities.

RW: *Where does the proposal stand?*

Goldman: We've filed on a number of dockets. For example, in the LPTV docket, the FCC wants to allocate LPTV stations in Channels 5 and 6; we don't think is a good idea, either for them or for us. We're hoping we have more interest at the commission from people like Commissioner Clyburn and we can get some steam going here to get interest.

RW: *Will that happen naturally as the FCC focuses more on spectrum?*

Goldman: I think so. It takes the commission awhile to get comfortable with an idea. At first, we were hearing, "Why would you want to even think about that?" Then as time went on, we started

(continued on page 8)



Selected content from Radio World's "The Leslie Report" by News Editor/Washington Bureau Chief Leslie Stimson. To receive the free, bimonthly e-mail newsletter, subscribe at www.radioworld.com/subscribe.

LAW FIRM'S HD RADIO PROBE STILL IN EARLY DAYS

Keefe Bartels, the law firm that's looking into whether consumers are unhappy with their new HD Radio car receivers, is hearing lots of stories. Whether legal action will result remains unclear.

We recently reported on the New Jersey firm's efforts. John Keefe, a managing partner, tells me the firm is still in the information-gathering stage and has not filed a lawsuit on behalf of unhappy consumers — though what it finds could potentially lead to that from the personal injury firm.

Keefe became interested in the technology when he bought a new BMW a couple of years ago. He says the dealer told him HD Radio wouldn't work but that it was built into the cost of the car, because the receiver was part of a package. He

says the dealer threw in a set of floor mats to compensate.

Keefe told me he heard the AM signal blending between digital and analog and back again in a demo. He called it "bumping," which sounded like upcutting speech, as that happened.

The firm is soliciting comments from unhappy consumers regarding HD Radio on its website at www.keefebartels.com. Keefe says it is receiving complaints from "all kinds of people" and wants to determine how individuals have been affected. He didn't say how many exactly or go into details.

Keefe, who describes himself as a consumer advocate lawyer, says he wants to understand if potentially faulty car HD Radio receivers have cost consumers money — from paying more for the car because of the package and then either not being able to receive a reliable digital signal or because there are not a lot of digital signals in their area.

When I contacted iBiquity for my

first story on this, they had no comment.

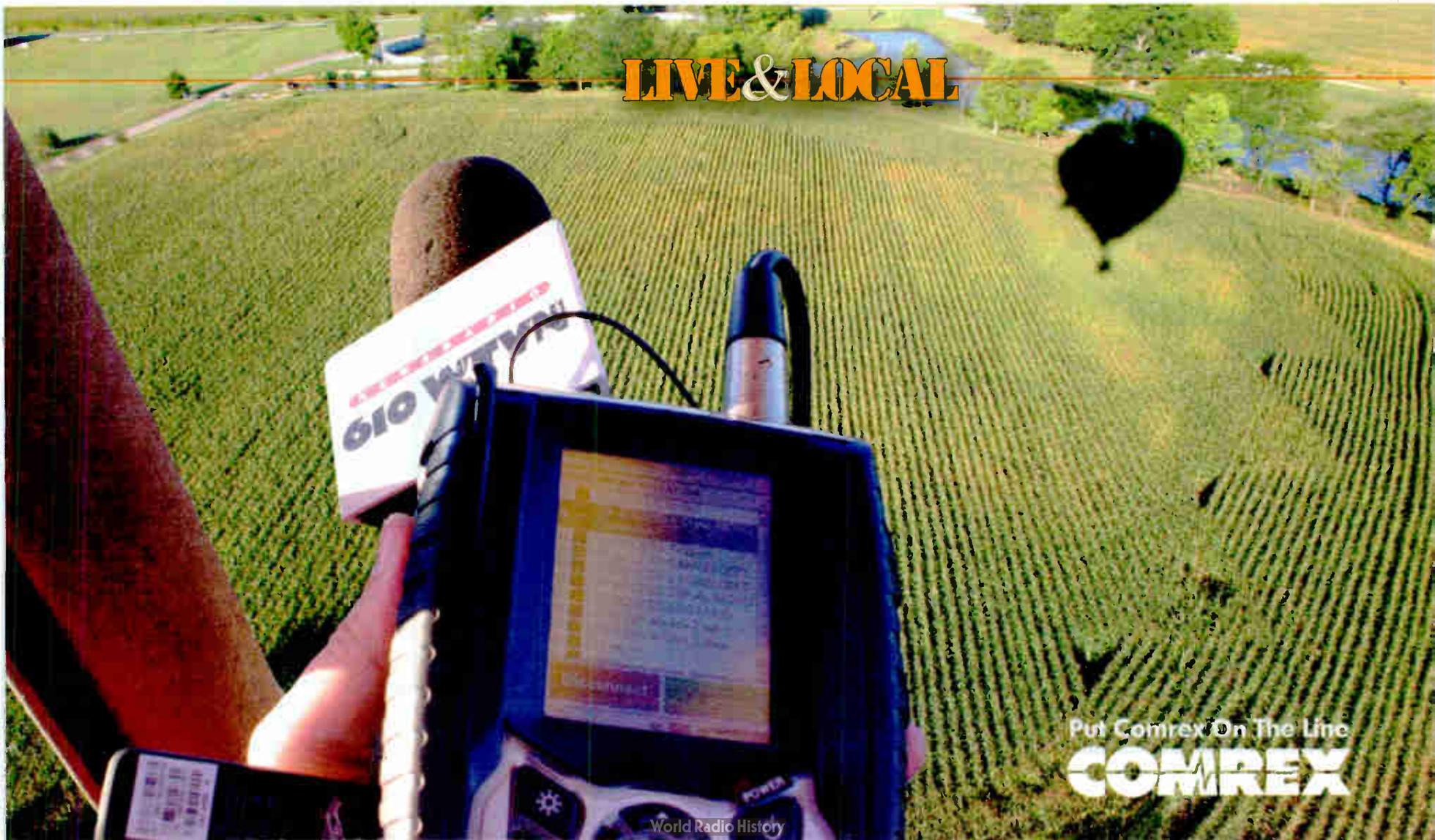
It sounds like most of the complaints he's getting are from AM listeners. He's also getting an earful from radio industry people, so this should be interesting. I'll keep you up to date.

FEDS HIGHLIGHT MOBILE APPS

The Obama administration is making a bigger deal out of its mobile apps.

While many of the 16 apps now featured on USA.Gov are not new, the administration decided that a centralized location for the apps would increase their visibility, according to the site, which acts as a clearinghouse for online government information.

Most of the items in the "app store" at www.usa.gov/Mobile/AppStore/ are extensions of a branch or agency of the federal government and right now, they're all free.



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Walk a Mile in My Socks

Planning Field Work? These Little Babies Repel Insects and Other Unwanted Pals

SBE Educator of the Year Buc Fitch, S.P.E., writes that chiggers are a big problem in New York State. These almost invisible pests crawl up your legs, bite and leave infuriating, itching red welts.

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

Buc has run into these guys at least a dozen times while doing field work over the last 20 years. The worst of their damage leaves marks on the skin. Most people who work outdoors in the Northeast have had chiggers at least once.

Chiggers are not insects but the juvenile, larval form of a family of mites, according to the Missouri Department of Conservation (which has a nice essay about chiggers, chigger prevention and popular chigger myths on its website). Insects or not, you don't want them on your ankles and legs.

This year Buc has worn hiking socks from L.L. Bean under his steel-tipped waterproof Timberline boots. Not only has he experienced no chigger bites, he has avoided any insect bites on his lower extremities.

The hiking socks are impregnated with an insect repellent that obviously is effective, based on Buc's experience. Search hiking socks with insect repellent at www.llbean.com. Since these socks fall into the category of protective clothing used for work, there is an additional benefit: the

the Aug. 11 issue of Radio World.

Ron has found that the most effective way to drive ground rods is with a ground rod adapter on a rotary hammer drill. The adapters usually are about \$100; the hammer drills can be rented for a reasonable price if your budget can't support buying

found by searching ground rod adapter at www.us.hilti.com. Ron concludes that the cost of one of these bits may be less than the cost of pain killers one will consume after a day of driving rods with a post driver or sledge. Thanks for the tip, Ron.

See what's new from Broadcast Devices by heading to www.broadcast-devices.com. Ron Kumetz can be reached at ron@broadcast-devices.com.

Frank McLemore is a contract engineer; his company Communications and Electronics Inc. is located in Phenix City, Ala.

Frank maintains a variety of transmitters and wanted to share a tip for owners of the BE AM-5E transmitter, a suggestion that may help others too. He has experienced failure of the front-panel pushbutton switches. These switches are used in other manufacturers' transmitters, as well.

Frank found that the switch LEDs work fine but when the button is pushed, the familiar "click" is not heard. Rapid and repeated depressions of the pushbutton can sometimes elicit a response, so Frank just replaced them.

Curiously, after removing and replacing the switches, Frank found that once the switch was removed from the printed circuit board, it functioned fine.

The switches have six pins soldered to the board. The top two are used for the LED, and the bottom four pins are the switch contacts. Frank found that by heating the contact pins with a soldering iron, switch operation was restored.

He surmises that the heat from the soldering iron somehow eliminates the contact resistance. Whatever the effect, Frank is no longer replacing switches.

Reach Frank McLemore at fmclmore@bellsouth.net.

(continued on page 12)

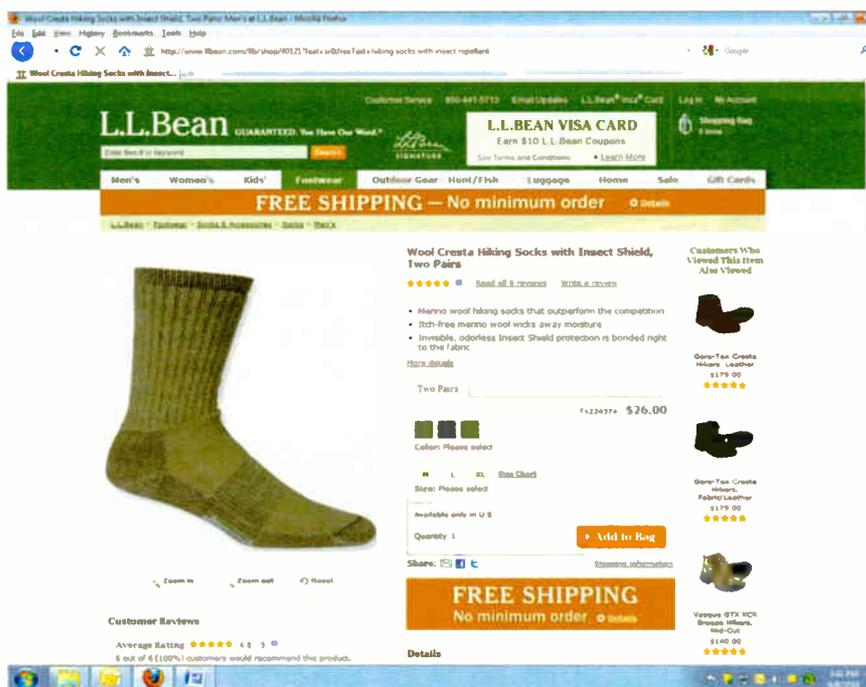


Fig. 1: A simple solution for an annoying problem.

cost is tax deductible.

Reach Buc Fitch at fitchpe@comcast.net. Drop him a line congratulating him on his being awarded SBE Educator of the Year ... and chigger-free!

Like many other readers, Ron Kumetz, director of engineering for Broadcast Devices Inc., enjoyed John Huntley's simple but effective discussion of grounding and driving ground rods in

one. Home Depot usually rents equipment made by Hilti, one manufacturer of hammer drills.

A hammer drill and one of these adapters will drive a ground rod in a few minutes with minimal physical effort on the part of the operator. The high-speed hammering action tends to break shale and other types of rock susceptible to fracturing. Driver adapters are available for 5/8-, 3/4- and 1-inch rods. The adapters can be

NEW! Our Ingenious 'Quad Leveler'

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Inovonics has packaged four channels of smooth-sounding audio leveling into a single rack space. The four channels may be used separately for microphone and phone-line leveling, or may be selectively linked for dual-stereo or split mono/stereo program audio control.

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particular combination of long- and short-term level correction yields consistent subjective loudness without resorting to excessive dynamics compression that can lead to listener fatigue.

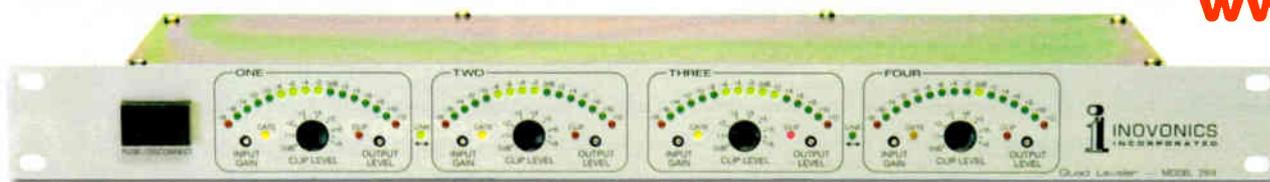
Operation of the 264 is entirely program controlled, and user adjustments have been restricted to a bare minimum for quick, set-and-forget installation. Operating entirely within the analog domain, the 264 utilizes colorless Class-D

(PWM) technology for stable and transparent operation.

The 264 also provides alarm tally outputs to signal a 'dead air' or out-of-limits condition for each of the four channels.

Model 264

For full technical details, visit www.inovon.com



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The Pilot is easy on the eye and the budget and like the JetStream Mini, Logitek has built it with ease of use and durability in mind. The Pilot is a tabletop control surface that includes all of the basic engineering features your staff will need- and more- including 4 Program busses, 3 monitor sections and 24 mix minus busses. It is available in frame sizes for 6 to 24 faders.



JetStream MINI IP Audio Networking System

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How Low Is Your Smoke?

A Discussion of LSOH, FEP, TFE, PVDF, CMG and More

BY STEVE LAMPEN

Europeans are different than Americans. And it's not just in the languages we speak or the food we eat. We have some basic differences in the

WIRED FOR SOUND

Read more Wired for Sound articles at radioworld.com

philosophy of *safety*. And nowhere is this more apparent than in the differences between wire and cable made for each location.

You might see cable from Europe marked with unfamiliar letters such as LSOH (which can also be marked LSNH or LSZH, they mean the same thing). Those letters mean "low-smoke, zero-halogen."

This is different from the "plenum" rating used in the United States, and you cannot substitute one for the other.

PLENUM

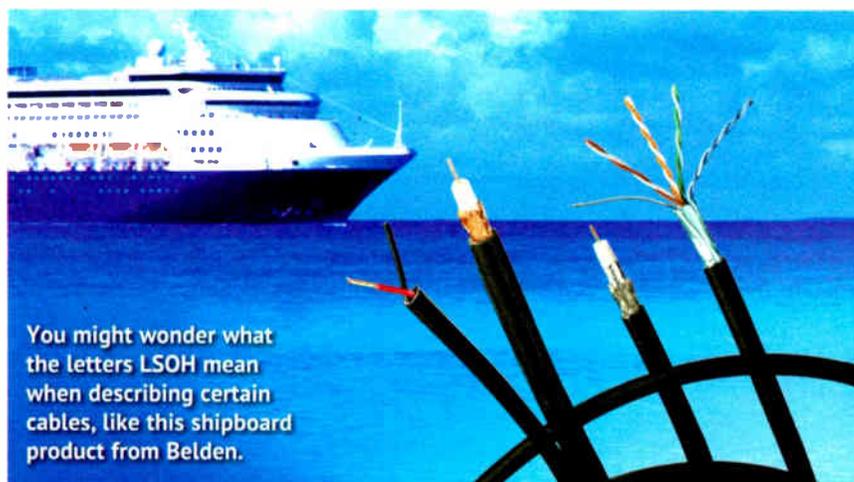
Plenum cables were invented by the National Fire Protection Association when it started looking for ways to make buildings safer. (I've discussed some of the famous fires that started the process in past articles.) The NFPA concluded that cables need to resist burning and not serve as fuel for the fire. And their key test, the Steiner Tunnel Test, does precisely that. It lights one end of a cable and sees how far the flame spreads.

Of course, you can get a fire that's so hot it consumes everything, even "fire-resistant" cables. So it's not that they won't burn, it's that they won't be fuel. The Steiner Tunnel Test also looks at smoke generation, because smoke is what panics most people during a fire. If during a test the flame spreads too far or produces too much smoke, the cable fails.

While the definition of a "plenum" is really up to the fire marshal, building inspector or other Authority Having Jurisdiction, most people agree that a drop ceiling or a raised floor is a "plenum" area when it forms the "air return" for the air conditioning. Anything burning in there will not be visible and will be fed by the air conditioning to the rest of the building.

In Europe, they start with low smoke. They don't care if the cable is on fire, or if it is fuel, as long as you can get to the door! The non-halogen portion of their requirement also minimizes the toxic effect of the gasses produced, so you can breathe, see the door and get out.

The LSOH style is becoming more



popular in applications on our side of the world. The telephone companies have specified LSOH pairs and coaxes for a long time. Since there are essentially no humans inside a "central office" (the huge telco building with no windows), plenum ratings don't apply. The advantage for them is that non-halogen cables, when burning, have much less effect on equipment than the chlorine gas produced by burning PVC or the fluorine gas produced by burning Teflon, both of which can destroy equipment.

These advantages have worked their way into the transportation industry, such as trucking and aircraft. Vehicles are not covered by the NFPA. Another major user is the marine industry, especially cruise ships. In fact, there are whole lines of cables, video cables, data cables, control cables and power cables that are

LSOH just for these customers. Funny that these cables can then also be used in Europe!

TEFLON

But here in North America, we're still working with "plenum" and plastic compounds that resist burning.

There are PVC compounds that resist burning, and we have FEP (fluorinated ethylene propylene), TFE (tetrafluoroethylene), PVDF (polyvinylidene fluoride) and many other compounds.

Many of these are generically called "Teflon," but this is a DuPont trademark. Some of these compounds can go as high as 260 degrees Celsius before they even start to melt. But, as pointed out, all of these can be melted by a fire out of control around them.

Now, neither the LSOH nor the

plenum system is perfect. Both have limitations and represent compromises between having no wire and having wire that can hurt you in a fire. In today's technological world, "no wire" simply is not an option, so minimizing the effect is the only solution.

In fact, comparing our "plenum" to LSOH really isn't fair. The flame tests for LSOH are really closer to our "CM" grade, a fact that is evident by the rating on many of those shipboard cables, LSOH and CMG.

CMG is a "harmonized" fire rating for both the United States and Canada. It's equivalent to CM in the U.S. and FT4 in Canada. And both of those are below CMP, plenum ratings.

So all I'm really comparing here is the philosophy, not so much the cables.

That being said, there are expensive cables made for alarm systems that do more than just resist burning. They can survive two hours at 2,000 degrees Fahrenheit and still work! These are mostly speaker cables or similar designs to ring alarm bells or get an evacuation announcement out, even when the rest of the building is on fire. These cables will resist not just the fire but the high-pressure wash from of a fire hose! The secret to these high-temperature cables is the jacket material that essentially turns to glass under high heat.

So if you really need something to work as the building is burning down, you can buy the cable to make it happen, if you're willing to pay for it.

Steve Lampen is multimedia technology manager for Belden. Past columns are archived at radioworld.com. His book "The Audio-Video Cable Installer's Pocket Guide" is published by McGraw-Hill.

WORKBENCH

(continued from page 10)

One thing I hear often from aging engineers is the need for increased light under consoles or inside dark equipment racks. Seems our sight is not what it was when we were in our 20s.

Paul Sagi, a contract engineer in Malaysia and loyal Workbench reader, sends a picture demonstrating a solution. He found corded fluorescent fixtures at a hardware store and mounted them on the sides of his wife's dressing table mirror, as seen in Fig. 2.

The fixtures come in various lengths, so they could be mounted either along the sides or inside the top of equipment racks. The fixtures will be just as useful illuminating punch or wiring blocks underneath consoles.

Paul Sagi can be reached at pksagi92@gmail.com.

John Bisset marked his 40th year in radio in broadcasting recently. He is a past recipient of the SBE's Educator of the Year Award. Reach him at johnpbisset@gmail.com. He can be reached at (603) 472-5282. Faxed submissions can be sent to (603) 472-4944.

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

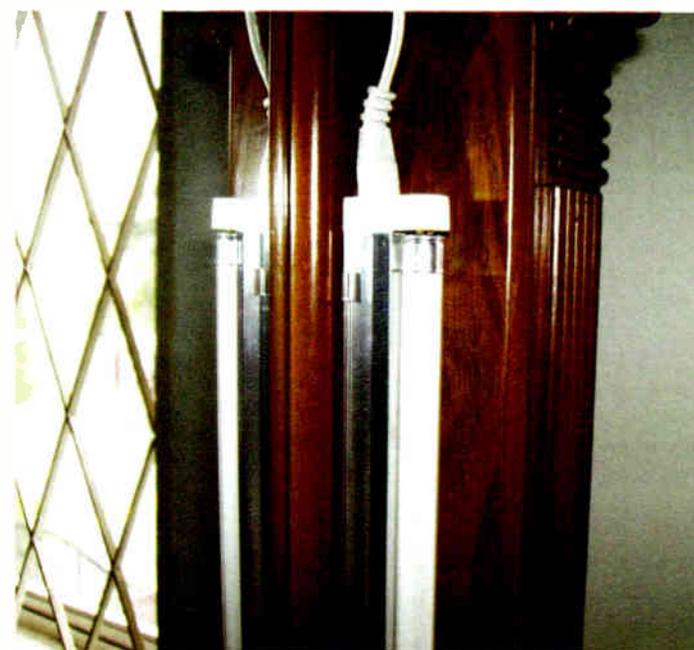


Fig. 2: A fluorescent fixture, easily mounted, illuminates a dressing table mirror — or the inside of a rack.

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- **Livewire™ ports** for single-cable connection to Telos phone systems, Omnia audio processors and other Axia gear — as well as broadcast equipment from partners like DAVID Systems, Netia, WinMedia, Zenon Media and others. See the complete list at AxiaAudio.com/partners/.

Simple networking •

Use PowerStation to build a stand-alone studio, or network as many as 4 studios without external switches. There are **16 built-in Ethernet ports**, including 2 Gigabit with SFP ports for networking with fibre. Axia is easily scalable — for larger networks, just add a core switch; Axia networks can handle as many as 10,000 stereo channels.

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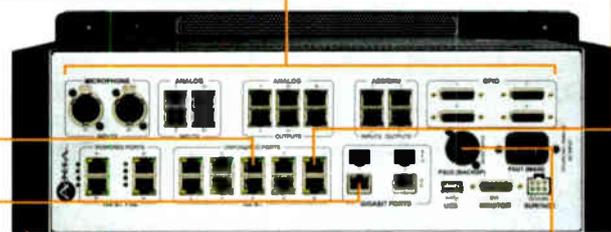


Built like a tank •

This is Element. It's **built for heavy use**, with avionics-grade switches, heavy-duty optical encoders, silky-smooth, dirt-resistant conductive-plastic faders, high-impact Lexan module overlays and specially-designed switch guards that prevent accidental operation. All this is housed in a frame made from thick aluminium extrusions designed for rigidity and RF immunity. To read more, visit AxiaAudio.com/Element/.

Simply scalable •

Add a **PowerStation Aux** to double your Mic, Analog, AES and GPIO I/O. If that isn't enough, simply plug in Axia Audio Nodes for even more I/O.



Redundant Power •

Do your plans demand a **backup power supply**? No problem. Along with audio I/O, PowerStation Aux adds redundant power with automatic switchover.

Show Profiles • Make and save snapshots of talent's **favorite mixer configurations** and recall them instantly, with just the press of a button.

Automatic mix-minus •

Complicated clean feeds are gone; Element **constructs them for you** — one for every fader. Phone callers and remote hosts hear only what they need to hear, with no need for operator intervention.

Voice processing+EQ •

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Integrated phones •

Operators don't have to take their eyes off the console — Telos multi-line phone systems are **controlled right from the surface**.

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Element mixers are **built to your specifications**, from 2 to 40 faders in single- or split-frame configurations. Over a dozen different module types, with standard or motorized faders, let you create a board tailored to your exact needs.



AxiaAudio.com

See us at the Radio Show – Table 8

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World Radio History

H&E*(continued from page 4)*

ing for ways to make the most out of his financial resources and his interest in innovation.

With him as owner, Hammett & Edison — which already had a portfolio of software and its own development expertise — will have access to Lawrence's software expertise, which includes patents like "Systems and Methods for Determining Feasibility of Communication Spectrum Maximization." He and Hammett are working to "leverage all those assets" and exploring joint ventures and acquisition opportunities involving other wireless services and software companies, he said.

'MAXIMUM EFFICIENCY'

Lawrence is a salesman, as befits any entrepreneur, and eloquent on the benefits of intelligent consulting engineering.

"I continue to be staggered by the lack of attention broadcast and wireless companies give to ensuring the maximum efficiency, quality and reach of their network deployments.

"You'd be amazed at how many broadcasters and wireless operators think, 'Well, I'll order off-the-shelf software, I'll have my technical staff

take look at it and we're done.' The best thing any broadcast or wireless company could do is to call Bill Hammett and ask him to do an entire analysis of their towers, transmission systems and technical facilities to determine if their current network deployment is sufficiently robust, safe and effective.

"Companies tend to spend a lot of

Companies tend to spend a lot of time on their business operations but often marginalize the technical side.

— Gary Lawrence

time on their business operations but often marginalize the technical side," he continued. "The real opportunity is for companies to wake up to the fact they have valuable technical assets — wireless distribution networks or broadcast — and pay a lot more attention to how to develop that core foundation of their businesses."

This, he says, is not only a matter of new towers or licenses.

"Let's assume I'm a broadcaster or a wireless network operator in or near a major metropolitan area. Over time, metro areas grow, populations shift." Commercial activity in one geographical area recedes and picks up in another.

"American cities are very organic; things change in a five-year, much less 10-year, period. You see dramatic shifts

in signal coverage, population, quality of transmission.

"It's not just that 'I need a new broadcast license or a new tower'; it's that I need to think about maximizing the quality and reach of my signals and networks.

"More technical efficiency means more and better broadcast and wireless for everyone. The smartest thing I could do is hire an expert that combines the

FCC side and the technical side and can tell me, 'Well the Hispanic population has shifted ... With adjustments to your location, power level, your FCC classification or an accommodation to a nearby signal, you can pick up 10 percent additional coverage of your targeted market.'" Or a wireless company might decide that growing demand on the network is straining its entire system.

Addressing those issues intelligently creates value, which is where he wants Hammett and Edison to come in. I'll be interested to see how H&E evolves with Lawrence as chairman and CEO.

One of the obligations of the Eagle Scout is to be cheerful. In our conversation I found Gary Lawrence to have a positive outlook about our business.

"Broadcast is an addictive industry," he said.

"Where I get refreshed is at the trade shows. I was sitting at NAB this year with Randy Michaels in the lobby of the hotel; we sat for two hours sharing war stories and talking about the future. I can't tell you how many people stopped by.

"I left feeling refreshed and reminded that there's a cadre of people who know each other, are passionate and smart, and aren't going away. Innovation is just going to take us to new and more exciting places."



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WITF Rethinks Traffic Management

BroadView's Traffic Bureau Helps Station Reorganize Workflow and Catch Its Breath

USERREPORT

BY RON HETRICK III
Vice President,
Operational Excellence
WITF(FM)

HARRISBURG, PA. — The upside to the economic downturn has been the opportunity to rethink and rework our operations by utilizing BroadView Software's Traffic Bureau service.

In simple terms, Traffic Bureau offloads the day-to-day mechanics of traffic management. You send them the pieces and they send back a finished log. This saves money and staff time compared to traditional in-house traffic systems.

Our unexpected value-add came from the setup for Traffic Bureau. BroadView shepherded us through a review of our business practices. Unexpectedly, this has opened the door for us to transform our operations. We have reallocated resources to deliver more to our underwriters and audience.

JUGGLING

WITF is a multimedia communications network serving communities in central Pennsylvania. We are engaged in bringing forward a workable new business model for public service to fit the emerging multiplatform media landscape.

In addition to NPR affiliates WITF(FM) and WYPM(FM), we have WITF(TV) as well as numerous online and on-demand outlets.

Like many broadcasters, we've had to do more with less as the economic climate soured. This pressed staff to the limit. With everyone working at full capacity, we'd have a panic when anyone had a day

off. A vacation could cause a crisis.

The stress exacted an enormous price on staff as we scrambled through our schedules, contracts and orders with attendant ad copy, production and the rest. Putting out fires day after day, we found ourselves getting through as best we could rather than being focused on creating the best in broadcasting.

This was not sustainable. We needed to find new ways to save money; more important, we needed to find some time to catch our breath.

BroadView's Traffic Manager service offered a way out. We had adopted their unified broadcast management suite several years ago but simply could not muster the manpower needed to get the maximum benefits. They suggested that we make a fresh start with Traffic Bureau.

Discussing the details of having them take charge of the day-to-day mechanics of our traffic management, we learned more about ourselves.

BroadView's review process, and the detailed questions they asked, created the occasion to redesign our workflow. Longstanding functions within the organization changed, most notably the way we carried out core functions including promotions and underwriting.

On a nuts-and-bolts level, the most important changes came from eliminating many of the ad hoc methods that required manual intervention.

For example, promos had been "fillers" placed randomly into unsold avails. Now we have a schedule to place promos to the greatest advantage.

We used to lose revenue because logs routinely were exported with underwriter spots in Exceptions. Now, this has stopped altogether.

Overall, we've gone from getting the

log exported on time, regardless of the quality, to a total commitment to log quality, accuracy and timeliness.

TURNAROUND

This has affected everything touching traffic.

We used to have a lot of manual intervention in gathering information with notes written in the margins of orders and



the like. Copy for promos and underwriting came from all quarters, creating a jumble of messaging. Staff put in overtime after hours and on weekends to pull the loose threads together.

Now, by working smarter through an efficient workflow, we've unified our copywriting and have been able to free up time needed to ensure continuity in our messaging.

BroadView's client service was excellent. They listened attentively, saw beyond what we were doing and gently guided us to what needed to be done to accomplish our goals. Rather than force us into some preexisting template for

how they thought we should work, they guided us to show them how we could work best. Now that we're up and running, we are impressed with the care and quality demonstrated daily.

We turned to Traffic Bureau as a stopgap measure to save money and to relieve pressure. But the greatest deliverable we receive from Traffic Bureau isn't the daily logs. It's the fact that we're no longer in reaction mode numbed by constant anxiety. We've eliminated unnecessary stress and have

a far more livable workplace. This has freed us to carry out strategic initiatives including a massive rebranding and reimagining project. We've had a total turnaround from surviving to thriving.

I should add that BroadView's flexibility leaves the door open for us to return to the in-house traffic management system of our choice. So broadcasters considering a change in traffic systems may look to Traffic Bureau as an effective transition strategy that delivers value-adds throughout your organization.

For information, contact BroadView Software in Ontario at (416) 778-0623 or visit www.radiobroadview.com.



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Radio World publishes User Reports on products in various equipment classes throughout the year to help potential buyers understand why colleagues chose the equipment they did. A User Report is an unpaid testimonial by a user who has already purchased the gear. A Radio World Product Evaluation, by contrast, is a freelance article by a paid reviewer who typically receives a demo loaner. Do you have a story to tell? Write to bmoss@nbmedia.com.

TECHUPDATES

WIDEORBIT PROMISES AN END-TO-END SOLUTION

WideOrbit aims to provide a solution for managing sales, traffic automation and billing across multiple stations, markets and groups.

Its integrated design offers efficiencies and visibility with live log editing between traffic and automation, real-time reconciliation and reporting, automatic updates and remote access.

The latest offerings from include WO Traffic, a sales, traffic and billing solution for media; WO CRM, a sales and account management solution with media analytics; and WO Automation for Radio 2.0, a comprehensive radio automation system.



WO Automation 2.0 integrates with WO Traffic. It features Leader & Follower, an application designed for multistation and multicasting capabilities. There are also widgets for workspace customization. It also offers Web

stream integration with Ando Media, Stream On!, Liquid Compass, Abacast and others.

For information, contact WideOrbit in North Carolina at (828) 252-8891 or visit www.wideorbit.com.

iMEDIATOUCH 4.0 ADDS FEATURES

OMT Technologies' iMediaTouch V4.0 contains a new set of features that the company says are based on collaboration with customers and technology partners.

In addition to a new on-air graphical user interface, iMediaTouch adds features such as a quick-scroll "next hour button," ability to change the colors of the hot keys, color-coded display in Full Log, a more dynamic on-the-fly adjustable segue editor, enhanced on-air library search using a "contains methodology," drag-and-drop from the library onto the hot keys page, Audio-over-IP interfaces for GPIO and routing with both Axia and Wheatstone's E series.

For information, contact OMT Technologies in Manitoba at (888) 665-0501 or visit www.imediatouch.com.



RADIO-ASSIST 8 ADDS VIDEO

The Radio-Assist 8 range of digital audio automation software from French developer Netia has two new modules, introduced at the NAB Show this year. The company also used the September IBC show to illustrate the integration between Radio-Assist and its asset management system.



Equipped with a range of tools for multimedia workflows, the latest version of Netia's Radio-Assist 8 extends beyond traditional broadcasting, allowing users to prepare publication at an early stage of their workflow.

The CamDirector module brings direct camera control and automated video switching to the Radio-Assist 8 suite. With this capability, radio broadcasters can create live, switched programs for broadcast, streaming or podcast.

Netia also highlights its Workflow Engine for Radio-Assist, a new workflow management system designed to allow media companies to choreograph their own workflow easily.

For information, contact Netia in New Jersey at (888) 207-2480 or visit www.netia.com.

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RadioTraffic Merges Economy, Efficiency

Oregon-Based Contractor Herds Traffic for Scattered Stations in Texas and Oklahoma

USERREPORT

BY **MONTY NICELY**
Independent Traffic Contractor

BAKER CITY, ORE. — In 25 years as a radio traffic director I've used many kinds of traffic software.

For 11 years, I was in customer service and an on-site trainer for a traffic software vendor. Family responsibilities required I move, so I started an independent traffic contractor business. My husband Ken and I do traffic remotely from our home in Oregon for 13 radio stations.

Stations save money when they hire us part- or full-time to handle data entry conversions or substitute for personnel who are on vacation or out for emergencies or leave. The station doesn't have to worry about taxes, vacation or sick time.

Stations require that I use software they already have, so I work with five different software systems every day.

REMOTE TRAFFIC

One of my long-term accounts is the LKCM Radio Group, owner of stations in Texas and Oklahoma.

I do traffic for KFWR(FM) in Ft. Worth, plus KTFW(FM), KRVF(FM) and KRVA(FM) in three other Texas markets. LKCM also has four stations in Ardmore, Okla., and one in Frederick, Okla. Those are handled by someone else. Nine stations are in five offices within 100 miles.

Businesses are looking for ways to cut expense without losing value. Over the last year I have demoed six traffic systems, weighing the pluses and minuses of each. Stations vary in their traffic needs.

I found RadioTraffic.com to be user-friendly software at a great price. The traffic system is able to handle sports to news talk. Reports are easy to create and read. LKCM CEO Gerry Schlegel depends on reports to track his stations in all departments.

RadioTraffic installed quickly. In fact, training was fun. That may sound odd but when you do traffic 10 hours every day with five systems, it's great to have software like RadioTraffic that rolls along so smoothly.

ware does such a great job of scheduling orders correctly in the first place.

It's also because RadioTraffic's on-screen logs color-code spots by products. I color my auto dealerships blue and restaurants green because those are my two main conflicts. With last-minute orders, it's easy to get two of those back to back, especially when you're in a hurry. I can see quickly if two green or blue lines are back to back. It's a huge help during log editing because you can drag and drop spots without being afraid of conflicts. Color coding is a wonderful part of the RadioTraffic system.

We haven't had any problems export-



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August 2007

W.C. "Cris" Alexander, CPBE, AMD, DRB
SBE Broadcast Engineer of the Year
August 2008

Charles "Buc" Fitch, PE, CPBE, AMD
SBE Educator of the Year
August 2010

Congratulations to Buc Fitch, the Society of Broadcast Engineers' Educator of the Year for 2009-2010, from Radio World and his colleagues who have received recent SBE National Awards. And our thanks to the Society of Broadcast Engineers for recognizing their work.

RadioTraffic trained us by phone and Internet. We walked through the screens and went step by step. LKCM has a large client base, but installation and startup were easy.

I had three weeks to get a lot of clients' data entered in off-hours. For a typical traffic director, I estimate it would take a medium- to large-market cluster a week or two to start RadioTraffic.

I use a normal Windows PC and work remotely by Internet. A great thing about RadioTraffic is that I can do everything but the actual log export on the local drive of my machine with data in memory and work seamlessly on the Internet. That means it is fast. Then I log in to the station's network to export finished logs to their automation.

When you enter an order in RadioTraffic, the screen takes you from one item to the next with your Tab key. You don't have to leave your keyboard to use a mouse. That's one of my favorite aspects of RadioTraffic.

Of the five systems I use, RadioTraffic is the fastest and easiest. Two other software products I use are really slow. Log editing can be cumbersome. In RadioTraffic, log editing is quick and smooth. That's partly because the soft-

ing to automation. The automatic reconciliation works fine.

RadioTraffic has been 100 percent reliable. Even during huge storms we've never been down or had trouble. Everything is multi-user. It doesn't bog down when many people at LKCM's five offices are accessing production, printing invoices, making bank deposits, editing orders and everything else. Sales people can reprint invoices and statements for their own accounts without bothering traffic.

Reports are separate for market managers and consolidated for headquarters. Any data or report can export to Excel, but RadioTraffic has a feature called Smart Reports that are totally user customizable. We've had no problems relating to data security.

RadioTraffic phone support has been fast, responsive, dependable and friendly.

As I said, I use multiple traffic software systems every day. I was a beta test site for one of them for 10 years. I never thought I would like anything better. But I do now. In my experience RadioTraffic is the easiest, fastest and most affordable software out there.

For information, contact **Dave Scott** in Texas at (866) 500-0500 or visit www.radiottraffic.com.

Digital JukeBox Is a Hit at KKAY

Cajun Broadcaster Likes System's Simplicity and Ease of Setup

USERREPORT

BY HARRY HOYLER
General Manager
KKAY(AM)

BATON ROUGE, LA. — With the economy the way it is, this is a good time to take a moment to discuss the Digital JukeBox automation system.

KKAY(AM) has used the Digital JukeBox for seven years; it continues to operate flawlessly. The system was operational here in less than 24 hours. This was done without an engineer.

Announcers have been impressed because it is user-friendly. In the live-assist mode, they have had no problems whatsoever navigating the JukeBox. The system is simple; all of the possible hazards announcers seem to find to lock a system up have been removed.

In the automation mode, the JukeBox runs smoothly and maintains a tight format.

KKAY is appreciative of the constant updates, the new ideas the whiz kids at DJB come up with, at no extra charge,



just part of the package.

The ease of changes and uncomplicated scheduling system are remarkable.

SCHEDULING

KKAY has a 30-minute guarantee; if the commercial is not on in 30 minutes, it's free. Digital JukeBox makes this possible with the on-the-fly changes

in the schedule and the ease of using the production system and immediate transfer of audio from production to the on-air system. There are no hoops to jump through; cut the spot and it's there.

A new staff member recently was introduced to the Digital JukeBox. Due to its simplicity he was not intimidated

and in 30 minutes he was downloading audio, ripping CDs and doing production. He also made on-the-fly changes. He did all of this while on the air on his first day.

Audio editing, drag-and-drop, copying, importing and exporting audio are an announcer's delight.

The command cuts, used to program the Digital JukeBox to pick up satellite or Internet feeds, can be set up in a matter of two or three minutes.

KKAY uses the multiple-cut carts for many programs. This has been a great way to keep programming sounding fresh even with old cuts.

Manufacturers often promote service when in reality service may be lacking. Because of the many things the DJB is asked to do, there are usually a lot of questions; the staff has never failed to respond quickly.

This system can run any station or multiple stations and at a price that doesn't require a loan from the Federal Reserve. The Digital JukeBox is affordable for even the smallest of stations. For the money, there is not another system that provides the satisfaction KKAY gets from the Digital JukeBox.

For information, contact James Barcus at Digital JukeBox in Ohio (740) 314-5403 or visit www.digitaljukebox.com.

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DAD Makes Rooney's Life Easier

Broadcaster in New Mexico Has Long History With Automation System

USERREPORT

BY STEVE ROONEY

Co-Owner

Rooney Moon Broadcasting

CLOVIS, N.M. — I own a four-station group in the small market of Clovis/Portales, N.M., consisting of KSMX(FM), KRMQ(FM), KSEL(AM) and KSEL(FM).

My experience with ENCO's DAD automation system goes back to the mid '90s, when the station I was working for at the time, KFMB in San Diego, brought DAD in house. I was the one charged with figuring out how it would work from a programming and execution standpoint.

Since then I've worked at different radio stations using several automation systems; my system of choice is DAD.

When my partner and I purchased this group in 2002, DAD was an easy selection for me. I'm not an engineer or an IT professional, so it was important to me that we could pre-configure the system ourselves and hit the ground running. I found it relatively easy to install the system; we haven't looked back.

We use DAD for live programming, live-assist and satellite driven programming.

STRAIGHTFORWARD

I consider DAD to be clear to understand and straightforward to program. I particularly enjoy how customizable DAD is for my satellite-driven station. The system puts total control in my hands.

Today, I have four workstations running in two separate locations 18 miles away. I use a basic VPN and an ENCO



I consider DAD to be clear to understand and straightforward to program.

application called Gateway to sync desired cuts and do remote voicetracking. I use another ENCO application called DropBox to get outside audio into the system easily. DropBox can run anywhere on your DAD network that takes WAVs, MP3s, whatever you've got and converts them into whatever format and audio compression scheme you're using in your DAD system. It inserts them right into your DAD library. You can prelabel cuts so they land in the right place when you put them in through DropBox.

For me, "what you see is what you get." DAD can be as complex or as

simple as a user needs. I get a huge kick out of seeing DAD featured on national radio and TV shows and channels like "Entertainment Tonight," ESPN or "Saturday Night Live."

The positive aspects of a DAD system include the inherent reliability, redundancy and robustness of the application, the terrific customer service and tech support and the myriad new feature releases, like the Presenter on-air system, iDAD

app remote control and the HotShot clip/effects player.

That kind of commitment to evolution is why ENCO can play all the way from the big boys in the biggest markets, down to the little guy like me.

I would be remiss in not emphasizing their service. The support folks are capable of talking on the same level as the big-market engineers and the small town "do-it-yourself" guys. I remember an instance a few years ago when I wanted to get dynamic RDS data out of my DAD system and into an RDS encoder. It was a bit intimidating, but the DAD support guys made it happen for me.

It pains me to see other automation manufacturers tout how basic and simple their hardware is, and brag about using "off the Wal-Mart-shelf soundcards" and other false economies. DAD can use cheap cards, but with the professional soundcards that ENCO recommends you do get what you pay for.

About the only downside I can come up with is that the ENCO folks are so eager to continually evolve, that one can sometimes get overwhelmed by the pace at which the product is changing. But I'd rather have that problem than the opposite.

For information, contact Don Backus at ENCO Systems in Michigan at (248) 827-4440 or visit www.enco.com.

TECHUPDATE

ZETTA IS THE LATEST FROM RCS

The latest from RCS is what it calls "the most advanced digital automation system."

Zetta shares DNA with other RCS products, so it integrates with RCS' music scheduler GSelector, RCSnews and the traffic system, Aquira. The company emphasizes the system's rugged durability.

Also from RCS and the NexGen Digital studio automation platform is the ability to use an iPhone.

There is now an app for recording one or more news reports or remote inserts and sending them to NexGen Digital via an integrated version of WANcasting. The audio transfers into the system for playback on the air. Users can use the iPush app for inserting recordings directly into the automation system's library. The iPush works with the iPhone or second-generation or newer iPod Touches. iPush is compatible with the phone's microphone, or you can upgrade to higher-quality third-party microphones.

Also available from RCS is GSelector, a multistation scheduling system that features one point of entry and flexible configuration. Users create a station, design clocks and enter and code songs; GSelector will schedule them according to their natural demand. The user remains in control and can adjust overall rotations, sound and flow with simple "Attribute" sliders.

Aquira is a flexible traffic system for local- and national-sized radio businesses. With a modern user interface, it provides real-time access to sales and inventory data, and a range of scheduling, billing and reporting options. Aquira helps manage clients, prospects and sales team call activity.

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



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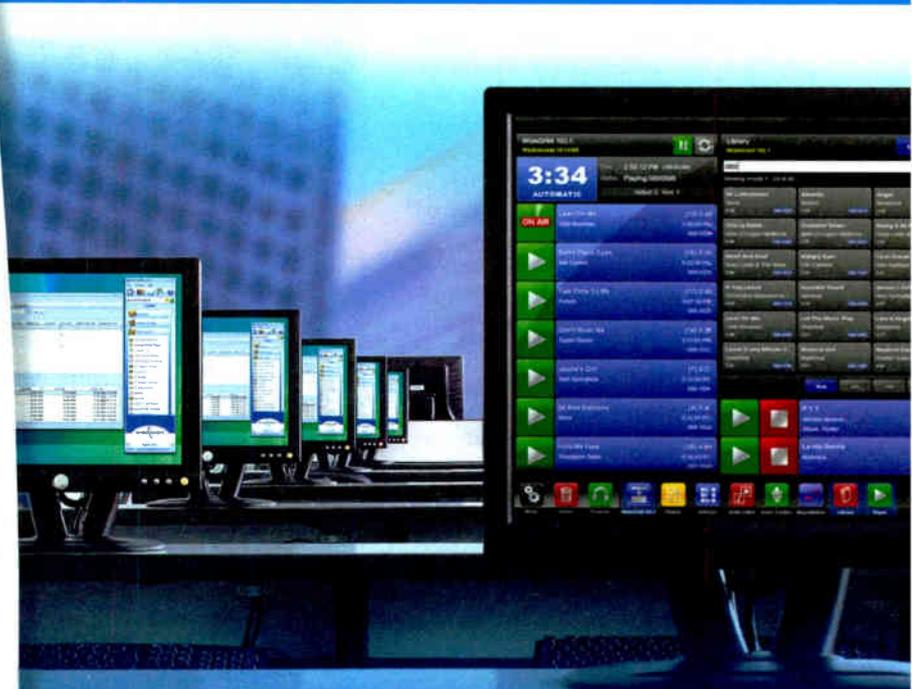
WideOrbit is extremely efficient, user-friendly and allows us to easily customize and manipulate data. We’re exceedingly satisfied with the product and when I asked all of our key players if we should renew with WideOrbit, 100% said ‘yes.’”

– **GLENN KRIEG**

Chief Financial Officer, Morgan Murphy Media

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Woodward Feels Safe With AVFleX

BE AudioVault System Expands as Wisconsin Group Grows Into Digital

USERREPORT

BY **STEPHEN J. BROWN**
Director of Engineering
Woodward Radio Group

APPLETON, Wis. — Changing the audio playout system in a cluster of radio stations is the type of project that gives pause to even the most ambitious broadcast engineer. No other system affects as many departments, touches as many individuals or affects the final on air product as much.

Woodward Radio Group has a cluster of six stations operating in the Appleton/Green Bay, Wis., area. Since 1995 the stations have been using a Broadcast Electronics AudioVault AV100 system with software versions 5.x through 8.x.

This system had grown as more stations, studios and functions were added. The AV100 system was running reliably but it was getting more difficult to support the hardware and software. AV100 was developed in the early 1990s using technologies common at the time like SCSI drives and ISA cards. Even though that is only 20 years ago, it might as well be centuries when dealing with computer hardware and software.

NEW SYSTEM

Broadcast Electronics had introduced a newer hardware platform with AV2 (Version 9.x) that relied on more modern software, hard drives and audio cards a number of years ago.

We had been planning to upgrade our system to AV2 but we had a large investment in our AV100 and it was running reliably, so the project was put off repeatedly.



Engineer Evan Stanek teaches WKSZ(FM) morning announcer Doug Erickson about the AVFleX Segue Editor.

In 2009 we felt we had to complete the project and company leadership agreed. The replacement system was planned and budgeted based on the AV2 framework.

Once the equipment arrived and installation began, we were approached by the installation team at Broadcast Electronics: Did we want to install the conventional product (AV2 Version 9.2x), or would we like to consider moving to the next generation, the soon-to-be-released AudioVault Flex?

What a decision. Broadcast engineers love reliability, so a major negative would be to run something so new in a critical application. I do not like to run "version dot zero" of anything.

But there were some compelling arguments to choose AVFleX. The software had been in test at prominent stations for almost a year already; we would not be

the first. And if we could pull this off, we could avoid a future platform upgrade cycle and those additional costs.

BE felt that we were a good candidate to try FLeX because we had two sharp young engineers on staff to help support the new system. Evan Stanek had been with us for four years and knew our operation well; he was selected to be the lead installation engineer for the system. And we were fortunate to have newcomer Mike Steele available. He could add user support of the system to his experience and other work as PC help desk support. These guys, plus good support from our vendor and our corporate IT department, gave me confidence that we would be able to handle any challenges.

The first thing we noticed is that the Flex system had more choices in how the on-air machines could be configured.

The traditional AV Air screen was now split into two separate applications, the "engine" that actually is playing out the schedule and the "user interface" that the announcer is manipulating.

Also, the user interfaces could be customized much more than the earlier versions of AV Air. At installation time there were three completely different screen appearances or "skins" to choose from, with the promise of more. Our program directors selected the "Touch" interface. Each skin can be customized to individual announcers or programs.

There are several advantages to the architecture, one being that if an announcer should lock up the user interface PC, this would not cause an on-air disruption. The separate audio engine PC will continue to play the schedule until the problem is resolved. Also, it's easier to set up a hot standby audio engine with automatic failover.

Audio files can reside in multiple locations, like both of the AV servers, both audio engine PCs and the emergency backup workstation; so a disk failure would be only a minor inconvenience until repaired, then the audio files will quickly copy over. AV2 users had been used to this, but we were experiencing this benefit for the first time.

SERVER ISSUES

Our "playout system" server count dropped from nine dedicated AV100 servers to two dedicated AVFleX servers. Our two servers handle audio for the four production rooms and keep redundant copies of all system audio files for six radio stations on each server. The servers primarily handle synchronization of audio files and schedules, and other tasks.

If a server should fail, it will not immediately affect the audio output on any one of the six stations, because each station is delivering audio locally from its group of workstations and engines. However, the broken server would need to be repaired promptly, because some production room audio would be out, and future days' schedules would also soon be affected.

Voice-tracking is another major improvement. It used to be done in AV Scheduler, using three audio channels. In AVFleX, voice-tracking is done in a new program called Segue Editor, a standalone application which looks directly at the schedule database and requires only one audio input on the studio console.

Our AVFleX system is on its own dedicated local-area network and completely separate from the main business LAN. To keep things clear for all engineers, we used a separate Cat-5 wire color to emphasize the separate AVFleX network.

This facility also has the beginnings of an extensive Axia Livewire network. WAPL's control room and Production Studio 4 have Axia Element consoles. When interfacing to these rooms, we used the Axia Livewire drivers on the AVFleX workstations, eliminating the need for the professional sound card on those PCs. At this writing we are still troubleshooting some issues with certain AVFleX applications and the Livewire drivers, but overall that portion of the installation process was smooth.

The system has been continuously on air since July, and results have been better than what I had expected. Any new software will have issues and some "undocumented features" (bugs). But problems have been few, and the people at Broadcast Electronics have been responsive in addressing questions. They are giving a lot of attention to anything we find in the field.

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

TECHUPDATE

SKYLLA IS THE LATEST FROM SMARTS



Skylia from Smarts Broadcast Systems is designed to replace virtually any digital automation system now in the field.

Smarts says it introduced the first digital system, Smartcaster, in 1989 and has updated and improved the product over the years. The company says Skylia represents a new approach. The automation system is written in Linux, not Windows, and takes into account the company's field experience with Smartcaster.

Skylia is designed to replace earlier systems. According to Smarts that means Skylia plays almost any digital audio and can handle account names and numbers over a wide spectrum. There's no re-recording and no renumbering of audio cuts. Skylia can be programmed so keyboard commands mimic a familiar system.

For information, contact Smarts Broadcast Systems in Iowa at (800) 747-6278 or at www.smartsbroadcast.com.

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BUYER'S GUIDE

Free Rivendell Is on Version 2.0

New 'Appliance DVD' Installs the Working Environment on Fresh PC

USERREPORT

BY ALAN R. PETERSON
Assistant Chief Engineer
Radio America Network

ARLINGTON, VA. — A year ago, the Linux-based Rivendell Radio Automation suite appeared in this *Buyer's Guide*, begging the question, "Can an open-sourcc, inexpensive automation system really work?" The answer is a resounding yes

Rivendell, from Paravel Systems, is in use in dozens of North American stations, by Internet and shortwave broadcasters and at least three domestically-based radio networks (including Salem Communications and Radio Free Asia) and at stations as far-flung as the Philippines, Austria and Belgium.

Now at Version 2.0, Rivendell remains mature, rock stable, immune to PC viruses and easy to use. It has new features to aid broadcaster in the digital age, including a fresh DVD approach to installation and startup. And it is still free.

LOTS TO DO

Here at Radio America, Rivendell manages storage and playout of recorded programs, bumps, bits and commercial material for two outbound program channels while firing off relevant satellite relay closures for affiliates.

While doing that, it is handling air-checking and logging of all program

audio. Without breaking a sweat, it encodes and uploads podcasts of shows that ended only moments prior.

These are stock functions of Rivendell: no expensive add-ons or downstream options are necessary.

Music stations can take advantage of a free voice-tracking module to give a "live" sound to unattended hours. A play-while-recording feature means network newscasts can be delayed for slip-time playback. The software converses well with nearly every traffic and music scheduling program out there. Activating the built-in Rivendell Loadable Module API allows Webcasters to provide now/next titles, while terrestrial broadcasters can scroll RDS messages. Again, all included.

With Linux running the show, Rivendell can be on the air for months without a reboot. Rob Landry, the contract engineer for WCRI(FM), Block Island, R.I., reports an uptime of 1,158 days, an astounding three years and two months of uninterrupted service, from a Rivendell system he built.

As shown in the photo, there is a big, clear playout screen (RDAirplay) and a multipage instant playback button wall (RDPanel), the way your live talent wants to see it.

Among the new features, there is now



The Rivendell System is shown at work in Radio America's Control Room B.

main library support for MPEG Layer II audio on common soundcards. Until recently when the patent for MP2 ran out, the file format could only be handled by licensed (and often expensive) soundcards. With this development, Rivendell can support MP2 playout on most inexpensive cards of the user's choice.

Rivendell can import and export audio in WAV, MP2, MP3, OGG and FLAC formats without conversion by an external program. By using the integrated RDImport program, existing music libraries from retiring automation systems can be batch-converted and imported into Rivendell in one pass.

If you are working with a third-party switcher or console router system, Rivendell is at home with units from Axia, Broadcast Tools, Logitek and SAS.

What will be the most compelling aspect of Rivendell 2.0 to new users is the rollout of the "Appliance DVD."

This is not a demo that goes 15 days and then "pumpkins" out on you. It is a free downloadable DVD that installs an entire working Rivendell environment on fresh PC hardware: a streamlined OpenSUSE Linux operating system, the MySQL database and the entire Rivendell suite.

No expertise in Linux or MySQL is necessary: Start the DVD, add a user name and a password, begin importing music and spots, hook your soundcards up to your console and go.

Basic computer know-how is sufficient to get the system on the air, but some knowledge of Linux as well as a serious flip through the operations guide will help you get the most out of Rivendell.

If installing and tweaking software sounds like too much work, Paravel Systems will configure made-to-order studio workstations using nonproprietary hardware and high-end ASI audio interfaces (or Axia Livewire IP interfaces), and offers affordable annual technical support.

Users of the DVD can purchase tech support, or may post technical and operational questions to the *Rivendell-dev* public mailing list. A large community of users answers questions and offers free advice.

For information, contact Paravel Systems in Virginia at (877) 447-2728 or visit www.paravelsystems.com.

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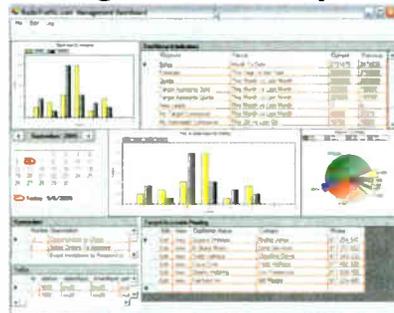
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TECHUPDATE

BSI RELEASES SIMIAN WITH WINDOWS 7 COMPATIBILITY

BSI has released its newest product update, Simian 2.1. This version of Simian is now compatible with the Windows 7 32-bit operating system.

Simian is available in both a Lite version (for Internet broadcasting) and a Pro version (for traditional broadcasting).

Developers have also added language support to this version of the product allowing customization of the Simian interface to the user's language needs.

A new manual metadata export feature allows for non-automation sending of information through serial port, PAD data and HTTP calls while doing live events where no data would normally be sent.

Orban and Omnia integration have been added to simplify the output of PAD data to those interfaces.

New automation and metadata macros have been added to improve functionality of the program.

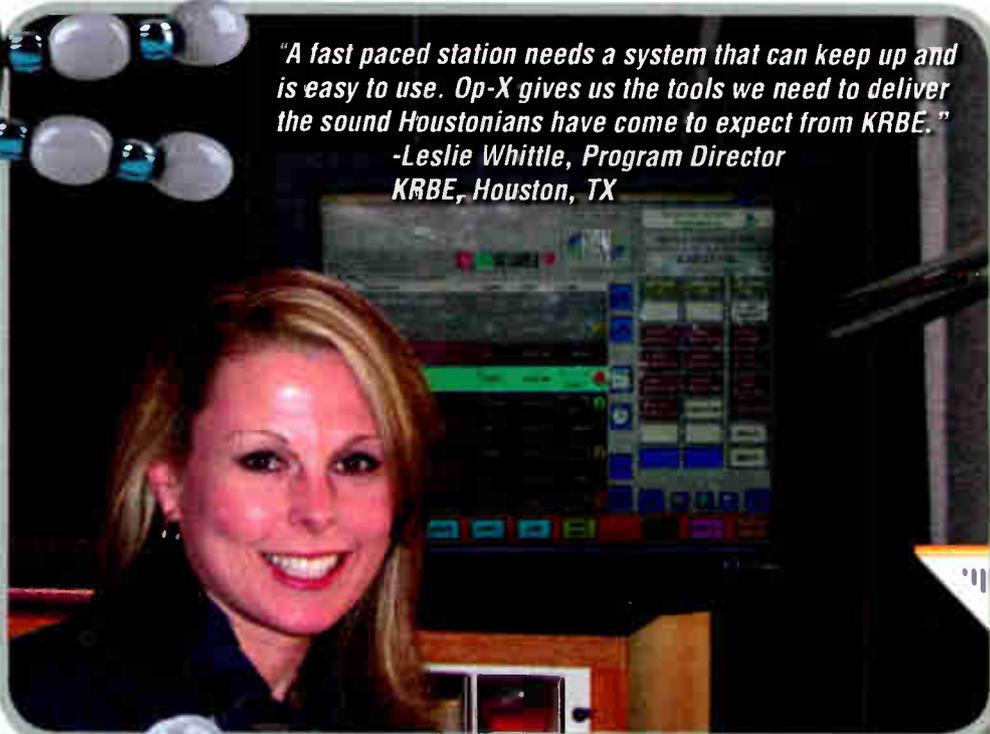
For information, please contact Broadcast Software International in Oregon at (888) 274-8721 or visit www.bsiusa.com.





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

*-Leslie Whittle, Program Director
KRBE, Houston, TX*



- Modular Operation in Op-X allows for a tiered system at a fraction of the cost of its competitors.
- Each studio client is capable of accessing all Audio Server modules on the network.
- Remote voice-tracking allows for creation of content for remote studios also running Op-X.
- The revolutionary design of Op-X's clock builder turns the previous task of scheduling satellite programming into a few simple clicks.
- Share serial devices from any machine using the Op-X Serial Server.
- Importing logs now gets its own module that takes confusion out of the process.
- Engineers will enjoy Op-X because it's easy to install, maintain, and has automatic backup features.



AUTOMATION

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



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TECHUPDATES**ARCTIC PALM
INTRODUCES RADIO
AUTOMATION
SIMULATOR**

The Radio Automation Simulator allows a station to send "Now Playing" information to platforms other than its main air signal (such as RDS/RBDS encoders, websites, streams and HD Radio systems) even if the aired con-

tent doesn't originate from the station's automation system.

The simulator typically is used in three scenarios where "Now Playing" information otherwise might be lost.

The first is for use during a repeat broadcast. The user schedules the date and time of the original broadcast, and the date and time of the repeat broadcast; the Radio Automation Simulator does the rest. The "Now Playing" information sent during the original airing will be re-sent during the repeat broadcast. While the music information remains the same, the

promotional messages can be specific to the repeat broadcast.

The second process is designed for prerecorded segments where the entire segment is in one audio file. With the playlist editor, the user creates the playlist or imports it from an iTunes playlist and posts it to the Center Stage broadcast data management system. At the scheduled time, the "Now Playing" information will be sent



to the RDS system. Since the playlist has the timings for the segment, users may wish to use the completed playlist to create the audio file. Authenticated off-site contractors can use the remote version to create a playlist for their segment.

When completed, the remote module will upload both the playlist and audio file to the station.

The third process is for use in the air studio when playing music from CDs, tapes and MP3s. The host can predefine a song list or update songs on the fly. One click and the "Now Playing" information is sent to the RDS/RBDS encoder, website, stream or HD system and recorded for audit and reporting purposes.

When a radio station uses Radio Automation Simulator in conjunction with Arctic Palm's Center Stage Live data management system, all of the station's broadcast content will be delivered with "Now Playing" metadata, regardless of platform.

For information, contact Arctic Palm in Ontario at (519) 452-0002 or visit www.arcticpalm.com.

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so I read Radio World.”

Steve Davis

Senior Vice President,
Engineering & Capital Management
Clear Channel Radio

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**POWERGOLD
MAKES MUSIC
SCHEDULING EASY**

Powergold says scheduling software clients range from satellite radio providers to top-rated major-market stations and Internet pioneers.

Its features give users the tools to create and on-air product. The learning curve is minimal. It can schedule daily logs fast and efficiently with features such as Flex Points, Auto-Editor, Auto-Replace, at the user's fingertips with multiple history views, user-defined screens, song cards, properties, categories, etc. Instead of you having to spend hours editing logs, it does it right the first time, the company says.

Powergold integrates with automation and traffic systems. Users can schedule non-music events and schedule air talent.

The Powergold support team promises a live person will answer when a call for help is placed. Clients receive 30 days free service, using their database at no cost or obligation.

For information, contact Powergold in Arkansas at (800) 870-0033 or visit www.powergold.com.

Powergold
music scheduling

TECHUPDATES

MARKETRON OFFERS MULTIPLE ADVERTISING SOLUTIONS

Marketron Traffic is a radio traffic solution managing station spot scheduling and billing via a single interface.

Described as a true enterprise system, Marketron Traffic automates workflow, electronically tracks contract data and revisions, provides detailed spot information, delivers advanced inventory reporting and controls and delivers multi-market and multistation capabilities.

Media organizations are able to streamline order processing, improve productivity and gain reporting insight for station management.



Also available is Marketron Exchange, which connects the media ecosystem by providing an open platform to allow disparate systems to communicate and exchange data. In addition, it delivers services the media industry needs, connecting buyers and sellers

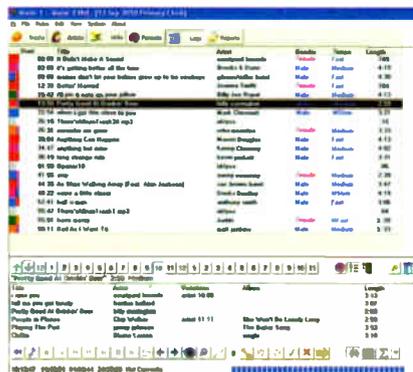
to send and receive orders, invoices, and performance and ratings information electronically. The solution facilitates communication and enables the delivery of revenue-generating business services.

A third product is Marketron Revenue Builder. It is an enterprise application that helps radio's ability to sell and manage comprehensive crossmedia advertising campaigns, including online and non-airtime advertising. It provides a closed-loop solution for inventory management, sales, production, fulfillment and invoicing/receivables. It is integrated with Marketron Traffic.

For information, contact Marketron in Idaho at (888) 239-8878 or visit www.marketron.com.

MUSIC 1 RELEASES SOFTWARE SUITE

Music 1 has high aspirations for its Version 7, calling it the first scheduler that includes music, traffic and billing in a fully integrated application.



The Windows-native music scheduling software includes interfaces for widely used automation systems. Music 1 schedules content, including jingles, liners, links, voice tracks, long-form programs and automation system commands. These functions are incorporated into the application. Additional software or plug-ins are not required for scheduling non-music units.

The software is networkable and portable. Radio programmers who use remote access software can work with M1 when off-site. Users can install it on their laptops, for no additional fee, and can take it with them on the road, do their scheduling and then e-mail or FTP the automation playlists to the station.

An auditioning player has been added, allowing the music director to click and hear any song as he or she works with M1.

There are three editions of Music 1. Version 7 is the most advanced and is leased software. Music 1 LE/Legacy Edition is full-function buyout software.

Music 1 SE is for Webcasting and HD applications. This is also a buy-out scheduler, budget-priced at \$299 per license.

For information, contact Music 1 in Texas at (512) 392-2415 or visit www.gomusic1.com.

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TECHUPDATES

ARRAKIS OFFERS TURNKEY STATION-IN-A-BOX

Arrakis Systems' Xtreme-Complete is described as a radio station in a box.

On-air, production, scheduling and logging work can be performed at the same time on this workstation; no additional hardware or software is required.

An Xtreme-Complete workstation is used for each on-air channel in a facility. An AM/FM requires two workstations. For other studios such as traffic, production and news, Arrakis can supply a preconfigured Dell PC or the customer can supply their own PC.

The system comes with X-Sched software for the scheduling room, X-Edit-Pro for the production room and Xtreme-Studios for the news room.

Xtreme supports all types of on-air operation: live, live-assist, hard disk automation and satellite automation. For live operation Xtreme features a playlist with up to 500 events, a 300-cart hot key wall, a directory search by cart-title-time-artist and a phoner recorder with editor. For hard-disk automation, Xtreme has a powerful music scheduler with up to 25 categories and a variety of selection criteria. The satellite automation system supports 16 satellite sources to handle even complex sports-talk formats.

The system provides voice-tracking, games feature, a one-week scheduler, a one-week timed recorder, time squeeze and powerful logging.

For information, contact Arrakis Systems in Colorado at (970) 461-0730 or visit www.arrakis-systems.com.



JT PLAYS RIGHT WITH VIRTUAL CARTS

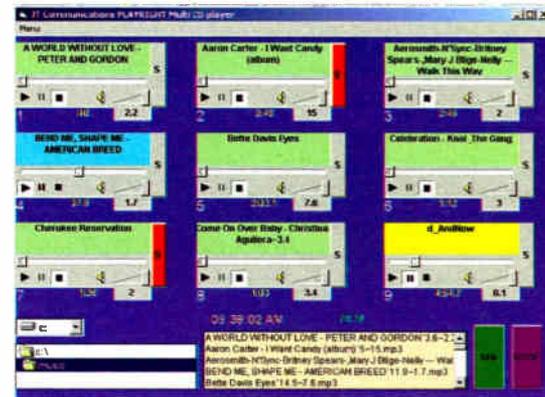
JT Communications, the maker of Automatronix brand automation, has released a free product to the broadcast industry.

PlayRight, a PC-based nine-deck cart player, features independent cart decks that will play Windows Media and other common-formatted files (MP3, WMA, WAV, etc.), on nine individual cart machines.

Features include operation on PC-based computers with standard sound card, drag-and-drop or double-click song management from the internal browser, a sizable screen and unique player coloring for specific modes. Carts can be individually operated or sequenced; seamless segues can be obtained with a unique tagging feature.

In addition, skipped and sequenced carts be "looped" for restart. Other features include remote start/stop with standard keyboard; counters that display time, top of hour, playtimes, intro and segue times; 15-second flash when each cart is about to end; and bad file detection on each cart to avoid on-air accidents.

For information, contact JT Communications in Florida at (352) 236-0744 or visit www.jtcomms.com.



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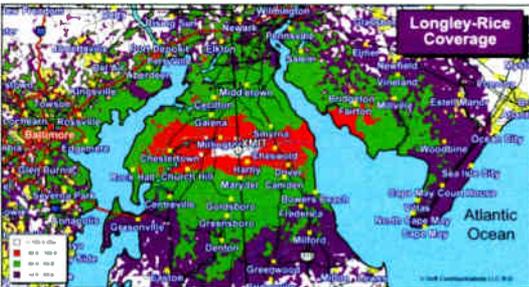
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I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc. I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at ronwtamm@yahoo.com.

Looking for a broadcast excerpt of a San Francisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running time is 18:02, also looking for SF Giants games and/or highlights from 1958-1978 also taped off KSFO Radio. Ron, 925-284-5428 or ronwtamm@yahoo.com.

Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is 0:22 & also the KLX kitchen the program guest is Susanne Caygill, a discussion of women's affairs with a long promotion for Caygill's appearance at a local store. Anne Truax, Susanne Caygill, running time is 13:44. Ron, 925-284-5428 or email ronwtamm@yahoo.com.

Looking for KTIM FM radio shows from 1981-1984 if possible unscoped. R Tamm, 925-284-5428 or ronwtamm@yahoo.com.

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Imagine What Lee de Forest Would Say

Why Is Such Obnoxious AM Processing Considered Necessary These Days?

COMMENTARY

BY JAMES E. O'NEAL

I've just returned from a 3,000-mile vacation road trip that took me through and around several large cities, all having a good complement of AM radio stations.

Being curious about what passes for daytime programming these days, I made it a point to break away from the satellite-delivered radio in my minivan from time to time to listen to some of the larger stations.

It's worse than I thought.

Lee de Forest, inventor of the triode vacuum tube and a very early broadcaster, was once quoted as saying, "What have they done with my child, the radio broadcast?"

If he were around today, I think his quote might be, "Please put my child out of its misery — with all due dispatch."

STRIDENT

He wouldn't necessarily be addressing the programming (which is less than good in most cases). I think he would have a genuine problem with the amount and type of processing being inflicted upon the audio content by some of the programming and engineering brains that should know better.



istockphoto/Andrea Giringheri

What are the large corporate radio group owners thinking these days?

Do they really believe that they can boost ratings by tweaking frequency response to a strident and nauseating boominess, and then cranking up the compression so that their audio is reminiscent of that delivered via the "power mics" championed by the CB crowd? ("Blow Their Ears Off With *Dynamic Speech Processing!*")

Can someone at these stations explain why such obnoxious processing is considered necessary these days? Is it

like tattoos and piercing? "I'm doing it just because everyone else is"?

Even when there was something I really wanted to hear — a weather or traffic report — the audio from many stations made me so uncomfortable that I didn't even wait for the reporting to end before switching back to Sirius XM or a CD.

It reminded me of the seating in a fast-food restaurant that's designed to be so uncomfortable that it encourages a fast turnover of clientele. I can't possibly imagine anyone listening to such overly processed audio for any length of time.

The odd thing is that when I got home and sampled the Internet audio streaming from some of the worst offenders, the Web version of their audio wasn't that bad. While I won't say listening was a real pleasure, it was head and shoulders above what they were wasting lots of electrical power and RF spectrum on.

I'm not sure if the FCC has targeted the AM broadcast band for other purposes just yet (not sure who they'd try to sell it to), but these stations — and you know who you are — are certainly making a fine case for another spectrum grab.

HOW MUCH IS TOO MUCH

This reminds me of a story passed on by J.W. Caluger, formerly of WSM, about another large-market 50 kW

clear, the chief of which didn't care to become a combatant in the first AM loudness wars waged back in the 1960s.

According to this story, the unnamed chief had managed to stave off a series of program directors who came and went with predictable regularity and who all had in common a belief that the surefire way to top ratings was via loudness.

Finally the station hired a bulldog of a PD who, with his ever-present cup of coffee, would stop by the CE's office every few days to inquire as to how the procurement for audio processing gear was coming along.

On one occasion, the dialogue went something like this:

PD: Just when are we going to be able to start processing our audio?

CE: Well, I done told you that them processors adds distortion.

PD: How much distortion is too much?

CE: Well, let me put it like this: If I held an eyedropper of piss over that cup of coffee, how many drops would be too much? One or two?

Reportedly, the PD turned around without saying a word and exited the CE's office, never to return.

The author is technology editor of TV Technology magazine and a contributor to Radio World. Opinions are his own.



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OPINION

READER'S FORUM

RACKLEY'S CONCERN WITH AM HD

I am writing in response to Tom Ray's excellent article "HD Radio Shouldn't Be This Hard."

Everything Tom said was relevant and meaningful, but I want to focus my comments on the account of the news director's high-end integrated car HD receiver that alternately cuts in and out of AM HD reception mode near where he lives and led him to say "HD Radio sucks."

I have firsthand experience with this, as I listen every day when I am out and about to an AM station that produces around a 1 to 2 mV/m signal near the office, and I found it very irritating to have the mode switch back and forth from digital to analog on a colleague's car HD radio as we drove around in the urban environment for a demonstration. I would not listen to that station for long under those circumstances.

The problem was that there was no front-panel switch to disable the HD mode to allow normal analog reception. If suddenly every car radio turned into one of those, I fear that there would be a net loss in listenership to AM stations over this issue.

I want HD Radio to work for AM, but having great-sounding HD AM radios that cannot be controlled so that they are listenable in fringe areas — and a great deal of AM listenership is in fringe areas — would be a very bad thing for AM radio. This concerns me very much.

Ronald D. Rackley, P.E.
Partner
du Treil, Lundin & Rackley Inc.
Sarasota, Fla.

WELCOME BACK, TOM

I read with great interest the article by Tom Ray about trying to find an HD Radio receiver and the comments from his news director. What I would like to say to Tom is, "Welcome back to the real world!"

Tom has been a wonderful promoter of HD, especially on AM radio. I applaud him for that. Unfortunately what he found as an average consumer is reality — a bad reality for radio.

Good luck finding an HD radio. Good luck even finding anyone who knows anything about it. HD seems to be going down the tubes rapidly.

Several years ago when I had the first HD radio installed in one of our vehicles, there was only one AM station in HD in my market area. Years later, there still in only one.

I quickly noticed the AM switching in and out of HD as I drove around. It was utterly annoying, even for an engineer testing the radio out. The average consumer would have thrown in a CD or plugged in their iPod, never to try AM again. And yes, there is no way to force the radios to mono on any of the models I have tried.

After noticing areas where HD always dropped out, I took field measurements. The breaking point was 2–3 millivolts; at 3 mV/m you might get stereo. At 2 mV/m you switched to mono.

In traveling to some of our markets, I drive through the New York metro. Before one trip, I ran a computer

program and calculated about where the 1, 2, 3 and 4 mV/m contours were located on Tom Ray's WOR.

As I traveled through New Jersey I started to hit an area where the HD finally came in but was sketchy. A quick look at the map? I was in the 2–3 mV/m area. As I continued up into Connecticut, the HD started to drop in and out again. Sure enough, the 2–3 mV/m area.

For a 50 kW flamethrower like WOR, that 2 mV/m contour is a large area with a large audience. For a 5 kW AM station — or, even worse, a 1 kW AM station — forget it! HD might just cover your city of license — let alone the suburbs figuring in all of the outside interference today.

My dentist bought an FM HD tuner and installed an outside antenna in order to pick up the HD2 channel of a local religious station. He is in the 70 dBu contour of the FM station.

After two receivers, changing coax and antennas twice, he told me he wanted to sue the FM station for false advertising. Their HD2 channel could not be received with any reliability.

The DOE of another broadcasting company told me off the record that even in their largest markets, when an HD2 channel goes off for some technical reason, not a single phone call is received from the public.

Now of course there will be people who have many good reception examples. Wonderful for them.

All along I have tried to keep my evaluations of HD more on the line of how the average person would experience it, not as an engineer with all things tweaked to the maximum. Bottom line, HD Radio is about to go the way of AM stereo unless something big happens fast.

It is funny how the car manufacturers were able to get iPod jacks and Bluetooth installed in the cars so quickly, but what, 10 years out or more on HD Radio and they still cannot get any amount of HD radios to the public. Tells you something, doesn't it?

Edd Monskie
VPI Engineering
Hall Communications
Lancaster, Pa.

YOU STOLE THE WORDS ...

I'm the general manager of KGY Radio (AM and FM) in Olympia, Wash. We are about to go HD on 96.9. We plan to simulcast our 1,000 watt AM on HD2 and run a separate format on HD3.

Because of this, I have a strong interest in HD Radio. I could have written the article by Thomas R. Ray III you feature on the cover of the Aug. 11 issue of Radio World. I, too, have been looking for a new SUV equipped with HD Radio. I've been looking for over a year.



It's the same story Mr. Ray told. None of the salespeople ever heard of it. They all think I'm referring to satellite radio. I will probably have an HD radio installed by Car Toys or Best Buy. In fact, I would have done this by now, but I heard from listeners who have done this who claim their new HD radio gets lousy reception on analog AM — so bad, in fact, that it makes "old-fashioned" AM listening virtually impossible unless they are within a mile or so of the tower!

I relayed my concern to Roy Sampson of Ibiqity. He said it was the first complaint like that he'd heard and that he'd pass it along to his engineers.

I've given up, for now, my search for a new car. I'll keep the old one for a while.

Dick Pust
General Manager
KGY Radio Inc.
Olympia, Wash.

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READER'S FORUM**CAP IS JUST ANOTHER INPUT**

Trade publications repeatedly refer to the "New EAS" when commenting on the coming CAP requirement.

This will mislead the reader, since CAP is just another input to an EAS unit after the CAP message has been converted to the EAS format.

New EAS equipment will not be required.

*Jim Gorman
Owner
Gorman-Redlich Mfg. Co.
Athens, Ohio*

DXING FROM A TO Z

After 45+ years I have received DX reports on AM, FM and TV ("For AM DXers, the Romance Lives On," www.rwonline.com/article/99602).

We recently received one for our DTV station from a viewer in the Upper Peninsula of Michigan some 370 miles north of our stick. They even sent a picture of the perfect DTV pix.

I recall Popular Electronics issuing SWL call signs when I was a kid. At age 5, I was building diode, razor-blade, crystal radios, and by age 9, small tube receivers for everything from LW to aircraft band/2 meters, from articles in PE, Electronics Illustrated, et al.

At age 5, I was building diode, razor-blade, crystal radios, and by age 9, small tube receivers for everything from LW to aircraft band/2 meters.

— Henry Ruhwiedel

A 1 tube (triple triode) aircraft receiver never worked right, but a super regen got the aircraft landing in Chicago fine.

I mounted a monster Kay-Townes VHF yagi on the roof of the house and logged FM and TV signals in the '60s on a Scott FM tuner and Motorola 7-inch and other ancient TV sets. An eight-foot UHF parabolic on the roof with a transistorized preamp was the height of joy and Channel 50 Detroit was as reliable as local Chicago stations.

I still have pics of TV from North Carolina, D.C., New York City and western Canada including British Columbia and Alberta, even Alaska.

Back then we could also get stations above 69 such as the Indiana mobile airborne educational TV, CITY TV in Toronto, and lots that are no longer on the air — Marion, Ind., Muskegon, Mich., Fond du Lac, Wis., Sandusky, Ohio, WXLT 60 Aurora, Ill., and so on.

St. Louis, Cape Girardeau, Cincinnati, Green Bay, Milwaukee,

CORRECTION**SORRY, DAVE**

In our Sept. 8 story discussing tips for choosing transmitters, page 32, we misspelled the last name of Dave Hultsman of Continental Electronics.

Madison, Indianapolis, Peoria, Quad Cities stations were receivable nearly every evening.

The pièce de résistance was when I was living in southern Indiana and WGBH Boston blasted away the local (21 miles) Terra Haute Channel 2 for seven weeks, day and night.

The most fun was Global TV from Windsor (Sarnia?), watching SCTV and the "Glow Ball News," CKLW(TV) Channel 9 etc.

I have yet to find a better FM DX radio than my Marantz Model 20. With this tuner, Ft. Wayne, Ind., and Grand Rapids, Mich., stations are "locals" to me.

*Henry Ruhwiedel
WYIN(TV), WLPR(FM), AA9XW
Chicago*

LONGING FOR SKYWAVE

James O'Neal's article recounting his memories of nighttime radio ("I Remember the Power of Nighttime Radio," June 16) strikes a note with me. In fact, it makes me curious as to just exactly where O'Neal grew up, because the stations he mentions hearing on the AM skywave are the exact same stations I listened to. All of them!

I seemed to be coming of age — in northwest Arkansas, near Harrison, and a few miles south of Branson, Mo. — at about the same time. I, too, listened to WNOE, New Orleans, which, with only 5,000 watts at 1060, must have had a directional pattern coming north toward the Ozarks, as I could listen to them on most clear nights.

The programming approach from their jocks seemed totally awesome. To my mind (using 20/20 hindsight), it was a clear precursor to Bill Drake's later approaches at KHJ in Hollywood.

Also from New Orleans was WWL at 870, which was still presenting big-band remotes from the Roosevelt Hotel well into the 1960s. According to their station break, the hotel also housed their studios.

When the 820 frequency changed identities, a cowbell would ring!

— Lew Jones

A station O'Neal didn't mention was WSM at 650 from Nashville. While as a high schooler I didn't embrace country music quite to the extent that I later did (at Jones Radio Network, as founding programmer of Classic Hit Country, between 1997 and 2009), I would listen to The Grand Ole Opry simply because the participants seemed to have such a good time presenting the program. If they were enjoying it so much, I reasoned, there must be something good about it.

Another favorite of mine was KRMG, at 740, coming across the plains from Tulsa. (Years later, I worked there.)

And my strangest memory was of hearing the 570/820 frequency sharing between Dallas' WFAA and WBAP in Fort Worth. When the 820 frequency changed identities, a cowbell would ring!

Couldn't we all just turn off our spectrum-polluting cell phones and other devices for just one evening, and enjoy those skywaves again?

*Lew Jones
Jones Radio Resources
Littleton, Colo*

Ed. Note: James O'Neal grew up in Hope, Ark.

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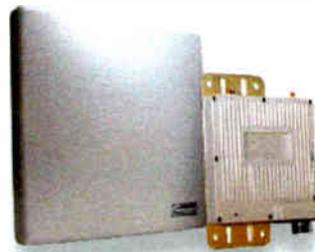




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Rick Hunt, Vice President and Director of Radio Engineering at Entravision Communications Corporation knows that taking chances with unproven or ad-hoc technology simply isn't feasible – that the ultimate cost of using less than the best can be detrimental not only to day-to-day operations but to their overall success.

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*Rick Hunt, Vice President
and Director of Radio Engineering at
Entravision Communications Corporation,
with one of their Wheatstone G5 consoles.*

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