



RADIO WORLD

SEPTEMBER 28, 2016

The News Source for Radio Managers and Engineers

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Photo: courtesy John Spahr

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Oregon Creates Broadcast Engineer Credential

Formal training program is part of effort to help "first informers" at times of crisis

BY RANDY J. STINE

SALEM, ORE. — The Oregon Office of Emergency Management has accepted a credentialing plan that will be used to qualify broadcast technical staff to participate in the state's "first informer" access program.

It is not the first such program, but creators of the training criteria also believe their formal training approach will encourage similar initiatives for broadcasters in other states.

First informer measures allow designated broadcast engineers to enter areas during emergencies to maintain essential equipment. Oregon adopted a law in 2015 and tasked the Oregon Association of Broadcasters and the state's Office of Emergency Management to develop a procedure to credential participants. Local chapters of the Society of Broadcast Engineers were enlisted to participate.

Engineers designated as first informers in the Beaver State will be allowed to cross police barricades and travel roads

within emergency areas to maintain broadcast facilities — most often transmitter sites — with needed fuel, food, water and equipment.

Oregon joins Arizona, Georgia, Illinois, Indiana, Nevada, Oklahoma, Tennessee and Virginia with "first informer" laws in place, according



to the National Association of Broadcasters. At least nine other states including California, Wisconsin and Florida have related plans or agreements with state governmental agencies, NAB said.

The first informer concept has spread since Hurricane Katrina struck the Gulf Coast in 2005 and Super Storm Sandy pounded the northeast

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At AES Show, the Network Awakens

AES67 digital audio networking will be big in Los Angeles. Page 8



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Photos courtesy WBA

At 60, Broadcasters Clinic Keeps Focus on Engineers

Wisconsin-based engineers has staying power, attracting attendees from around the United States

REGIONAL EVENTS

BY MICHAEL BALDERSTON

In September of 1956, a group of 23 Wisconsin-based engineers decided to meet to discuss prevalent issues. Rain and cold forced them to conduct this meeting around a fire while cooking T-bone steaks, but they agreed that they should meet again the next year. And so they did — and have continued to do for another 58 years in what became known as the Broadcasters Clinic.

The 60th event in that series takes place this October. Run now by the Wisconsin Broadcasters Association and presented in conjunction Wisconsin's local SBE chapters, the event has come a long way since those humble beginnings — though we're told that a group

did reenact the first meeting. T-bones and all, this month. However, the goal remains to provide an opportunity for engineers to get together and share new and relevant information.

BEER & BRATS

"Our main focus with the clinic is to provide the information that engineers need, because they've faced so many challenges over the years with new technology," said Linda Baun, WBA vice president.

Michelle Vetterkind, the association's president and CEO, said, "We really see the engineering community as an integral part of broadcasting, to say the least ... If you don't have a thriving engineering community, what do you have?"

That is exactly what the three-day clinic — divided into radio, radio/television and television days — plans to

IF YOU GO

What: 2016 Broadcasters Clinic and Upper Midwest SBE Regional Meeting

When: Oct. 11–13, 2016

Where: Madison Marriott West, Middleton, Wis.

How: www.wi-broadcasters.org

How Much: Three days \$150, two days \$130



continue this year.

Radio-related tech talks from manufacturers include discussions about liquid-cooled FM digital transmitters; network FM stereo composite connectivity; the FCC's AM rejuvenation efforts; why distortion doesn't always matter; optimizing combined AM antenna systems; adaptive multi-rate audio streaming; building IP audio networks; the impact of TV repack on radio; remote control and SNMP; engineering microwave links; and advantages of aluminum transmission line.

Kelly Williams, NAB's senior director of engineering and technology policy, will lead a session titled "Technical Regulatory Update and Cyber Security for Broadcasters." ATSC Committee member Jerry Whitaker is scheduled to speak on ATSC 3.0 status. A number of other sessions explore TV/video tech

(continued on page 4)

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"FAA to Require Marking for Some Towers 200 Feet or Less" — Fletcher, Heald & Hildreth's Ashley Ludlow had the details on possible new tower marking requirements from the FAA that might ensnare more tower owners than before. Read radioworld.com/shart.



"Texas Broadcasters Honor Five Outstanding Leaders" — Read about the contributions of Bill Buchanan, John Kittleman, Dan Giesler, Joe Oliver and engineer Mike Wenglar. See radioworld.com/texas.

"EAS, Localism Among Pilot's D.C. Event Highlights" — NAB hosted a "Broadcast Innovations" event for policymakers in September not far from the U.S. Capitol. Read about it at radioworld.com/pilot.

Courtesy Chris Fallen, #KL3WX



"HAARP Facility to Reopen in 2017 Under New Ownership" — A story from the ARRL about a facility that has been hailed as the highest-powered and most flexible radio broadcasting facility in the world. Read radioworld.com/haarp.



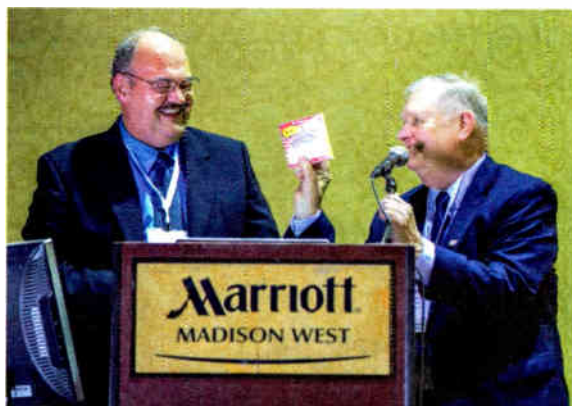
CLINIC*(continued from page 3)*

issues.

The clinic embraces its Wisconsin heritage and so it will have its traditional Beer & Brats networking session on the opening night of conference. (Expect much discussion of cheese curds.) Baun also hints at a number of surprises to help celebrate the 60th anniversary, but didn't want to spoil the surprise.

Though this is thought of as a regional event — the Society of Broadcast Engineers feted it as the Best Regional Convention or Conference of 2015 — Baun says that the clinic's reputation has grown in its six decades and it now draws from around the country. The agenda includes discussion of how issues affect Wisconsin broadcasters, but Baun said they don't pigeonhole topics.

"It is all states. They are all going to face the repack, they're all going to face the technical, the FCC updates, the cybersecurity. It's everything that an engineer might want, from audio



Watch where you step: At a past clinic, Leonard Charles gave a presentation titled "From Cow Pies to Contours: Building an AM Directional Array." Colleague Gary Mach presented him and audience members with chocolate versions to enjoy.

streaming to doing audio networking for radio and microwave links. Those aren't just specific to engineers in Wisconsin; they're specific to all engineers in broadcasting." One frequent visitor comes all the way from Alaska, she said.

Baun expects potential attendees will continue to sign up until opening day, but estimates that somewhere between 200 and 300 people will attend. She said the clinic was on track to fill up on exhibitors.

What keeps engineers coming back or experiencing the clinic for the first

time in an age where information can be shared so easily over the internet? Baun was able to sum it up in two words: "In person." The ability to be in the same room and discuss with your

colleagues the trends and issues affecting the industry is "worth its weight in gold," said Vetterkind. That is something that the WBA and its Broadcasters Clinic take pride in providing.

CLINIC EXHIBITORS

(As of early September)

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Belden Grass Valley
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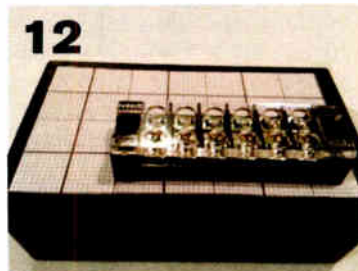
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United States in 2012.

Oregon named its first informer card the "broadcast engineer credential" because it will only be made available to broadcast technical staff, planners said.

CREDENTIAL

"This agreement in principal is critical to the structure of the credentialing program and ultimately will help keep broadcast stations operating during an emergency and keep the public informed. It will be open to broadcast engineers and those with related functions," said John White, chief engineer of KKPZ(AM) in Portland and chair of

the credential planning committee. "Introduction to Incident Command System" is a Federal Emergency Management Agency training module that takes approximately three hours to complete. FEMA's "ICS for Single Resources and Initial Action Incidents" is another training requirement, as is FEMA's "National Incident Management System" online class.

"The training, which is all free and available online, is meant to familiarize broadcast engineers with the workings of emergency management," White said. The initial training could be completed in "two to three weeks" with an aggressive timeline, White said. Participants also will need to report ongoing emergency and safety training twice annually.

Our credential card will actually carry the state logo and the authority of the state.

— John White

the credential planning committee.

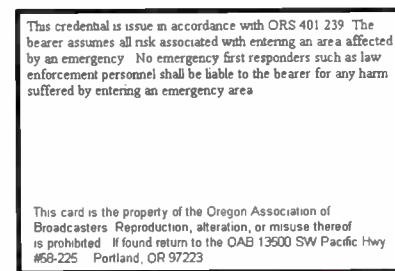
"Many broadcast engineers have a deep commitment to public service, and we see that as a crucial part of the commitment."

The initiative will be administered by a Broadcast Engineer Credentials Committee, consisting of broadcasters, broadcast engineers and representatives of the Oregon Association of Broadcasters. SBE chapters will help administer the program and coordinate training required for those who participate.

A sample training list provided by the credentialing program's creators shows initial qualification requirements of approximately nine hours of instruc-

The SBE will oversee the qualification verification, approval and card production tasks of the program, White said. The society "will be the feet on the ground helping to make this happen. SBE does an excellent job of broadcast engineer certification at the national level. We hope to implement our Oregon broadcast engineer credentialing program at the three local SBE chapters in the state," he said.

The program is open to registered professional engineers practicing in the broadcast field, broadcast service providers such as consulting engineers and individuals designated as FCC chief operators by local stations, White said.



A sample card.

Officials believe as many as 200 people in the state could apply.

"Eligibility will be available to SBE members, though there is no requirement to join SBE to become credentialed," White said. "I do expect the majority of the engineers that apply will apply as a SBE certified engineer."

White credited local SBE chapters in the state with providing input from field engineers during the planning process.

"Some of our qualified training items are also applicable to SBE continuing education requirements," White said. "For instance, an IPAWS training module will be applicable to both ongoing SBE certification and ongoing first informer credential training."

The success of the program in Oregon will rely on building relationships between broadcast engineers and the local emergency managers, White said.

"That is what makes our program

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unique. We have been able to develop a partnership with emergency management here in Oregon at the state and local level. Our credential card will actually carry the state logo and the authority of the state. The committee will be able to thoroughly vet candidates and to pull the credential if there is misbehavior or for any reason," White said.

NOT FOR REPORTERS

James Boyd, president of Boyd Broadcast Technical Services and a member of the Oregon Association of Broadcasters, said law enforcement had expressed concern that media members could cross the yellow tape into secure areas.

"There was some pushback from police and firefighters. The big concern was that this law would let loose a whole bunch of reporters into areas blocked off during emergencies. This is not for reporters," Boyd said. "And Oregon will require participants to abide by a code of conduct."

Boyd expects a number of broadcast engineers "to aggressively pursue" the first informer credential when training becomes available later this year.

"I could even see our credentialed people eventually doing some cross-training with local emergency managers," Boyd said.

Applicants will be asked to pay a small fee to help cover the credentialing process, Boyd said. "Broadcast first informers will also be required to maintain some minimum personal protection equipment, including a hard hat, lime green safety vest, first aid kit, fire extinguisher, metal whistle, chemical goggles and dust mask."

In addition, tool recommendations include a "D" size flashlight, pry bar and multi tool kit, according to the credentialing planning committee.

Boyd said the program will demand time of broadcast engineers from across the state to step up and support the program as volunteers.

"We face the real possibility of a 9-plus earthquake [in Oregon]. The potential is there for such a catastrophe. Having a large number of broadcast engineers as first informer will be critical to maintaining as much communi-

cation infrastructure as possible and recovering from such an emergency," Boyd said.

White and Boyd believe the criteria developed for the first informer program are unique due to the level of involvement by SBE.

"We are certainly willing to share what we have done here with other states. This has really been a cooperative effort between broadcasters, the emergency management community and SBE," White said.

The society's national leadership is aware of the Oregon training initiatives involving local chapters and said they would welcome the opportunity to help other states.

"The SBE is supportive of the efforts being made in many states to establish 'first informer' access to broadcast facilities in time of emergency," said Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, president of the society. "The broadcaster associations in these states have worked closely with their states' SBE chapters and we will continue to support our members' and chapters' involvement as other states look to create their own versions of a first informer access law."

Massey said the SBE could consider developing a specific SBE first inform-

OREGON SHAKES

If earthquake experts are correct, officials in Oregon and neighboring states have reason to launch programs aimed at keeping critical communications infrastructure operating.

In fact, a major quake is overdue in the Pacific Northwest United States.

Seismologists warn of a "big one" striking along the Cascadia fault, which sits at the bottom of the Pacific Ocean just off the coast.

Emergency planners held a large-scale preparedness exercise in June called Cascadia Rising to simulate a 9.0 Cascadia Subduction Zone earthquake and tsunami along the Washington and Oregon coast. Ken Murphy, a regional administrator for FEMA, said at the time that "A 9.0 Cascadia Subduction Zone earthquake will be a disaster unlike anyone has ever seen."

Such an earthquake would collapse hundreds of bridges, wreck many coastal highways and cause considerable damage to urban areas, experts say. A resulting tsunami could flood coastal sections of Oregon.

James Boyd, one of the planners behind Oregon's first informer credential program, said such warnings add a sense of urgency to planning for a disaster.

"The experts say that earthquake could happen any day. This part of the country is very aware of the threat. That's what really drove this whole effort."

er certification, which would have to undergo the review of its Certification Committee.

"The decision would be based on whether it would help the cause of first informers and if it would benefit our members," Massey said.



Oregon state officials expect to hold an official signing ceremony in October to signify the launch of the program in the state. White and others plan to make presentations to educate engineers on the important of completing the credentialing process.

NEWSROUNDUP

A selection of recent headlines from Radio World's NewsBytes newsletter. Sign up for free at radioworld.com/subscribe.

IPHONE 7: Radio industry observers were talking about the impact of Apple's decision to omit the traditional headphone jack on the new iteration of iPhones. Attention focused on NextRadio, the local listening app, which relies on the headphone cable as the reception antenna; Paul Brenner, president of NextRadio, said that even if consumer electronics companies start to move away from traditional headphone jacks in pursuit of ever-slimmer designs or water proofing, physical connectors will be provided for the foreseeable future. A physical connection out to any wire can be used by the device as an antenna, he said. Separately, consultant Randy Kabrichh blogged about the complications for iPhone users who are part of Nielsen's PPM measurement program.

WEA: The FCC was set this month to vote on a proposal to enhance Wireless Emergency Alerts; it had proposed enhancements late last year. Among the changes mentioned then were expanding the maximum length of WEA messages; enabling alerts to contain embedded phone numbers and URLs; creating a new class of alerts called "Emergency Government Information" as a means of sending public safety advisories such as "boil water" messages or where to shelter in weather emergencies; requiring participating wireless providers to deliver alerts to more specific geographic areas; and making it easier for state and local authorities to test WEA service and train personnel.

JAY CRAWFORD: Radio engineer Jay Crawford died, according to the website of WVXU (FM) in Cincinnati. It called him "a radio engineer's engineer" and quoted colleague Don Danko saying, "He knew everyone in the broadcast industry, especially in Cincinnati, but his name and reputation extended well beyond the reaches" of Cincinnati radio signals.

Courtesy WVXU



RECALL: Fall protection provider 3M recalled Lad-Saf sleeves, replacing the original model with a redesigned next-generation version. According to a press release, the review took place following "a limited number of incidents involving a serious injury or death in the United States while using the sleeve." The company says that its review did not reveal product hazard from ordinary use, but that there was "potential misuse scenarios that could result in serious injury or death." For information email LADSAFNA@mmm.com.

REGULATORY FEES: The FCC finalized 2016 regulatory fees your radio station owes this month. Fees increased for many stations in the biggest U.S. markets (and for all FMs), though a few AM categories declined, and the commission scaled back some planned increases in the smallest communities. Meanwhile broadcasters in Puerto Rico were unsuccessful at asking for fee relief. See the new fees at radioworld.com/fees.



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At L.A. AES Show, the Network Awakens

AES67 digital audio networking will be big at the 141st AES Convention



BY BRETT MOSS

The 141st AES Convention is scheduled for Sept. 29–Oct. 1 at the Los Angeles Convention Center.

If there's a theme it might be "networking," specifically IP-based networking. A whole track is being devoted to "Networked Audio." That track will no doubt be of interest to broadcast engineers attending.

But the usual focus of interest for the radio engineer is the Broadcast and Streaming track; its chairman, Dave Bialik, has set his mind again to creat-

ing useful sessions.

Thursday, Sept. 29, features "Listener Fatigue and Retention," 10:45 a.m.–12:15 p.m. The Aphex man, Marvin Caesar, will moderate a panel that includes recording producer and engineer Bruce Botnick focusing on "the epidemic of hearing loss among both the producing and consuming population. It is essential for the producers of audio content to understand what listener fatigue is and what causes it."

Friday, Sept. 30, 1:30–3 p.m., features what a highlight for radio processing buffs, an "Interview With Bob Orban."

The processor guru will be interviewed by colleague Greg Ogonowski.

Saturday, Oct. 1, provides several interesting sessions.

"Designing, Building and Maintaining a Radio Performance Space" is explored on page 10.

Running 10:45 a.m.–12:15 p.m., "Implementing IP Wiring for Audio Applications" takes on the increasing pervasiveness of IP technology. Have you heard about Cat-8? You will when Belden's Steve Lampen is joined by Kevin Gross of AVA Networks, Dan Mortenson of Dansound, Tony Peterle of WorldCast Systems and Tim Pozar.

Tapping into a new content format for many will be "Considerations for Podcast Audio," 5–6:30 p.m. Led by NPR's Tim Byers, several successful podcast producers will provide their thoughts, predictions and tips on the podcast practice.

The Broadcast and Streaming track also includes sessions on TV audio (4K and 8K TV audio), surround sound in many flavors (are you ready for 22.2?), consumer audio and other elements of broadcast technology. There'll also be a fun session, "Grease Live — The Mixer's Perspective."

NETWORKED AUDIO

For the engineer wanting to be on the cutting edge, many of the sessions to be at are in the "Networked Audio" track. Admittedly much of the material is aimed at installation and live sound applications, the miracle of digital makes much of the technology capable of being cross-platform and there's no doubt that broadcast as already seen digital audio network capabilities bleed

IF YOU GO

What: AES Los Angeles 2016

Where: Los Angeles Convention Center

When: Sept. 29–Oct. 2, 2016

How: www.aes.org/events/141/

How Much: Four-day all-access \$575; various packages available. Exhibits Plus badge \$25

into the broadcast plant.

To wit, there'll be several sessions examining AES67, the seemingly all-purpose networking standard seeking to bring peace and harmony to digital audio networks.

Leading the way will be Sept. 29th's session, "Rolling Out AES67 Into Real-World Applications" with Andreas Hildebrand of ALC NetworX. Following in the same path are two sessions on Sept. 30 — "AES67 and the Audio Industry" and "AES67 Discovery." Of interest to more advanced engineers might be Oct. 1's "Optimizing Audio Networks" and Oct. 2's "AES67 Interoperability Testing — The Plugfest Report."

This list does not exhaust the networking sessions, many of which are multi-application.

It needs to be added, as always, there is much more at an AES than broadcast-oriented sessions and events.

Besides a show floor second only to the NAB spring show, there will be interesting and fun sessions on recording technology and practice along with looks at musical instruments (e.g. Heyser Lecture with keyboard synthesizer expert Dave Smith), venues (e.g., "The Great British Recording Studios") and audio equipment ("Historic Microphone Technologies and Their Connection to Vocal Performance Techniques"). Being in Los Angeles, there will also be some outstanding tour opportunities such as trips to Sony Computer Entertainment America, ESPN, 20th Century Fox, Paramount Recording, Dolby Theater, NRG, Capitol Studios and the Iron Mountain Entertainment Services storage and restoration facilities (which allegedly has legacy machinery for playback of most any known entertainment format).

Separately, the National Association of Broadcasters and Audio Engineering Society announced they will collocate fall conferences in 2017. The AES East Coast convention, with its emphasis on audio, and the NAB Show New York, slanted to video and content distribution, will be side by side in October of 2017 at the Javits Convention Center. The move is likely to help the events benefit from one another rather than compete for attention and audience at about the same time. Organizers expect a combined total of 25,000 attendees.

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Performance Spaces: What's Old Is New Again

AES devotes a session to bringing back the performance space

AESSHOW

BY BRETT MOSS

Once upon a time, a live band at a radio station was common. Many radio stations even had their own house band to provide musical backgrounds, interludes or outright entertainment. And sometimes these stations had studios that were as good as the professional recording studios of the time. But that was long ago.

As they sometimes say, what's old is new again.

"Performance spaces" have recently become a big deal at some stations. In an effort to offer something new and become more relevant in the community or enhance their reputation as a source of music discovery, some radio stations have built-out small- to medium-sized stages for music acts to perform in. Some even offer recording equipment.

Dave Bialik and other AES 2016 organizers are hot on this trail. Tracy Teagarden of CBS Radio in Las Vegas will helm a session devoted to the topic: "Designing, Building and Maintaining a Radio Station Performance Space," Oct. 1, 9–10:30 a.m.

Here are a few questions we put to Teagarden.



The Neon Trees perform at the CBS Radio Las Vegas performance space.

Media San Francisco, Lynn Duke of CBS Radio in Los Angeles and Steve Shultis of New York Public Radio.

RW: Why should busy show attendees take time out of their schedule to attend your session?

Teagarden: Well ... I've built a venue that is a training/conference room from 9 to 5, and I love to talk about it. We have a long history of understanding what the real job is, making artists

comfortable, as well as two albums, hundreds of hours of on air, and web content. The panelists and I have eaten that elephant, and would like to help you with the first bite.

RW: Are dedicated performance spaces something just for well-heeled stations in big cities?

Teagarden: No, of course not. All manner of artists love to be in front of people, they have venues to fill, they will stop by

your station if they think you can help them do that. Small towns have artists coming through too, and if the space and equipment are ready to go, people will be stopping by before you know it.

RW: Can they be good return on investments?

Teagarden: Certainly. Concert venues have seats to fill, music is a marketing tool used by virtually everyone. You have access to your listeners, who will remember for the rest of their lives sitting 10 feet from "that band" playing an "acoustic" set (I hate that word acoustic, it doesn't mean anything), or maybe big stacks, and 4 x 10s and a million watts in your little room. What advertiser wouldn't want to be a part of that?

RW: Can you name some examples of well-done performance spaces?

Teagarden: KROQ in Pasadena, Calif. — it's my reference standard. CBS in Dallas, Alpha Broadcasting in Portland, and mine, CBS Las Vegas ... I'm kind of partial to mine.

RW: Can these be in-house projects or are they best tackled by outside contractors?

Teagarden: We did ours in its entirety. If you can build a radio station, this will be a fun time. You'll have to comply with your local codes, and you may not have the time and resources to do as much as you would like, but the more you do yourself, the better you will understand your project.

Radio World: What is this session about?

Tracy Teagarden: Radio has this fantastic access to artists, and after all these years, we are looking for better ways to interact with them and present them to our listeners. With fewer resources than you might imagine, a radio station can carve out a comfortable multipurpose venue. This session is about featuring what you have and creating memorable experiences for your listeners, how to prep your space, lighting, front of house, backline, hospitality, we'll try and go from beginning to end.

RW: Will you have panelists? If so could you drop some names?

Teagarden: I will! Gary Kline of Kline Consulting, Andrew Stern of Cumulus

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NEWSROUNDUP

CORRESPONDENCE FILE:

Several groups waved a cautionary flag about the FCC's plan to drop the requirement that stations keep copies of listeners' paper correspondence and make them public. They argue that the correspondence folder empowers the community and serves as an important source of information for those who want to hold local broadcasters accountable. Filers include the AFL-CIO, the National Hispanic Media Coalition, the Center for Media Justice, Common Cause, Communications Workers of America, Free Press and Public Knowledge.

TELOS: The Telos Alliance formed a TV Solutions Group. CEO Frank Foti said, "With last year's acquisition of Minnetonka Audio and subsequent merger with Linear Acoustic, we have the building blocks to expand our success into TV broadcast and further advance the integration of AES67."

OVERSIGHT: The chairman of the Senate committee with oversight of the FCC convened a hearing to discuss policy questions and perceived internal divisiveness at the agency. Sen. John Thune, chairman of the Senate Committee on Commerce, Science and Transportation, accused Chairman Tom Wheeler of "pursuing a partisan

agenda" for his handling of FCC net neutrality rules, privacy issues and other policies. Wheeler defended his work. He opened his remarks suggesting that it would be his last appearance before the committee.

STREAMING: Pandora introduced Pandora Plus, an ad-free internet radio subscription service available for just under \$5 per month. The price undercuts Pandora's premium offering Pandora One, as well as that of many competitors including Spotify, Apple Music and Tidal. Existing Pandora One users will be transitioned to the new service.

EAS: What do the terms "live" and "immediate" mean when discussing Emergency Action Notifications and National Periodic Tests? Sean Donelan, who works in network reliability and infrastructure, asked the FCC to clarify. "Reportedly, an FCC staffer made informal comments at a meeting [that] his interpretation of the rules meant they must be re-transmitted as soon as the EAS headers are validated," Donelan told the FCC. "This informal comment did not take into consideration ... the 'manual' capability for activating the EAS at a participant's facility, which has been permitted since the original FCC order establishing the EAS in 1994; and appeared to add a requirement to re-transmit NPT messages 'live.'" But he said this appears to contradict the FCC's current rules. He also asked the FCC to return to the practice of publishing EAS information and clarifications on its website. Read more at radioworld.com/donelan.

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The Accounting Doctor Can Help You

Here's a helpful, free resource for engineers who are new to budgeting and cap-ex planning

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

It's budget time! A group's regional engineer recently explained a technique he has used in evaluating his capital expense lists. Rather than just itemizing in a "wish list" format, he adds a brief one- or two-sentence description of each project and why it is needed.

Simple and to the point. Tie in revenue or return on investment to help non-technical managers understand the importance of certain capital projects. I agree with his assessment. When I held a similar role, I always tried to show a cost/benefit to any funds I was requesting.

Many smaller stations don't budget, but that doesn't mean they can't prepare something informally. Is this you? Look

budgeting or budgeting in general? I've got a website for you to visit. Dr. Brian Routh is on the accounting faculty of the Romain College of Business at

Tie in revenue or return on investment to help non-technical managers understand the importance of certain capital projects.

the University of Southern Indiana in Evansville. He has been an accounting professor since 2002, as well as a state auditor and an accountant. Routh is better known as the "Accounting Doctor" and has developed a website offering numerous tutorial videos on all things accounting. The best part? It's all free.

Routh has the unusual talent of being able to simplify complex (and sometimes "boring") accounting topics, so even those of us financially challenged engineers can understand.

In addition to expanding the knowledge for the broadcast engineer, Routh's tutorial videos are ideal for engineers who are doing contract work. Take advantage of his hours of work and surprise your manager when an accounting term is thrown your way.

Find it at www.theaccountingdr.com.



Fig. 1: Find the Accounting Doctor website at www.theaccountingdr.com.

For example: "New transmitter — the existing transmitter is over 20 years old, repair parts are non-existent and reliability is questionable. Since station revenues depend directly on staying on the air, a replacement is warranted."

ahead to the next 3 to 5 years and list equipment that should be replaced. List items in order of importance and year; it will demonstrate your initiative and planning capabilities.

Are you new to capital equipment

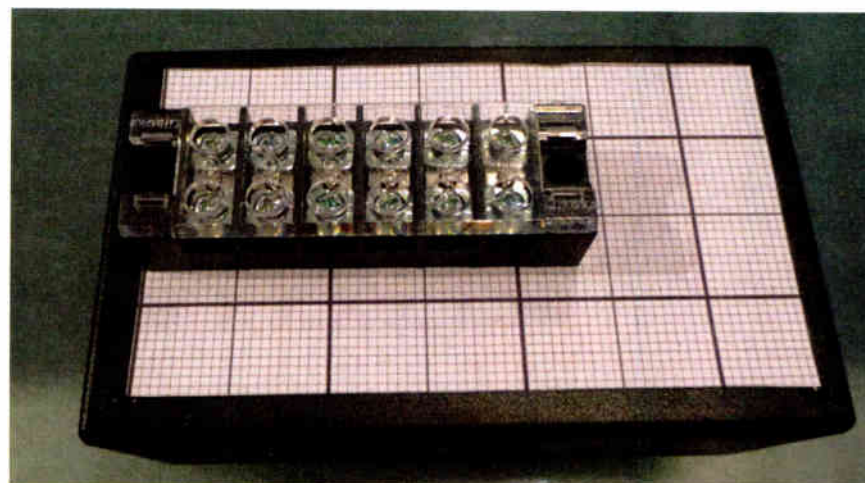


Fig. 2: Tape graph paper on a chassis to ensure that drilled holes are uniform.

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Len Watson, proprietor of Scope+Focus in Chicago, writes that a lot of engineers probably know the trick of gluing/taping quadrille or "grid" paper to a chassis before laying out parts, as shown in Fig. 2. Len thanks his dad for that tip many years ago.

The graph grids make organization easy; and once everything's laid out, holes can be marked, punched and even drilled — and it all lines up nicely.

Now you can do the same thing in equipment rooms or other large areas. For an installation at WLZK(FM), WRQR(AM) and WМУF(FM), Paris, Tenn., Len needed an "equipment wall." He found a roll of Pacon grid paper, available in 1-inch or half-inch crosshatching. This is 34-1/2 inches wide (by 200 feet) so you can do a whole wall with a couple of strips, as demonstrated in Fig. 3.

From there, layout of equipment, mounting brackets, wire paths and cable tie pads is easy — no level or ruler required, just mark the positions and

(continued on page 18)



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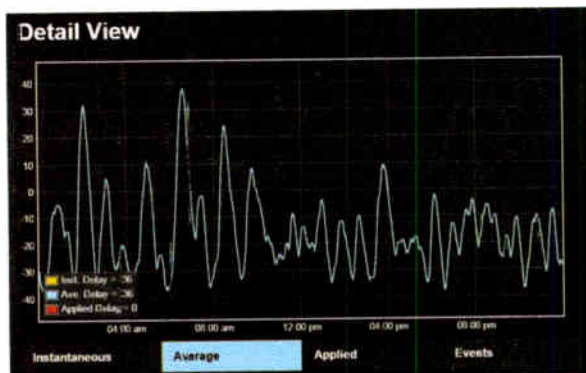
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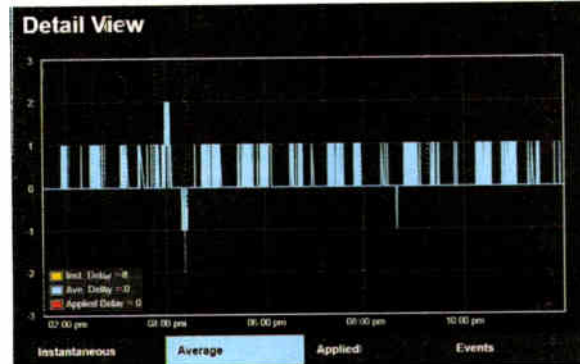
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WTMJ(FM): Milwaukee FM Pioneer

The Milwaukee Journal radio station was an innovator in new broadcasting technologies

ROOTS OF RADIO

BY JOHN F. SCHNEIDER

Milwaukee Journal radio station WTMJ was an innovator in new broadcasting technologies.

In 1931, its experimental station W9XD was one of the first to transmit a low-definition electromechanical television signal. In 1934, its W9XAZ was one of the first Apex (high fidelity ultra-shortwave AM) stations, operating with 500 watts on 26.4 MHz. On Feb. 23, 1940, it was superseded by W9XAO, the first experimental wideband FM station west of the Alleghenies. This pioneering FM station broadcast on 42.6 MHz in the old FM band, using a 3,000 watt REI transmitter.

In April 1941, W9XAO was relicensed as a commercial FM station on 45.5 MHz, with the call sign W55M. In 1942, its power was increased to 50,000 watts ERP with a 10 kW transmitter broadcasting from a new plant near Richfield, northwest of Milwaukee. When the FCC abandoned the unpopular alphanumeric FM call signs in 1943, W55M became WMFM.

From the beginning, WMFM featured separate programming from WTMJ(AM), offering more than 35 hours each week of so-called "better music," with many programs being broadcast before a live audience. Local musicians participated in live talent shows, and even a few live operas were broadcast. Musical transcription programs were broadcast in the afternoons, giving listeners an alternative to the continuous stream of soap operas that were the typical fare on AM radio.

An aggressive campaign of local and national advertising showed that the Journal was indeed serious about FM.

However, in 1945 the FCC began hearings on a restructuring of the post-war radio bands. Faced with demands for new spectrum for television, concern

over the possibility of increased sky-wave interference in the old FM band with the coming sunspot maximum and receiving intense lobbying by RCA and others, the FCC proposed to relocate all FM broadcasting from 44–50 MHz to a new band at 88–108 MHz. The 53 existing FM broadcasters were uniform in their opposition to the change, which would obsolete all existing transmission plants and a reported half million

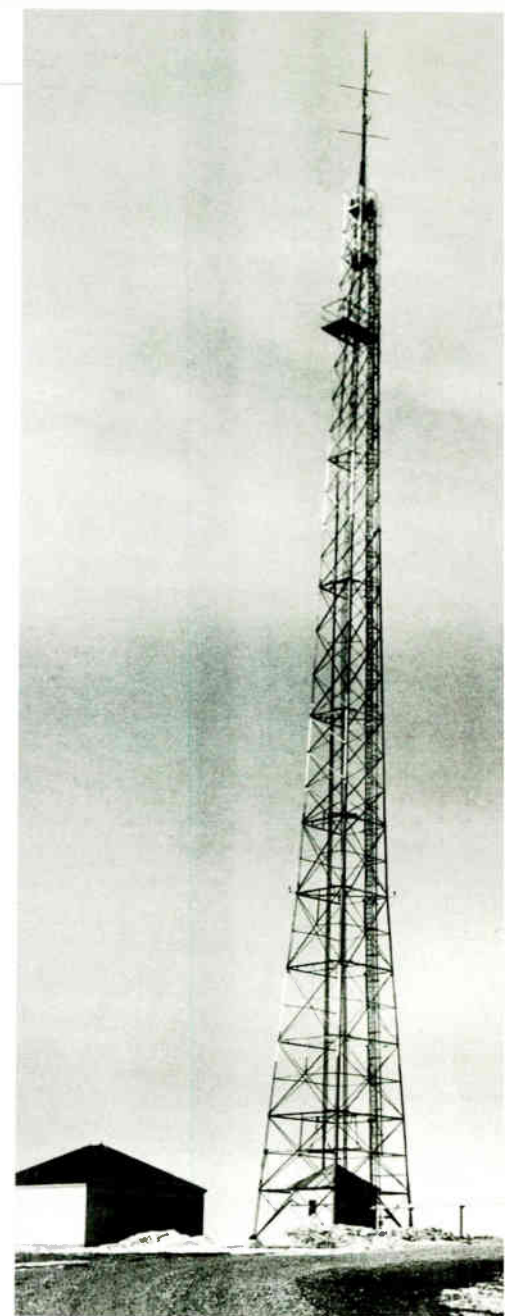
receivers in the hands of consumers. Nonetheless, the FCC voted in favor of the move, which was a major setback to the nascent FM broadcast community.

In Milwaukee, for the Journal Company, FM now took a back seat as the company refocused its attention towards the future of television (WTMJ-TV went on the air in 1947). WMFM was renamed WTMJ(FM), indicating its discontinuation of separate FM programming in favor of 100-percent simulcasting of its AM sister station. But that didn't mean a curtailment of the company's investment in FM.



In 1940, little usable data were available about FM propagation and coverage. A number of stations in the eastern United States had been studied, but W9XAO had the only signal west of the Alleghenies, and so it was studied to understand how FM would perform in flat Midwest terrain. The WTMJ engineers here are Daniel Gellerup and Phil Laeser, tasked with taking mobile and fixed measurements on eight radial routes — to the south, west and north — driving away from the transmitter along each radial until there was no longer a usable signal. Mobile measurements were recorded on a "chartograph" mechanical recorder. Also, as seen in this photo, periodic fixed measurements were taken, orienting the receive antenna for the best signal. A test report was presented to the FCC in time for a hearing on FM broadcasting in March 1940.

Photos from the author's collection



After WTMJ(FM) moved to 92.3 (later 93.3) in the current FM band, it raised power in 1948 to a whopping 349 kW ERP with the installation of a giant 50 kW RCA transmitter, the most powerful built to date, and a taller tower with an eight-element square-loop antenna. (A number of super-power FM stations were allowed in the early days of FM, but only a handful of these grandfathered stations remain today.)

After the FCC relocation of the FM band, there was a short-lived boom in applications for FM licenses, mostly due to the pent-up post-war demand for new radio stations. At the start of 1947, there were more than 142 FM stations on the air.

But the relocation of the band had proven to be a setback from which FM would not recover for more than 15 years. Post-war sales for new FM receivers were painfully slow; set manufacturers were reluctant to be burned again, and consumers were now focused on the emergence of television. In 1950, the 10th year of FM broadcasting in the U.S., the industry hit its rock bottom, with more than 235 stations forced off



FEATURES

The Journal Co. built this transmitter site for W55M in 1942. The 200-foot tower was on Richfield Hill, 2 1/2 miles northwest of Milwaukee with an elevation of 450 feet. The building included living quarters for the engineer/operators.

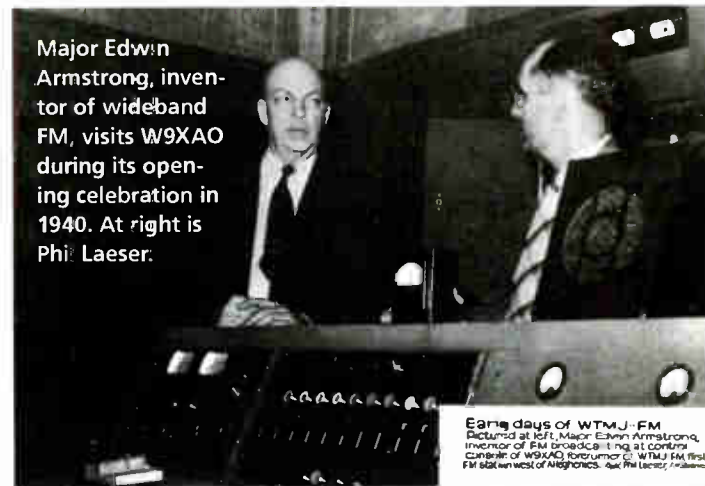
which shows no signs of material growth.”

Fortunately, some business decisions are reversible, and as FM's fortunes finally improved in 1959, the Journal Co. decided to get back into the FM business. In that year, WTMJ(FM) returned to the air with a new license on 94.1 MHz. Today, that station is known as WKTJ 94.5 and is operated by Scripps Media, which acquired WTMJ and WKTJ when it merged with Journal Communications in 2015.

John Schneider is a radio history researcher and long-time Radio World contributor. Write him at jschneid93@gmail.com.

Got an idea for a Roots of Radio story? Email us at radioworld@nbmedia.com.

Major Edwin Armstrong, inventor of wideband FM, visits W9XAO during its opening celebration in 1940. At right is Phi Laeser.

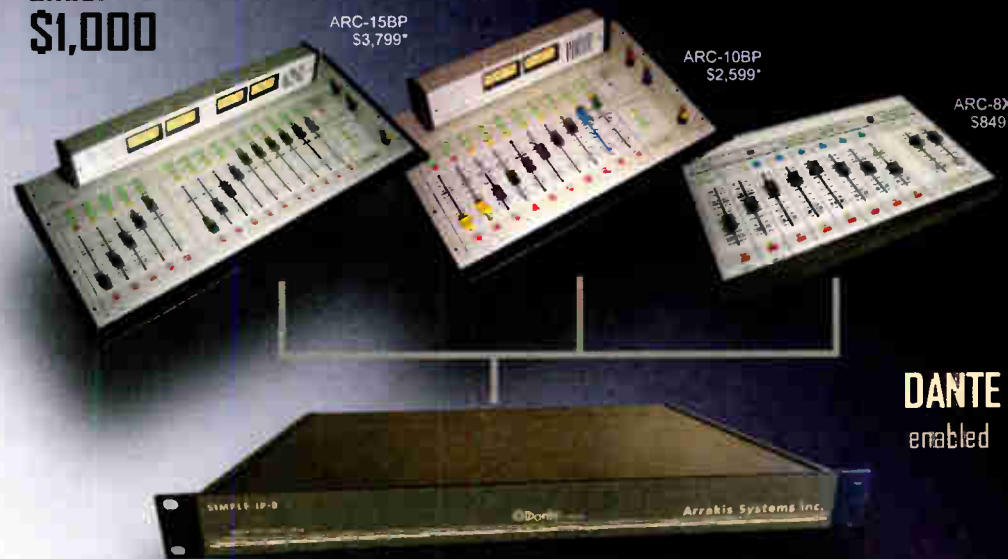


Early days of WTMJ-FM. Pictured at left, Major Edwin Armstrong, inventor of FM broadcasting; at center, conductor of W9XAO, forerunner of WTMJ-FM first FM station west of Alleghenies. At right, Phi Laeser, WTMJ-FM.

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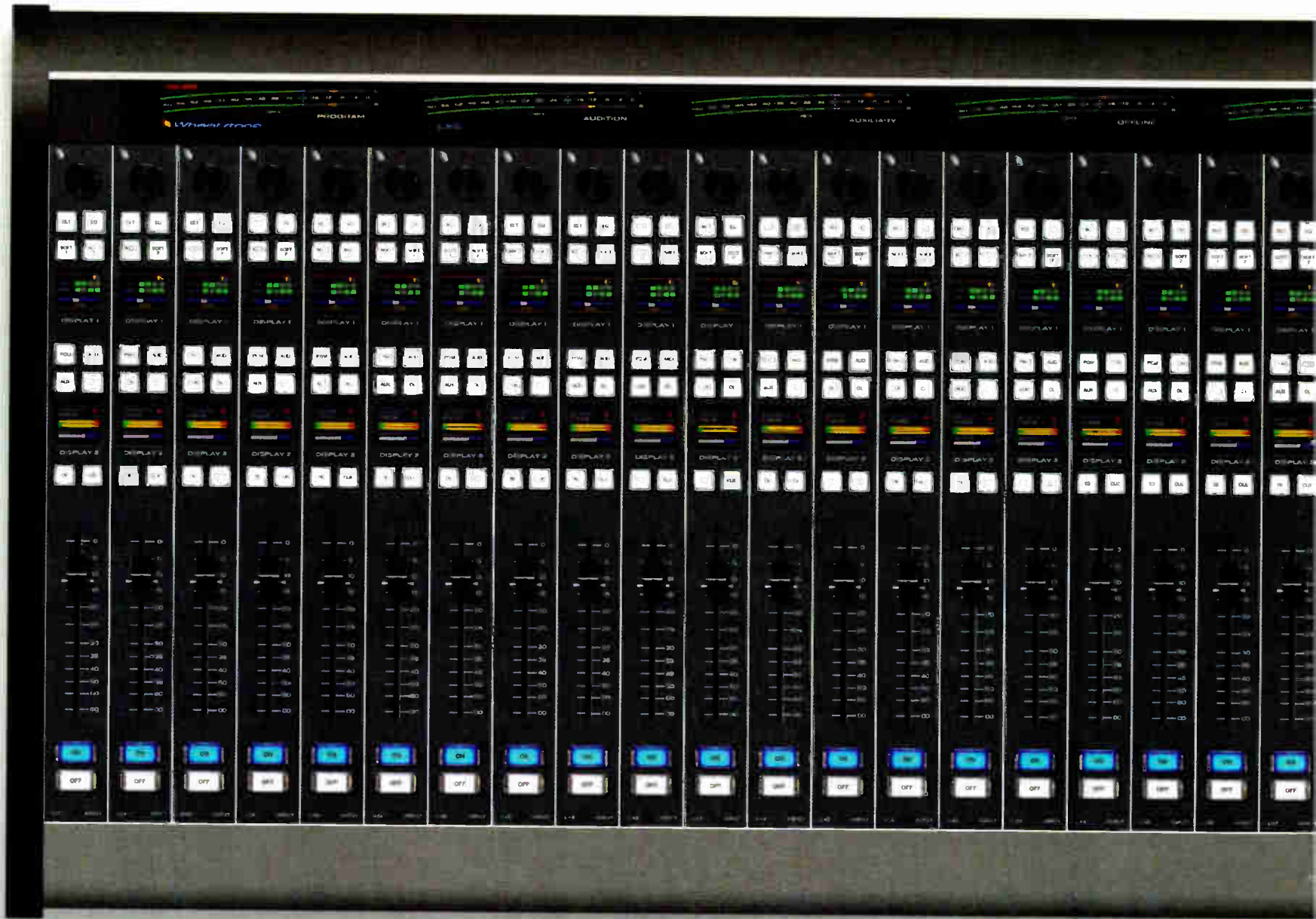
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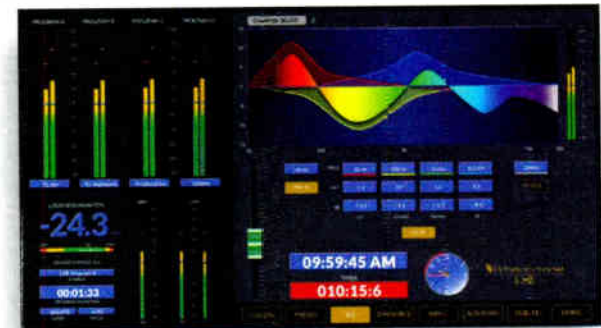
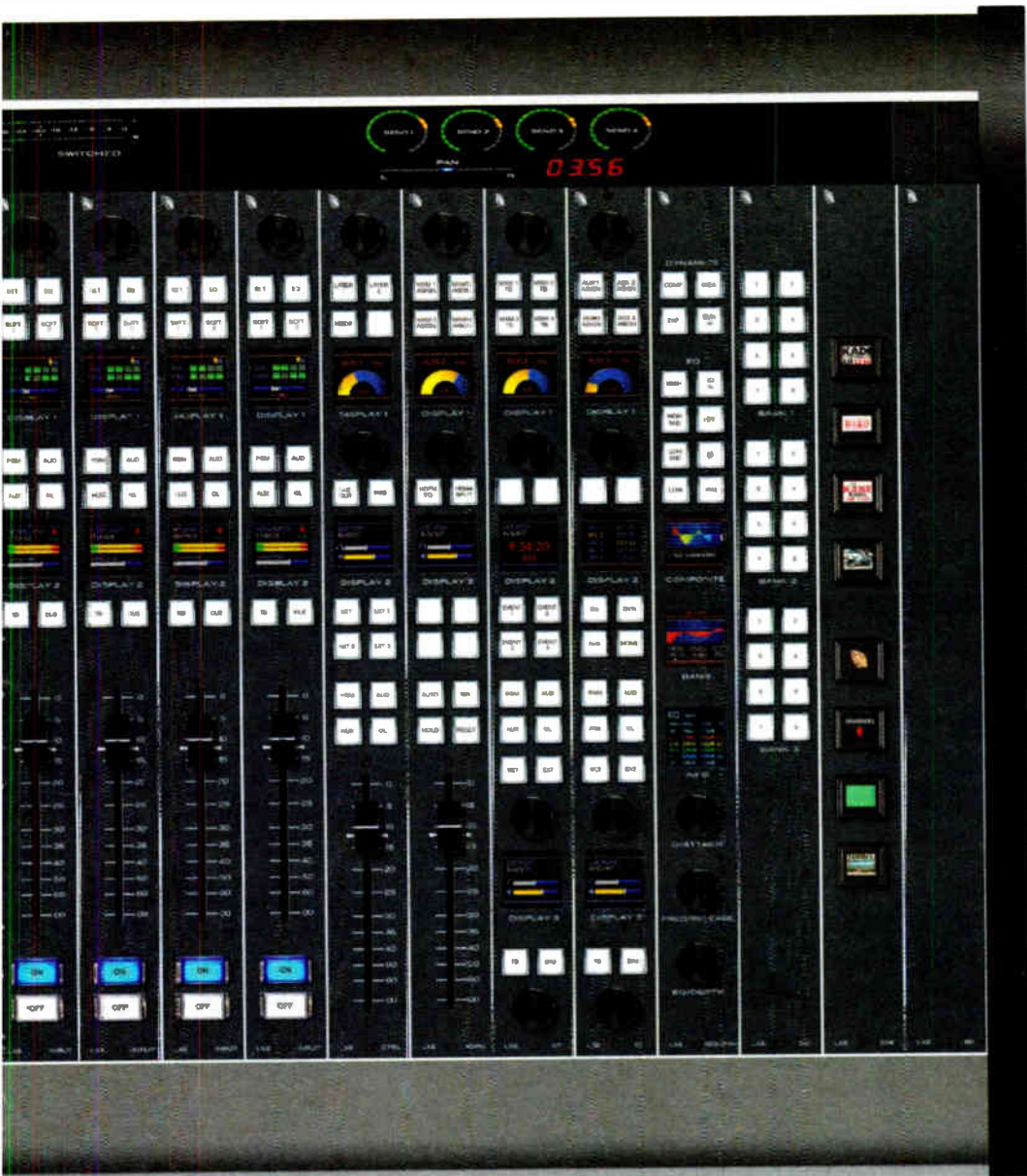
The Evolution of LX Radio Control Console

Wheatstone's new LXE console brings control surface configuration to a new level. Going far beyond the usual "any source to any fader" network concept, the LXE is a fully flexible control interface, where every switch and rotary control is programmable to perform any desired function. This means console architecture is completely customizable to client requirements, and limitations to functionality are no longer a factor. Physically compact, the LXE is available in several different form factors including countertop, countertop sunken, and split frames (split sections are not confined to one room, they can actually be in different studios).

Any Way You Want It

ConsoleBuilder software allows every switch on the surface to be programmed for function, mode, and even color (switches are RGB led illuminated). In fact, built-in software allows every button to be scriptable, letting you create powerful macros for as many controls as you want. Multiple full color OLED displays on each panel keep pace with ongoing operations, and event recall allows painless one touch console reconfiguration at the press of a button. With its inherent control flexibility and ability to access thousands of signals (sources and destinations are limited only by the size of the network) the LXE takes facility work flows and audio control to a new level.





The World At Your (Motorized) Fingertips

The LXE can have up to 32 physical motorized faders, with full DSP processing available on all 32 channels. Surface(s) interface seamlessly into the WheatNet-IP Intelligent Network, and utilize BLADE-3s for audio, control and associated logic data flowing on single CAT6 interconnecting cables. The system can ingest and convert virtually all audio formats: analog, microphone, AES/EBU, SPDIF, AoIP, MADI, SDI and even AES67. Loudness metering, phase control, and full EQ/Dynamics are included.

All New Graphical User Interface

LXE's new GUI has pre-built screens for everything you normally use – metering, clocks, timers, dynamics, EQ, assigns, and more. All are touch-screen accessible with gestures you're used to using on your smart devices. And, the GUI is just as customizable as the LXE surface. Using our ScreenBuilder-LXE software, you simply drag and drop objects and define their functions via a simple wizard interface. You can store multiple custom screens, if you like, to go with your custom LXE setups.

THE ALL NEW LXE BROADCAST AUDIO CONSOLE

WORKBENCH

(continued from page 12)

install. Do it for no other reason than the ease with which you can mount items with back keyholes like uninterrupted power supplies.

At pacon.com, search for "grid rolls."

Projects engineer Dan Slentz, a fellow Radio World contributor, wrote to share a ground system monitoring module he found. Available from TESSCO (www.tessco.com), the Ventev GTRM 100 is a small, easy-to-install monitor-

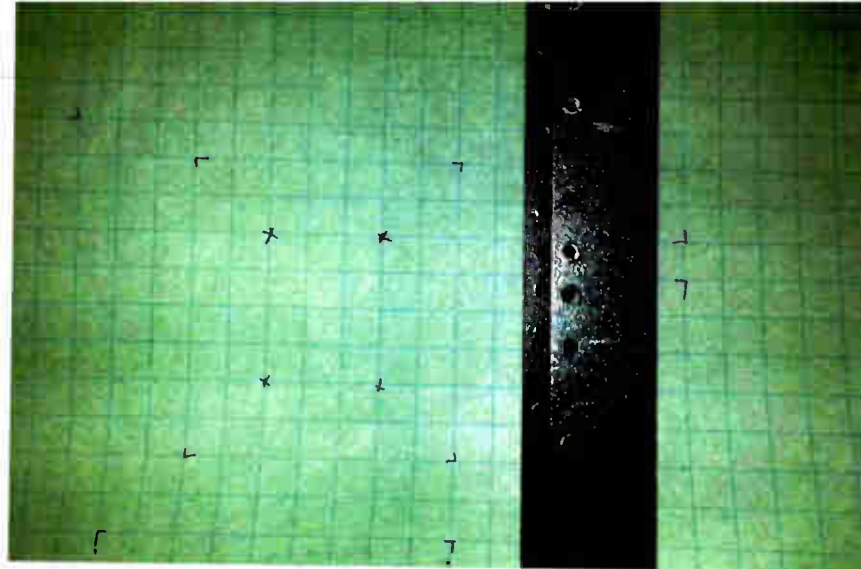


Fig. 3: For equipment walls, large sheets of Pacon-brand grid paper works best.

ing device that connects to your site's copper grounding system, creating its own monitoring circuit.

When the copper circuit is interrupted, an alert message will notify the engineer or network operations center through the Ethernet or a contact closure connection. The GTRM 100 was designed to be a smart, simple, economical and reliable monitoring solution to alert engineers of potential catastrophic failures.

Copper theft still remains an operational threat, and the GTRM 100 is an elegant solution to what could be an expensive problem. The GTRM 100 costs less than \$350.

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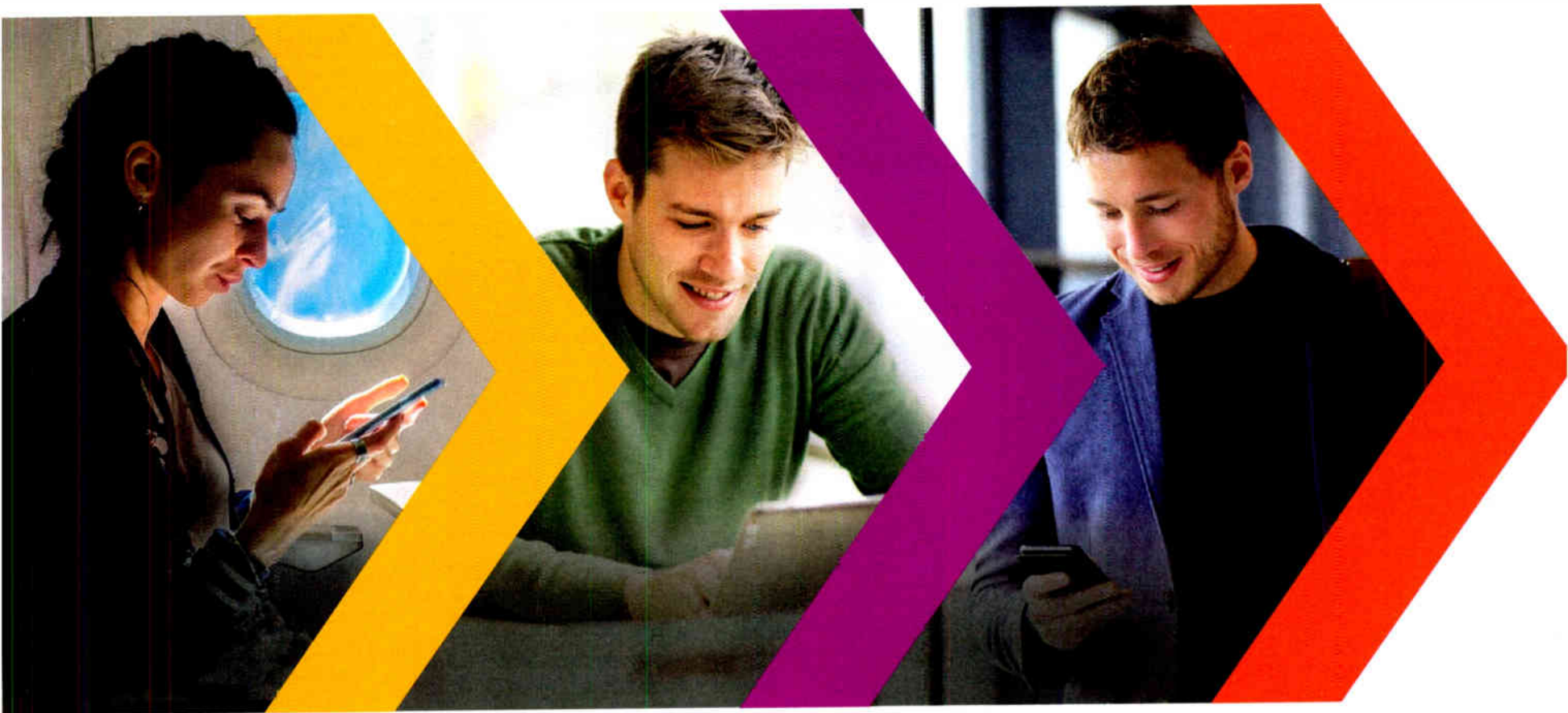
WHO'S BUYING WHAT

Satellite programming distribution equipment maker Newtec says its Newtec Dialog platform has been selected by Rocklin, Calif.-based Educational Media Foundation to retrofit its K-Love and Air1 radio stations at more than 500 sites.

Newtec Dialog Hubs at two locations will multiplex EMF's outbound radio signal, which can be received by standard, off-the-shelf integrated receiver decoders, as well as VSAT modems. According to a press release, this "will enable geographically redundant broadcast services, while the hub also allows the distribution carrier to be shared with the VSAT forward link."

Newtec Dialog offers tailored services and "optimal modulation, bandwidth allocation, service availability, reliable automation of link setups and flexible workflow support," according to a release. It also features Newtec's return link technology Mx-DMA, which delivers the efficiency of a single channel per carrier with the dynamic bandwidth allocation of multi-frequency time division multiple access.

Newtec has already equipped and connected more than 100 remote sites, with hundreds more pending. The system will also create a bidirectional IP pipe to radio towers to control and monitor EMF's remote sites.



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ENCO DAD Automation Simplifies

Workflow made easier and reliability boosted for First Natchez Radio Group

USERREPORT

BY JOSH WELLS
 Technical Operations Manager
 First Natchez Radio Group



the best balance of cost-effectiveness, concurrent live program control and redundancy for our needs.

In June, we went live with DAD across all five of our stations. ENCO's stellar service helped ensure a smooth changeover for us. They converted our entire existing library for us prior to shipping the units, and tailored the configurations to tightly integrate with our other existing software systems.

ENCO also provides us with exceptional post-installation support. As easy as DAD is to use and learn, it's still different than what our staff had used for more than 10 years, so their support team has been a tremendous asset to us in the transition. The old system required roundabout methods for many things we did, so the hardest part of learning DAD was simply "unlearning" our old habits of doing things the "hard way."

One of our favorite features is the DAD Dropbox utility, which eliminates manual conversion and import steps when bringing audio files into the automation system. I love it, and our DJs love it. When we want to bring songs, imagery or even full shows into the system, we can just drag and drop the files into a folder, and DAD automatically ingests them and inserts them into the library.

ENCO's remote voice-tracking tools are fantastic. We augment our local radio personalities with additional talent in Nebraska and Texas, and one of our local DJs is moving to another city. We want to keep her on the air, and ENCO voice-tracking lets us do that. The DAD system automatically sends playlist sections and 30-second clips of the songs' outros and intros to the remote jock, who then uses the DAD

Remote Tracking Client to record the voice track and sends it back to our server for automatic integration into our playlist. It couldn't be easier.

Other remote access features of the DAD platform also make our workflow a lot simpler. We can work with the system from any office on the network, without tying up a production room. Using the iDAD app in the ENCO enCloud family, we can send remote commands to the system from a mobile device through an easy interface. For example, I can recue a station's playlist with a single button click from my phone if a program didn't make it through due to a satellite issue.

iDAD also enables us to have multiple live users on a single system at the same time. While our stations are deployed across three separate systems, we often air four high school football games simultaneously. One live board operator can be in front of the machine using DAD with a mouse, while another live board operator triggers hot buttons and watches countdowns in a separate DAD array panel through an iPad.

ENCO DAD has proven much easier to use than our previous system, and is tremendously configurable. Its powerful DAD Command Language lets us set it up so we can push a single hot button to execute 10 commands, from enabling or disabling mixing boards to merging playlists with logs from our RadioTraffic.com traffic and billing system. Once again, this saves us a lot of time and effort, and we don't need specialized users to perform these tasks — whoever is in the studio at any given time can take care of them.

Three months into our DAD experience, everything has been great. It has given us the reliability we need, it's straightforward to operate, and it saves everybody hours each day.

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

RELIABILITY

ENCO DAD met all of our criteria, giving us the robustness and feature-richness we need while coming in less expensive than its closest competitors. While many automation offerings are locked into a "one station per system" model, the affordability of ENCO DAD was further magnified by its flexibility to run multiple stations on a single machine. We chose to spread our five stations across three on-air systems as

TECHUPDATE

RCS UPGRADES ZETTA

RCS has released several upgrades and improvements to its Zetta automation system.

The Voice Tracking module has been enhanced to allow for adding beds or other assets to the voice track recording. Studio-quality voice tracks are now available from one's laptop or mobile device, says the company.

In addition, Zetta2GO now incorporates more modules for use in remote environments. The newly added Library module allows the user to browse the media assets of the system and associate them to a position in the log or on



the Hot Key grid as needed. RCS says it's possible to increase the power by combining GSelector with Zetta on scheduled logs. GSelector can schedule additional material rather than relying upon an arbitrary fill category list to create a coherent yet dynamic log, adds the company.

Finally, for music scheduling, RCS explains that its Selector Cloud provides constant and secure access from anywhere with a username and password, allowing the remote user to perform music scheduling functions, such as library management, clock-building, policy setting, log editing, transfer to the automation system and analysis.

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

ABOUT BUYER'S GUIDE

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.

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Digilink Fills the Bill at WNKR

Kentucky broadcaster upgrades to HD and is happy

USERREPORT

BY MARK DOYLE
Operations Manager
WNKR(FM)

DRY RIDGE, Ky. — At WNKR(FM)/Classic Country 106.7, we had used Arrakis Systems Digilink free for the past 18 years at this station and it worked great.

Last year we chose to stream our music live on our website, and knew we needed some Digilink updates that went along with it. One thing we required was metadata, to give our online listeners the ability to see the song titles and the artists that were being played. We knew it was time for an upgrade.

Since we had loved Arrakis' automation product before, we knew where to look first. We chose to use Digilink HD to replace our old system.

While installing the new DHD system we ran into quite a few learning curves that we had not encountered before, which is normal when adding newer software. Anytime there were questions or any issues, we would contact Arrakis Systems. They would walk us through how to use the software, what things we could do to better use our equipment and helpful tips along the way.

Arrakis support has been on our side from Day One. I spoke with Melissa and Lonna; it is refreshing to be able to call



in and know who you will be speaking with every time. They treated me and my staff like friends and were there to help when in need — something you normally do not find in customer support departments.

They also provide video tutorials on their website that give us tips, tricks and things you didn't even think about while using their system.

With the new DHD system my station has been able to voice-track entire air shifts days in advance, stream live music and it operates better than any of us had anticipated. Also, any issues that have come up have been resolved within days of speaking with the Arrakis support team.

This system is beyond user-friendly. With our old automation system there would be times when I had wished the software could do things differently and be more versatile in certain areas of the automation and operations; there were limitations in what the software could and could not do. As soon as we started using the DHD systems, it was like all those little things that I had wished we could do in the past became a reality.

I am very happy with the way the Digilink HD system works. This system is solid and works way better than our old system. It's a system that is practical, logical and just makes sense. The GUI has everything you need, exactly where you think it needs to be. I would recommend using this system to any radio station.

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

TECHUPDATES

MYERS PROTRACK BUILDS ON HTML5

Myers says its ProTrack broadcast management system is a comprehensive, scalable solution that features robust, adaptable integrations and add-on modules such as media asset management, automation, accounts receivable and ProWeb. Users are able to manage centralized content metadata and multiple workflows from one point of contact.

The latest ProTrack release, built on a new HTML5 platform application, expands capabilities with commercial-grade sales functionality. This version provides end-to-end workflow from contract to reconcil-

iation including efficiencies designed to ramp up each station's revenue potential, including CRM functionality, proposals, contracts, rate cards, sales dashboards and the ability to update order entry. The company adds that users get an enhanced experience with easy and intuitive navigation and a refreshed, sleeker look and feel. Myers says it has also developed more in-depth integrations between the ProTrack system and vendor partners to enhance interoperability and bidirectional communication between systems. The integrations enable content to move across multiple systems within the enterprise based on actual usage/scheduling requirements, improving workflow efficiency.

For information, contact Myers at (413) 585-9820 or visit www.myersinfosys.com.

WHEATSTONE TAKES OVER VOXPRO

Wheatstone made news last year with its acquisition of the maker of VoxPro digital audio workstations. This year it released a new "whole number" version.

VoxPro 6 has new features focusing on editing including Gap-Buster for quickly eliminating long gaps in material such as interviews and phone calls. It can simultaneously record audio while also editing or playing back audio.

It also offers support for Hot Key and markers in multiple languages along with adding color-coding for the markers. The GUI also offers additional minimizing capabilities to "reduce on-screen clutter." Not surprisingly, integration with WheatNet is enhanced.

VoxPro Lead Engineer Rick Bidlack said, "We've combined all the intuitive capability that VoxPro is known for with several new features, then we Wheaty-ized it to turn it into an even more powerful tool in the broadcast studio."

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



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The unit uses software alarms and can be configured to send SNMP trap messages to alert you to an emergency condition. Also standard, is Data Logging, which takes reliability one step further by enabling you to see degraded performance before it becomes an emergency.

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The Radio People Like AudioVault

Group puts six stations on BE's AudioVault

USERREPORT

BY CHRIS COLLINS
Director of Programming and IT
The Radio People

MONROE, LA. — I'm excited to share my thoughts about Broadcast Electronics' AudioVault Flex 10.40 and its integration of the MusicMaster scheduling suite.

In a high-paced, multitasking environment, like we have at The Radio people — KRVV(FM), KMVX(FM), KRJO(AM), KJLO(FM), KLIP(FM) and KMLB(AM/FM) — I am always looking for tools to both improve the operation of our radio stations and streamline things at the same time if possible.

The latest version of AudioVault now has full integration with MusicMaster scheduling software. In addition to overseeing IT, I directly program three of our radio stations. AudioVault and MusicMaster have our stations sounding better than ever and save me some time too.

It's nice that when I put a new cut

in the AudioVault that it automatically populates in the proper MusicMaster dataset ready for me to add my final codes to it. In AudioVault I now have the ability to find a replacement for a scheduled song while still following my

MusicMaster rules. If an hour is short, an operator can find a suggestion of a song to play that also fits the programming rules of MusicMaster.

Even better is the fact that there is a have real-time reconciliation between the two. If someone replaced a song with, say, a request from a listener,



that song goes back to the top of the stack for its category. That means it's available for the next day's schedule or even future replacements or suggestions in the same day. I am getting the best music rotations I have ever gotten on my stations because of this real time reconciliation.

AudioVault Flex 10.40 also introduced a new satellite interface with Perfect Timing and Auto Fill. Now my breaks come out perfect every time and you can even setup Auto Fill to be able to talk to MusicMaster to get a song to fill a satellite program. That's useful in syndicated morning shows with large local breaks that are sometimes filled with music. It's just a nice level of protection that takes care of you if somehow a song wasn't scheduled in the log or was inadvertently missing from the system.

I am extremely pleased with both programs. They have streamlined my workflow, while improving the sound of my radio stations. AudioVault Flex 10.40 plus MusicMaster is the perfect combination of automation and music scheduling.

For information, contact Jeff Wilson (Western U.S.) or Don Backus (Eastern U.S.) at Broadcast Electronics in Illinois at (217) 224-9600 or visit www.bdcast.com.

TECHUPDATES

DJB RADIO ADDS THE BUTTON SCREEN

The DJB Radio automation suite has added a "Button Screen." It is a GUI addition and offers on-air live assist features.

The top fifth of the DJB Radio Button Screen display, aka The Bridge, offers a display of key information and statistics for enhancement of the talent's air show.

The Bridge also displays, current time, the day's date, a countdown of the hour time remaining, the hour scheduled log item's total runtime, current local temperature with "Feels Like" and high — low predictions, audio level meters that follow the Now Playing audio channels, a Now Playing Up-Time counter and display and expanded view of the Now Playing item details.

In addition, a graphic of the artist's album, a drag bar and song info adds to the air talent's artist song enrichment.

The latest DJB Radio Play Stack when compared visually to the original DJB Radio software shows added buttons for starting and stopping log item play. The Now Playing event has an added display wheel showing expired time. The Play Stack displays 10 log events, the top two always show the last played events. Scrolling the Play Stack allows more "Last Played" events to be viewed and read for backselling while the Go to On Air Item button allows instant return to the current playing event.

DJB Radio "Button Screen" supports, Windows 7 and 10 Pro, touchscreen with mouse, WheatNet LIO interfacing for closure management along with support for WheatNet AOiP and Axia Livewire audio drivers. Physical audio cards such as those from AudioScience, Behringer, Lexicon and Digigram are also supported.

For information, contact DJB Radio in Nevada at (702) 487-3336 or visit www.djbradio.com.



NETIA UPGRADES MEDIA ASSIST MONITORING

Netia is upgrading monitoring capabilities of its Media Assist media asset management software suite. The new monitoring module gives radio staff one easy-to-use interface for managing and optimizing multisite workflows, the company says. Staff can monitor priority levels on all launched processes to help minimize their impact on bandwidth, while facilitating content delivery within the group and increasing time-to-air ratios.

The API within Media Assist enables interoperability and integration of multiple business- and public-facing systems. In addition, broadcasters can set up several instances of the Netia Workflow Engine to handle parallel tasks such as transcoding in order to process more content during peak news periods. In addition, the company points out that its special focus on virtualization means that computational tasks, together with server components, can run in a virtualized infrastructure with minimal configuration stored on clients and minimum effect on users.

Netia says that in a news environment, its Media Assist software suite acts as a multimedia hub for content in any format, including audio, video, text or images. The company explains that the cloud-ready system enables radio stations to deploy their back-office applications in a dedicated SAN or host them securely outside the station's premises. By offering safe and managed access to outside entities, the station can foster cooperation and exchange with its affiliates and partner organizations.

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



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USERREPORT

BY LORI RICHARDSON
Traffic Director
Great Eastern Radio

WEST LEBANON, N.H. — We went with RadioTraffic.com in 2012. It's definitely more user-friendly than other traffic software. It was easy to learn and quick to pick up. I love that it's not cumbersome like a lot of conventional software.

I've been in radio since 2002 and love this business. I'm traffic director for three companies, 17 stations in all. Great Eastern Radio has stations in New Hampshire and Vermont, but we also have Nantucket Radio and Nantucket Public Radio in Massachusetts.

I handle all billing, payments and everything related to bookkeeping myself, but I have another traffic manager who helps, plus others assign rotations. One of the best things I love about RadioTraffic.com is that it doesn't require a hard close for the end of the month. That's convenient for me.

Our sales managers and sales people also appreciate RadioTraffic.com. They pull their own reports, con-

tracts and invoices. They like how RadioTraffic.com lets them quickly grab up-to-the-minute information themselves day or night, in the office or out. They don't have to come through the traffic department or wait for us to get back to them. The sales managers and sales people have done well setting up their reports that show them exactly what they want.

We recently upgraded to RadioTraffic.com's newest product, Premier. Where I have found RadioTraffic.com to save me the most time is billing. Other vendors' software took two or three days to do billing. Most other work had to shut down. With RadioTraffic.com, we are typically done with billing the first day by noon. One timesaver is that we email invoices to a lot of our clients. In the past, we had to print everything, stuff envelopes and mail. No more.

RadioTraffic.com even automatically collates invoices and statements for us. Now I can review them, then send them out with one click of a button. That has saved us a lot of time and we always get billing done in a timely manner.

For the most part, I find RadioTraffic.com's Premier order entry is very easy to do.

We also use another RadioTraffic.com Premier feature called EZ-Net on some of our stations for network



advertising. One button downloads everything — the network schedules, the orders — into RadioTraffic.com's logs automatically. It's great.

The support team is fabulous about listening to our ideas about what helps my stations. Their software people have been great at making new ideas happen.

For information, contact RadioTraffic.com in Texas at (866) 500-0500 or visit www.radiotraffic.com.

TECHUPDATES

NBS TRACKS STATION ASSETS

NeoGroupe says NeoGroupe Business System is for broadcasters and engineering services that deal with a lot of hardware items, installed in various locations. NeoGroupe made an application that can be accessed easily on PCs and smartphones. It minimizes the amount of input needed to perform tasks around company property. Items can be itemized by assignment to an employee, those of a specific brand and model or those which went on one specific event and more.

NBS can show a list of all items that are supposed to be in a specific room, such as a live performance space or a single studio. It will let users perform an inventory without preparation. Each item that has been scanned at least once in a year will be visible.

It also can track items sent to events and remotes with a scan of the barcode on their deployment and then compared to when the truck returns.

Once items are in the system, they can be searched in a number of relevant fields by barcode or serial number to get important information regarding the item from any device.

NBS supports "child" elements, automatic history, total values, P/O and budgets management, duplicate items in a single click, year-end discarded items reports for accountings and more.

For information, contact NeoGroupe at (210) 757-4700 or visit www.neogroupe.com.



BSI SUPPORTS WINDOWS 10, ADDS 64-BIT FOR WINDOWS 7/8

Broadcast Software International's Simian 2.3 radio automation has been released; it integrates a new audio engine supporting Windows 7, 8 and 10 in both 32-bit and 64-bit versions.

Additionally, Simian 2.3 adds integration with the Axia multichannel PC audio driver, GPIO nodes and consoles. Simian 2.3 adds integration with the GatesAir PR&E Oasis console with USB multichannel audio. Also new is an email notification engine that will notify selected authorities when a user changes the program log, application settings or exits Simian, or after a network computer loses power and reboots, when an FTP operation is unsuccessful, and more.

BSI's Stinger 3.1 and WaveCart 5.1 live assist applications have been released, adding support 32-bit and 64-bit versions of Windows 7, 8 and 10. Stinger 3.1 also adds multichannel playback, looping and more. WaveCart adds metadata output and new GPIO hardware integration with the Broadcast Tools GPI-16.

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

WIDEORBIT TAKES UP THE WEATHER **WIDEORBIT**

WideOrbit has partnered with weather information provider Weatherology to offer what it calls the world's only automated radio weather service.

The company says that when severe storms are on the way, the addition of Weatherology to WO Automation for Radio assures each station is ready to keep its communities informed. Weatherology automatically generates a media asset of a professional meteorologist describing the weather situation. Local weather reports can be customized to suit a station's programming requirements. The forecasts can be any length and include custom intros, outros, sounders and integrated sponsorships.

WideOrbit describes WO Automation for Radio as a powerful and modern radio automation system. WO Automation for Radio can run multiple markets from any location while addressing the individual needs of each station department. It integrates with most major station system software including WideOrbit's WO Traffic, MusicMaster, vCreative and others.

For information, contact WideOrbit in California at (415) 675-6700 or visit wideorbit.com.

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Wanted: real plate reverb. abgrun@gmail.com.

AUTOMATION EQUIPMENT

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DIY-DJ Version 2.0 is now available. Over 500 copies of DIY-DJ, a Linux based radio automation system, have been distributed and now version 2.0 is available. Voice tracking, join satellite feeds, do unattended sports and remote events, temperature announce, scheduler, automatic cut editing on import, and much more. It's FREE. If you are using version 1.0 or would like to try DIY-DJ, go to krwsfm.com, register and download your free full version. The only thing we ask is that you

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WANT TO SELL

I'm selling between 150 and 200 cassette tapes that consist of old-time radio shows, sports shows, some local New York radio talk shows, etc... Must take entire collection and the price is negotiable. Please call me for details and, my phone number is 925-284-5428.

Radio broadcasts of Major League Baseball, NFL, and some college football games that are on cassette tapes, approx 100 to 125 games, time period of entire collection os from the 1950's - 1970's, BO. Must purchase entire collection. Contact Ron, 925-284-5428 or ronwtamm@yahoo.com

WYBG 1050, Messina, NY, now off the air is selling: 8-chnl console w/mics & access; 250' tower w/building on 4 acres, collection of very old 78's, 12" satellite dish on concrete base, prices drastically slashed. 315-287-1753 or 315-528-6040.

WANT TO BUY

Collector wants to buy: old vintage pro gears, compressor/limiter, microphone, mixing consoles, amplifiers, mic preamps, speakers, turntables, EQ working or not, working transformers (UTC Western Electric),

Fairchild, Western Electric, Langevin, RCA, Gates, Urei, Altec, Pultec, Collins. Cash - pick up 773-339-9035 or ilg821@aol.com.

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

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

I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSF, 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 ronwtamm@yahoo.com.

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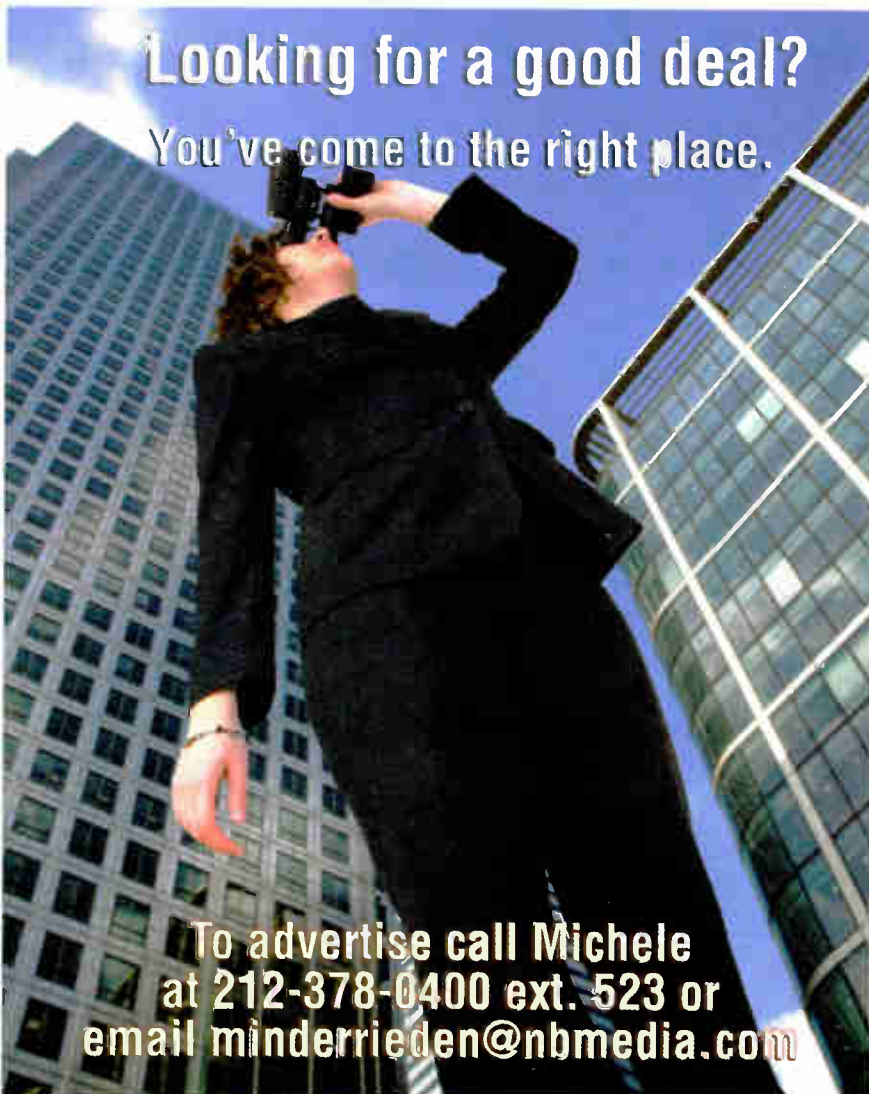
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AM Audacity: Class A Stations Should Adapt

One reader's rebuttal to the AM Radio Preservation Alliance

COMMENTARY

BY WARREN ALLGYER

The author is general manager with SP Test & Measurement.

This is in response to the commentary "Alliance Engineers: First Do No Harm" by the AM Radio Preservation Alliance (May 11 issue).

My reading began in amusement at the predictable "let them eat cake" attitude of the "big boys." That amusement quickly turned to indignation as I realized that the key points made by the authors were based on misleading conclusions and partial statements of the facts.

There are three points I would like to make in rebuttal:

1. The economic loss from the proposed rule-making to Class A stations is trivial compared to the revenue gain realized by smaller, local stations.
2. A listener within the daytime contour of a local AM station should not, and cannot, be considered a "loyal listener" of a distant station on the same frequency.
3. The EAS system best serves listeners of local stations rather than distant signals.

ALL LISTENERS ARE NOT EQUAL

The authors make no distinction between listeners in a station's local market versus distant listeners. The economic equation for AM radio



stations is based on the number of listeners in the station's local market. The number of local listeners is readily quantified based on ratings services, and this is the basis for sales.

The huge number of listeners, established though they may be, that will be lost by elimination of skywave propagation protection for Class A stations are not included in the local listenership numbers tallied by the ratings services. The huge numbers of "lost listeners" identified by the authors in currently protected contours translate to little or no lost revenue for these stations.

Most of these "lost potential skywave" listeners actually reside within the groundwave contours of local Class C and D stations that are not currently allowed to serve them at night due to the protection provided the "big boys." Allowing these stations to serve their local communities during night time hours will generate heretofore-unobtainable revenue in these markets.

Making the revenue pie bigger by introducing new, revenue-producing nighttime listeners is a manifestation of exactly what the commission is attempting to achieve with this rule-making.

INTERFERENCE IS IN THE EARS OF THE BEHOLDER

I giggled a bit at the audacity of the authors who assert that their loyal listeners will suffer interference from these new or higher-power signals at night.

I serve as a contract engineer for WBTC, Uhrichsville, Ohio, a 250-watt daytime Class D station with a nighttime authorized power of 5 watts. Local and regional sports are a primary and critical source of revenue for WBTC. Afternoon and evening sporting events often span the sunset hours, requiring WBTC to reduce power in the middle of these events. Imagine the distress of local relatives of the star high school basketball player who suddenly, at a critical juncture of the game, find that WBTC has disappeared and is replaced by a booming signal from KXEL in Cedar Rapids, Iowa.

Those relatives, who are well within and well-served by WBTC's daytime contour, would be counted as disenfranchised KXEL listeners under the criteria used by the authors. If you were to ask them, however, they would tell you they are WBTC listeners who are being interfered with by some out-of-town bully with no knowledge or care about the local issues in Uhrichsville, Ohio.

EAS ALERTS FROM DISTANT STATIONS ARE OF LITTLE VALUE

The most specious argument advanced by the authors is the one that listeners are best served by EAS alerts from distant, Primary Entry Point stations. Nothing could be further from fact.

(continued on page 30)

Howard E. Espravnick
Associate Professor of Communication
Volunteer State Community College &
Manager, WVCP(FM)HD-1/HD-2
Gallatin, Tenn.

READER'S FORUM**REMEMBERING CHARLIE**

I note with sadness the passing of Charlie Morgan, a giant in the radio engineering community ("They Don't Make 'Em Like Charlie Anymore," Smitty Says," *radioworld.com*). However, I am also disheartened to observe that this event is being used to white-wash the troubled history of the U.S. digital radio broadcast transition.

Despite paeans to the contrary, and as I have extensively documented elsewhere, the National Radio Systems Committee did not handle the process of standard-setting for the U.S. digital radio protocol in a straightforward and scientifically objective manner. At no time were competing systems ever tested against each other, as proprietors of admittedly embryonic technologies used the NRSC more as a battlefield to maneuver for political primacy in the regulatory process than to validate the science behind the systems.

The process of "consensus" to approve an IBOC-centric standard was forced, with many NRSC members choosing to abstain rather than to sign on — directly resulting in the standard's abandonment by receiver and other electronics manufacturers. When the merger of iBiquity occurred, the NRSC itself effectively ceded the field, becoming nothing more than a rubber stamp for what HD Radio proponents desired as they worked to triage a technology that honestly got too far ahead of itself in the standard-setting process.

The irony here is, in IBOC/HD's early days, the main bone of contention wasn't about technological integrity as much as it was about control — making sure that broadcasters sat in the driver's seat of their own digital transition. Nearly two decades later and the facts don't lie: stalled migration on the broadcast side and near-invisibility on the consumer side, especially as new audio delivery platforms and technologies con-

tinue to gain market share.

With iBiquity's acquisition by DTS, broadcasters have ceded that value of the platform for which they fought so haphazardly during HD's pre-history, and in which Mr. Morgan played such an influential role.

Grit and determination aside, this is a legacy that I'd hesitate to hang on any one man, so I'll prefer to remember Charlie by his other notable accomplishments, including work regarding the future of AM broadcasting, which in many respects led directly to the FCC's ongoing AM revitalization proceeding (in which HD Radio plays a far from starring role).

John Anderson

Director, Journalism and Media Studies Program
Brooklyn College, City University of New York

New York

"They Don't Make 'Em Like Charlie Anymore," Smitty Says

by Milford Smith

on 08/03/2016

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STORY TOOLBAR



Charlie Morgan died this weekend as we reported Tuesday.

Radio World asked Milford Smith Morgan's successor as chairman of the National Radio Systems Committee to share his thoughts.

Yes a very sad day for those of us who both knew Charlie and those who greatly benefited from his expertise and industry leadership.

Although Charlie is best remembered for his long time chairmanship of the NRSC, he should also be equally remembered for what he accomplished in his "real job" as the leader of the Susquehanna Radio engineering effort. Susquehanna was always known as among the very best "engineered" companies in the radio business and it was because of Charlie's great knowledge, equally great expertise, hiring skills and management acumen that the company achieved that status.

At one point I had the opportunity to see many of the Susquehanna facilities close up in a due diligence exercise. The one word that comes to mind was "impressive." They were among the very finest facilities in every market in which they operated, and their technical personnel were likewise exceptional.



Morgan is shown with other NRSC leaders on the day he stepped down as chairman in 2007. From left: Milford Smith, Mike Bergman, Charlie Morgan and Andy Laird. Photo courtesy: Milford Smith.

AUDACITY

(continued from page 29)

Uhrichsville listeners can listen with sympathy to flood alerts and tornado warnings from Cedar Rapids, but they are not personally affected by such alerts and, in the worst case, may find them unnecessarily confusing and alarming.

These listeners are far better served by their trusted local broadcaster, with a reliable and continuous groundwave signal, transmitting alerts that are completely relevant to them while serving them with local programming. They remain secure in the knowledge that the same national alert they might receive directly from the distant station will be reliably relayed to them by the local station. They know this because the system was established to do just that and it is tested regularly to assure it works well and reliably.

A LOYAL LISTENER IS NOT THE SAME THING AS AN ECONOMIC LISTENER

I completely understand the loss of prestige that would be experienced when the Class A station can no longer lay claim to clear-channel status. That loss of prestige is not consistent however with the concept of "the greater good."

It has been well-demonstrated by cellular providers who took over previously under-utilized UHF television channels, replacing super-power, regional mega-broadcasters with highly localized, two-way services. Hyper-localism not only represents the highest and best use of the public airwaves, but it also generates orders of magnitude more revenue from these frequencies.

There is every reason to believe that same concept applies to AM radio. Clear-channel broadcasters have outlived their usefulness and need to adapt to and embrace the modern evaluation of the greater good.

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