



RADIO WORLD

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Ellis Pushes Digital Dashboard Development

"It's not good" for radio if Apple and Google take over the car experience

DIGITAL DASHBOARD

BY RANDY J. STINE

The future of terrestrial radio in the digital dashboard is hardly clear to John Ellis. The founder and managing director of Ellis & Associates is a technologist and software developer who has spent most of his life not far from the intersection of data and autos, with the digital dashboard of particular interest.

Ellis, who spoke at the fall Radio Show this month, is the former global technologist for Ford's connected car business as well as an executive with Motorola. His job has been to develop and market mobile software and services.

Now, he consults to OEMs. Tier 1
(continued on page 8)



John Ellis. "Trust me," he says. "Apple and Google don't care about an established industry like radio and making sure it fits into their platform."

You Talkin' to Me? That's Voiceover!

Society of Voice Arts and Sciences sponsors industry event in New York this fall

VOICEOVERS

BY KEN DEUTSCH

The world of voiceover has expanded greatly over the decades. Professional voice actors are now heard in radio and TV imaging, video games, documentaries, audio books, cartoons, commercials, as well as corporate and training videos.

Nov. 4-5, the voiceover industry will gather to share knowledge and

celebrate its best and brightest in an event put on by the Society of Voice Arts and Sciences at Lincoln Center in New York. The first day of the event will be "That's Voiceover Career Expo," an interactive experience featuring networking opportunities, education and entertainment. On the second day, the Voice Arts Awards are scheduled to be presented with appearances by documentarian Ken Burns, performer/activist Lily Tomlin and other celebrities.

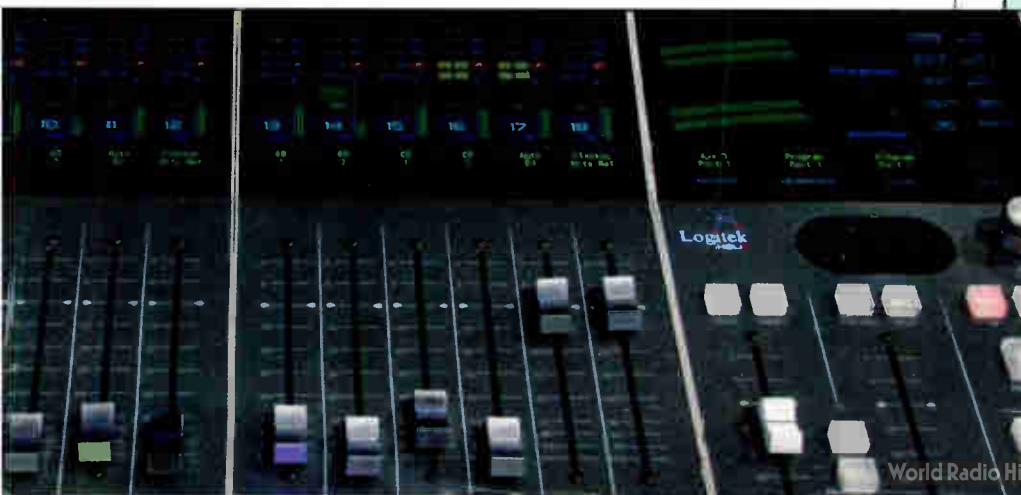
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Voice actor Lynn Hoffman jokes around with musician Lionel Richie.

Photo by Billy Tompkins

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EDITORIAL STAFF

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GEAR & TECHNOLOGY EDITOR Brett Moss
TECHNICAL ADVISER Thomas R. McGinley
TECHNICAL EDITOR, RWEE W.C. "Cris" Alexander
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EDITORIAL CONTRIBUTORS

W.C. Alexander, Susan Ashworth, James Careless, Harry Cole, Ken Deutsch, Mark Durenberger, Charles Fitch, Christopher Friesen, Harold Hallikainen, Donna Halper, Craig Johnston, Alan Jurison, Paul Kaminski, John Kean, Peter King, Larry Langford, Mark Lapidus, Daniel Mansergh, John Merli, Jim Peck, Mark Persons, Stephen M. Poole, Carl Lindemann, James O'Neal, Rich Rarey, John Schneider, Randy Stine, Richard Strickland, James G. Withers, Tom Vernon

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PUBLISHER John Casey
EDITORIAL DIRECTOR Paul J. McLane
PRODUCTION MANAGER Karen Lee
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AUDIENCE DEVELOPMENT

VICE PRESIDENT | CORPORATE DIRECTOR OF AUDIENCE DEVELOPMENT Meg Estevez
CIRCULATION MANAGER Kwentin Keenan
ASSOCIATE CIRCULATION MANAGER Michele Fonville

SUBSCRIPTIONS

Radio World, P.O. Box 282, Lowell, MA 01853
TELEPHONE: 888-266-5828 (USA only 8:30 a.m.-5 p.m. EST)
978-667-0352 (Outside the US) FAX: 978-671-0460
WEBSITE: www.myRWNews.com
EMAIL: newbay@computerfulfillment.com

CORPORATE

NewBay Media LLC
PRESIDENT AND CEO Steve Palm
CHIEF FINANCIAL OFFICER Paul Mastronardi
CONTROLLER Rick Ng
VICE PRESIDENT OF DIGITAL MEDIA Robert Amies

VIDEO/BROADCAST GROUP

EXECUTIVE VICE PRESIDENT Carmel King
VICE PRESIDENT / SALES DIRECTOR Eric Trabb

ADVERTISING SALES REPRESENTATIVES

US REGIONAL & CANADA: John Casey, jcasey@nbmedia.com
T: 212-378-0400, ext. 512 | F: 330-247-1288
US REGIONAL: Michele Inderrieden, minderrieden@nbmedia.com
T: 212-378-0400, ext. 523 | F: 301-234-6303
EUROPE, AFRICA & MIDDLE EAST:
Raffaella Calabrese, rcalabrese@nbmedia.com
T: +39-320-891-1938 | F: +39-02-700-436-999
LATIN AMERICA: Susana Saibene, susana.saibene@gmail.com
T: +34-607-31-40-71
JAPAN: Eiji Yoshikawa, callems@world.odn.ne.jp
T: +81-3-3327-5759 | F: +81-3-3322-7933
ASIA-PACIFIC: Wengong Wang, wwg@imaschina.com
T: +86-755-83862930/40/50 | F: +86-755-83862920
CLASSIFIEDS: Michele Inderrieden, minderrieden@nbmedia.com
T: 212-378-0400, ext. 523 | F: 301-234-6303

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Radio Just Got Smarter Thanks to AI

Cognitive engines represent a key tool to expand radio beyond boundaries of the airwaves

COMMENTARY

BY DREW HILLES

The author of this commentary is senior vice president of Veritone Media.

With rivals moving at internet speed, online media seems to have reduced broadcast media powerhouses to the status of media dinosaurs. However, new AI technologies are giving the so-called old media firms a chance to turn the tables on their internet rivals.

It's true: Broadcast media is at a crossroads. Consumers are swarming to

the key to an innovative and successful future.

I. There is a wealth of practical uses in AI technology

Incorporating artificial intelligence for analysis has capabilities that extend much further than word-for-word transcription. For example, sentiment engines enable the tone behind a series of words to be analyzed. This is then used to gain an understanding of the attitudes, opinions and emotions expressed.



Drew Hilles

II. Reporting and verification is near instantaneous

Previous tactics of media tracking involved manual monitoring, analyzing and logging components. Further complications arise when dealing with product placement, brand integration, native advertising and endorsements that aren't identified with commercial breaks. These native and organic mentions must be tracked, as they remain a critical brand tool because they are delivered by trusted, reliable and opinion leaders.

While these tactics provide an opportunity to influence the audience and shape purchase intent, paying an individual or team to monitor this type of material can cost millions of dollars. Utilizing cognitive engine technology allows the potential for nearly instantaneous tracking and aircheck verification, freeing employees to focus on more critical tasks.

AI was recently implemented into the workflow of Cumulus Media because a radio broadcasting powerhouse reaching 245 million people each week doesn't have days to wait for airchecks or for campaign reach and efficacy insight. With stale, often incomplete information as the only source of reporting, Cumulus knew change was in order.

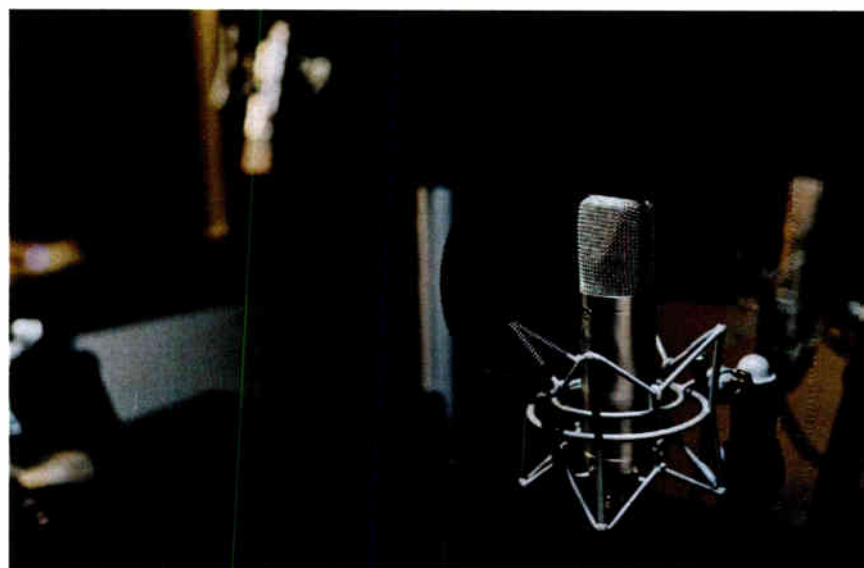
Cumulus turned to the Veritone Platform to provide a holistic solution, and customer satisfaction, retention and upsell had increased as a direct result of their enhanced abilities to analyze and share success metrics with valued partners.

III. Content and media management just got smarter

Cognitive engines represent a key tool to expand beyond the boundaries of the airwaves by allowing traditional media to repurpose their content for presentation on search, on-demand and social-media services. By sharing broadcasts online, stations can get more ears on segments, showing more value to advertisers and drawing in new listeners.

Radio broadcast listenership isn't limited to the car-ride commute home from work. Digital radio is increasingly popular with over 100 million listeners monthly in the U.S. — including users who are actively enjoying services like

(continued on page 5)



new opportunities that maximize content and minimize advertising, but that doesn't mean that traditional broadcast mediums are disappearing — it means they are adjusting. While ad buying and selling remain a vital part of the radio industry lifeblood, quick decisions must be made in order to maintain success for both advertisers and broadcasters alike.

Quantifying and measuring broadcast hits, native advertising and on-air product placements has historically been difficult and tedious. Despite the reporting struggles, in 2015, radio garnered \$18 billion in revenue. In order to continue growing this revenue stream, ad efficacy and validation, as well as reporting efficiency and analytics, are increasingly important in 2018 to show ROI measurements to key advertisers.

The solution to the struggle between broadcast outlets and advertising is more innovative metric reporting that assures proper advertising investment. As consumer interest is garnered and lost at the speed of sound, artificial intelligence is

However, AI engines aren't limited to sentiment and can include a suite of tools such as:

- Audio/video fingerprinting engines generate a condensed digital summary, deterministically generated as a reference clip, that can be used to quickly locate similar items across multiple media files.

- Transcription engines convert spoken audio and video recordings into readable text. They are built and trained to recognize different languages, dialects and topics.

- Location engines associate media with geolocation data points and enable search by location, displaying a map view of media file collections or other specialized functionality.

If a product is being endorsed on-air, whether a paid radio spot or more organic mention from the radio host, AI

FCC This Month Takes More AM Steps

Technical tweaks to be voted upon should be helpful, but the hardest choices remain

When the FCC meets during the last week of September, around the time you read this, it plans to vote on an order that would relax certain technical rules for AM stations in the United States.

Chairman Ajit Pai announced at the fall Radio Show that he had shared the draft order with his colleagues. I expect it will pass without much debate.

ceeding, the commission proposed to streamline certain technical requirements to assist AM broadcasters in providing radio service to consumers," the staff wrote in a summary of what will become the Third Report and Order in Media Bureau Docket No. 13-249.

"For example, because of the way in which AM signals propagate, many

ing signal strength measurements and other analyses to ensure compliance with their authorizations."

The order, it continued, will make rule changes to ease regulatory and financial burdens faced by AM broadcasters operating DA systems.

The proposal deals with MoM proofs, partial proofs and recertification measurements. According to the summary, it would:

- Relax the rule for partial proofs of performance of certain directional AM antenna systems by reducing the number of field strength measurements required;
- Eliminate periodic recertifications of the performance of a directional pattern for stations licensed pursuant to a Moment-Method proof, requiring recertification only when equipment has been repaired or replaced;
- Eliminate the requirement to submit additional reference field strength measurements on relicensing of a station that was licensed pursuant to a Moment-Method proof;

FROM THE EDITOR



Paul McLane

- Eliminate the requirement of a registered surveyor's certification when towers in an existing AM antenna array are being used;
- Clarify that the provisions of a certain rule section will only apply when total capacitance used for Moment-Method modeling of base region effects exceeds a particular value and only when a particular type of sampling is used; and
- Codify the standards under which a new Moment-Method proof of performance is needed when adding or modifying antennas or other system components above the base insulator of a tower in an AM array

As a reminder of what the FCC put forth in 2015, you can read the original order at <http://tinyurl.com/rw-am-order>. It has since delivered on a number of those promises. But the toughest issues remain yet to be resolved.

(continued on page 5)

The rules to be updated this month deal with MoM proofs, partial proofs and recertification measurements. Modernization of the allocation standards is yet untackled.

This is the next step in the years-long "revitalization" effort that the commission has pursued to benefit AM broadcasters, but it brings the first notable changes in a while that don't involve giving AM stations access to a different band.

"In the 2015 AM Revitalization pro-

AM stations must directionalize their signals during some or all of the broadcast day in order to avoid interference with other AM stations. Maintaining the directional signal pattern can be technically complex, time-consuming and expensive. Such stations are subject to a variety of commission rules requir-

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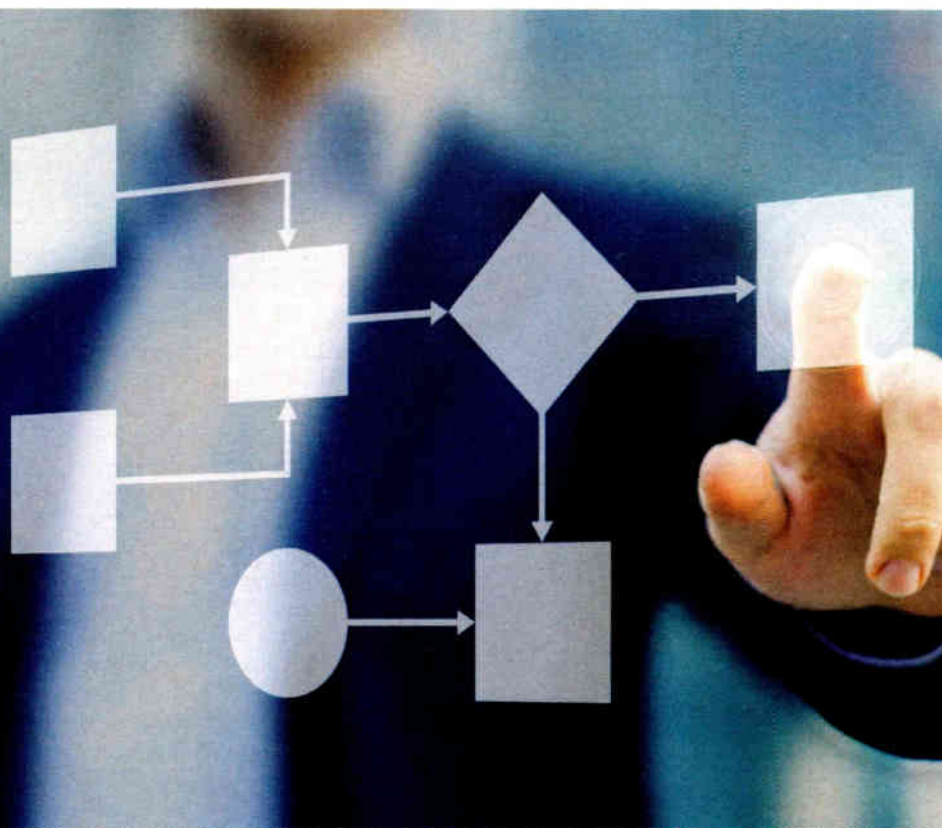
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REVITALIZATION

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Radio World asked Ron Rackley of duTreil, Lundin & Rackley, a respected AM technical expert, for brief comment on this list.

"Modernization of the allocation standards, a very important component of what is being considered in the open AM revitalization rulemaking, remains an open issue," he replied.

"I think broadcasters and the engineers who work for them will welcome simplification of the requirements for proofing and maintaining AM directional antennas. There was general agreement among commenters about

the principles embodied in the proposed Third Report and Order that was made available for viewing."

However, Rackley continued, "Controversial questions about how the FCC rules for allocation standards can be changed to allow stations to improve their coverage areas, taking a new look at the tradeoffs of noise and interference as they should be considered today, remain unanswered.

"I hope the commission moves ahead to study the changes that were proposed in the rulemaking comment periods without delay. Many comments that are on the record in the proceeding beg for that to be done, and point out how it can be done based on engineering facts."

AI

(continued from page 3)

Pandora or Spotify during their workday.

When audiences are actively listening to radio via desktop or mobile device, pairing what they hear with a visual opportunity can garner more interest or a stronger click-through on a call to action. A content management tool that utilizes an exhaustive search function meets the industry's need to deliver specific content, clips, and verifications in near real-time. This enables radio to precisely pinpoint, play and share an exact second of audio or frame of video according to search criteria. Once the content has been discovered and captured, promoting across social media platforms can be tied into the brand's digital marketing plan.

IN CASE YOU MISSED IT

A sampling of recent headlines delivered to Radio World readers in their free daily NewsBytes e-newsletter.

► **Peter Doyle Set to Leave FCC**
Doyle, 66, has been chief of the Media Bureau's Audio Division since 2001. "I have not picked a final date. I will certainly stay around to ensure a smooth transition to a new chief," he told Radio World.

► **Smith's Contract Extended**
The NAB president/CEO signed an extension that will keep him in the position at least until 2023.

► **Broadcasters Set to Gain First-Informer Status**
President Trump's signature was all that was missing for radio and TV broadcasters to gain easier access to broadcast facilities to repair equipment following a natural disaster.

► **Jim Leifer Elected SBE President**
Members of the Society of Broadcast Engineers elected him to succeed Jerry Massey starting this fall. Leifer is the senior manager of broadcast operations at American Tower Corp.

RADIO'S INTELLIGENT FUTURE

New realities for traditional media may initially cause concern, but revenue generated from radio advertising is not dying. Broadcasters can preserve and enhance their value proposition for advertisers by employing cognitive engine technology. With the use of AI, the once-linear data of audio and video commercials can be efficiently tracked and analyzed, including native content. As a result, broadcasters can not only prove the brand mentions, but also track the value they deliver to their advertisers.

Drew Hilles has more than 20 years of experience in the media industry on- and off-line, with expertise in advertising sales, technology operations and partnership development.

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Pai Pushes Ahead on Main Studio Repeal

Here's what the FCC chairman had to say at the 2017 Radio Show in Austin

NEWSMAKER

It's time to eliminate the rule that requires broadcasters to have a main studio in their community of license.

That was one of the messages FCC Chairman Ajit Pai brought to broadcasters who convened at the Radio Show in Austin this month; his conclusion was expected but represented another step toward the commission actually taking action. He said the FCC will take up the matter this fall and that he will recommend that the rule be discarded.

In his speech, Pai also introduced next steps in the commission's AM revitalization program; spoke about radio's "unique connection" with its audience; and heralded the response of broadcasters to Hurricane Harvey a few days prior to his appearance. Irma had not yet peaked.

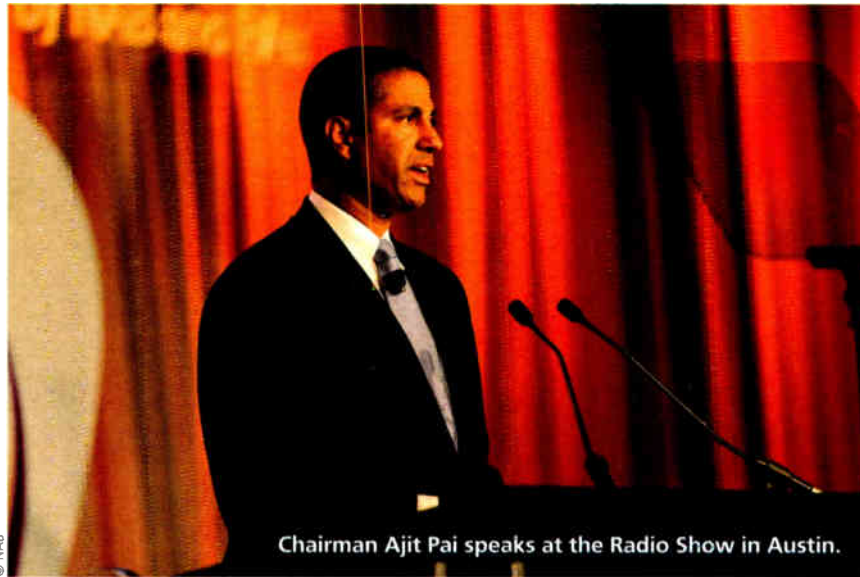
The following is an excerpt from his address, as prepared for delivery.

Whenever I meet with broadcasters like you, I always make a point of highlighting the importance of over-the-air radio and television, and expressing my gratitude for all that you do for your communities and our country. This has never been more timely and warranted than it is today.

As everyone in Texas knows, Hurricane Harvey was one of the most devastating storms in U.S. history. It poured over 25 trillion gallons of water into the region, causing flooding unlike anything we've ever seen. So many Americans have lost so much, including the tragic loss of dozens of lives. My thoughts and prayers are with those struggling as we speak to put their lives back together.

But as saddened as I am by Harvey's destruction, the past week's events have also left me heartened and hopeful. Once again, we saw that the worst of tragedies brings out the best in the American people.

We saw first responders rushing into danger. That includes Sgt. Steve Perez of the Houston Police Department. He left his home at 4 a.m. on Aug. 27 to



Chairman Ajit Pai speaks at the Radio Show in Austin.

report to his duty post in downtown Houston and tragically drowned in his patrol car while driving to help those impacted by the storm.

We saw the Coast Guard rescue over 11,000 people. That includes pilot Jason Brownlee, who left his own flooded home after getting a 3 a.m. call from his superiors and ultimately saved almost two dozen Texans.

We saw hundreds of people open up their property to strangers who needed a place to stay. That includes a furniture-store owner — known as "Mattress Mack" — who sheltered 800 people in his two showrooms.

We saw Houston Texans star J.J. Watt start a relief campaign hoping to raise a few hundred thousand dollars. The campaign has currently raised over \$21 million.

We saw fleets of private citizens in their boats patrolling flooded streets and delivering people on rooftops to safety. That includes the famous folks from Louisiana who came to help, declaring themselves the vanguard of the "Cajun Navy."

And, yes, we saw the FCC's best out in the field. I personally want to thank our agents who went out in the storm to monitor damage to our communications networks. Yesterday in Houston, I also had the chance to survey the damage Harvey has left behind and meet with officials at the Greater Harris County 9-1-1 Center, where so many calls for help were answered.

"EVERY RESOURCE"

But you can't talk about the heroes of Hurricane Harvey without talking about broadcasters.

Station after station scrapped commercials and promos to provide non-

stop, wall-to-wall emergency information and news. Some radio stations literally went above and beyond. CBS Radio's KIKK in Pasadena, Texas, usually broadcasts only in the daytime, but it petitioned the FCC for authority to provide emergency information around-the-clock. We were happy to grant that request within one hour. You heard sto-

"I've reached the conclusion that it is time for the [main studio] rule to go. Therefore, this fall, I plan to ask my fellow commissioners to vote on an order to repeal it."

ries of producers and engineers spending night after night at their stations so they could stay on the air with the crucial information audiences needed, like which grocery stores were open and whether or not they still had bottled water. You also had on-air talent coming in just to answer phones and lend support where they could.

Radio broadcasters were using every resource at their disposal to keep people connected to information and each other. Popular DJs like Nick Russo of 100.3 The Bull blasted out a steady stream of storm updates on Twitter to tens of thousands of followers. iHeartMedia leveraged its billboard assets to direct residents to emergency information and worked directly with the Red Cross to coordinate post-storm relief efforts. And, as millions now know, one broadcaster even helped save a truck driver on live television. I know she's on the TV side, but you've got to tip your cap on that one. Brandi Smith of KHOU — bravo!

I'm in awe of broadcasters' response to Harvey. But I'm not surprised. Because that's what broadcasters do.

You go above and beyond to be there for your communities. That's true anytime, but especially in times of crisis. As one station GM put it, "Radio is the ultimate connector." The spirit of service and community we saw so publicly on display during this devastating storm, and throughout its aftermath, is in your DNA. I think that's a big reason why 93 percent of Americans still regularly tune in to radio. And that's why, during Harvey, an enormous number of people relied on radio to get critical emergency information.

Consider this: NextRadio reports that on Aug. 25, when Harvey made land-fall in Corpus Christi, local NextRadio app listening was up 186 percent as compared to an average Friday. Similar findings were reported for listeners in Houston. Even in this age of high-speed connectivity, radio still has a unique connection with the audience that isn't going away.

AM NEXT STEPS

We at the FCC want to do what we can to help you deepen that connection. It may be in the weeds, and it certainly isn't as inspiring as the stories I just relayed, but I'm pleased to give a status report on some of our efforts.

First up is one of the first issues I set my sights on five years ago when I became a commissioner: AM revitalization. This audience knows the broad strokes of this issue, largely because you were vital to getting the first AM revitalization order adopted back in 2015. So I'll spare you any background and get straight to the most recent developments.

As you know, the centerpiece of our reforms to date has been helping AM broadcasters get FM translators. So far, the response has been tremendous. Last year, the FCC gave AM stations more latitude to move an FM translator purchased on the secondary market. We received nearly 1,100 applications and granted almost 95 percent of these requests.

Back in 2015, some folks argued that secondary market windows for translators would be sufficient to meet the AM stations' demand. I disagreed, and successfully pushed back. Judging by the

(continued on page 8)

Nearly **40%** of new vehicles sold will ship with HD Radio technology

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ELLIS*(continued from page 1)*

suppliers and investment advisory firms about automotive, software, consumer and mobility issues. The National Association of Broadcasters also is among his clients.

The good news for broadcasters, Ellis says, is that carmakers still believe terrestrial radio belongs in the automobile. The bad news is that many new vehicles now have center stack dashboards equipped with Google and Apple infotainment management systems, whose designers don't much care how hard it is to find radio features in the dash. And the eventuality of self-driving cars moves the whole in-car entertainment conversation to a new level, he says.

Ellis — whose team at Ford delivered Sync Gen 3, Ford's latest-generation connected car solution — is based outside of Chicago. He discussed with Radio World the impact that Apple's CarPlay and Google's Android Auto operating systems will have on terres-

trial radio stations, the carmakers' point of view about dashboard trends and his perspective on HD Radio.

RW: *What is your guess of where AM/FM radio fits in the digital dash of the future in connected cars?*

Ellis: When you look at driving today, people are spending an hour to an hour and a half a day in their car. About 85 to 90 percent of that is singleton time, where there is a lone occupant.

My point is there is a period of time dedicated to consuming media in a car. That really hasn't changed much. Media consumption is obviously a huge component of the car of today. That will likely continue to be true of the car of tomorrow.

That consumption has always traditionally been AM/FM radio. Then the car industry added in 8-track tape, then cassette tape and then CD players. Today carmakers are bowing to consumer demand by increasing the mechanisms of media available in the car. You have DVD, Sirius XM and all sorts of SD cards, MP3

*(continued on page 10)***ZERO-DOLLAR CARS?**

John Ellis is a software developer and business development veteran with more than 25 years of experience. He is author of "The Zero Dollar Car: How the Revolution in Big Data will Change Your Life," in which he theorizes that the push for data and technology inside today's auto is so strong that companies like Apple and Google might someday be willing to help underwrite the cost of a vehicle in order to collect consumer data to sell to product vendors. He says some technology companies already have such deals in place with the OEMs.

**PAI***(continued from page 6)*

response we received this summer, I'm sure glad that I did.

During the recently completed 2017 window for new AM translators, we once again received more than 1,000 applications from AM broadcasters. That brings the total number of applications received to about 2,100, or nearly half of all licensed AM stations nationwide.

This recently closed window was for Class C and D stations only. The majority of applications — 698 to be exact — came from Class D AM stations. Many of these are daytime stations that don't broadcast at night. Translators will enable them to operate on a full-time basis. That could be a lifeline, as I heard from a former daytimer in Kansas years ago whose ad revenues and listenership jumped after he found a translator.

Our Audio Division's talented staff is currently reviewing all of the translator applications that were filed this summer. I'm optimistic that we'll have good news to report in the near future.

Now, in that same AM revitalization order, we also reduced regulatory burdens on AM broadcasters and teed up additional proposals for lowering costs and improving signal quality. Today, I am pleased to announce that the commission is beginning to move forward on those proposals.

Specifically, at our September meeting, we will vote on an order that would relax certain technical rules applicable to AM broadcasters operating directional antenna arrays in order to ease the regulatory and financial burdens faced by these broadcasters. The order is highly technical, so I'm not going to go into the details here. But because of the new transparency that we have brought to the FCC, tomorrow you will be able to see for yourself the draft order that I've

shared with my colleagues. [Read it at <http://tinyurl.com/rw-am-order-2>]

MONTHLY WEED-WHACKING

Reducing burdens on broadcasters is a natural segue to my next topic: Our across-the-board review of our media rules.

Back in May, the FCC launched a comprehensive review of our media regulations. Our goal is simple: Let's modernize our rules to match the realities of today's marketplace. This better promotes the public interest and allows for more competition, innovation and investment in the media sector.

“Radio broadcasters were using every resource at their disposal to keep people connected to information and each other.”

We asked for your thoughts on which rules should be modified or repealed as part of this review, and why. And we received plenty of feedback.

When we came up with the idea for this proceeding, we thought of it as a way for us to clean out the regulatory underbrush. And as is the case with many ranches right here in Texas, there's plenty of underbrush to be cleared among the 1,000 or so pages of FCC media rules. It's time for us to get to work.

For the foreseeable future, I will therefore be sharing with my fellow commissioners each and every month at least one Notice of Proposed Rulemaking teeing up outdated or unnecessary media regulations that should be eliminated or modified. And even though the deadline for public input only passed a few weeks ago, our September commission meeting will feature the first action item to come out of this effort.

Under the FCC's rules, certain broadcast and cable entities are required to maintain physical copies of commission rules in their offices. I'm talking about actual volumes of the Code of Federal Regulations.

Now, in the grand scheme of things, I understand that this is hardly the biggest deal. But it offers a pretty vivid example of how there are outdated regulations that are still on the books that no longer make any sense. And in this case, the rule in question actually involves books of regulations!

That's why I circulated to commissioners today a proposal to get rid of this

requirement. In the digital age, when anyone can easily access the FCC's rules online, this rule isn't necessary anymore.

MAIN STUDIOS

Speaking of unnecessary and outdated rules, earlier this year, the FCC proposed to eliminate our main studio rule. As you probably know, decades ago, the agency required each AM, FM and television broadcast station to maintain a main studio located in or near its community of license. The original idea was that local access to a station's main studio was necessary for the public to give broadcasters their input and to review a station's public inspection file.

But the reality is that local access to a physical station is simply no longer necessary to satisfy those public interest goals. Broadcasters' public inspection files are either currently available or will soon be available online. And,

if anyone in the community wants to contact their local station, such contact is much more likely to occur via social media, through email or by phone.

On top of that, the rule is also undermining the public interest. For example, I heard from one broadcaster in Minnesota who said he wanted to build out his construction permit for an AM station in a nearby town. But he didn't, because the "main studio rule is a killer; the cost to maintain a staff ... would make the construction of this facility a ticket of doom." And he isn't alone, as broadcasters have made clear to the FCC.

As we say in our world, the record in this proceeding has now closed. After reviewing it, I've reached the conclusion that it is time for the rule to go. Therefore, this fall, I plan to ask my fellow commissioners to vote on an order to repeal it.

Let's shift gears for a minute. I've talked thus far about clearing away rules that unfairly burden radio broadcasters. But we also want to enforce the rules that protect those with licenses.

Thanks in part to the vocal support of Commissioner O'Rielly, the FCC is substantially stepping up its enforcement efforts against pirate radio stations. Since I became chairman in January, the commission's Enforcement Bureau has issued 55 Notices of Unlicensed Operation, several Notices of Apparent Liability and six Forfeiture Orders against pirate broadcasters. We've cracked down on illegal operators all across the United States, from California to Kentucky, and up and down the East Coast from Florida to Massachusetts. You can rest assured we will not just continue, but intensify this effort in the months to come.

Our message to pirate operators is clear: The FCC will not tolerate unauthorized, illegal broadcasts, and we will use all of the tools within our disposal to end them.

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- John Herath, Director of Operations, Farm Journal Radio



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ELLIS*(continued from page 8)*

players, RCA jack plug inputs, and of course the ability to use a smartphone to stream whatever you want. It gets even more interesting when you consider the future car could eventually be autonomous. That is where the really interesting conversation begins.

RW: *What do carmakers think of terrestrial radio right now?*

Ellis: I don't know if I can broadly answer the question. Though I can give some anecdotal evidence of where radio fits.

Carmakers don't sell directly to their customers. Car dealers sell cars. Therefore, the OEMs struggle to know who buys their cars. Moreover, they struggle to understand why people buy their cars and what buyers like about them. Was it because the car has eight coffee cup holders or was it because it had a radio? So that means OEMs don't understand the clarity of the purchase.

That mechanism reinforces the thought that if a car sells and it had a radio in it, the car must have radio in it to sell again. I tell radio broadcasters not to mistake the OEMs' position. The OEM may or may not feel radio is important; but as long as the current system is in place and it gets reinforced that radio is a component of the sale of a car, then radio will remain in the car. Carmakers are loath to remove anything from the car.

So it isn't that the OEMs aren't willing to explore options, they just don't have the luxury in the way the car sales system works today. For the foreseeable future radio will remain in the car because radio has been part of the successful sales process of the past and carmakers haven't learned anything different.

RW: *What did you tell radio broadcasters at the recent Radio Show and do you think they liked what they heard?*

Ellis: My part of the conversation was to talk about the future and what the OEMs are allowing to happen in the car. Specifically the agreements they have entered into with Apple and Google.

Carmakers have really ceded control of the in-dash experience in cars in certain scenarios to Apple and Google. My message to radio broadcasters is

it's not good for them when Apple and Google take over the experience. Apple and Google's platforms are pervasive. Gone is the ability of hitting an AM/FM button. The escape mechanism to find terrestrial radio is hard to access.

Both Apple and Google have structured deals with the OEMs so that when you plug in that iPhone or Android device, the last media consumption experience you had on the device is what will start playing in the car. So, if you were listening to Pandora outside the car, once you get in the car and plug in the cable, Pandora will resume.

I'm not telling broadcasters that they have an inside-the-car problem, so much as they have an out-of-the-car problem. Broadcasters have to fully understand outside the car to fully comprehend what is happening in the car now.

With each successive release of new equipment, Apple and Google are making it easier so that an outside device can seamlessly transition into the car. It's become just as easy to plug in a cable as it is to find a radio station. The radio industry needs to start a conversation and get behind the idea of developing an alternative way for digital dash technology to work. It's an uphill battle.

Trust me, Apple and Google don't care about an established industry like radio and making sure it fits into their platform.

RW: *Do we know what percentage of new cars sold come with Apple's CarPlay and Google's Android Auto operating systems?*

Ellis: Yes we do. If we look at model year 2017 vehicles, I think GM is 100 percent. They ship with both Apple and Google. At Ford, model year 2017, all are Sync Gen 3 models are Apple- and Google-enabled. In fact of the top 10 carmakers, only one has a definitive statement that it is anti-Apple and Google, and that is Toyota.

Toyota has doubled down on a technology they call Smart Device Link. They cite concerns over security and privacy as reasons why they haven't partnered with Apple and Google. All the other OEMs are moving as quickly as they can to incorporate Apple and Google.

RW: *What types of projects do you help your clients with?*

Ellis: We are a boutique management consulting firm. We do strategic consulting where we talk about the intersection of technology with respect to different businesses. A number of our clients are associations who represent industry players. For instance, we do a lot of work with the collision repair industry and what is going to happen as the car becomes more autonomous. We do strategic work related to how new



John Ellis, right, makes a point about the connected car listener experience with, from left, Joe D'Angelo of Xperi, Scott Deaver of Avis Budget Group and Sam Matheny of NAB.

auto technology will relate to specific industries.

RW: *What are some of the limiting factors when it comes to what can be integrated into infotainment systems in new vehicles?*

Ellis: Up until recently, the limiting factor were the OEMs themselves and their concerns over distracted driving. The Automotive Safety Office had a big say. What kind of font, color and contrast.

But with Apple and Google, the carmakers really have little control over the infotainment package. Once those platforms are launched, it's their environment. For the first time ever, the OEMs are not in control. Apple and Google have both made statements what direction they are going in.

RW: *Is voice control of devices the next big push for the digital dash?*

Ellis: Yes, in fact we recently did a landscape report for a client that showed I believe for 2017 models all the OEMs had some form of voice control for "hands on the wheel and eyes on the road" interaction. Interacting with the system and interacting with the device.

RW: *So Apple's CarPlay and Google's Android Auto operating systems all use some form of voice control?*

Ellis: Yes, absolutely. For example, if you look at the 2017 Hyundai Sonata, there is a hard button on the wheel for voice control. If you plug in your Android phone and you hit that button, you launch the Google voice assistant and you then interact with Google Voice. So you are talking through the microphone in the car, but the actual processing of the interaction is done by the Android phone and the cloud. In fact both Siri from Apple and OK Google interact with the voice control hardware from the OEM.

RW: *What's the next big thing in the digital dash?*

Ellis: If we look at the concept cars from 2017 CES, there were a lot of heads-up displays. The concept of the in-vehicle

experience is clearly being reimaged as we move closer to autonomy. If you don't have to keep your eyes on the road or hand on the wheel, what might a person want to do? These concept cars exhibited some very rich features of media consumption. Not necessarily radio, but terrestrial TV and video.

OEMs are now looking at removing some very standard features of a vehicle. Things like the steering wheel and gas and brake pedals. They certainly will reexamine the dashboard; and so the idea of what the entertainment system is in the future of the autonomous car is really up for grabs.

That was my message to broadcasters at the Radio Show. They have to understand that tomorrow's dashboard will not look like it does today. They have to take a role in educating and raising awareness and determining what it will look like and what will be included.

RW: *Any provoking thoughts to leave the radio industry with?*

Ellis: You know, radio has been the same for over 100 years now. Radio hasn't changed much. It's really a one-way broadcast mechanism. There has been some progress with HD Radio. The question that I have started to ask radio broadcasters is, "What have you done to respond to the competitive threats? What is Radio 2.0? How would it work and how would you redesign radio to be more competitive? Do you have a plan for the connected services that buyers want?" I think radio underestimates the competitive threat of what they are going up against now.

RW: *What do you think of HD Radio to this point?*

Ellis: I'm not sure about it. As part of another landscape report we did, the penetration of HD Radio is nowhere near what you would expect after being around so many years. Does it have a future? I don't know for sure.

Comment on this or any article to radioworld@nbmedia.com with "Letter to the Editor" in the subject field.



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Does Your UPS Have This Bypass?

If you want to keep things running, remember this important step

WORKBENCH

by John Bisset

Email Workbench tips to johnpbisset@gmail.com

Bob Meister is a contract engineer and active amateur radio operator in the New Haven, Conn., area. He notes that most broadcast facilities have uninterruptible power supplies powering critical equipment. Bob even has several at his own house for the network and computers, mainly to keep things running when the power fails until his whole-house generator takes over the load.

The APC Smart-UPS series is one of the most popular. These standby units turn their inverter on when the power fails, and use relays to switch the load to the inverter. This provides a nice clean sinusoidal waveform. They also do a self-test every two weeks by default; it acts as if the incoming power failed, forcing a switchover to the inverter. If the battery voltage drops too far, a front-panel LED will light, indicating that it's time to replace the batteries.

An operating quirk is that they will *not* turn on unless there's a good battery present and connected. Many of these units use multiple batteries wired in series, so all of the batteries must be capable of providing close to 12 volts and several amps of current to be considered good.

If a battery develops a high internal

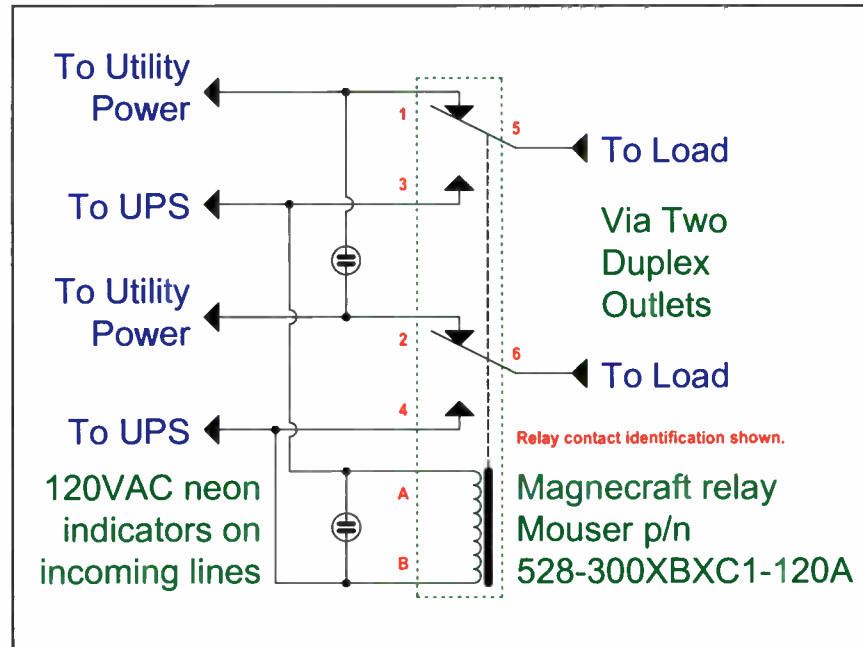


Fig. 1: This schematic shows how to build a UPS bypass relay box.

resistance, it will measure the right voltage but be incapable of providing any current to the load. When the UPS does its self-test, it starts its inverter, which puts a load on the batteries. The battery voltage goes to zero; the UPS inverter can't run; the UPS shuts off; and it can't supply power to the loads.

Because there's now no voltage across the batteries, the unit will not

turn on either. There's no bypass mode in these units. Now you're in a bad situation: All the loads have just shut off with no warning, and you can't power them up unless you move all the electrical plugs to a regular outlet or install new functioning batteries into the UPS. If this happens on Friday night when the station is unattended, it could be a very long weekend off the air.

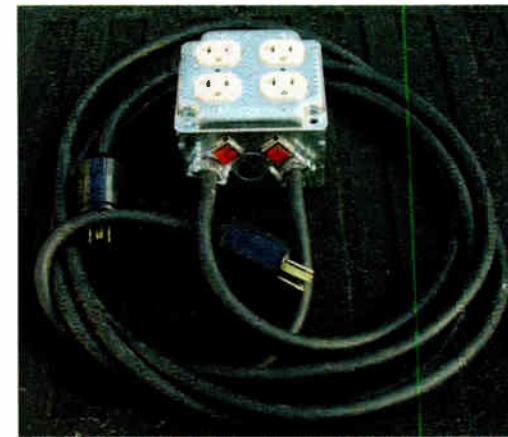


Fig. 2: The finished relay bypass box with cables.

Bob recently experienced this situation at home with an APC SUI000 UPS with two-year-old batteries. There was no indication that the batteries needed to be replaced; the UPS and everything plugged into it just shut off at the time the self-test was due to occur. It had successfully passed the self-test two weeks earlier. Upon investigation, one battery measured 13.6 VDC with a high-impedance digital multi-meter, but the voltage went to zero with the slightest current draw (under 0.1 amp). No battery voltage, no UPS operation. "It's dead, Jim!"

Another "no power" situation can happen when you're running on a generator and the UPS is unhappy with the condition (voltage or frequency) of the incoming generator power. Some units, even online models, will refuse to pass sub-standard power to the load and will run exclusively on their batteries until they fully discharge.

At this point, the UPS has to make a choice: Shut off or go into bypass mode. Most just shut off. A better choice would be to go into bypass mode and at least let the loads receive power from the generator, which is probably much more desirable than no power at all.

An engineer at a local radio station was discussing these problems with Bob and came up with a circuit to prevent these sorts of UPS outages from shutting off critical equipment and taking the station off the air. Bob did some research and found an appropriate relay.

See the schematic in Fig. 1. This relay uses a 30A DPDT relay (Magnecraft 300XBXC1-120A) to route utility or UPS power to the loads. When the UPS is providing output voltage, it energizes the relay and the loads receive power from the UPS. If the UPS dies or is shut off, the relay drops out and the loads receive power from the utility.

Fig. 2 shows the finished product. Neon indicating lights across both power sources let you know at a glance what power source is present. Everything was

(continued on page 14)

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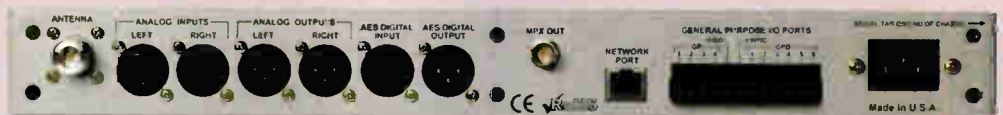
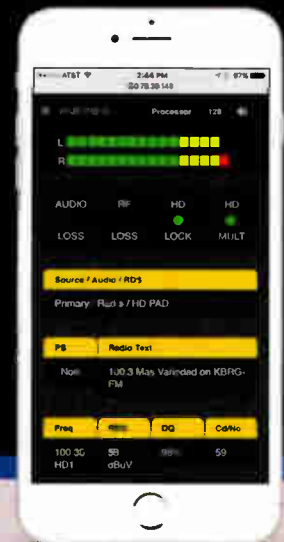


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Inside the New NAB Engineering Handbook

Bigger, better and more practical than before

BOOKREVIEW

BY JAMES E. O'NEAL

The latest in a long and impressive line of broadcast engineering reference books issued by the National Association of Broadcasters is now shipping. I'm referring, of course, to the 11th edition of the NAB Engineering Handbook.

The appearance of each of these volumes is something of a signal occasion; they aren't exactly published on a regular basis. (The first Engineering Handbook appeared in 1935, and the 10th was released in April 2007, more than a decade ago; that's just 11 books in 82 years.)

These encyclopedic volumes aren't produced overnight, either — the "call for authors" for this latest edition went out in mid-2015.

Speaking of authors, the list of contributors to the new handbook reads like a "Who's Who" in broadcast engineering. More than 125 authors are credited with helping produce the book. (I contributed the "HF Shortwave Radio: Allocation, Design Methods, and Regulation" chapter of the new edition.)

MASSIVE TOME

It seems that each of the handbooks is more ponderous than the last. This new edition weighs close to six pounds and encompasses 99 chapters spread across

WORKBENCH

(continued from page 12)

installed inside a 4-3/4 inch square deep electrical box with #12-3 wire and 15A plugs (these probably should be 20A plugs) supplying input power and two 20A duplex outlets to feed the loads. The cord that plugs into the UPS is about two feet long; the cord that plugs into the utility outlet is about 6 feet long. One of these assemblies is required for each UPS.

The relay costs under \$25 from Mouser; the rest of the parts can be purchased at a home improvement store.

Most standby UPSs allow their batteries to be swapped without turning the UPS off. However, there's always the possibility that the on/off button could get pushed during that procedure, or the UPS could decide to perform its self-test when the batteries are out, or one of the new batteries could be defective. This circuit allows you to shut the UPS off if you want to minimize the risk of losing power to everything plugged into it. The loads will just get powered from the utility, which hopefully won't fail during the brief changeover. If you're worried about that happening, fire up the generator and switch over to it when you work on your UPS.

Most relays are rated by their Normally Open (NO) contact current; the Normally Closed (NC) contacts are often only capable of 20 percent of the NO rating, due to the spring tension available. This

1,947 pages, reflecting the tremendous expansion of the broadcasting industry and its allied technologies. By comparison, the first handbook was a scant 100 pages.

Obviously, it's impossible to provide a complete description of everything covered in this massive tome, given the limited amount of review space available, but I will try to include most of the highlights.

The handbook straddles the radio and television engineering communities, including ground common to both, with detailed information on such fundamentals as the electromagnetic spectrum; signal coverage; frequency coordination; regulatory matters; facility documentation; emergency alerting; management of engineering projects; safety considerations for those working at broadcast facilities; and the design, construction, maintenance and lighting of broadcast towers.

It also covers facility lightning protection; acoustics/noise control techniques applicable to construction of broadcast studios; facility automation; microphones for broadcast applications; state-of-the-art compression

application requires equal current capability and continuous operation. Bob contacted Magnecraft and asked about the ratings on the above relay.

"The 300 series is rated at 30A at 300VAC for both NO and NC," the company replied. "That being said, the electrical operations are de-rated on the NC contact (NO=100k ops, NC=6k ops) at that rating. Unfortunately, the 300 series is not rated at constant duty. Over time, corrosion will develop on the contacts. The act of switching will create a small arc; this arc will actually clean the contacts."

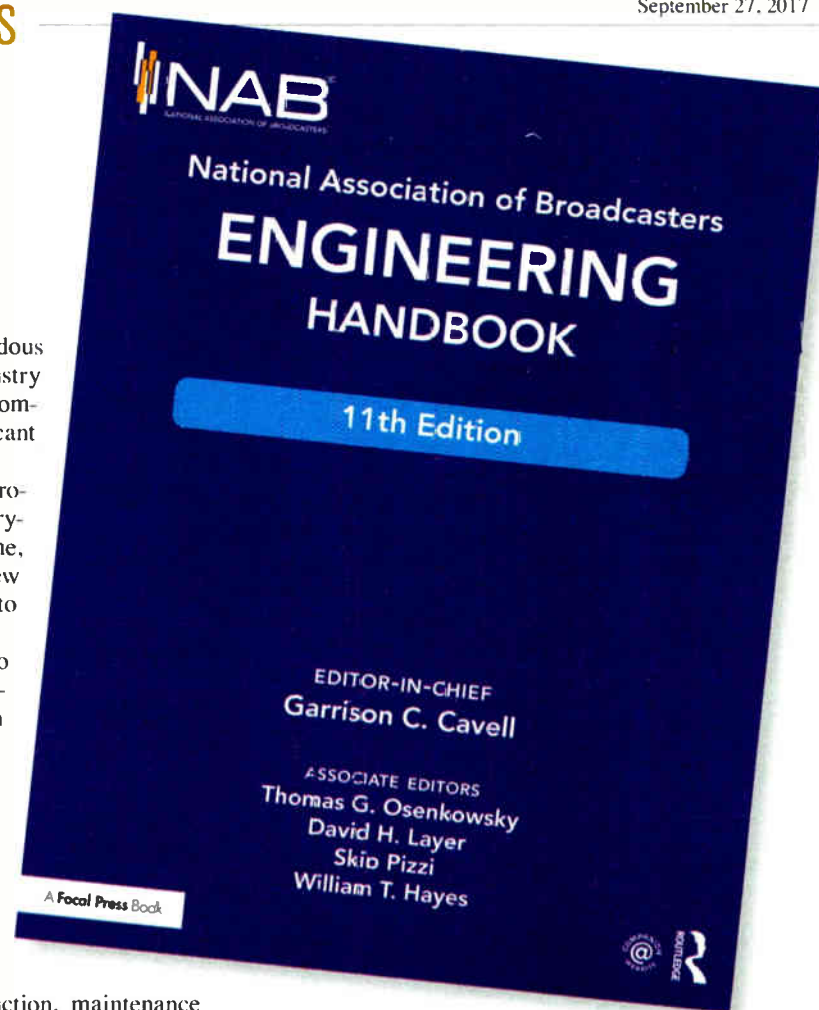
It said many people do use the relay in these types of applications. "However, we recommend occasionally cycling the relay to clear any corrosion and prolong the life of the relay."

BBN Network Staff Engineer Steve Tuzeneu sent a link for stations to consider when needing to do free remotes: <http://cleanfeed.net/>.

Cleanfeed uses the Opus codec and can run either mono or stereo audio.

Contribute to Workbench. You'll help fellow engineers and qualify for SBE recertification credit. Send Workbench tips to johnpbisset@gmail.com. Fax to (603) 472-4944.

Author John Bisset has spent 46 years in the broadcasting industry and is still learning. He handles West Coast sales for the Telos Alliance. He is SBE certified and is a past recipient of the SBE's Educator of the Year Award.



technologies; studio-to-transmitter linkage; satellite uplinks and downlinks; fiber optic transmission systems; transmission lines; system measurement techniques; grounding; and electrical power systems, including backup power — just to name a few.

In light of Hurricanes Harvey and Irma, there's one chapter that should be required reading for everyone whose responsibilities include broadcast transmission facilities. That's "Broadcast Facility Security, Safety, Disaster Planning, and Recovery." The words of contributor Joseph Pollet in describing some of his experiences at New Orleans' WWL in 2005 during devastating Hurricane Katrina are hauntingly prescient, based on what transpired in Texas and Florida 12 years later.

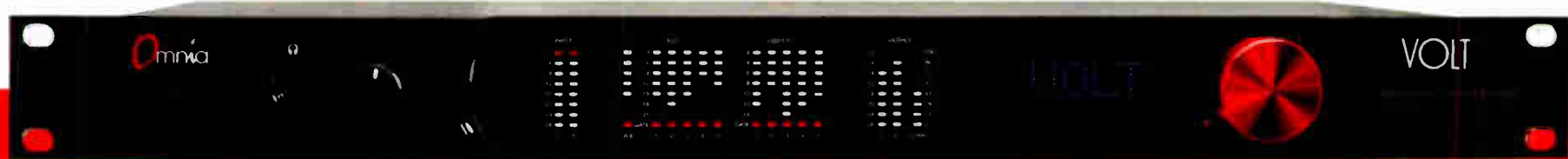
EXPANDED AND UPDATED

The radio-specific content of the handbook has been expanded considerably since the previous edition (21 chapters versus 15, and more than 400 pages, as compared to the 332 in the 10th edition). Topics covered are similar to those in the 2007 edition of the handbook (FM/AM translators and boosters, AM antennas and coupling/phasing technology, AM antenna maintenance, digital radio broadcasting systems in use around the world today, radio data transmission, etc.).

However, this newest edition of the handbook reflects industry technological and business trends and movements. Gone is a section that dealt with AM stereo broadcasting, as well as a chapter on AM/FM field strength measurements (though information about such FM field strength measurements is incorporated into the "FM Antenna Performance Measurements" chapter).

Added are chapters on Internet interfacing and streaming, duplexing/combining at AM transmission facilities, HF shortwave radio, synchronous AM broadcasting technology, and more. There's even a chapter

(continued on page 16)



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HANDBOOK

(continued from page 14)

devoted exclusively to the planning and setting up of radio remote broadcasts. Also, look for a very “beefed-up” chapter (18 pages this time, as compared to the slightly more than four in the 10th edition) on method of moment modeling of AM arrays.

COMPREHENSIVE

Other chapters and sections in the new edition have been expanded or updated to reflect industry and technological changes over the past decade or so.

A good example is the “AM and FM IBOC Systems and Equipment” chapter that appeared in the 10th edition of the Handbook and provided a comprehensive look at what was then a relatively new digital broadcasting modality. The latest edition retains the “deep dive” into IBOC technology, along with background and chronology of developments in getting IBOC HD radio to the marketplace, and adds information about the numerous developments and changes that have occurred since the last Handbook was published, including FM digital power increases, asymmetrical sideband operation and even the 2016 report evaluating the effect/impact of Modulation Dependent Carrier Level (MDCL) on AM IBOC transmissions.

This section runs almost 50 pages and has to be one of the most comprehensive descriptions of IBOC HD technology available in a single publication. The numerous illustrations and charts included make it easy to visualize how the system works and its relationship to existing analog AM and FM carriers. The “pictures” (graphics) included are worth many times those proverbial “thousand words.”

Another technology that has grown by bounds in recent years was not ignored by the book’s editor and authors. This is IP-based transport of signals, and the 11th edition of the Engineering Handbook provides a lot of useful information on audio over IP in the “Audio Contribution and Distribution Methods” chapter. The chapter also drills deeply into just about all other ways to get program audio from one place to another, including “plain old analog,” and the various digital service flavors that have

been offered by the telco folks, such as DSI, T1, Switched 56, ISDN and DSL.

With regard to “Ma Bell” connectivity, there’s even a section about “dealing with telco.” It notes that while technology has made audio connectivity for broadcasters cheaper, it has also diminished the status of broadcasters and their special audio needs to that of “ordinary retail customers.”

latest edition not as a heavy scholarly work filled with equations and esoterica that will sit on shelves unopened, but as an approachable, easily understood reference that will be used often,” Cavell said.

Cavell and his group have achieved this goal. I can guarantee that this is one book that won’t just sit on your bookshelf or desk collecting dust; you’ll

of the detail unless you have extraordinary eyes.

GET YOUR OWN COPY

The 11th edition of the NAB Engineering Handbook is available from the NAB’s online store (www.nabstore.com), Amazon, Barnes and Noble and other booksellers. Look for ISBN 978-1-138-93051-3; published by Focal Press

The list price is \$220, but at the time of this review, the NAB store was offering the volume at a special sale price of \$187. There are also e-book editions available. Barnes and Noble is offering a Nook Book version for \$192.99, and Amazon has priced its Kindle edition at \$176.

(Hint: when searching the websites of these two booksellers, type in “National Association of Broadcasters Engineering Handbook” rather than just “NAB Engineering Handbook.” If you search for the latter title you’ll just be directed to the 10th or earlier editions.)

Regardless of which format you prefer, this is a rich source of reference in virtually all areas of broadcast engineering and should be part of the library of anyone who is serious about the engineering side of the profession.

James E. O’Neal is a retired broadcast engineer and the former Technology Editor of TV Technology magazine. He contributes to TV Tech and Radio World on a regular basis.

The radio-specific content of the handbook has been expanded considerably since the previous edition.

Such a comprehensive reference work could never have been produced by one individual. Its editor-in-chief, Gary Cavell, and associate editors Tom Osenkowsky, David Layer, Skip Pizzi and Bill Hayes have tapped some of the best and brightest minds in the business to prepare chapters and sections that reflect their particular areas of expertise and experience.

In designing the 11th edition, Cavell and his team wanted to make sure that the book would be a practical engineering reference source, rather than a something resembling a college textbook for an advanced course.

“My goal [was] for us to craft this

find yourself referring to it on a regular basis.

My only (admittedly slight) issues are the absence of color illustrations and the small size of some (admittedly a minority) of artwork that is included. Color would definitely have enhanced “readability” of a number of the many, many charts and photos. However, even in the 21st century, color printing is considerably more expensive than black-and-white and would likely have proportionally increased the price tag.

While the size of the overwhelming majority of illustrations is adequate, there are a few cases where a hand magnifier is needed to bring out some

WHO'S BUYING WHAT

From the Radio World “Who’s Buying What” page:

BW Broadcast said a North American customer ordered 50 V2 transmitters for classified purposes.

The company says its transmitters are popular among non-profit organizations, LPFM stations, mass sports events, military purposes and governments.

Among other recent sales, the manufacturer reported 15 BW Broadcast TX1500 V2s being sent to Belgium for the Nostalgie network upgrade, as well as an order of 30 DSPXmini Encore audio processors from a state broadcaster in South Africa. ...

WideOrbit and **Cumulus Media** entered into a licensing agreement to install WO Traffic software and other WideOrbit software at all 447 Cumulus Media radio stations. WideOrbit will provide an operations solution for traffic management, digital advertising, network and barter ads, electronic payments, revenue optimization and hosting. The software allows all stations to log into the same database, and will streamline corporate reporting and credit management, optimize spot scheduling, and give advertisers a simpli-



Delmarva Public Radio’s Chris Ranck poses in front of racks.

fied, integrated method for paying invoices with credit cards and ACH electronic payments.

WideOrbit products will replace **Cumulus’s** Stratus traffic system, with implementation expected to commence before the end of the year and continue through Q1 2019.

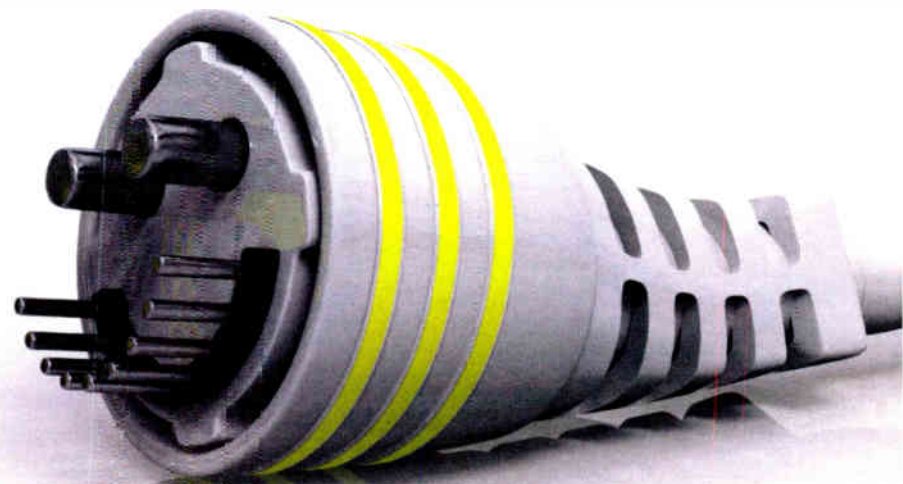
...
Delmarva Public Radio in Salisbury, Md., operates WSCL(FM) and WSDL(FM). DPR recently upgraded to an ENCO DAD radio automation system, in order to keep two full-time radio stations on the air with reduced personnel, from five on-air hosts to one. ...

Perry Publishing & Broadcasting Co. chose **Vipology** as its content partner for its 16 station websites. Vipology creates original digital content with licensed images and provides its format-specific Music

Report in 13 formats, some of which are available in both English and Spanish. Additionally, it offers Bird Feed, a curated list of top Twitter feeds.

Users and suppliers both are invited to submit news of recent equipment sales or installations. Email radioworld@nbmedia.com with “Who’s Buying What” in the subject field.





Engineering Happiness

MusicMaster fits into your world - not the other way around. Our flexible and customizable music scheduler has even added new dimensions to system integration. With our Nexus API, third-party systems can take advantage of instant, real-time access to the MusicMaster database and scheduling intelligence.

From Interactive Playout Integration

We've partnered with global top tier automation systems (pictured below) to implement real-time interactivity with MusicMaster. You'll enjoy seamless back-and-forth communication when doing things like updating your library, adding or deleting music, or making changes to the log - whether from the office or the studio.

To Any Stretch of the Imagination

The API can be used by any of your station's systems, including traffic and billing, research, or web and media services. You can even harness its power yourself, as some of our users have done to develop their own plugins and tools. Contact us to learn more!



Chris Johnson
Music Director
KMFA

"The integration between MusicMaster and Enco DAD has been liberating. I have a better product now for our listeners and I spend a fraction of the time working on it."

"I've used past music scheduling systems that didn't work well with radio automation and let's just say 'a pain in the neck' is an understatement. Thankfully, WideOrbit and MusicMaster are well integrated and the programs work well together."



Chris Malone
Program Director
The New 97.7 R&B



Chris Collins
PD/IT Manager
Holladay Broadcasting

"The integration between MusicMaster and AudioVAULT Flex really helps me make it through my day and free myself up to do other things."

Let's Make a Connection

www.musicmaster.com/nexus

sales@musicmaster.com / 469.717.0100



MusicMaster
SCHEDULING

VOICEOVER

(continued from page 1)

Radio World spoke with all of the voice actors who will be participating in "There's Money in Your Radio," a panel discussing the latest trends.

Joe Cipriano is a 20-plus year veteran voice actor with clients including CBS, ABC, Fox TV and the Grammy Awards. He is the announcer for "Hollywood Game Night" on NBC(TV).

"Years ago if you were a union actor, you didn't have to worry about the business side," said Cipriano, a member of SAG-AFTRA.

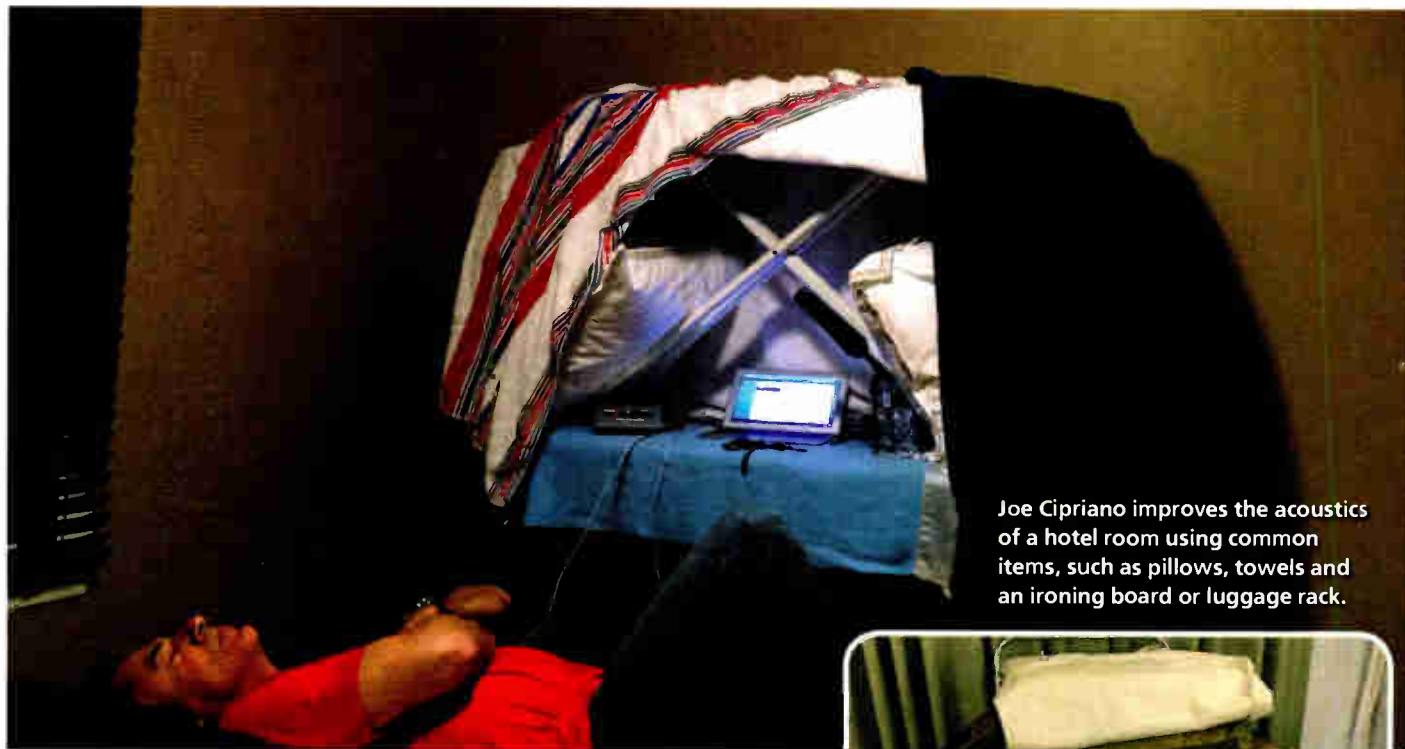
"But now, all that has changed because there are so many non-union gigs available. Internet technology has made it possible for non-union talent to go after any job regardless of location. People working non-union often have to audition for their work and, once they are hired, negotiate the rate and do the job. Many of them need to record scripts in their own studios without benefit of an engineer, edit the work themselves and then do the billing and make sure they get paid."

However, the same technology that encourages many new people to enter the voiceover industry also allows long-time union talent like Cipriano to work from literally anywhere, including hotel rooms.

"I prefer to work in person with the producers but sometimes they don't even want you to come in because it interrupts their flow with chitchat," he said. "But being available at all times is very important for keeping clients happy. I get the most views and retweets when I post a picture of my 'MacGyver'd' remote setup. If I'm on vacation in a hotel room, my 'go-to' is an ironing board as a substructure which is placed on the bed and draped with a few pillows and maybe a bath towel. I can just climb under there with my mic and Internet connection."

DELIVER IT "RFN"

After spending two decades at Entcom and iHeartMedia, Eric Romanowski (www.earblowingaudio.com) is a voiceover demo producer and talent coach. One aspect of the new economy he enjoys is year-long contracts with monthly retainers for station imaging talent.



Joe Cipriano improves the acoustics of a hotel room using common items, such as pillows, towels and an ironing board or luggage rack.

"Amen to that!" he said. "And radio imaging is one of the areas of voiceover where you can really showcase your personality. Program directors for most formats love when the talent can be snarky, fun and adlib when the copy calls for it."

The man behind Ear Blowing Audio advises aspiring voice talents to market themselves wisely.

"Stations aren't going to come to you, and even if you are with an agency, you still have to hustle yourself," he said. "But don't make demos for six formats. Get a return on investment first and then explore the opportunities of other formats down the line."

For remote linking with clients, Romanowski uses services such as ipDTL (www.ipdtl.com) and Source Connect (<http://source-elements.com>), which he calls the future of voiceover.

"And the future is now," he said.

About 25 years ago, former disc jockey Pat Garrett (www.patgarretteretative.com) didn't want to relocate from Baltimore to create voice imaging for a client in Detroit, so he asked if he could FedEx his work to the Motor City

each day. One client grew to 180 as overnight shipping was replaced by the Internet.

"It's important to build relationships," said Garrett. "Often, we just record in our own studios alone, but when the client gets on the phone with us, we can create magic and joke around and add stuff not in the copy. It's like when you're shooting a movie; they don't just set up the camera and say, 'Act.'"

As with everything in radio, speed is vital. In a typical day Garrett may read between 50 and 100 pages of copy, and much of it is time-sensitive material, as was the case when Michael Jackson died. Garrett used to get a lot of email with the subject line "ASAP." The new acronym is "RFN."

"The 'R' stands for 'right,' and the 'N' stands for 'now,'" he said. "You can guess the other letter. The message is that if you're not available, someone else will be."

WANT FRIES WITH THAT?

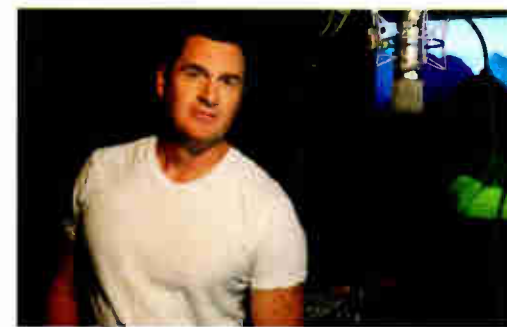
"Voca! fry" refers to low, creaky tones in the voice, usually at the end of a phrase. This manner of speaking is affected by young women who wish to seem cool; imagine "Valley-speak" from the '80s with a twist.

"I blame the Kardashians for this fad that is quickly becoming accepted amongst a certain age group," said Lynn Hoffman, the imaging voice for many radio stations and TV news affili-



Above: Pat Garrett

Left: Eric Romanowski



David Kaye



Nate Zeitz

(www.davidkaye.com), who brings these "Transformers" cartoon characters to life, along with dozens of others. He is also the in-house voice for HBO's "Last Week Tonight" with John Oliver.

"Juggling the schedule can be a job in itself," he said. "Luckily my agents and managers all communicate using Google calendar. They can see what I'm doing anytime, which can be kind of creepy!"

Kaye believes that flexibility is a part of the voiceover art.

"You need a large bank of styles to choose from," he said. "You can be great at one thing, and that's awesome, but the more varied you can be the better. Be a good person and make the vendors' job as easy as possible."

CESD Talent Agency in NYC (www.cesdtalent.com) represents some of the top voices and on-camera personalities in the country. Nate Zeitz is vice president of the affiliate and imaging division.

"Speaking specifically about radio imaging, program directors are seeking curators of creativity," he said. "There is more demand for voice talents who are performers, not just readers. Stations want true voice actors who know how to interpret copy and bring it to life."

"Ad-libbing is huge in radio imaging, and having an ability to deliver beyond

what's written on the page is often what separates those who book the job from those who don't make the cut."

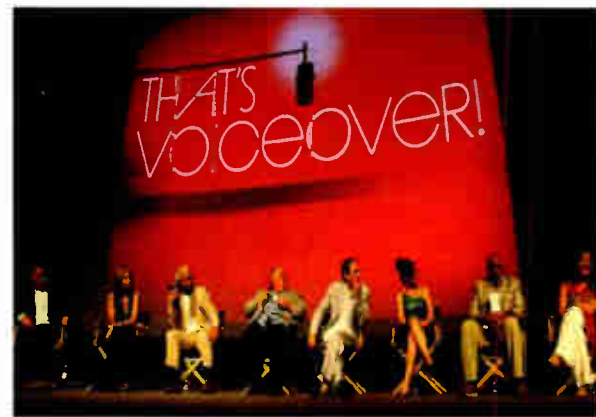
Zeitz also mentioned that stations are turning over voice talent more quickly than ever.

"It can be frustrating for the talent because it's rarely about anything they have done wrong from a performance standpoint, and often they are left scratching their heads wondering why they lost the gig."

The voiceover industry is a sprawling, global ecosystem of talent, buyers, content creators and facilitators across all audible media, said Rudy Gaskins, chairman/CEO, SOVAS. "That's Voiceover! Career Expo gives you direct access to all of it."

Visit www.sovas.org for tickets and information.

Ken Deutsch says he is a former voice talent in the most relaxed definition of the term, having called Bingo in Butte, read blue-light specials for K-Mart in Kankakee and announced train arrivals in Trenton.



A previous panel discussion at That's Voiceover!



Rudy Gaskins and Joan Baker at the That's Voiceover! Career Expo.

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Photo Gallery



© NAB

The Peterson Brothers entertained at the opening reception.



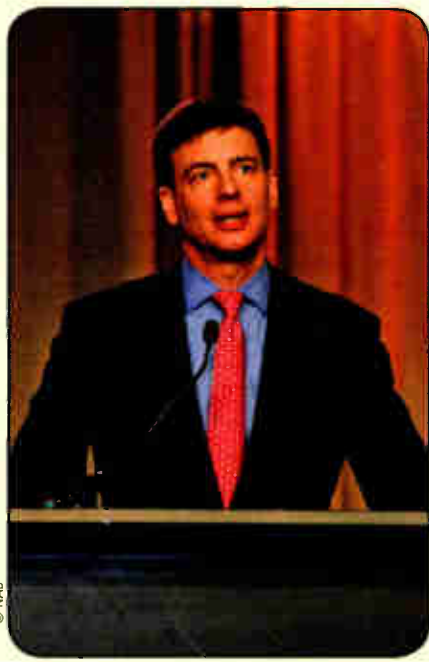
Photo by Jim Peck

The latest IP audio codec from Comrex, the Access NX, is now shipping. Chris Crump makes a point on the exhibit floor.



Courtesy Logitek

JetLink is a new software solution from Logitek for sending broadcast-quality audio from point to point. A free public beta version will soon be available. The company offered a demo with a low-latency connection to Logitek's John Davis back at headquarters.

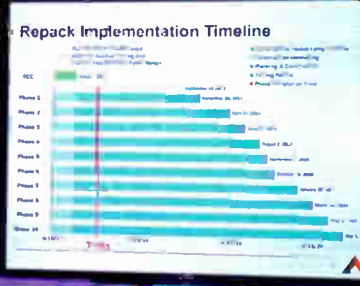


© NAB

David Field, president and CEO of Entercom Communications, received the National Radio Award.



Photo by Jim Peck



The television "repack" means that 1,000 TV stations will change channels in the next three years, and that's going to have numerous implications for radio operators. NAB's Alison Neplokh led a discussion with Dave Siegler of Cox Media Group and Jim Stenberg of American Tower Corp.



Learn more: audioarts.com

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Photo Gallery



© NAB

Performer Demi Lovato, right, is interviewed by WPLJ(FM) personality Todd Pettengill on the show's final day.



Photo by Jim Peck

Our photographer captioned this image "Happy little SNMP coder." Tony Peterle of WorldCast Systems enjoys his work.



Photo by Jim Peck

Have you got your "dot-radio" URL yet? .radio is a new top-level domain dedicated to radio stations, web radio, radio professionals, companies selling radio goods and services and radio amateurs. From left in the EBU booth are Melissa Mitchell, Alain Artero, Andrew Barrett and Ana Bora.



Photo by Jim Peck

Cal Zethmayr, right, visits with Shively's Dale Ladner and Angela Gillespie.



Photo by Jim Peck

Jeff Wilson of Broadcast Electronics talks tech with Sukhdev S. Dhillon of Radio Punjab.

Los Angeles

Still audible signal
with AirAura X3 processor



Extent of clear, strong signal
with AirAura X3 processor

San Clemente



Oceanside

Escondido

Extent of clear, strong signal
with non-Wheatstone processors

Map indicates the
extended range from
Wheatstone's processor
with multipath control.



San Diego

KSDS Transmitter

Great Sound Is Subjective Increased Coverage is Measurable...

Scottie Rice, engineer for KSDS in San Diego, shared his experience putting an AirAura X3 in place of another top of the line audio processor on the air. He was able to increase the distance of his listening area substantially.

To see/read Scottie tell the whole story, go to wheatstone.com/multipath



It's Time You Tried a Different Processor

wheatstone.com/processors



Photo Gallery

Navigating drone regulations was part of the discussion for Matthew Clark Sr. of Hogan Lovells, John Kean of Cavell Mertz and Sam Wallington of K Love/Air 1.



Marconi Radio Awards host Rickey Smiley joined Ray Benson and Asleep at the Wheel on stage.



David Layer of NAB talks with an attendee about connected car trends on the exhibit floor. The association recently sponsored a dashboard "audit" in three markets to better understand how radio stations are displayed in car dashboards, both via RDS and HD Radio.



Marconi recipients celebrate their awards.



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ENCO DAD Is a "Game Changer" for WAHS

High school/community radio station finds ENCO automation makes the difference

USERREPORT

BY KIMBERLY MCKNEE
Station Manager
WAHS 89.5 FM,
Avondale High School

AUBURN HILLS, MICH. — Owned and operated by Avondale School District in Auburn Hills, Mich., non-profit WAHS 89.5 FM — branded as "Avondale Community Radio" — provides practical educational experience in radio broadcasting for students at Avondale High School while also serving the local community.

Launched with 10 watts of power in 1975, we now have the furthest-reaching high school radio signal in Michigan at 2,400 watts.

When I was asked to rebuild the program in 2013, WAHS had been dormant for years because of funding cuts; it was simply rebroadcasting another station's programming. Notably, from a technology standpoint, we had no automation system, which we needed to make our vision of growth a reality.

As an English teacher, I was new to radio, so I started researching automation software. I visited ENCO at a trade show, and the user-friendliness of the DAD platform stood out right away. ENCO also showed a genuine interest in helping our small station achieve big goals. Add to that ENCO's training offerings and local support, and DAD became the obvious choice.

As our educational justification and funding processes took time, we deployed ENCO DAD in September

2016. ENCO provided extensive on-site training including a one-on-one session with me, and two days with the students.

Our students produce most of WAHS' content and run many of the day-to-day operations. Our workflow starts with students loading music and other content into the DAD library, with the DAD Dropbox utility making it easy for them to ingest music ripped from CDs or downloaded material. The kids simply drag and drop the files into a folder, and Dropbox performs any necessary conversions and inserts them into the library. We use the same method to bring in original content such as liners, show intros, PSAs and sponsor promotion spots that students record in our studio and edit with Adobe Audition.

We love producing live-assist shows with DAD's intuitive Presenter interface. The students bring their content into the daily playlist, set the system to manual operation and do their live show, setting DAD back to full automation afterwards. ENCO also makes it easy to record those shows, do some basic editing and schedule them as replays. We can do a live show during class time in the morning, and by the end of the school day, we have it saved and scheduled to replay in the evening.

Another great ENCO tool we use is the Conveyor utility. Last year, we expanded our programming to include nationally-syndicated programs alongside music, locally-produced content, along with high school football coverage. Conveyor makes it easy to bring in syndicated content, automatically downloading the audio files from the web or FTP sites and bringing them into



DAD in the format we need.

ENCO DAD's ease of use has enabled our kids to learn and accomplish a tremendous amount in a very short period of time. In our on-air studio, our everyday student operators start doing live-assist productions with a mentor, and typically master it themselves by the second or third show. Students performing other functions do a brief tutorial and are mentored a couple of times, then are comfortable enough to go solo.

The system truly has been a game changer for us. Before we had it, the students would go live, but that was the end of the road. They could record something, but there was no way to replay it unless someone was in the studio. We were rebroadcasting another school's signal and just doing our own small live spots.

Now, with our own production systems, live studio and ENCO automation, we're fully our own station — in fact, one of the best in the state. Less than six months after we went live with ENCO, we were honored as High School Radio Station of the Year by the Michigan Association of Broadcasters — an accolade that reflects not only our creativity and content, but also the production values that DAD helps us achieve.

Everyone associated with WAHS is happy we chose ENCO DAD, from the board of education right down to newbie pupils. Our users are students, not professionals, but ENCO is enabling us to produce really good, professional-grade radio broadcasts.

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



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BUYER'S GUIDE

Media Asset Management: Automation, Traffic/Billing

WEKS Moves Up With Arrakis Digilink-HD

Upgraded automation program provides new capabilities



USERREPORT

BY **BOB SHANNON**
Operations Manager
WEKS(FM)/The Bear 92.5

ZEBULON, GA. — WEKS(FM)/The Bear 92.5 started using Arrakis Digilink-Xtreme when the station was purchased more than a decade ago. We did this for a number of reasons. First and foremost, after much research, and test driving the software, we found the system to be the most user-friendly. And having mostly young talent, we felt we had a perfect fit with Digilink-Xtreme.

Years have gone by, and we have appreciated the Xtreme and what it has been capable of doing for us. We are a country music format, with live shows, and its live show interface has worked great. It has a simple playlist that we are able to schedule, as well as easy access hot keys, which our DJs use often.

In addition to its live screen, we also do satellite broadcast of NASCAR, which Xtreme handles well. These satellite broadcasts are simple to set up and schedule. Another thing we have enjoyed about Xtreme is that it works with our Natural Log traffic and billing

software and is easy to pair.

As we have grown and expanded and started needing more bells and whistles we had to, again, search for a system to fill our growing needs. So we started looking again at automation systems this year. Logically, since we have had a good experience with Digilink-Xtreme, we first looked at Arrakis for options.

The next step up from Xtreme in the Arrakis automation family, is Digilink-HD. It costs a little more and has some

of the outgoing track and the intro of the incoming song, but you couldn't make any adjustments. That's fine and good if you want to do a quick voice track, but we wanted something more.

From our research, we found that Digilink-HD didn't have this issue with voice tracks. We saw that Digilink-HD allows you to create the voice track quickly like the Xtreme, but if you'd like, you could then adjust the overlap times as well as duck the incoming

more features than the Xtreme. And it was the most cost-efficient choice for us and had everything we were looking for to help us grow.

The biggest feature we sought was the ability to voice track from remote locations and duck the tracks. Xtreme was limited in its voice tracking, and had become too limited for our growing needs. With Xtreme, you could create a voice track, which overlapped the end

track, add a music bed, etc. This is what we needed, and we love being able to cut our tracks quickly and edit on the fly with the DHD voice track editor.

As with any new setup for automation, it is a bit intimidating making a switch. Even having used Arrakis software before, it's added work to make a switch like this. But our minds are put at ease knowing we have their support staff to help. With their monthly program, they include customer support, and they are certainly top notch.

We have just recently made the decision and signed up to transition from the Xtreme to Digilink-HD. The sales staff explained that it will be a matter of swapping out the switcher hardware and running the new software.

For those who have the Digilink-Xtreme and would like a little more out of it, we highly recommend programmers contact the Arrakis Systems sales staff to learn how easy the transformation is to Digilink-HD. Operating just one station in the current market is unique but The Bear 92.5 has taken the challenge and used Arrakis to our fullest advantage.

I have been buying studio equipment for 40 years and in my experience, Arrakis equipment and software is first class. As a veteran I am also pleased when we can buy "Made in the USA."

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

TECHUPDATE

DALET RADIO SOLUTIONS BRING MULTIMEDIA AND SOCIAL MEDIA INTO THE MIX

Based on the Dalet Galaxy Media Asset Management & Orchestration platform, Dalet Radio Solutions streamline multimedia production and multiplatform distribution radio workflows in converged environments. The company highlights the breadth and depth of its purpose-built tools combined with the asset management and orchestration capabilities to support radio workflows for news stations, public broadcasters and large music and commercial stations.

The modular platform powers digital and analog broadcasting and enables one-click web publishing (CMS, podcasts) and smart distribution to social media networks. It supports native video and visual radio functionalities.

Flexible metadata models and the workflow engine provide flexibility for creation and distribution. Users can broadcast programs online with additional content such as graphics, articles or pictures; customizing of content based on platform and targeted audiences; and native management of online video platforms with data consumption analysis in order to develop and refine content delivery strategies.

A recent deployment of the Dalet installation at KEXP(FM) in Seattle, an arts organization with a radio station that plays independent music and a television facility that generates content for their social media channels, helped a once-small station to grow its presence online and its brand internationally. "Essentially, we want to create the type of things that people will want to share on social media," said Ethan Raup, the general manager.

He said the Dalet platform helps the station automate the production, tracking and management of these assets, freeing staff up "so we can actually do more for our audience and reach out to more people."

For information, contact Dalet in New York at (212) 269-6700 or visit www.dalet.com.



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TECHUPDATES**NEW, IMPROVED
VOXPRO 7 AUDIO
EDITOR/RECORDER**

Wheatstone says VoxPro 7 has a new set of functions that make live editing of call-ins and interviews faster and easier than before.

The popular recorder/editor has a new signal processing toolset for cleaning up phone calls quickly; new function for creating one-button macros for frequently used effects and other editing operations; and new quick-search navigation tool, as well as support for importing 24-bit files.

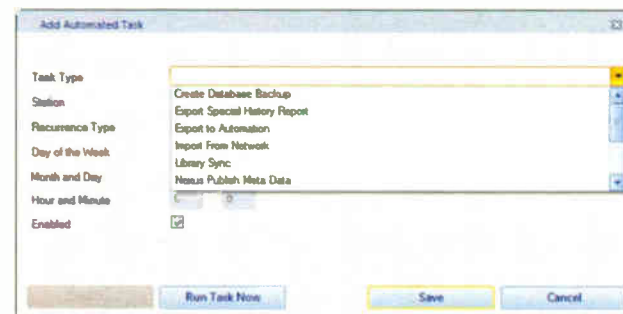
VoxPro is a recorder/editor that enables talent to record audio while editing or playing back other audio in real time. It includes a jogwheel hardware interface that makes finding and editing call-ins simpler. Hot keys give access to highlights for production and teasers, and can be authored in most languages. Markers let talent indicate in real time any material that needs review before prepping for distribution (streaming, podcasts, syndication), and talent can clean up audio with EQ and dynamics processing, as well as add effects as needed, as they go or when prepping delivery for different media.

In addition, VoxPro 7 can tighten an entire program by automatically removing unwanted dead space.

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

**MUSICMASTER STRENGTHENS CLIENT-SERVER**

MusicMaster Client-Server 2.0 is the latest iteration of the company's multistation scheduling software. Among features in 2.0 are more tasks, more options and a stronger, more secure network presence.



Automated Tasks have been expanded with additions to automatically run Export to Automation, Reconciliation, and Import From Network. These join the existing Automated Tasks (like Creating a Database Backup, Library Sync, and Start Automatic Scheduler) providing users with a way to automate common tasks.

Users can run key functions like Export to Automation and Import/Export options from the server, eliminating pathing issues from the client. Users still have an option to run these from the local drive.

An option is now available to allow the running of multiple instances of the server for load balancing or redundancy. When operated on a LAN, all instances of the CS server automatically stay in sync with each other.

The web client can be used to operate the software using any modern web browser with no need to install software on user workstations. This also allows clients to use the features of MusicMaster CS on operating systems other than Microsoft Windows.

For information, contact MusicMaster in Texas at (469) 717-0100 or visit www.musicmaster.com.

MUSIC 1 PROMOTES AUTOMATION

Music 1 proclaims itself as radio's first Windows-native scheduler, introduced in 1994. The company says that it has an innovative scheduling and editing functionality designed for maximum efficiency and song rotation accuracy.

With the addition of the Traffecta traffic and billing module, M1 became a total-

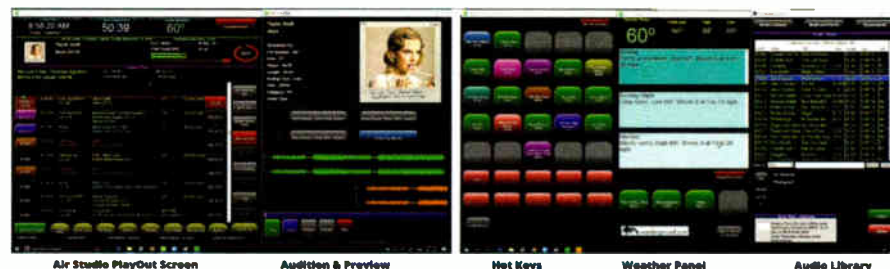
solution scheduling package. Music 1 schedules everything including jingles, liners, links, voice tracks, long form programs and automation system commands.

Music 1 and Traffecta are tightly integrated and work smoothly with all of the world's automation systems.

Music 1 is fully networkable, portable and cloud-friendly. Music and program directors can install it on their laptops, do their scheduling from anywhere. A single install of M1 can schedule any number of stations or streams from the one computer.

The Music 1 company also offers Music 1 SE, a scaled down scheduling software. SE has the same look-and-feel of the professional version that provides an advanced and efficient scheduling tool at an ideal affordable, buyout price. Music 1 says that SE is an attractive option for broadcasters' HD channels or stand-alone web stations.

For information, contact Music 1 in Texas at (512) 392-2415 or visit www.goMusic1.com.

**DJB ZONE RADIO AUTOMATION DEBUTS**

DJB Software's DJB Zone radio automation software suite offers LPM/FM/AM air studios user flexible onscreen zones of the program functions that can be arranged, resized and layered in a variety of different layouts to enhance talent performance and preferences. The DJB Zone suite when using dual monitors in the Air Studio adds to talent efficiency in multitasking.

The new DJB Zone hot key panel supports button colors along with new hot keys being created by simple audio cut drag and drop on blank module button. The DJB Zone weather panel features hot keys for easily enhancing live read weather reports with audio intros, outros and beds.

New DJB Zone voice tracking feature has a new graphical drag and drop feature allowing talent ease of creating tight music or voice track segue in and out. Another new GUI feature makes it possible for DJB Zone automation to be remotely managed using iPad, Surface, slate or smartphones.

Built-in audio codes support use of generic onboard PC or professional sound cards for recording, editing and play-out. DJB Zone is WheatNet-IP LIO and driver compatible and can be supplied at extra cost as software only or with integrated PROracks computers.

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

TECHUPDATES

JUTEL LAUNCHES RADIOMAN ACCESS

Jutel Ltd. has launched cloud-native radio automation platform RadioMan Access, featuring a suite for radio production needs from planning to distribution.


According to the company, the platform allows users — including reporters on the field — to work and broadcast from anywhere at anytime.

As a cloud-native platform, RadioMan Access planning, on-air playout and distribution

modules can be managed through a browser, eliminating the need for major on-site installations or dedicated hardware investment. Journalists can access the material they need while on the road and can run a show from various locations.

Jutel says virtualization of servers and cloud-based application units will help broadcasters make a leap in ROI. In addition, it says Jutel RadioMan Access significantly reduces the IT footprint and lowers the cost of IT space requirements.

For information, contact Jutel in Finland at +358-207-476200 or visit jutel.fi.



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RCS UPGRADES ZETTA

RCS notes that there are many benefits for station clusters to “live” inside of a single system. One is the ability to share resources.

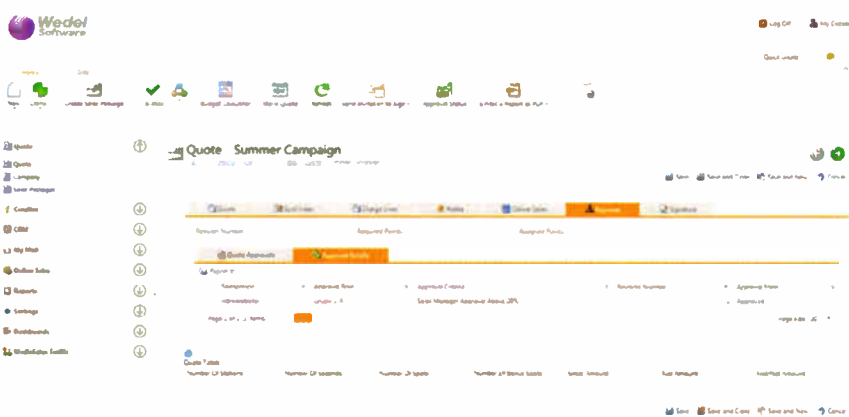
With the Zetta automation system, users can add a new song or commercial once and then decide, on a per-station basis, whether the asset is available and playable (active) on a given station. Zetta embraces the concept in other ways; for example, users can create any number of “Banks” under Hot Keys or Stacks modules, and these can be used by all stations in the system — useful for generic sound effects, newscast items etc.

This works well for many sites but could get out of hand if too many banks exist in the system; finding the correct bank in a long list may become cumbersome.

So added to the latest Zetta version, 4.2, are enhancements that will improve the user experience in this area. Users can just click into the bank selector and start typing; the banks that match the text will immediately show up and users can pick the desired one by clicking it or arrowing down on a keyboard and hitting enter (shown). Even on a system with hundreds or even thousands of banks, “autosuggest” can find the right one within seconds, RCS said.

Version 4.2 includes other tweaks and enhancements in the user interface; the RCS community also provides enhancement lists, tips and solutions.

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



WEDEL INTRODUCES UPDATED APPROVAL PROCESS

Wedel Software has developed an improved approval system for its MediaSales Quote module.

The company says it has replaced its former “points-based” system with a more intuitive and flexible process, with approvals based on any specified criteria, and with an unlimited number of approvers.

When a salesperson creates a proposal and submits it within MediaSales Quote, an email alert is sent to designated approvers, including credit approach or discount levels. From there, the approver can enter the system and choose to approve or decline the quote.

If approved, the salesperson gets a message that it has been accepted. Should the quote be declined, the approver is given a text box to provide an explanation of why it's been declined and this is sent back to the salesperson, who can immediately make the required amendments in order to re-submit an updated quote quickly.

In addition, approvals can be attached to various approvers for different criteria. For instance, discount levels can be signed off by a sales manager, while approval for spots can be sent directly to the production manager.

The process is customizable; users can set the criteria, approvers and content of email alerts. Wedel says this is a tailored approval process available off the shelf.

For information, contact Wedel Software in the Netherlands at +31-79-343-4721 or visit www.wedelsoft.com.

AEQ AudioPlus Brings Flexibility to COPE

Spanish broadcaster can program remote stations and regional groups



USERREPORT

BY JUAN ANTONIO ALAMILLO
IT Manager
Cadena COPE

MADRID — COPE is a nationwide radio broadcast network in Spain featuring Cadena 100, MegaStar FM and Rock FM music programming.

Our main station is in Madrid, but we also have local studios in more than 70 cities. We have more than 250 transmitters installed, with customized regional and local content, both for stations with studios and stations without.

COPE developed its first automated control network in 1994 with AEQ for two independent programs, so when we looked for an upgrade we looked at AEQ's AudioPlus.

The new installation has allowed more flexibility to deal with our programming needs, especially unique programming at certain stations. With the new system we can also handle a larger volume of programs and programming recipients.

With AudioPlus it is possible to create many different commands and they will automatically be made available to other AudioPlus computers connected to the network, even at remote locations.

The satellite receiver at each of the remote stations receives the command and delivers it to the local remote play-out computer for completion. Commands can be sent to particular stations or user-defined groups of stations. Stations can belong to one or more groups for a flexible system.



A control server has been installed for every four stations in order to receive the commands and interface with satellite for programming downlinking and uplinking.

These servers don't have particular requirements, so Intel i7-powered Fujitsu PCs have been installed, each with 8 GB RAM, plus an additional one for passive backup.

Each server features a warning system for issuing alerts concerning missed commands.

In addition, if a local network failure makes the computer miss a command an alert will be issued.

We have completed the replacement of the old system. The most satisfactory point has been the operational flexibility provided, and the way it can be adapted to continuously changing scenarios.

For information, contact Peter Howarth in Florida at (954) 581-7999 or visit www.aeqbroadcast.com.

TECHUPDATE

XYTECH OFFERS BROADCAST BUSINESS SOFTWARE

Broadcast business software developer Xytech Systems offers a group of product aimed at operations and facility management.

MediaPulse Transmission (shown) has a new release. According to the new release offers enterprise-class operations

and robust financial management tools designed specifically to streamline transmission and automation functionality across multiple broadcast platforms. This latest release of MediaPulse makes it easy for broadcast personnel to reserve, provision and monitor specific feeds, while simplifying the process of booking routes. Available as both on-premise and cloud installations, the new release also has a notification engine, personalized feed dashboards and a Big Board list of feeds appropriate for publication to the entire facility.

MediaPulse Reporting is the company's automation module. It is able to capture an order and drive required tasks to ensure a seamless order process. The new Digital Order Automation module in MediaPulse streamlines the complex, expensive and time-consuming workflow processes all media servicing and broadcast facilities face. The software also integrates with third-party applications through an open adapter technology so order automation and multi system workflows are truly seamless. The result is a workflow that elegantly navigates multiple dependencies across a range of possibilities.

MediaPulse Cloud is hosted in Microsoft Azure platform, is a secure, hosted platform from Xytech offering full system management. With MediaPulse Cloud, companies of all sizes can avoid the cost and ongoing distraction of an on premises installation.

MediaPulse Cloud is available through any web browser and compatible with iOS, Android and Windows mobile devices. Xytech's new managed services handle most administrative functions including daily backups, user permissions and screen layouts and is an ideal, cost-effective solution for any facility.

For information, contact Xytech Systems in California at (818) 698-4900 or visit www.xytechsystems.com.



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WideOrbit is the **WIDEORBIT** media company platform for connecting ads and audiences, everywhere. Our automation and traffic software is used by more than 3,000 stations around the world for handle every step of the media transaction — from order to air to invoice.

WO Traffic is the perfect sales and operations solution for managing, executing and optimizing ad sales from any media type or sales channel.

WO Automation for Radio helps stations manage content while reducing operations costs and simplifying workflow. We integrate with most major radio station system software, including WO Traffic, MusicMaster, vCreative and many others.

The WO Streaming digital audio platform is a reliable, high-quality solution for streaming station content and ads. WO Streaming makes it simple to drive revenue and extend content from linear broadcasting to digital listening platforms.

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

BSI TO RELEASE OPXONE

Radio broadcast software developer Broadcast Software International will soon release the latest offering in its OP-X platform, OPXOne. According to BSI, OPXOne is designed for simplicity with live and satellite programming along with adding remote control functionality.

OP-X was designed to work in a multistation environment but to work just as well for a single station. The company says that the easy-to-use interface is compatible with touchscreens.

Inside OP-X is easy to install and maintain, has automatic backup features, a built-in clock builder for simple handling of intense satellite broadcasts and voice-tracking chores. In addition, OP-X has built-in file and audio servers, time-bending functions, satellite interface, and a serial device server allowing for shared audio routers and trigger devices across multiple stations.

For information, contact BSI in Oregon at (888) 274-8721 or www.bsiusa.com.

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WYBG 1050, Messina, NY, now off the air is selling: 250' tower w/building on 4 acres; collection of very old 78s dating back to 1904; 12' satellite dish on concrete base; prices drastically slashed. 315-287-1753 or 315-528-6040

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

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I'm looking for KFRC radio special of Elvis Presley which aired on January 8, 1978. I'd be willing to pay for a digital copy. Ron, 925-284-5428.

I'm looking for the Ed Brady radio show in which he did a tribute to Duke Ellington, the station was KNBR, I'd be willing to pay for a digital copy. Ron, 925-284-5428.

I'm looking for KTIM, AM, FM radio shows from 1971-1988. The stations were located in San Rafael, Ca. Ron, 925-284-5428.

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 KSFX radio shows, Disco 104 FM, 1975-1978. R Tamm, 925-284-5428.

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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Standard Short-tune series. Bill Cook, 719-684-6010.

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(2) LPFM radio stations for sale, located in the NW part of central Florida on the gulf coast, covers the county, get out of the cold weather, come to Florida, call or write for particulars, 352-613-2289 or email boceey@hotmail.com or Bob, PO Box 1121, Crystal River, FL 34423.

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It's Time for Peak Radio

More training for talent and an emphasis on content could keep listeners from turning the dial

COMMENTARY

BY STEPHEN WINZENBURG

We're in an entertainment era called "Peak TV," a term created by the head of FX John Landgraf. It refers to the large number of high-quality shows that fill the tube: "Game of Thrones," "Veep," "This Is Us," "House of Cards," "Empire," "Walking Dead," "Better Call Saul," "Fargo," "American Horror Story" and the list goes on.

But Landgraf also said, "There is simply too much television." He told media critics that the audience "is overwhelmed by the sheer volume of TV shows," and counted close to 500 original scripted television shows across all platforms in 2017. That's up 75 percent in just five years.

Terrestrial radio king Rush Limbaugh is still the role model when it comes to filling audio content and attracting listeners, but if you listen to all three hours daily, you'll find him to be incredibly repetitive and often simplistic.

Radio has also expanded to where there are now more than 28,000 licensed outlets sending out audio programming, including translators and low-power stations. That's up over 30 percent in five years and almost twice the number of outlets compared to just 20 years ago. So with such a dramatic increase in radio availability and the expansion of audio programming through thousands of internet-only "stations" and podcasts, can this also be called the era of "Peak Radio?"

TOO MUCH RADIO?

During a recent vacation, I scanned terrestrial stations and SiriusXM, along with reviewing online radio. I concluded that the dramatic increase in audio options has actually led to somewhat of a decline in the quality of terrestrial radio.

It appears that as the radio business expanded during a time of tightening economics, untrained and inexperi-

enced talent was hired and shortcuts to creativity were taken. Much of it sounds amateurish and lacks originality.

Sad to say, but there may also be just "too much radio."

Take sports talk, which has grown so fast that hundreds of know-it-all average Joes in local markets don't know how to do a cohesive show. They're superfans, plucked from being good callers or operating message boards or writing for a print publication. Unable to communicate clearly, they stumble, pause, don't do homework, grunt, miss basic formatics and go off on self-centered tangents that often are of no interest to the audience.

In music radio, ownership consolidation has led to announcers voice-tracking multiple stations or talent getting placed in formats where they don't match the station sound. I know of one

cluster where the gravelly voiced classic rock chick was moved to the newly flipped talk station, although she had no experience in verbalizing for more than a few minutes in between songs. When she failed at long-form political talk, they moved her to voice-tracking a country afternoon show — where her vocal skills seemed equally out of place.

News/talk radio has some quality national and local veterans that know how to tackle the latest topics and take callers. But after scanning the dial searching for interesting, newer talk hosts, I wonder how some got their jobs. They think talk radio is all about having a big blustery ego, when in truth it's about the ability to deliver compelling content that engages listeners. They've tried to copy Rush Limbaugh's bombast but failed to realize that Rush has attracted an audience by making political content palatable through entertainment.

Even Howard Stern (and I know



some will object that anyone dare voice this opinion) just isn't that good during large portions of his SiriusXM show. Filling four or five hours daily is no easy job, but at times Stern seems to be phoning it in, with long periods of dead air and dull material.

Yes, he does some great interviews and has moments of high entertainment; but for the highest-paid man in the business, he should be working a lot harder to provide great minute-by-minute quality content to those that pay for the right to subscribe to his show.

I tuned in one day last fall to hear Stern talk about using a plunger, laughing about "doo doo" and how he's grossed out by toilets being backed up. Then he transitioned to how he didn't know the Rams had returned to playing in Los Angeles over a month earlier. Potty humor, and ignorance that sounded unprepared and out of touch. Maybe two or three hours a days would make for a better Stern Show.

On the other end of the SiriusXM spectrum is "Radio Andy," a newer channel that was handed to a guy with no radio background, Bravo TV's Andy Cohen. The station appears to have no idea what its brand is. In one day I heard a mishmash of "Real Housewives" gossip, feminist empowerment, gay subculture, and ... Bon Jovi? What is supposed to be a talk channel was playing classic rock music one afternoon with "Dead or Alive" coming out the speakers. (And Bon Jovi had his own SiriusXM channel at the time as well!)

SiriusXM mistakenly thinks that any standup comic, movie star or musician has the ability to creatively fill air time. It's quite the opposite — we instead get Brooke Shields stumbling through her show open, repeating the same phrases

over and over, telling the audience she doesn't know what she's doing, and then overpraising her guests, ending with telling us that she had so much more to talk to them about but ran out of time. It's actually pretty annoying.

Terrestrial radio king Rush Limbaugh is still the role model when it comes to filling audio content and attracting listeners, but if you listen to all three hours daily (as I did all summer), you'll find him to be incredibly repetitive and often simplistic. Some of this is intentional to put across his points, but often it feels like he hasn't done enough homework or that he is following an outline from Donald Trump's press office. While he claims to spend six to eight hours a day in prep, the show focuses on a narrow amount of content spread over a long period of time with the same thoughts often repeated day after day.

Rush and Howard were certainly great hosts at one point, but if they are the best we've got today, then the business appears to be beyond the "Peak Radio" of the late 1990s and early 2000s. Listening to Stern and Limbaugh now is a little like watching a 29th season of "Game of Thrones."

TURNAROUND TIME

There are two solutions that I think could turn radio around and create an atmosphere of peak listening again.

First, radio has to improve its training of professionals, and it can do that by creating formal standards for those who want to get into the business. We're a generation removed from the old FCC requirement that announcers be licensed in order to work in radio, and two generations past the difficult exam a board operator had to pass in order to just be left alone to run a station.

The NAB and higher education institutions could partner to offer some type of certificate required to work in the business. This could be done through a weekend seminar led by professionals or a class at a community college or a full-on degree at a liberal arts university.

Instead of the government licensing announcers, the industry could uphold standards by requiring everyone to know the business of radio, including celebrity talent and brokered show hosts. Legal issues, formatics, FCC rules, business aspects, voice delivery and personality coaching could be included. No more blindly putting on the air untrained a newspaper columnist or lawyer or rocker who couldn't make it in the music business.

The second part of the solution is to return to the glory days of radio and emphasize content over image. Radio needs to challenge employees to be more creative and do more with gimmicks. Too many do a quick internet search and call it "show prep" instead of spending hours in the production room creating great original content.

It used to be that radio was filled with stunts that would have people talking. But that has mostly been replaced by late night TV where Jimmy Fallon or James Corden do something that goes viral on social media — and radio hosts the next morning end up talking about what the TV guys had done the night before!

Return to the glory days of radio and emphasize content over image.

We need more entertaining audio gimmicks, like Glenn Beck's "moron trivia," where they would blindly call ignorant convenience store workers and ask four simple questions, pitting NFL cities against each other each week. It was don't-touch-that-dial hilarious. Then Beck started emphasizing his end-of-the-world philosophizing and stopped regularly doing the segment, when he should have been doing more that could rival late night TV hosts for viral popularity.

Terrestrial radio also needs to utilize popular media trends. For example, why not put internet-only podcasts on the radio? There are some big-time stars doing web-only podcasts that attract a large number of downloads — why not license those for broadcast, or hire some of the popular local online hosts or bloggers to do real radio shows? Instead of competing with other audio sources, integrate contemporary media stars into broadcast radio.

For every Ryan Seacrest who knows how to combine his television and online material with radio formatics, there are now thousands on the air who have failed to do the work necessary to attract young listeners away from competing music services and hip podcasts.

Young adults in particular need reasons to turn on broadcast radio. In my college classes every semester, I ask how many listen to over-the-air broadcast signals, and 85 to 100 percent do not. Whole classes never turn on a radio station. Some say they have never listened to radio, ever.

What will it take to make radio become like "Peak TV"? Some may say television creativity is at its best because of the hundreds of millions of programming dollars that are spent by Netflix, HBO and the networks. But money alone doesn't spur creativity.

Radio has always been a medium that attracted dreamers who could create something out of nothing. It implants images in the minds of listeners by using airwaves that no one can see. It's time to encourage radio's dreamers to revive a medium that can reach more people than any other in the world, and take advantage of current technology to make today the era of "Peak Radio."

The author is professor of communications at Grand View University.

READER'S FORUM

ONLY SEMI-RETIRED

Paul, the picture of you signing the FCC 83rd birthday card (*radioworld.com*) made me feel good to know the FCC is one year older than I am. Even the Golden Gate Bridge in San Francisco is two years younger, as it was completed in 1937, and the Hoover Dam was completed in 1936, which makes it one year younger than me.

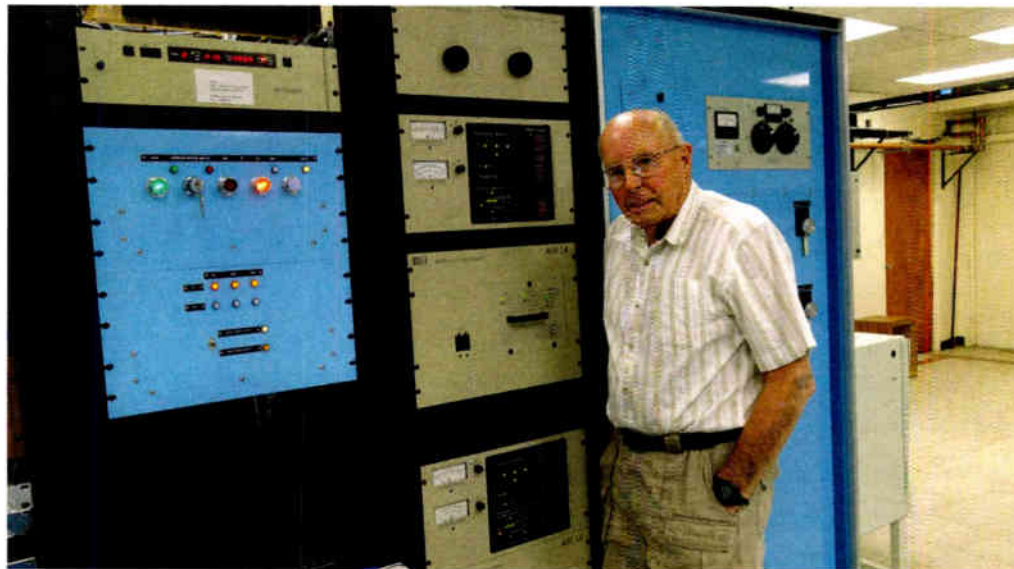
I'm reminded of the time a few years ago when we were on a cruise that started in Australia and made a stop at a port in New Zealand. A lot of the local people came to the harbor to see the cruise ship and greet us.

Also in attendance was a car club with old collectible automobiles. A 1937 Chevrolet caught my eye because it was so well restored. I got the owner's attention when I told him there was one thing I really did *not* like about his 1937 Chevrolet. He looked at me and with great curiosity asked what I did not like about his car. He laughed when I told him I did not like the fact that I was two years older than his now-antique car.

My first job in radio was in late 1954, when I started working at 98.7 KCBH(FM), Beverly Hills, Calif., at the age of 19. After working at KCBH, I moved to 1540 KPOL(AM) Los Angeles, 1110 KRLA(AM) Pasadena and then 640 KFI(AM) Los Angeles. I retired from KFI late in 2000.



KCBH 98.7 Beverly Hill in 1956.



At the KBLA/KYPA/KHJ site in Los Angeles in June, Marvin Collins stands next to the KYPA Broadcast Electronics AM1A and enjoys the satisfaction of getting it back on the air after replacing two filter capacitors in the switching power supply.

It is amazing to think I have been retired for more than 16 years but going strong. I still go on bicycle rides, as I have been doing for years. Several months after retiring from KFI, I stumbled into a part-time job taking care of KBLA(AM) 1580 Santa Monica/Los Angeles (formerly KDAY). After a few years of taking care of the KBLA transmitter site, KYPA(AM) 1230 Los Angeles (formerly KGFJ) was moved into the building, thus giving me two transmitters to take care of. About two years ago, KHJ(AM) 930 Los Angeles was also moved into the KBLA building, and now I have three transmitters to take care of.

I just wanted to let you know that I am still around, mostly retired but enjoying the part-time work.

*Marvin Collins
Semi-retired engineer
Los Angeles*

HOW TO

SEND A LETTER TO THE EDITOR:

Email radioworld@nbmedia.com with "Letter to the Editor" in the subject field. Please include issue date.

OPINION

The End of Carrier Current?

Spoiler alert: not a chance!

COMMENTARY

BY DAN BRAVERMAN

At summer camp I built my first radio station, a 10 watt AM flame-thrower "broadcasting to the world" from Bunk Three.

In fact, our antenna system — the camp's electrical wiring — kept us legally and safely confined to the camp grounds. But to my bedazzled bunk-mates, we were titans!

Now, 50 years later, Radio Systems, the company spawned from those humble yet personally exciting beginnings, has shipped its last low-power transmitter.

For many years, along with Dick Crompton of LPB/Low-Power Broadcasting, we were one of only two commercial companies that made and sold 10- to 30-watt AM transmitters designed specifically for carrier current broadcasting. Now, along with the "mature" commercial AM band it shares, carrier current is faltering.

Carrier current has enjoyed a great and long history, of which perhaps you as a Radio World reader have been a part.

Its "wired wireless" days started in 1936, when students at Brown University in Providence, R.I., started a station

between two dorm rooms and dubbed it "The Brown Network." This station was founded by George Abraham, a Brown student who went on to found the Inter-collegiate Broadcasting System; it still mentors college broadcasters today.

But already by the 1980s, college broadcasting (especially after the advent of licensed educational FM stations) could not sustain the low-power AM market.

In light of that, Radio Systems and LPB dug deep and came up with a host of other creative applications.

NEW APPLICATIONS

For instance, I bet your last drive-in movie experience was enhanced by listening to the soundtrack on your car's radio, rather than those chintzy door speakers! For coverage, we simply coupled into the old underground speaker wiring, which served as a fine near-field antenna grid.

And then there was our large "GURU Radio" installation, providing simultaneous translation in 12 languages to the portable AM radio-carrying international followers of a popular Buddhist leader.

And of course, there were my summer camps.

But no job in my memory was stranger (or grosser) than "the Evisceration

Station" — a broadcast that served a large chicken slaughtering plant, helping workers take their minds off their otherwise gruesome work.

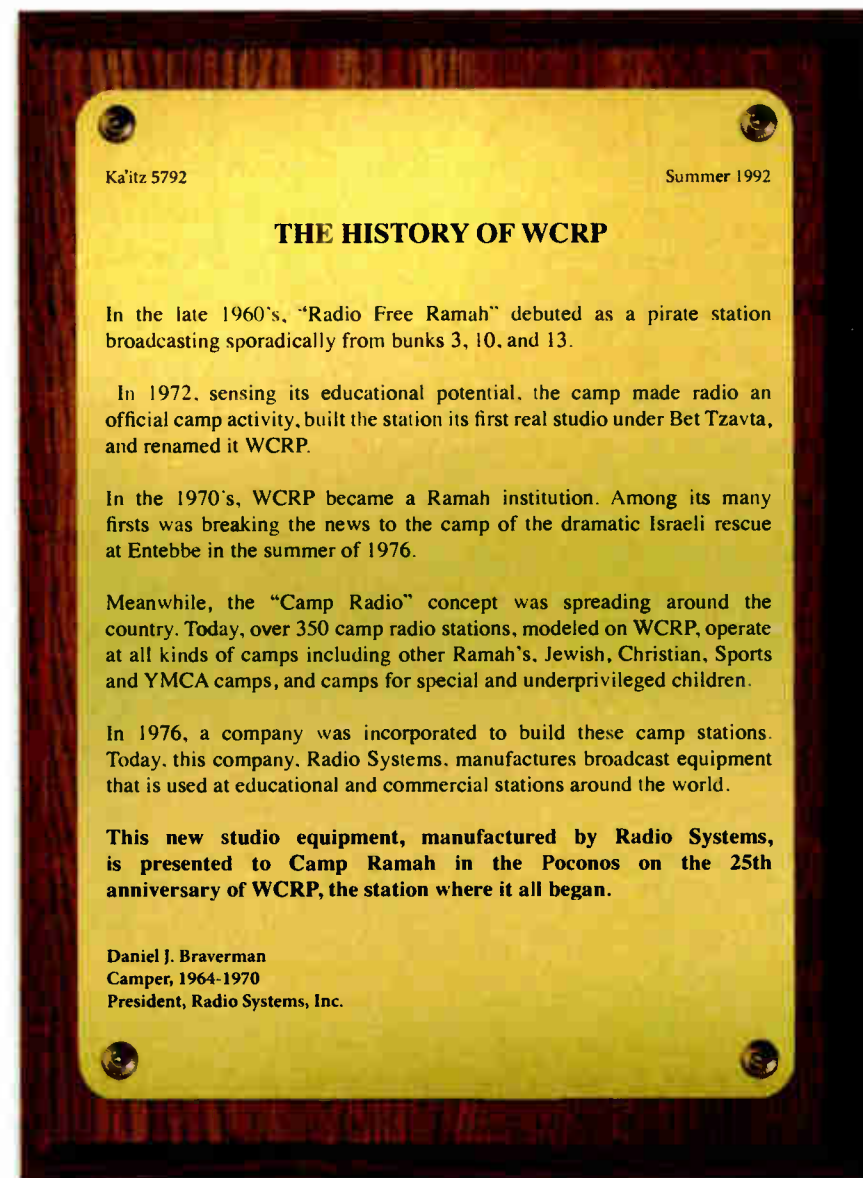
THE NEXT CHAPTER

But of late, not even these unique applications had been calling. So Radio Systems has decided to sell our low-power AM line to its only still viable

So — is carrier current dead? Absolutely not! Even though the two companies that entrepreneured making transmitters are no longer in the biz, the great experimenter and license-free tradition of carrier current lives on!

Wikipedia's Carrier Current page (https://en.wikipedia.org/wiki/Carrier_current) shows an incomplete list of 77 former stations, but also 31 existing stations — a list that I trust is woefully incomplete, as well.

And perhaps even more significantly,



market: Travelers Information Radio.

This licensed, Part 90 application is employed by airports and a host of other municipal and government users such as state parks, highway authorities and local police departments.

Manufacture and sale of the transmitters will be by the new owner, our long-time distributor Information Station Specialists of Zeeland, Mich. Find more information online at www.the-radiosource.com and read the Radio World interview with the company's Bill Baker in the Sept. 1 issue or at radioworld.com (keyword Baker).

I recently read of "Power-Line Networking," also known as "Power-Line Carrier" and even "Ethernet Carrier Current." Yes, you guessed it, this is a whole new technology now (and again) using the power grid for data instead of modulated audio.

How apropos that carrier current may be making this simultaneous journey along with terrestrial radio — soon to be streaming to a radio near you!

Braverman is founder and president of Radio Systems Inc. and WCRP, the carrier current "flamethrower" of his childhood summer camp.

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