

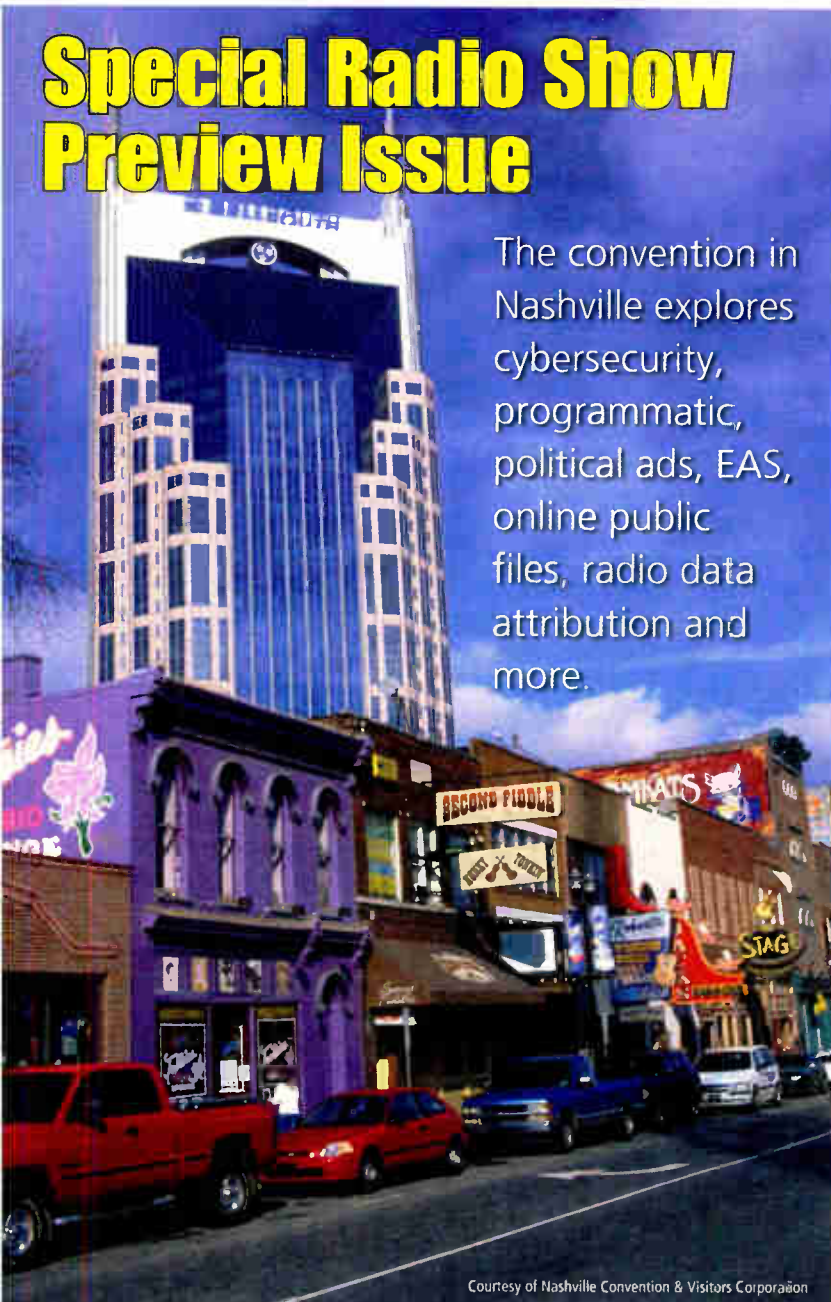


RADIO WORLD

SEPTEMBER 14, 2016 | The News Source for Radio Managers and Engineers | \$5.00 | RADIOWORLD.COM



Special Radio Show Preview Issue



The convention in Nashville explores cybersecurity, programmatic, political ads, EAS, online public files, radio data attribution and more.

Courtesy of Nashville Convention & Visitors Corporation

DTS Seeks to Immerse You in the Soundfield

Sokola on hybrid radio, context enhancement, augmented reality and data sonification

BY TOM MCGINLEY

DTS Inc. has been around since the early 1990s but is a relatively new name for many radio broadcasters. It has been expanding and looks to play a significant role in the broadcast and dashboard audio businesses in coming years.

Vice President of Technology Solutions Ray Sokola is responsible for new product development. He will speak at the Radio Show in Nashville in a session titled "Enhancing the Listener Experience: New Developments in Audio."

He took questions from Radio World in an email
(continued on page 8)



IF YOU GO

Where: Omni Nashville Hotel, Nashville, Tenn.

When: Sept. 21-23, 2016

Who: Radio broadcasters and industry colleagues who "share knowledge, discover the latest innovations, network with industry leaders and explore creative business strategies for the digital age."

How: www.radioshowweb.com

How Much: Conference registration \$495 for NAB/RAB members until Sept. 20; \$799 for others. Various specials and packages are available at the website.

Benson: Success "Won't Come Easily, But It Is Doable"

BY EMILY M. REIGART

Don Benson, the former president and CEO of Lincoln Financial Media Co., will receive the National Radio Award at the Radio Show. Radio World spoke with him to learn more about his thoughts on the radio industry, his career and Scott Shannon —

the man who once dubbed Benson "Wonder Frog."

Emily Reigart: What sparked your interest in radio?

Don Benson: It definitely was there at an early age. And has been there ever since. I
(continued on page 12)

ENCO1 - AWARD WINNING
ENCO RADIO - SWEEP
MARK PEEPLES - THE MIX GROUP

WANNA SEE YOU DANCE
DELUNA, KAT

DAD

Redefining Radio Automation for the last 25 years.

Visit ENCO at NAB Radio Show September 22-23 in Nashville to see the latest technologies in action.

World Radio History



10 INCREDIBLY AWESOME THINGS YOU CAN DO WITH A BLADE BEFORE YOU EVEN NETWORK IT

REPLACE YOUR SOUND CARD

When you install the WheatNet-IP driver, you can get rid of your soundcard, its breakout box, switcher, serial interface, and your isolation. Stream up to 24 stereo channels of audio to a WheatNet-IP system (8 per BLADE).



INTERFACE & CONTROL ALL YOUR STUFF

12 logic universal GPI/O ports along with 128 software logic ports for you to control whatever you have plugged in. When you finally get to a network, control everything on it without breaking a sweat.



CREATE & MANAGE COMPLEX SIGNAL PATHS

Say you need a mix-minus for a live show or remote broadcast. With our ASSOCIATED CONNECTIONS, you can create a predetermined back haul, IFB feed or mix-minus for each device based on its location in the system or on a fader. When a base connection is made, up to ten additional connections can be made.

PROCESS STEREO AUDIO

Each BLADE-3 has a stereo multiband processor with: 4-band parametric equalizer, 3-way crossovers, 3 compressors, 3 limiters, and a final lookahead limiter - all can be used across a network.



PLAY NICELY WITH OTHERS

You've got some other gear you want to use. No problem. Your BLADE is fully AES67 compatible to allow exactly that. We've been to PLUGFEST with our BLADES and we know they work perfectly with anyone else's stuff that's up to snuff.



SPIN SOME REALLY COOL AUDIO CLIPS

There is an optional built-in audio clip player that you can use to put emergency audio on the air. Add files, organize the playlist, and fire playback with a logic port, triggered by silence, logic or manually.



DIAL IN A MIX OR TWO

There are TWO 8 x 2 mixers built into the BLADE. Why? So you can combine multiple inputs and deliver lovely mixed stereo audio. Of course, you can configure those mixers any way you like.

USE YOUR FAVORITE AUDIO FORMATS

There are a bunch of audio formats out there and we've got them covered. HD/SDI, AES, MADI, AOIP, ANALOG, TDM.



MAKE FOUR VOICES SOUND AMAZING

With the M4-IP USB mic processing BLADE, you get all this cool BLADE stuff, AND you get FOUR built-in voice processors based on our famous M-1/2.



DETECT SILENCE AND DO SOMETHING ABOUT IT

The BLADE is constantly monitoring stuff. Silence, for instance. When it finds it, it can do just about anything you want, INCLUDING having it play clips that it optionally stores.



And as cool as all this is, it's just the start. Wait until you network it with our intelligent control surfaces, talent stations, panels and other BLADEs. It'll blow your mind. Learn a lot more at: blades.wheatstone.com

BLADE-3 AN ENTIRE BROADCAST PRODUCTION STUDIO IN A SINGLE RACK SPACE

Wheatstone
BROADCAST AUDIO PERFECTIONISTS®

phone +1.252.638-7000 | wheatstone.com | sales@wheatstone.com

World Radio History



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

EDITORIAL STAFF

EDITOR IN CHIEF, U.S. Paul J. McLane
GEAR & TECHNOLOGY EDITOR Brett Moss
TECHNICAL ADVISER Thomas R. McGinley
TECHNICAL EDITOR, RWEE Rich Rarey
PRODUCTION EDITOR, RWEE Karen Lee
CONTRIBUTING EDITOR Emily Reigart
CONTRIBUTING EDITOR John Bisset
WEB EDITOR Michael Balderston
EDITORIAL ASSISTANT Cameron Vigilano
INTERNATIONAL EDITOR IN CHIEF Marguerite Clark

EDITORIAL CONTRIBUTORS

W.C. Alexander, Susan Ashworth, James Careless, Harry Cole, Ken Deutsch, Mark Durenberger, Charles Fitch, Christopher Friesen, Harold Hallikainen, 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, Tom Osenkowsky, Rich Rarey, John Schneider, Randy Stine, Richard Strickland, James G. Withers, Tom Vernon

ADMINISTRATION & PRODUCTION

PUBLISHER John Casey
EDITORIAL DIRECTOR Paul J. McLane
PRODUCTION MANAGER Karen Lee
ADVERTISING COORDINATOR Caroline Freeland

AUDIENCE DEVELOPMENT

CORPORATE DIRECTOR 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 Ames

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, ww@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
LIST RENTAL: 914-925-2449, danny.grubert@lakegroupmedia.com

Radio World Founded by Stevan B. Dana

Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by NewBay Media, LLC, 28 East 28th Street, 12th Floor, New York, NY 10016. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at New York, NY 10079 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 282, Lowell, MA 01853.

For custom reprints & eprints please contact our reprints coordinator at Wright's Media: 877-652-5295 or NewBay@wrightsmedia.com

Globe graphic ©iStockphoto.com / Edward Grajeda

Copyright 2016 by NewBay Media, LLC.
All rights reserved.
Printed in the USA



College Managers: Get to Know Your Staff

These common-sense practices apply to any station that employs volunteers

CAMPUSVIEW

BY EVAN BOYD

The author is station manager at WSUM(FM)/91.7 at the University of Wisconsin-Madison and student representative to the board of College Broadcasters Inc.

In my senior year, I am nearing the end of working in radio, after participating at my high school station and in college. It truly is weird being done, but I will look back on it and remember it as the best thing I could have done in high school and college.

Coming to this point, I've realized that, sure, you can try your hardest to get more listeners to the station, or to try and get more money for events, but I realized that those things were not the main reasons for being a successful station. The



Evan Boyd

I asked myself: How can I bridge the gap so that every volunteer gets the same experience and enjoyment of radio broadcasting?

main reason is to give more people the experience to pursue radio broadcasting.

Going in with this notion always made me want to help people share the same love for college radio as I have. This is why I decided to apply to be a part of WSUM's executive staff my freshman year, and it has led to me becoming the station manager. Being an exec, however, made me realize how big of a gap there can be between the executive team and the rest of the staff.

One problem that many of us face is that the staff is generally all-volunteer, so management has to make quite an effort to engage them. I asked myself: How can I bridge the gap so that every volunteer gets the same experience and enjoyment of radio broadcasting?

The answer was easy. The gap

between your staff and your DJs can be limited by giving them more opportunities and treating them equally.

Being on an executive team is a privilege, as you now represent your college radio station to the students, the community and the school. In this position, it is important to never look down at the other DJs, as if Big Brother is watching them.

I've found that by using some of these ideas, not only will you get more positive feedback from your DJs, but it will improve your station as a whole. I hope that this advice can apply to any station that deals with volunteer work.

MONTHLY MEETINGS

The first Wednesday of every month, WSUM holds a monthly meeting inviting the DJs to hear what is going on around the station, allowing them to get involved some more if the opportunity is given. Not only will you find your most committed DJs here, but it will be easier for them

esteem. Just by recognizing that they exist, you have done them a great favor.

I can recall the first time I walked into WSUM, wanting to help out in any way. The person I first talked to was incredibly helpful, and she and I became good friends. She made me feel welcome at a place where I had no idea how things ran.

CREATE OPPORTUNITIES

Try to create additional activities that can induce them to come in for another hour during the week, instead of simply coming in to do their show. There are so many other things that they can get involved with if you give them the opportunity.

For example, when I was the production director, I created a "production team" that would create IDs, spots, PSAs and more fun things as another way to get involved with the station. At first, not as many people showed up as I would have liked, but I never gave up and kept pushing the team. Last fall, three of the members of production team became members of the executive management team.

LISTENING

This past semester, I decided to listen to *everybody's* show, which, as you can probably imagine, took some time. After listening to a ton of shows and writing down notes on what I liked and what I thought could improve, I almost gave up and said to myself that this was pointless. But after sending some emails out, I got so much positive feedback from the DJs, saying that it felt good that somebody on the exec team was listening, and that they would continue to work on their skills.

Even if you thought the show was bad, it is important to stay as positive as you can be with the email, call, etc. Not only does it improve quality control, but it makes people feel more relaxed about doing their show, and they will feel more comfortable asking questions. I truly believe that this is one of the most important things to do to keep in touch with the rest of your station.

Hi

Be the first to say "Hi!" I know that sounds silly but going out of your way to say "Hi" to a new DJ will change everything. You do not have to wait to see if they come to you, just introduce yourself!

Who knows — maybe the next person you say "Hi" to will become the person in charge at the station.

Campus View commentaries are a regular feature at radioworld.com.

FCC Field Offices to Close in January

Observers watching with some skepticism to see how Tiger Team plan will work out

BY **RANDY J. STINE**

WASHINGTON — The Federal Communications Commission is moving ahead with its plan to shed field staff and close many offices. Meanwhile, few details have been made public about the creation of emergency “Tiger Teams” to handle special enforcement situations; some observers are skeptical that the approach will be effective.

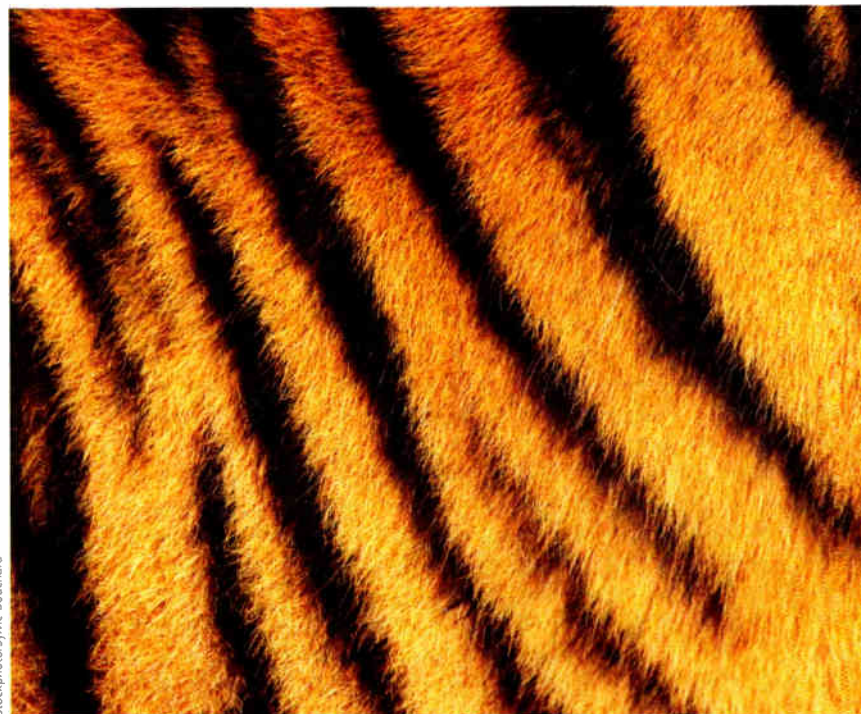
The commission in January will close field offices in Buffalo, Detroit, Houston, Kansas City, Norfolk, Philadelphia, San Diego, Seattle and Tampa. Industry watchers expect these moves will put additional pressure on remaining staff. Meanwhile, delays in forming the rapid response teams could allow holes in the enforcement fence to develop.

The on-call Tiger Teams are supposed to be based in Columbia, Md., and Denver to supplement enforcement efforts of other field offices and, when necessary, to support high-priority enforcement actions nationwide. Chairman Tom Wheeler testified before the House Subcommittee on Communications and Technology in 2015 that the teams would be deployed within 24 hours of an interference crisis. Equipment was to be “prepositioned” at about a half dozen sites across the country.

Little information had emerged from the commission since then about the status of the Tiger Team effort, but

in August an FCC spokesperson told Radio World the commission expects to have the special on-call positions filled by January.

“Field office staff will also have



istockphoto/Sylvie Bouchard

the resources and flexibility needed to travel in order to address issues outside of their region,” the spokesperson said.

Broadcasters and some on Capitol Hill complained about the field office

cuts; the National Association of Broadcasters and the Society of Broadcast Engineers worried that the moves will limit the FCC’s ability to mitigate interference complaints.

Before the plan could be implemented the FCC had to reach an agreement over projected job losses with the union representing Enforcement Bureau

field employees. The National Treasury Employees Union had been a vocal critic of the overhaul, questioning the commission’s ability to safeguard radio spectrum in the future. A FCC spokes-

FROM THE EDITOR



Randy Stine writes here to update us on the closure of FCC field offices. When Randy started work on this assignment, there had been little to no new information from the commission since the hullabaloo over the closures last year, so we thought this story was going to be “FCC mum, Tiger Teams delayed.” But shortly thereafter came word that the closures are in fact pending come the New Year. Let us know what you hear in the trenches.

— Paul McLane

person told Radio World that displaced agents will have the opportunity to apply for vacancies in the remaining field offices, if a vacancy exists.

Field offices will remain open in Atlanta, Boston, Chicago, Columbia, Md., Dallas, Denver, Honolulu, Los Angeles, Miami, New Orleans, New York, Portland, Ore., and San Francisco.

ON-CALL

In July 2015, the commission decided to close nine field offices and eliminate at least 44 jobs; this was said to be the first reorganization of FCC field operations in 20 years. The moves, led by Chairman Wheeler, were designed to eliminate redundancies and realize cost savings, according to an FCC report. The field office closings are expected to save millions of dollars per year. Data provided by the FCC in 2015 showed the average administrative overhead cost level to maintain one field location came in at \$400,000 per year.

An earlier plan had called for the closure of even more offices; it would have left only eight remaining but came under criticism and was later scaled back. The revised plan was a compromise with the House Subcommittee on Communications and Technology; it keeps 15 regional offices open.

To help smooth the transition to a smaller field staff, last fall, the FCC appointed Charles Cooper as its first Enforcement Bureau field director. Cooper, who is expected to be based in Los Angeles, worked prior with the broadcast engineering consulting firm du Treil, Lundin & Rackley.

PIRATES

While the field office transition moves ahead, the FCC has been under pressure to put renewed focus on illegal radio operations.

Wheeler told the House Subcommittee on Communications and Technology

Series 2 M4 TIME LOCK™



Your Most
Cost Effective
Time Alignment
Option!

- ✓ Reports HD Radio Analog/Digital Time Alignment Problems
- ✓ Remotely Monitor and Log Diversity Delay
- ✓ Now Streams TimeLock™ Correction Vectors to compatible Orban, Omnia and Wheatstone Audio Processors or GatesAir and Nautel Exporters

Want a Single Box Solution? Check out our M4DDC TimeLock.



Call 856-719-9900
for Your Free Demo Today!

DaySequerra

www.daysequerra.com

THIS ISSUE

SEPTEMBER 14, 2016

NEWS

DTS Seeks to Immerse You in the Soundfield 1
 Benson: Success "Won't Come Easily, But It Is Doable" 1
 College Managers: Get to Know Your Staff 3
 FCC Field Offices to Close in January 4
 News Roundup 6
 More Radio, More Voices 6
 A Marketplace With a \$5,000 Cash Incentive 18
 Sessions Aim to Help Stations "Reach Beyond" 20
 They're Up for the Marconi Award 22



FEATURES

Alert FM Offers a Flood of Information 26
 Princeton Keeps WPRB's History Alive 28
 Pop Up Archive Solves Transcription Headaches 30
 Virtual Reality Check 32
 People News 33



GM JOURNAL

Discover Why NPR One Is "The One" 34
 Hyundai's Connected Cars Go the Distance 36
 Ryan Seacrest Foundation Opens Studio in Nashville 38
 Marketplace 41

OPINION

Considerations for Designing an AoIP Network 44
 My 30+ Years at Radio World 45
 Reader's Forum 45-46

in July that 91 actions had been taken this year against pirate radio stations compared to 130 actions all of last year. A recent engineering survey by the New York State Broadcasters Association found 76 illegal radio signals in New York City and northern New Jersey, concentrated in the Bronx, Brooklyn, Newark and Paterson. The association has been vocal in its call for the FCC to crack down.

Some observers believe the move to reduce field offices and staff numbers will hurt the agency's ability to mitigate interference.

An aide for the House Subcommittee on Communications and Technology, who asked to not be identified, said its chairman, Rep. Greg Walden, R-Ore., is monitoring the situation but isn't sure how things are working out so far. Walden is a former broadcaster.

"We hear complaints about interference in the broadcast radio band continue to come into the FCC but are unsure how the new plans are affecting enforcement efforts, good or bad," the aide said.

"We still have concerns that as the FCC is reducing field staff that they still be able to perform the function of which the agency was founded, which is resolving interference concerns."

The subcommittee aide said Wheeler is "acutely aware" of Walden's interest in the matter.

"We want to see the Tiger Teams set up. We certainly expect the FCC to follow through on its plans."

CONCEPT "FAILED"?

The Society of Broadcast Engineers remains concerned about the effects of the office closures, said Chris Imlay, its general counsel.

"Morale in the Spectrum Enforcement Division in the commission is at a very low ebb; skilled, experienced and tenured field office staff have been retired," Imlay said this summer. "The promised two Tiger Teams that were to have been dispatched to areas where there is no field office presence to respond to interference cases have not been staffed, and that entire concept appears to have failed."

Imlay said the SBE has learned that positions for the Tiger Teams were posted by the FCC but went unfilled "because the job involved, by definition, 100 percent travel time."

The SBE did not favor the compromise between the House subcommittee and Wheeler last year. It believes the plan is unworkable and an unjustified departure from the commission's statutory mandate.

Walter Gernon, a former FCC district director for the states of Louisiana, Mississippi and Arkansas, is critical of the FCC's plans. He said the long-term

NEWS

result would be degraded communications for licensees and the general public.

"The folks I talk to in the field are demoralized and discouraged. It's a very

knowledge in the field that can't be replaced," Gernon said. "I think this plan endangers the communications infrastructure of this country."

Gernon, who spent 30 years with

Morale in the Spectrum Enforcement Division at the commission is at a very low ebb; skilled, experienced and tenured field office staff have been retired.

— Chris Imlay, SBE

delicate situation with a lot of people in limbo for the past year," he said. "Honestly, the FCC is hemorrhaging technical staff right now because of retirements and the new requirements."

As part of its modernization, the commission also has said it will require all field agents to be electrical engineers. That shift was expected eventually to cost a half-dozen compliance specialists their jobs.

"This plan will result in the loss of an astounding amount of institutional

the FCC, doubts the effectiveness of Tiger Teams to deal with emergency interference problems once they are assembled.

"FCC field agents at one time were allowed to be proactive and to anticipate problems. They knew all the broadcasters. To think that you could just drop an agent or two into a market without knowledge of that specific market and be successful is unreasonable."

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



BUILDING AN LPFM? REMOTE KIT? PRODUCTION STUDIO?

YOU NEED SIXMIX!

It's compact and efficient with BIG RADIO under the hood!

SixMix is perfect for live broadcasts and format automation.

Just connect a USB cable for instant playout from your PC.

Or record and edit on your PC...no extra gear needed!

SixMix is for radio: it has everything you need and nothing you don't.

It's intuitive and easy to use, ruggedly built, and made in the USA.

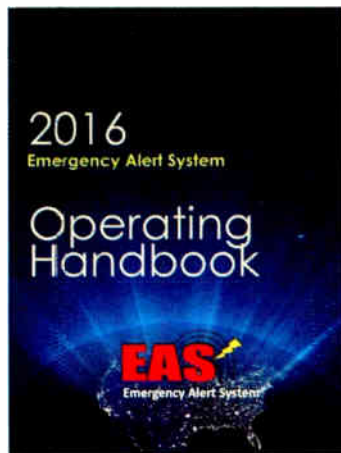
WE BUILD SOLUTIONS. DIGITAL SOLUTIONS. ANALOG SOLUTIONS. FUNCTIONAL. RELIABLE. AFFORDABLE.

HE HENRY ENGINEERING
 Phone: 562.493.3589 • email: henryeng@aol.com
 Visit www.henryeng.com for all of Henry's solutions!



NEWSROUNDUP

EAS HANDBOOK: Your new EAS Operating Handbook is here. The FCC's Public Safety and Homeland Security Bureau released the latest version and reminded EAS participants including radio stations to set aside their old ones. A copy must be located at normal duty positions or EAS equipment locations when an operator is required to be on duty and be immediately available to staff responsible for administering EAS tests. The new one must be in place in time for the nationwide test on Sept. 28. Download it at www.fcc.gov/general/eas-test-reporting-system.



"HEAD IN THE SAND": The NAB says results of its FOIA request show that the FCC failed to conduct a rigorous review of U.S. media ownership rules as mandated by Congress. NAB received documents it received in response to a Freedom of Information Act request regarding the commission decision that largely left ownership restrictions intact. NAB in August sent a letter to the FCC saying the documents show the ruling to be based on evidence that is "underwhelming" and "devoid of useful data." The letter was signed by NAB General Counsel and Executive Vice President of Legal and Regulatory Affairs Rick Kaplan. They told the FCC that it has "taken a purposeful 'head in the sand' approach to its required quadrennial examination of the media marketplace."

SBE ELECTION: Jerry Massey, shown, was reelected as president of the Society of Broadcast Engineers. He is the regional technical operations director Southeast for Entercom Communications, and director of technical opera-



tions, MIS, sustainability for Entercom Greenville. He ran unopposed, as did other candidates for officer. Jim Leifer was chosen as vice president, Tim Anderson will serve as secretary and Andrea Cummis was named treasurer. Six at-large seats were filled by Jim Bernier, Kirk Harnack, Wayne Pecena, Marcelo Sanchez, Mark Simpson and

Justin "JT" Tucker. They serve for two years. Six others have a year left in their terms.

TRANSLATORS: Beasley Media Group reached an agreement to pay \$700,000 for an FM translator in Las Vegas, acquiring it from Southern Nevada Educational Broadcasters. The contract is subject to FCC approval. Bob Heymann of Media Services Group was broker for the buyer; Robert Branch represented the seller. Heymann said BIA/Kelsey data indicates that this would be the third highest cash price ever paid for an FM translator. The license bears call sign K268CS; it airs at 101.5 MHz and was associated with KKVV(AM). Beasley holdings in Las Vegas include talker KDWN(AM). On a related note, there were 6,186 FM translators and boosters at mid-year. That is a 54 percent increase over 10 years and a 130 percent increase over 20 years, according to Radio World's review of FCC data.

PIRATES: The FCC announced several enforcement actions in cases involving unlicensed operation. It proposed a \$10,000 fine against a man in Queens, N.Y., for allegedly operating on 95.1 MHz despite previous warnings; the commission believes Jose Luis Gerez operated illegally from five different locations over several years to keep ahead of its enforcement. Separately it announced a \$15,000 proposed fine for Vilnord Simon in North Miami, Fla. He too was already on the commission radar; in 2008 he was found to be operating illegally at 103.1 MHz and given a written warning to cease or be subject to further action. And a Florida man, Kedner Maxime, faces a \$15,000 fine in a similar case that began with a complaint from the FAA.

NATE UNITE 2017

FORT WORTH, TEXAS

FEBRUARY 27 - MARCH 2

MAKE
YOUR
PLANS
TODAY!



www.natehome.com

More Radio, More Voices

Make Radio World part of your day every day. Visit our website for great web-only Radio World content, including the following recent posts and stories:



"Pacifica Radio Archives Endangered?" — A prominent radio preservationist worries that Pacifica Radio will abandon one of the most important radio archives in the United States. Find out more at radioworld.com/pacifica.

"Westwood One in Rio" — Our Photo of the Week feature peeked inside the Westwood One studio in Brazil. See lots of great radio pics (and submit your own) at www.radioworld.com/photooftheweek.aspx.



WHERE COULD YOU GO...



...IF YOU HAD ACCESS?



NEED ACCESS?
CONTACT US:
1 800 237 1776
info@comrex.com

© 2016 Comrex Corporation

NOW YOU CAN GO TO EVEN MORE PLACES

What is CrossLock?

CrossLock is a suite of reliability tools for moving media over the internet with the lowest possible delay. Now you can use multiple wireless networks simultaneously by combining the bandwidth of the connections for a stronger signal or sending an additional media stream on a separate internet path for redundancy. By dynamically adapting techniques to suit network conditions, CrossLock turns challenging internet circuits into the most reliable link possible.



ACCESS
2USB

WIRELESS CODEC FOR AUDIO OVER IP

GOING TO RADIO SHOW?
VISIT US AT BOOTH #103
TO LEARN MORE



CrossLock VPN

Learn more at www.comrex.com

COMREX
BROADCAST RELIABLE



DTS*(continued from page 1)*

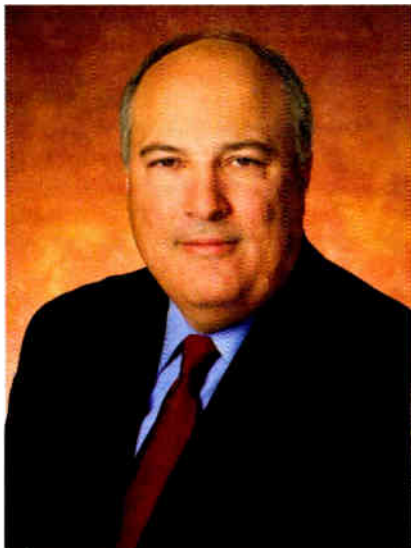
interview discussing issues in which DTS is engaging.

An innovator in multi-channel sound, DTS — “Dedicated To Sound” — has worked with most of the world’s consumer electronics, automobile sound systems and motion picture companies. It made its first mark in motion picture sound in 1993 with the release of “Jurassic Park.” In recent years it acquired Neural Audio, a Seattle-based company that produced audio processing and multi-channel surround sound solutions for radio; it also acquired SRS Labs, Manzanita Systems and Phorus, all audio technology specialty companies.

Last year, it raised its profile in radio further by acquiring iBiquity Digital Corp., developer of HD Radio technology. In a short time, DTS has become a prominent driver of how consumers receive audio entertainment from various kinds of sources and devices.

McGinley: Tell us about your background and some of the product innovations you brought to life before you joined the company.

Sokola: I’ve been fortunate to have a career that has covered a number of exciting industries and product areas.



Ray Sokola is responsible for new product development at DTS Inc., the new parent of HD Radio.

Most of it was while I was with Motorola, which included developing technology and then running businesses. I started working on cellular technology as a fresh-out grad (before it was called cellular), and I invented the way virtually all cell phones did full duplex for about the first 20 years of cellular (all of the analog cell phone lifetime). That was an exciting start and my first Patent of the Year Award; I later followed that

up with two more.

Later I ran businesses including the Motorola Ceramic Filter business and the Telematics business at Motorola and was responsible for several generations of the OnStar system for GM, including transitioning that system from analog to digital. I have also been responsible

still a fan and play occasionally. I also am an active amateur radio operator with call sign K9RS. I have confirmed contacts with all of the 339 currently recognized ARRL countries.

McGinley: Your session info says you’ll discuss “new technologies and appli-

Sokola says combining HD Radio technology, the internet, car sensors, augmented reality and data sonification will let broadcasters provide a better experience and measure engagement in new ways.

for innovations in the Connector business and Test Equipment Businesses at TE Connectivity and Wavetek, where I switched the cable TV test equipment line from analog to totally digital.

Now I enjoy bringing my business and technology experience to help develop people and organizations as well as products.

On the personal side, I played four years of varsity soccer at the University of Delaware, which I think is a key to really understanding teamwork, and am

ations that promise to improve the way consumers connect with audio programs, whether at home, in the car or jogging on the beach so that in the very near future we can expect to become ever more immersed in the sound field.” That suggests a surround-sound experience, but what exactly does this mean?

Sokola: Surround sound for sure, but there is more. Consumers will be immersed in both the audio itself as well as experiences around the audio.

(continued on page 10)

Seven out of 10 top US billing stations **rely** on GatesAir studio systems. **Why not you?**



Flexiva™
VMXpress IP

GatesAir VM Studio Systems

- Highly programmable on-air and production systems
- Powerful and scalable facility-wide audio management
- Open-standards interoperability across IP networks

GatesAir’s comprehensive range of stand-alone and networked consoles, custom studio furniture and next-generation IP connectivity is why we sell more turnkey studio systems in radio year in, year out.



Connecting What’s Next
www.gatesair.com



Visit us at
Booth 105



Six Remotes in every Box



Rapidly expand your remote capability with 6 simultaneous bidirectional mono connections to IP codecs or smartphones using Report-IT, saving money on hardware costs and reducing rack space requirements.

- * SmartStream PLUS dual IP streaming
- * Dual Power Supplies
- * Dual Ethernet ports
- * IPv4/v6 Ready

Merlin PLUS at the studio



6 bidirectional mono remotes



DTS*(continued from page 8)*

Experiences like saving, purchasing, sharing and understanding more about the audio content and making it all relevant to the current situation of the consumer will all be part of the future.

McGinley: Give us a few key bullet-points.

Sokola: Hybrid radio — the connection of traditional radio with the internet. This expands the listening experience to take advantage of the best of the past, present and future capabilities that cellular connectivity, the internet, streaming and apps have added to the traditional radio experience. The basic examples start with providing album art and easy purchase capability to a radio experience, but it goes way beyond that and is only limited by our imagination.

Context enhancement — taking into account the contextual information to optimize the experience. Historical and current status inputs provide context that can be used to modify and improve our experience as consumers. Optimizing noise reduction and background audio enhancement, such as enhancing voice characteristics during phone calls and minimizing rain and wiper noise while driving, are just a few simple examples of context enhancement.

Augmented reality — mixing reality in with entertainment and information in just the right way. If an ambulance is coming from behind, and the sensors on the car detect that, the sound from that can be a higher priority and the music etc. can be lower. So the car can modulate the amount of “reality” for the driver and passengers depending on the situation.

Data sonification — making data available in an audio format. Getting information like speed, gas level, tire pressure or overall car health through an audio indication instead of gauges.

McGinley: As one charged with seeing

and developing possibilities for technology, how do you anticipate that new forms of audio listening will evolve over two to five years?

Sokola: Hybrid radio is a platform for innovation that can be taken anywhere by creating the right connection between the radio, the internet, the rest of the vehicle, the auto manufacturer and the consumer. That, I think, will evolve in many ways.

“Transmitting a digital quality signal with graphics and metadata is rapidly becoming necessary to compete effectively in all but the very smallest markets.”

Some simpler and nearer-term areas of evolution include voice audio, both for commands and understanding using further contextual awareness.

I also see the radio system using sensing more to provide the consumer with what they need. If driving a car, awareness changes based on the auto and driver status; if running on foot, more situational awareness to minimize danger and allow the “right” amount of outside information in, like car noise, sirens etc.

McGinley: So many audio connected devices nowadays use earbuds as closed field stereo transducers. Yet a surround-sound experience can be created in such a binaural environment. Explain how that’s achieved.

Sokola: The simple explanation is that we have just two ears and hear surround sound. Our ears process the phase and amplitude relationships of sounds so that we can tell where the sound is coming from. We just process the sound that way and present it to the ears with the phases and amplitudes already set.

McGinley: Video games and the internet have led the way in engaging consumers in interactive entertainment content. Can an interactive audio experience for consumers truly be created with any of your new innovations and if so, how?

Sokola: Sure, there are many ways the interaction can occur. Short-term simple interactions using hybrid radio can include feedback to radio stations on

polls or data on level of agreement with talk radio discussions. I also think we will see apps that are now text-oriented combine with or move to more audio, which would be easier to consume without having to look at a screen. Longer-term augmented and virtual reality will play a bigger role, particularly with self-driving vehicles.

McGinley: We understand that HD Radio is expanding its reach and penetration annually. Forty percent of new cars delivered in 2015 had receivers installed. But what does the combination of DTS and HD Radio bring us next that we haven’t already heard about? And what can broadcasters get excited about next in terms of the technical platform’s capabilities?

Sokola: The combination of DTS and HD Radio technology brings several advantages, including fresh eyes, a global platform, more business flexibility and a larger development organization that is dedicated to sound and “Making the World Sound Better.” More immersive surround sound with an HD Radio receiver is just one example, but I think a broader perspective of combining the technology with the internet and with additional car sensors as described with augmented reality and data sonification will lead to some exciting things for broadcasters that will let them bring a better experience, as well as measure engagement in ways that they can’t today.

McGinley: Radio has seen various multi-channel and surround-sound technologies come and go. A few broadcast processor companies have tried to introduce their own solutions since Lou Dorren offered FM Quadraplex 47 years ago, but nothing has really stuck. I’ve got to think DTS has a solution for this unrealized opportunity.

Sokola: We can and do up-mix and process stereo audio to beyond stereo and provide surround-sound effects with modest speaker systems or headphones both in and out of vehicles. These effects can be further optimized with HD Radio broadcasts.

McGinley: Ford recently announced the “Dual Radio Reception” innovation for several new car models that provides almost seamless HD Radio reception in vehicles. Tell us how that DTS innovation works.

Sokola: “Dual Radio Reception” is a form of diversity called maximal ratio combining. It minimizes or eliminates fading by using two receivers and combining them to take advantage of the high probability that both will not be subjected to fading at the same time. It effectively improves range and performance.

McGinley: What about NextRadio and other FM radio apps for smartphones? What opportunities does DTS see to engage and further develop that platform?

Sokola: DTS mobile solutions improve the audio experience on a device, regardless of the delivery or transmission of audio. In addition, we have a longstanding relationship with the team at NextRadio and are actively collaborating to bring combined functionality into a vehicle.

McGinley: What can you say to those radio broadcasters who have not yet implemented FM HD Radio, especially in smaller markets, about whether it is worth doing and whether the technology will survive and thrive?

Sokola: Simple. Radio is the only consumer medium still not fully digital. Consumers have come to expect that all their audio and video entertainment sources will have added features and digital quality. If a radio station can’t offer Artist Experience visuals for album art, station logo and advertiser value-added, they are last century’s medium in the eyes of today’s sophisticated consumer.

Being able to replicate the audio experience already available on your phone or iPod is becoming not just a novelty but a necessity to compete in today’s wired world. There is no question that the technology will survive and prosper. Those of your readers old enough to remember the advent of FM stereo in the late ’60s may remember the same arguments being made against FM in general and FM stereo in particular.

There is no criticism made of HD Radio technology that wasn’t made about FM back in the day. The big difference is

(continued on page 12)

RADIO SHOW SPOTLIGHT

“10 ... 9... 8... 7 Days Until the Next National EAS Test! Are You Ready?”

Hard to believe, but five years have passed since the first national EAS test. The next one is set for Sept. 28, and many rules and processes have changed in that time. What has the Federal Emergency Management Agency learned in the statewide and regional EAS tests done since then? How are things going with the Federal Communications Commission’s new online EAS Test Reporting System? Presenters are Al Kenyon, IPAWS National Test Technical Lead at the Department of Homeland Security — FEMA, and Austin Randazzo, attorney advisor at the FCC. **Wednesday Sept. 21, 2:30–3 p.m.**



Beautiful. Smart. Hardworking.



The Fusion Console from Axia®

A trifecta of design, technology, and support from the guys who invented AoIP.

Intelligent features like automatic mix-minus for phones and codecs, built-in talent talkback, source EQ and voice dynamics, 99 Show Profile snapshots, and Custom Source Profiles with detailed control over every input deliver the fastest, most error-free talent workflow ever.

Super-sharp OLED channel displays. Machined metal work surfaces with rub-proof markings. Optical encoders. Aerospace-grade switches. Premium faders rated for millions of flawless operations. Fusion's elegant design sets off any studio.

And Axia backs you with the industry's only 5-year warranty, 24/7 Support, and the experience gained from having more than 7,000 AoIP consoles on the air.

Brains, beauty, or backup? Choose all three.



(352) 622-7700 | bgs.cc | TelosAlliance.com

©2016 TLS Corp. Axia®, The Telos Alliance®, All Rights Reserved. F16/16024



BENSON

(continued from page 1)

grew up in Nashville, and my father was in the printing business. When I was young, during the summer, I'd often go with him to his office. And while he was at work, I'd go up the street and hang out at several of the local radio stations that were located near his business. My parents also bought me a small reel-to-reel tape recorder, and I'd make up fake commercials and imitate disc jockeys that I'd heard on the radio. I'm not sure my parents ever understood where all of this came from, but they were always unconditionally supportive of my interest in the business.

Reigart: Your biography indicates that you started your radio career at Nashville's WMAK and you attended Vanderbilt University for your undergrad degree, so it seems appropriate that you would receive this honor in the same city. Tell me about that first job.

Benson: Okay. In the late '60s, while I was hanging around WMAK, the station hired a high-energy night personality from Memphis named Scott Shannon.

Reigart: Oh!

Benson: Yes, that Scott Shannon.

Reigart: That's also appropriate then. [Shannon will host the Marconi Awards at the convention.]

Benson: Yes. He called himself "Super Shan," and I ended up being his in-studio phone turkey, answering request lines and rounding up all the high school football scores. He gave me the name "Wonder Frog." He even let me on the air at times.

He was a huge talent there, and the city loved him. Scott eventually became program director of the station, and several years later he asked me to work at WMAK as a weekend/fill-in air talent. I was still in school at Vanderbilt at the time, working at the campus station as well. After I graduated, he asked me to join

him at WQXI in Atlanta, where he had accepted the job as new program director. So, I moved to Atlanta as his programming assistant. He gave me the break of a lifetime in bringing me there. And within less than three years, I became program director of WQXI(FM).

Reigart: It sounds like Scott Shannon was an important mentor for you.

Benson: Absolutely. No question. And a great friend to this day.

Reigart: Will you get together with him when you're both in Nashville?

Benson: Absolutely. I actually saw him in New York last week.

"The good broadcasters understand the importance of compelling content with local appeal and are striving to make sure that they provide it. It's imperative for us as an industry to do so."

Reigart: You were the president and CEO of Lincoln Financial Media Co. for seven years. Prior to that, you were president of LFM's radio division from 2005–2008, a role you were suited for because, for a decade, you had been senior VP of programming and operations at Jefferson Pilot Communications Co. That was acquired by Lincoln National Corp., and so Jefferson Pilot's TV and radio stations formed the new media group. During that period, how much change did you witness in the radio industry? How much did you help spearhead at LFM?

Benson: I think there's been a lot of change. Obviously, there's much more choice both for the listener's attention and for the client's ad dollar. That's made things obviously much more competitive overall for everyone.

My early years as LFM radio president were in the midst of that ugly 2007–2009 economic downturn.

DTS

(continued from page 10)

that FM only doubled or tripled the number of audio sources available to listeners. Now there are literally hundreds of audio sources available to the consumer as close as their telephone. In the same way that transmitting a high-quality stereo FM became the cost of doing business by the mid '70s, transmitting a digital quality signal with graphics and metadata is rapidly becoming necessary to compete effectively in all but the very smallest markets. It's also worth noting that the cost to go from FM mono to FM stereo in the '60s was about the same as upgrading to HD Radio technology now, calculated in today's dollars.

McGinley: What about AM HD Radio broadcast-

Advertisers had less to spend, business had softened dramatically, and we had to learn how to do more with less. Product and people investments were trimmed, and we faced greater expectations from clients for results from their marketing investments, which wasn't unfair. It was a challenging stretch.

But it also taught us some valuable lessons, forced rethinking of some old concepts and led to the discovery of new, creative ways to operate. We all were forced to get smarter and think differently. And while it was a bumpy ride in some ways, it also was a healthy process. I think our people were quite resilient.

Reigart: Looking back on the sale to Entercom, any regrets or things you wish you'd done differently?

Benson: Specifically concerning the sale, Emily, no regrets.

Reigart: None?

Benson: No regrets concerning the sale. I do wish that we'd ultimately had more scale as a media group at LFM. But given that we were such a non-core asset for an insurance company, I don't think anyone was surprised when our Lincoln parent decided to depart the media business; that really wasn't the essence of what it does. Understandably, it wanted to prioritize investing in its primary businesses, such as life insurance, group benefits and retirement plans. And we were the company's last non-core asset to be sold.

For many years, they gave us terrific support in so many ways. And both Lincoln and predecessor Jefferson Pilot were terrific places to work. Again, no regrets.

Reigart: Radio industry critics say that post-1996 consolidation marked the end of true localism in a lot of radio markets, turning much of today's radio into homogenous, predictable formats. Is that fair? If not, why not?

Benson: Sure, consolidation led to more buying, which led to more debt, which led to the pursuit of more operational efficiencies. Some of that worked. And some did not. So, yes, I think there is some truth to that. But while one factor, I don't think consolidation has been the only factor. Again, the financial downturn in 2007–2009 hit everybody hard, leading to falloffs in revenue and trimming of resources in areas like marketing/promotion, research and people. Plus, a weak market growth pattern has followed that.

So it's been a slower recovery. And I think that too

(continued on page 14)

ing? Is the all-digital MA-3 mode the best way to "save" the AM radio service?

Sokola: We've worked with the industry to evaluate the performance of all-digital AM HD Radio broadcasts and the results were strong. All-digital AM is a natural transition for our current AM solution and we see it benefiting the industry in the future.

McGinley: What other related enterprises is DTS considering to add to its portfolio?

Sokola: There aren't any that I can mention right now but "stay tuned."

Comment on this or any story. Email radioworld@nbmedia.com.

The Radio Show also will feature DTS Chairman/CEO Jon Kirchner discussing the future of radio and its global and local impact.



Bury Your Competition.



Louder by Design.

www.orban.com

BENSON

(continued from page 12)

has compromised operator investments and impacted the level of local engagement. But I don't think any of this has meant the end of localism. I think that the good broadcasters understand the importance of compelling content with local appeal and are striving to make sure that they provide it. It's imperative for us as an industry to do so.

Reigart: *What role should debt play in large radio broadcast companies today?*

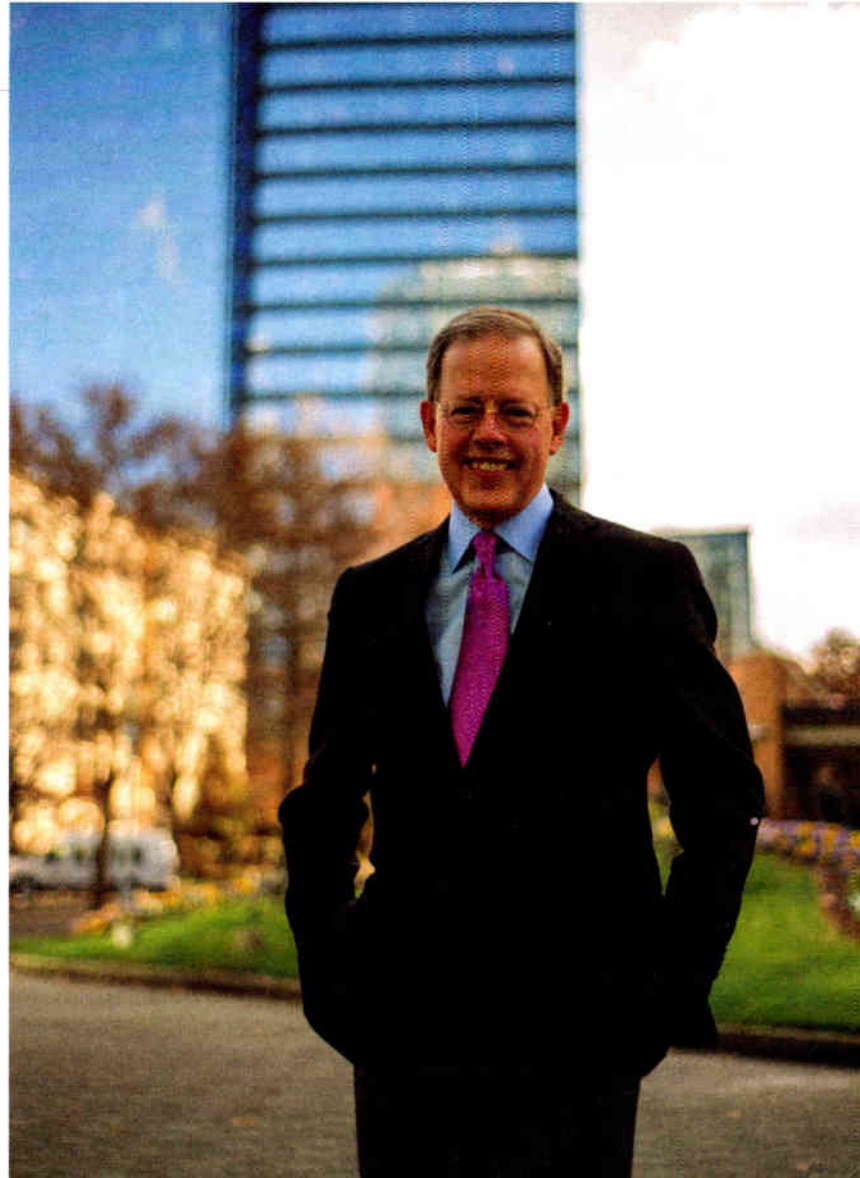
Benson: Of course, it's a tool to help companies grow and evolve. But as financial conditions have changed, those debt obligations have become more problematic. Two of the top five radio companies have a combined debt totaling over \$23 billion; admittedly, one group holds the lion's share of it.

Between the slow market growth and lower market valuations in comparison to when the debt was created, figuring out how to resolve or chip away at that debt has to be an enormous and time-consuming challenge. Ironically, in some cases, those debt obligations actually have masked some otherwise encouraging financial performances.

At Lincoln, we were fortunate to avoid these particular issues, as we didn't carry any significant debt.

Reigart: *When the Federal Reserve does, eventually, decide to raise interest rates, how do you think broadcast companies are going to react?*

Benson: For those with debt, it likely would be more challenging to get out



from under or restructure those obligations. That's an additional headwind. In terms of investing in human capital and product resources, it probably would be tougher for those stations with heavy debt to find those funds, with interest

rate increases requiring more money for debt service. And in a sector as competitive as ours, that's unfortunate.

I know we're in a challenged economic environment, but I think we'd benefit from having more long-term vision for our businesses and thinking more about next year than next quarter. In fairness, that's very easy to say and tough to do. Finding that balance between, let's say, an intriguing growth opportunity and making sizeable operational investments can be a challenging process, especially if you have a chunk of debt in a tough economic environment. It just is.

Reigart: *What is your proudest business initiative or success story?*

Benson: I'm not sure that there is one that sticks out above all others. There have been a lot of very satisfying highs — big ratings wins, some exceptional revenue performances and gratifying successes for our people, including some great turnaround stories. A lot of very fulfilling moments. And there have been some frustrating, yet very educational moments as well. It all balances out.

Reigart: *What do you think most shaped your management style?*

Benson: I think, honestly, my upbringing, probably, and influences by people with

whom I worked really shaped my management style to be one of collaboration and trying to build consensus. Obviously, being competitive, but also being a listener. ... People would tell you I'm not a screamer or anything like that. It's just not my nature. But I do not like to lose.

Reigart: *Do you still have the same enthusiasm after all these years in the business?*

Benson: I still love it, absolutely. I think that while the business has certainly evolved across time, there's a lot of opportunity going forward, and I'm excited about it both for me and for our industry as well.

"I'm not finished yet."

Reigart: *The U.S. commercial radio revenue growth curve has really plateaued since the tough period of 2008–2009 — even when newer digital platforms are taken into account. How can this industry change its overall business outlook? And maybe change the storyline about radio on Madison Avenue?*

Benson: We need to embrace and socialize to our clients all the tools that we have at our disposal, including digital, social, event marketing and the terrific reach and speed-to-market capability that our stations can offer to their clients. And that means providing richer, more detailed, audience delivery data — which clients are getting from other media — as well as more ideas and effective solutions to their marketing needs. Selling inexpensive spots with no strategy is not the answer — for us or our clients.

Reigart: *You definitely have given back to the industry in terms of your time and talent by serving on various boards and committees. Where do you find the time? Can you talk about why you think it's important to do that?*

Benson: What motivated me to be so involved over the years? A continuing belief in this business, plus the opportunity to meet and engage with a lot of great — and smart — people across all market sizes about both the opportunities and the challenges that we're facing in our industry.

All of us are charged with doing the best for our individual companies, of course. But as our businesses have evolved, I would suggest that taking the

(continued on page 16)

TIME TO SYNCHRONIZE



ES-185E/NTP6 GPS Master Clock

Accurately generate time code with ESE's Master Clock via the 12-channel GPS receiver and output multiple types of Time Code, SMPTE-LTC/EBU, ESE, IRIG-B, ASCII (RS-232 & USB), and an extremely accurate 1PPS signal. Further reliability with dual battery back-up, and new control panel software. ESE's NTP6 feature provides an NTP server compatible with the latest version of Internet Protocol, IPv6.

You can also easily interface with new or existing computers, automation and clock systems.

Visit www.es-web.com for all your time synchronization needs.



www.es-web.com
(310) 322-2136

FLEXtest METER TO IDENTIFY SATELLITES & PEAK DISHES

Customers report that they can boost EbNo performance by several dB, when using the FLEXtest meter to perfectly peak their satellite dishes. Base unit with SAT module will display satellite names, and show precise signal quality feedback for every adjustment to antennas. Portable unit with neck strap to allow hands-free adjustment of the dish. Much more precise than a spectrum analyzer, plus it powers the LNB during work. USA tech support. Ask about option to add measurement of Cable TV & Off Air.



FLEXtest \$717 (Special price while quantities last) satellite meter

TI FILTER TO PREVENT TERRESTRIAL INTERFERENCE

Block local radar before it enters your dish-mounted LNB. Rhythmic drop-outs and degraded satellite reception often occurs near airports, harbors, or military bases. The filter also blocks interference from the newly FCC authorized 3.65 Ghz Wimax transmitters. Pass the desired 3.7 to 4.2 Ghz satellite channels with super-low .4 dB insertion loss. Block out-of-band interference by up to 70 dB.

TI Filter, best grade CALL for special price



DAWNflex LOW-LOSS CABLE, BOOST SIGNAL LEVEL FROM DISH

Improve signal quality on satellite downlink, by increasing signal level without using noisy amps. Reduce loss on signal cable run from dish to building. Flexible coax passes satellite L band signals from LNB. Flooded for direct burial, quad shielded for best protection from signal ingress. Connectors with lightning protection on both ends.

DAWNflex cable \$1.29 per foot



FIBER OPTIC LINK FOR LONG DISTANCES PASS SATELLITE OR CABLE TV SIGNALS

500 feet to fifty miles is no problem using fiber. Place a transmitter (TX) on one end, and receiver (RX) unit on the other end. The TX and RX units will convert your signals to light, which will pass your important information over a long distance of SingleMode fiber optic cable. Choose the SATELLITE fiber link to pass the L band 700-2800 Mhz output from one LNB. Choose the CABLE TV fiber link to pass Cable TV channels in the 45 to 860 Mhz band. Call for help choosing the best system for your needs.

SATELLITE fiber TX/RX link #F55-95F13T&R \$1599

CABLE TV fiber TX/RX link #FBS-870F6T&R CALL for Price



DAWNco BEST SATELLITE ANTENNAS TO ADD PROGRAMMING AND IMPROVE RECEPTION

Improve your satellite reception even when you are on a budget! Standard 3.7 meter size, or high gain 4.2 meter for better reception. Commercial grade durability with excellent C & Ku band performance. Fast-ship 4 or 8 petal design keeps costs as low as possible. PRECISE-ALIGN reflector joining flanges make installation simple, and allows easy-carry of dish to any location. Mount 3.7 meter onto your in-ground 5.5" OD pipe, or ask us to provide a special mount to fit your existing cement pad or roof. C band gain for standard 3.7m is 42.3 dB. Guarantee great reception with high-gain 4.2m @ 43.5 dB, or max-gain 5.0m @ 44.3 dB C band gain. Feedhorn, LNB, and pipe sold separately. Call for details on a stationary or motorized package to meet your needs.

3.7 meter stationary sat antenna CALL for special price

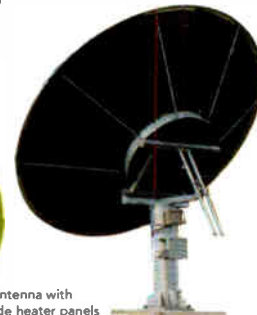
4.2 meter stationary sat antenna \$4777

5.0 meter motorized sat antenna CALL

Sizes: 1 to 5 meter sat antennas CALL



4.2m dish & galvanized mount
Mount new dish on existing cement pad with basestand.



4.5m antenna with backside heater panels
High-wind rated antenna features massive steel mount. Pictured antenna resides in harsh environment of mountaintop overlooking Denver.

You'll find our prices reasonable, our reasoning priceless.

We can help you choose the best SATELLITE and FIBER OPTIC products to suit your needs. Our advice can help you get what you need, without paying for features you won't need. DAWNco high-gain satellite antennas will give you great reception, and our top-grade LNBs will optimize the reception quality of your finicky digital channels. Check out our web site, or give us a call today.

DAWNco

www.DAWNco.com • PHONE 248-391-9200 • EMAIL sales@DAWNco.com

TOP-GRADE LNBs for C & Ku BAND

Try our new generation of LNBs, and watch for improved EbNo readings on your digital satellite receivers. Mandatory upgrade for HD and 8PSK satellite channels. Best-specs for "gain compression" and "phase noise." Stability rating of ±2 KHz will prevent video picture tiling and signal outages when outdoor temps fluctuate.



C band LNB, high grade \$199

C band LNB, best grade CALL

Ku band LNB, best grade CALL

LNB SIGNAL ROUTING TO SATELLITE RECEIVERS

Signal wires from dish to receivers will converge on your new rack-mounted unit. When receivers are locked to one LNB, choose the splitter. When receivers need to switch between LNEs, choose the selector switch.

SPLITTER: 2 LNBs each feed up to 5 receivers, #DIVINSUP CALL

INPUT SELECTOR: Up to 16 set receivers can each select from four LNB inputs #SELECT-516R CALL



PREVENT SIGNAL OUTAGES IN WINTER

Winter can be bad for reception of satellite signals. Snow and ice can pile onto your dish, which can cause a shift in the focal point and extra signal attenuation. Block the winter snow pile-up with DAWNco covers and heaters, and keep your signals strong.

COVERsat for protection under most conditions. Heavy vinyl cover is wrapped over the front face of your dish, to create a steep slippery surface that will prevent accumulation of ice & snow.

COVERsat for 3.0m dish \$399 other sizes... CALL



HEATsat completely stops snow outages. Electric HEATING system arrives as a kit for customer installation on a new or existing satellite antenna. Kit includes custom sized sheets of heater matting, plus sensors for precipitation and temp.

HEATsat for 3.0m dish \$2400 other sizes... CALL

SATELLITE RECEIVER & DECODER FOR MPEG2 & MPEG4

All of the features you need for broadcast quality satellite reception. The D5500-IRD is a receiver and decoder for SATELLITE L band input, or IP input. Capable of decoding MPEG4 & MPEG2 with 4:2:0 profile. Compatible with DVBS or DVB-S2, and QPSK or 8PSK. Outputs are baseband A/V and ASI, plus SDI and HD-SDI. Cross convert utilizing a built-in format converter. Embedded 8 channel audio, and Dolby AC3.

MPEG2/4 Satellite Receiver CALL



BENSON

(continued from page 14)

time to discuss and work together on important industry-wide issues such as performance rights, our future in the connected car and position in the dashboard, and the FM chip in smartphones has become even more important for us.

Also, on a personal note, working with these groups has allowed me the chance to develop some special friendships that mean a lot to me.

Reigart: In 2005 you helped to roast your former boss, Clarke Brown of Jefferson-Pilot Communications, at the Bayliss Radio Roast. If your colleagues were to roast you, what do you think they would highlight?

Benson: Oh, my on-air work would be a big target. Definitely not my strongest attribute.

Reigart: You had fun doing it?

Benson: Yes, but I was pretty bad. They'd also call me out for looking a lot like Ernie on "My Three Sons." And those are just the starters.

Reigart: Where should the radio industry focus its efforts in the quest to remain relevant and profitable?

Benson: Develop and utilize all of the marketing tools that we have at our disposal: create killer content and have it available wherever and whenever people want it; provide ideas and impactful solutions for advertisers; and invest in exceptional people. I know that feels like a tall order. And it is. It won't come easily. But it is doable.

Reigart: How do you plan to spend your retirement? Do you plan to retire?

Benson: Working! I still have strong belief in the future of this industry. It's definitely changed, of course. But with encouraging potential ahead. I'm not finished yet.

RADIO SHOW SPOTLIGHT

"Artist Spotlight Series"



Last year's Radio Show notably featured a number of musical performers, and the trend continues with several who will take part in Nashville in cooperation with BMI, highlighting the relationship between performers and radio. **LOCASH**, formerly LoCash Cowboys, performs at the Tuesday kick-off party. Jonny P plays on the Innovation Stage on Wednesday afternoon; **Graham Nash** (shown left) appears in Wednesday's Headliner General Session; **The Roosevelts** and **The Sisterhood** will be heard during the Marketplace Mixer that evening. On Thursday, **Muddy Magnolias** performs at the Advertiser Breakfast; **Kyshona Armstrong** (shown right) sings on the Innovation Stage; and **Modern Inventors** and **Shannon Labrie** appear at the Marketplace Lunch.



SCENES FROM RADIO SHOW 2015



Photos © NAB

The Band Perry at last year's show. ▼



Last year's Advertiser Breakfast featured, from left, Erica Farber, president and chief executive officer, RAB; Ed Gorman, executive vice president, managing director, Carat USA; Diane Fannon, principal, The Richards Group; Michael Hibbison, vice president integrated media, The Home Depot. ▼



HIGH CAPACITY EVENT STUDIO TRANSMITTER LINKS



outdoor unit



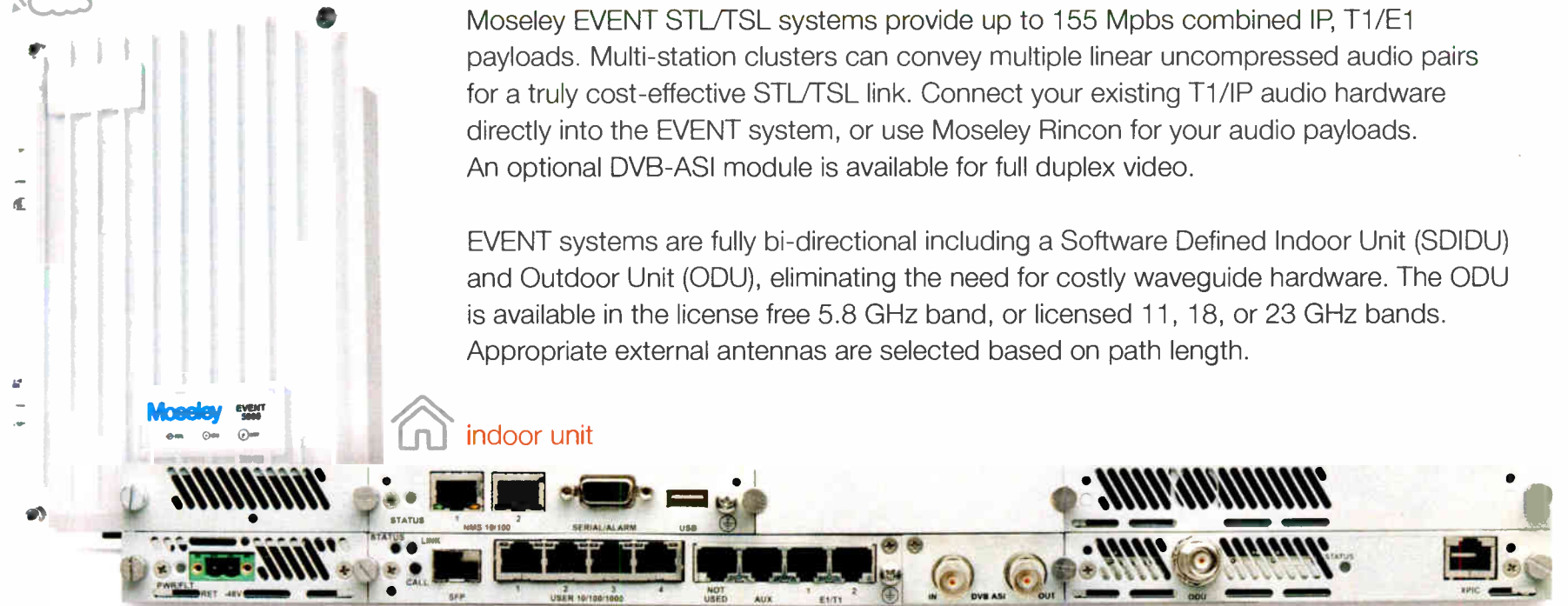
TAKE ADVANTAGE OF WIRELESS HIGH PAYLOAD STL/TSL CAPACITY

Moseley EVENT STL/TSL systems provide up to 155 Mbps combined IP, T1/E1 payloads. Multi-station clusters can convey multiple linear uncompressed audio pairs for a truly cost-effective STL/TSL link. Connect your existing T1/IP audio hardware directly into the EVENT system, or use Moseley Rincon for your audio payloads. An optional DVB-ASI module is available for full duplex video.

EVENT systems are fully bi-directional including a Software Defined Indoor Unit (SDIDU) and Outdoor Unit (ODU), eliminating the need for costly waveguide hardware. The ODU is available in the license free 5.8 GHz band, or licensed 11, 18, or 23 GHz bands. Appropriate external antennas are selected based on path length.



indoor unit



INTELLIGENT SYSTEM DESIGN



Spectrum-scalable digital radios with user-selectable data rates enable broadcasters to have greater flexibility in STL planning and future growth. The integrated T1/E1 and Ethernet interfaces allow for a combination of T1/E1 and IP packet data.

IP APPLIANCES AND APPLICATIONS
Offer IP transmitter control, surveillance security, and site monitoring to reduce downtime, and protect valuable station assets while saving travel time to the site.

REMOTE MIRRORED SERVERS
From the transmitter site, offers backup of business records and programming content to get you back on the air quickly in the event of a studio outage.

EMAIL AND INTERNET ACCESS FROM THE TRANSMITTER SITE
Saves engineers time accessing manuals or technical support from manufacturers during maintenance sessions.

SIMPLE NETWORK MANAGEMENT PROTOCOL (SNMP)
Full SNMP package with GUI provides easy monitoring and configuration changes.

Contact The Moseley Sales Team to Custom Configure Your EVENT STL/TSL Today!

moseleysb.com



FM TRANSMITTERS FROM 150W TO 60kW

ETG Indium Low Power 150W to 2kW in 2RU



ETG Indium Medium Power 3.5W to 5kW in 4RU



ETG Indium SOLAR RENEWABLE 150W & 500W in 2RU



Toll-Free: +1 855 305 3058
info@305broadcast.com
305broadcast.com

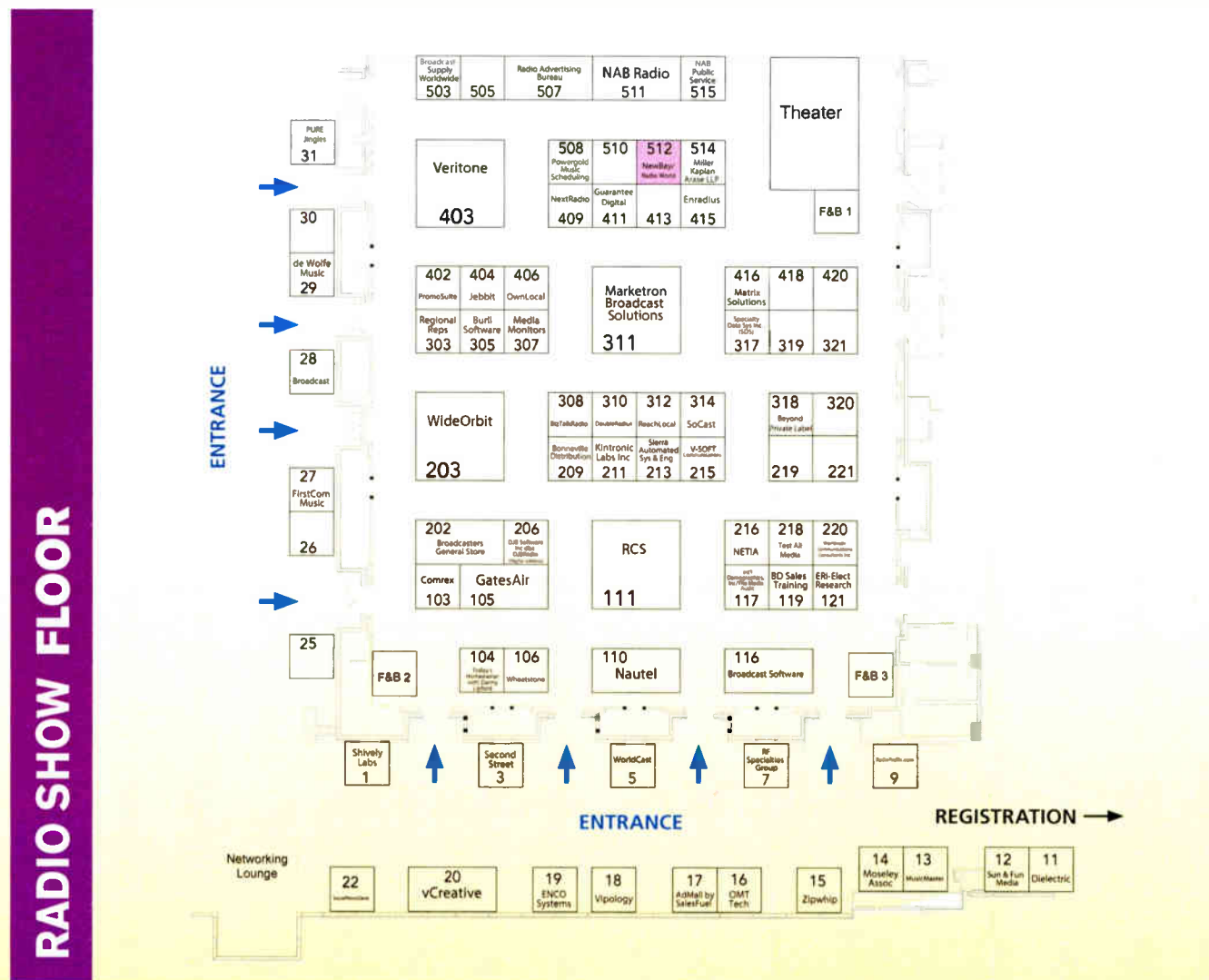
A Marketplace With a \$5,000 Cash Incentive

The following are exhibitors at the fall Radio Show as listed by the convention website in late August. Check on-site program for full list.

This year's Marketplace floor features a chance to win a prize of \$5,000 to spend with a participating exhibitor. It's called the Race to \$5K Challenge; attendees are asked to have their badge scanned by 10 or more exhibitors who participate in the program as indicated by "runner bibs" in their booths. The winner will be announced at the Friday morning "Music and Mimosas" session.

Marketplace hours are 9 a.m. to 6:30 p.m. Wednesday, Sept. 21, and 9 a.m. to 4:30 p.m. on Thursday, Sept. 22.

AdMall by SalesFuel	17	FirstCom Music	27	NextRadio	409
BD Sales Training	119	GatesAir	105	OMT Technologies	16
Bentztown	18	International Demographics Inc./ The Media Audit	117	OwnLocal	406
BizTalkRadio	308	Jebbit	404	Powergold Music Scheduling	508
Bonneville Distribution	209	Kintronic Laboratories Inc.	211	PromoSuite	402
Broadcast Electronics	28	Marketron Broadcast Solutions	311	PURE Jingles	31
Broadcast Software International	116	Matrix Solutions	416	Radio Advertising Bureau	507
Broadcast Supply Worldwide	503	Media Monitors	307	RadioTraffic.com	9
Broadcasters General Store	202	Miller Kaplan Arase LLP	514	Radio World	512
Burli Software Inc.	305	Moseley Associations Inc.	14	RCS	111
Comrex	103	MusicMaster	13	ReachLocal	312
de Wolfe Music	29	NAB Insurance Programs	511	Regional Reps	303
Dielectric	11	NAB Public Service	515	RF Specialties Group	7
DJB Software/Digital Jukebox	206	NAB Radio	511	Second Street	3
DoubleRadius Inc.	310	NABPAC	32	Shively Labs	1
ENCO Systems Inc.	19	Nautel	110	Sierra Automated Systems	213
Enradius	415	Netia	216	SoCast	314
ERI-Electronics Research Inc.	121	NewBay Media/Radio World	512	SocialNewsDesk	22
				Specialty Data Systems	317
				Sun & Fun Media	12
				Test All Media	218
				Today's Homeowner With Danny Lipford	104
				vCreative	20
				Veritone	403
				V-Soft Communications LLC	215
				Wheatstone Corp.	106
				WideOrbit	203
				WorldCast Systems	5
				Worldwide Communications Consultants Inc.	220
				Zipwhip	15





TOTAL DOMINATION

*More #1 stations use Omnia than any other processor.
Rise above the noise with a signature sound that jumps off the dial.
Greatness awaits.*

OMNIAAUDIO.COM/11



Sessions Aim to Help Stations “Reach Beyond”

Here’s a sampler of other highlights of the fall Radio Show industry gathering in Nashville

BY PAUL MCLANE

Several stories in this issue focus on themes of the upcoming Radio Show convention in Nashville. Here’s a sampling of other highlights; find the full program at radioshowweb.com. Dates refer to Tuesday, Sept. 20, through Friday, Sept. 23.

Career Networking Event: The NAB Education Foundation, in partnership with the Broadcast Education Association, hosts. Job seekers can register free online with code CF16. Participating companies receive EEO credit from the FCC. *Tuesday 1:30–4 p.m.*

Radio Show Kick-Off Party: The party features country act LOCASH, shown, and DJ Ikon, Grammy-nominated artist and ABC Radio’s Pop EDM resident DJ. *Tuesday 8–9:30 p.m.*



“Pillsbury’s Broadcast Finance Forecast — 2016 Leadership Breakfast”: Financial forecasters and radio group executives look beyond 2016. Opening remarks by J. Davis Hebert, director, high yield media cable & telecom research, Wells Fargo Securities. Panelists include Caroline Beasley, Beasley Media Group, shown; Bill Hendrich, Cox Media Group; Garret Komjathy, US Bank NA; Ray Shu, Capital One N.A.; and Larry Wilson, Alpha Media. Moderated by Scott Flick of Pillsbury Winthrop Shaw Pittman LLP. *Wednesday 8:30–10 a.m.*



“Moving Up — Leadership Skills for Young Professionals”: *Wednesday 9–10 a.m.*

“Sales Consultant Series — Grow Your Business with Big Thoughts and Quick Wins”: *Wednesday 9–11:15 a.m.*

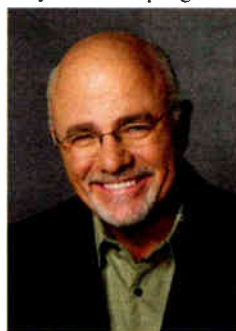
Radio Show Luncheon: Jon Kirchner gets some time in the show spotlight; he’s chairman and CEO of DTS Inc., which acquired HD Radio developer iBiquity Digital a year ago. He talks with NAB President/CEO Gordon Smith about “the future of the radio busi-



ness and its local and global impact” and, no doubt, where digital radio fits into that. Also, Don Benson, former president/CEO of Lincoln Financial Media Co., receives the 2016 National Radio Award. *Wednesday 11:45 a.m.–1:15 p.m.*

“Clinton-Trump/Political Advertising Q-and-A With the FCC’s Bobby Baker”: Baker is assistant chief of the Policy Division of the Media Bureau and an expert on political advertising and will answer questions about “last-minute ad buys, content controversies and quirky questions.” *Wednesday 1:30–2 p.m.*

“Wednesday Headliner — Cutting Edge Trends in Marketing”: Money expert and radio host Dave Ramsey, shown, is featured. His syndicated program, “The Dave Ramsey Show,” is heard by 11 million listeners weekly on 550 radio stations and through podcasts, online audio streaming and an online streaming video channel. He is a member of the NAB Broadcasting Hall of Fame and National Radio Hall of Fame. Also: Famous guy Graham Nash performs; and musician and businessman John Rich talks about entrepreneurship and building a brand. *Wednesday 4:15–5:15 p.m.*



Marketplace Reception: *Wednesday 5:30–7 p.m.*

“S’mores Storytime With Programmers and On-Air Talent”: Yes there’s a session that meets at the pool deck firepit of the convention hotel. *Wednesday 9–10 p.m.*

“The Digital Dash — Improving the Consumer Experience”: Fred Jacobs, president of Jacobs Media, and Steve Newberry, president/CEO of Commonwealth Broadcasting, talk about the dashboard with NAB



EVP/CTO Sam Matheny. What are automakers planning for “the future of the center console”? *Thursday 9:30–10:30 a.m.*

“The FCC’s New Online Public File System — What’s Going on and What’s Next”: With attorney Gregg Skall of Womble Carlyle Sandridge & Rice. *Thursday 10–10:30 a.m.*

“Programmatic Unlocked”: Erica Farber, president/CEO of the Radio Advertising Bureau, moderates a panel about this evolving topic. What does it mean to be transacting programmatically in radio now? Panelists are from Prohaska Consulting, Katz Radio Group, The E. W. Scripps Company and Horizon Media. *Thursday 11:15 a.m.–12:15 p.m.*

“Keeping Up With the Changing Radio Regulatory Landscape”: Opening remarks by FCC Commissioner Ajit Pai, shown, plus panel discussion with speakers from NAB, FCC Media Bureau, Bonneville International and Univision Communications. *Thursday 2:15–3:15 p.m.*



“Radio Data Attribution — Keeping Pace with the Evolving Advertiser”: Speakers discuss the listener attribution aspects of the NextRadio platform. *Thursday 2:15–3:15 p.m.*

“Radio — the Local Media Company of the Future”: Media research analyst Gordon Borrell of Borrell Associates tries to anticipate what’s coming next in how ad dollars will be spent and what radio’s role will be. *Thursday, 3:30–4:30 p.m.*

“Music & Mimosas — Friday Morning Sign Off”: *Friday, 9–11 a.m.*

RADIO SHOW SPOTLIGHT

“When It Hits the Fan: Prepare, Respond and Recover From Cyberattacks and Other Operational Catastrophes”

Howard Price is director of business continuity planning for the Disney/ABC Television Group; he preaches the gospel of What You Can Do Now to Avoid Disaster Later. Learn about “emerging threats to cybersecurity, facilities, your brand and most importantly, your personnel.” The session promises steps to prevent or mitigate such threats and enhance your operational effectiveness. *Wednesday Sept. 21, 10:45–11:30 a.m.*





We are mobile.

“We get to **work**
on **our stations**
wherever we are!”

AquirazGO

Zetta2GO

Selector2GO



rcsworks.com

© Copyright 2016 RCS. All Rights Reserved. RCS Sound Software and its products and their marks and logos are registered trademarks of RCS.

See us at the Radio Show Booth 111
World Radio History

They're Up for the Marconi Award

The NAB Marconi Radio Awards Dinner & Show will be hosted by air personality Scott Shannon of WCBS(FM) in New York, and singer Jennifer Nettles will perform. The awards will be given Thursday Sept. 22 at the Omni Nashville Hotel.

The awards honor radio stations and on-air personalities for excellence in broadcasting. Here are the finalists.

LEGENDARY STATION OF THE YEAR

KRLD(AM), Dallas, TX
WBAL(AM), Baltimore, MD
WBT(AM), Charlotte, NC
WDBO(FM), Orlando, FL
WINS(AM), New York, NY

NETWORK/SYNDICATED PERSONALITY OF THE YEAR

Delilah, Premiere Networks
Elvis Duran, Premiere Networks
Erazno y la Chokolata, Entravision
Jay Mohr, Premiere Networks
Dan Patrick, AT&T/DIRECTV

MAJOR MARKET PERSONALITY OF THE YEAR

Tim Conway, Jr., KFI(AM), Los Angeles, CA
Mark Curry, KBLX(FM), San Francisco, CA
Mike Francesca, WFAN(FM), New York, NY
Toucher and Rich, WBZ(FM), Boston, MA
The Woody Show, KYSR(FM), Los Angeles, CA

LARGE MARKET PERSONALITY OF THE YEAR

Brooke Fox & Jubal Flagg, KQMV(FM), Seattle, WA
Laurie DeYoung, WPOC(FM), Baltimore, MD
Jason Matheson, KTMJ(FM), Minneapolis-St. Paul, MN
Dave O'Brien, WLHK(FM), Indianapolis, IN
Charlie Sykes, WTMJ(AM), Milwaukee, WI

MEDIUM MARKET PERSONALITY OF THE YEAR

Dan Austin & Dude Walker, WQHK(FM), Fort Wayne, IN
Chaz & AJ, WPLR(FM), Milford, CT
Faith Daniels, WROU(FM), Dayton, OH
Blake Hayes & Eva Matteson, WMGX(FM), Portland, ME
Clovia Lawrence, WKJS(FM), Richmond, VA

SMALL MARKET PERSONALITY OF THE YEAR

Brent Carl Fleshman, WHUB(FM), Cookeville, TN
Brian Lee & Chris Wolfe, KZOQ(FM), Missoula, MT
Amanda Mangan, WKLP(AM), Cumberland, MD
Ken Thomas, WJJY(FM), Baxter, MN
Toby Tucker, WZQZ(FM), Decatur, IL

MAJOR MARKET STATION OF THE YEAR

KFI(AM), Los Angeles, CA
WBEB(FM), Philadelphia, PA
WFAN(FM), New York, NY
WGN(AM), Chicago, IL
WTMX(FM), Chicago, IL

LARGE MARKET STATION OF THE YEAR

KVET(FM), Austin, TX
WBAL(AM), Baltimore, MD
WFLC(FM), Miami, FL
WIBC(FM), Indianapolis, IN
WRMF(FM), West Palm Beach, FL



Winners are shown at last year's Marconi event in Atlanta.

MEDIUM MARKET STATION OF THE YEAR

WDGL(FM), Baton Rouge, LA
WHKO(FM), Dayton, OH
WHO(AM), Des Moines, IA
WQHK(FM), Fort Wayne, IN
WSGW(AM), Saginaw, MI

SMALL MARKET STATION OF THE YEAR

KNUJ(AM), New Ulm, MN
KTPK(FM), Topeka, KS
KZOQ(FM), Missoula, MT
WKDZ(FM), Cadiz, KY
WRNN(FM), Myrtle Beach, SC

AC STATION OF THE YEAR

KBIG(FM), Los Angeles, CA
KBPA(FM), Austin, TX
WALK(FM), Long Island, NY
WLEN(FM), Adrian, MI
WLTF(FM), Martinsburg, WV

CHR STATION OF THE YEAR

KIIS(FM), Los Angeles, CA
KQMV(FM), Seattle, WA
KTXY(FM), Columbia, MO
WAOA(FM), Melbourne, FL
WPST(FM), Princeton, NJ

CLASSIC HITS STATION OF THE YEAR

KRTH(FM), Los Angeles, CA
WPBG(FM), Peoria, IL
WOGL(FM), Philadelphia, PA
WOMC(FM), Detroit, MI
WXGL(FM), Tampa, FL

COUNTRY STATION OF THE YEAR

KKBQ(FM), Houston, TX
WKML(FM), Fayetteville, NC
WMZQ(FM), Washington, D.C.
WPOC(FM), Baltimore, MD
WYCT(FM), Pensacola, FL

NEWS/TALK STATION OF THE YEAR

KKOB(AM), Albuquerque, NM
KRMG(AM), Tulsa, OK
WBZ(AM), Boston, MA
WLW(AM), Cincinnati, OH
WTOP(FM), Washington, D.C.



Jennifer Nettles will perform at the NAB Marconi Awards dinner. Her second solo album is "Playing With Fire."



Scott Shannon will host. He is morning drive host at New York's WCBS(FM) and is credited with developing the "Morning Zoo" format.

NONCOMMERCIAL STATION OF THE YEAR

KPCW(FM), Park City, UT
WHSN(FM), Bangor, ME
WRHU(FM), Long Island, NY
WSDP(FM), Canton, MI
WSOU(FM), South Orange, NJ

RELIGIOUS STATION OF THE YEAR

KKJM(FM), St. Cloud, MN
KKLA(FM), Los Angeles, CA
KLTY(FM), Dallas, TX
WCAO(AM), Baltimore, MD
WGRB(AM), Chicago, IL

ROCK STATION OF THE YEAR

KCMQ(FM), Columbia, MO
KROX(FM), Austin, TX
WBAB(FM), Long Island, NY
WXXJ(FM), Jacksonville, FL
WZLX(FM), Boston, MA

SPANISH STATION OF THE YEAR

KLOL(FM), Houston, TX
KLZT(FM), Austin, TX
KOYE(FM), Tyler, TX
KXSE(FM), Sacramento, CA
WYUU(FM), Tampa, FL

SPORTS STATION OF THE YEAR

KNBR(AM), San Francisco, CA
KRLD(FM), Dallas, TX
WCMC(FM), Raleigh, NC
WSCR(AM), Chicago, IL
WXYT(FM), Detroit, MI

URBAN STATION OF THE YEAR

WCDX(FM), Richmond, VA
WHQT(FM), Coral Gables, FL
WHUR(FM), Washington, D.C.
WPEG(FM), Charlotte, NC
WVEE(FM), Atlanta, GA

NX Series

3 kW – 2,000 kW AM

RADIO SHOW
Visit Nautel at Booth 110



The Industry's Most Advanced AM Transmitters

Outstanding Control | 86-90% Efficiency | Compact
Proven NX Series Technology with over 20 Megawatts Deployed

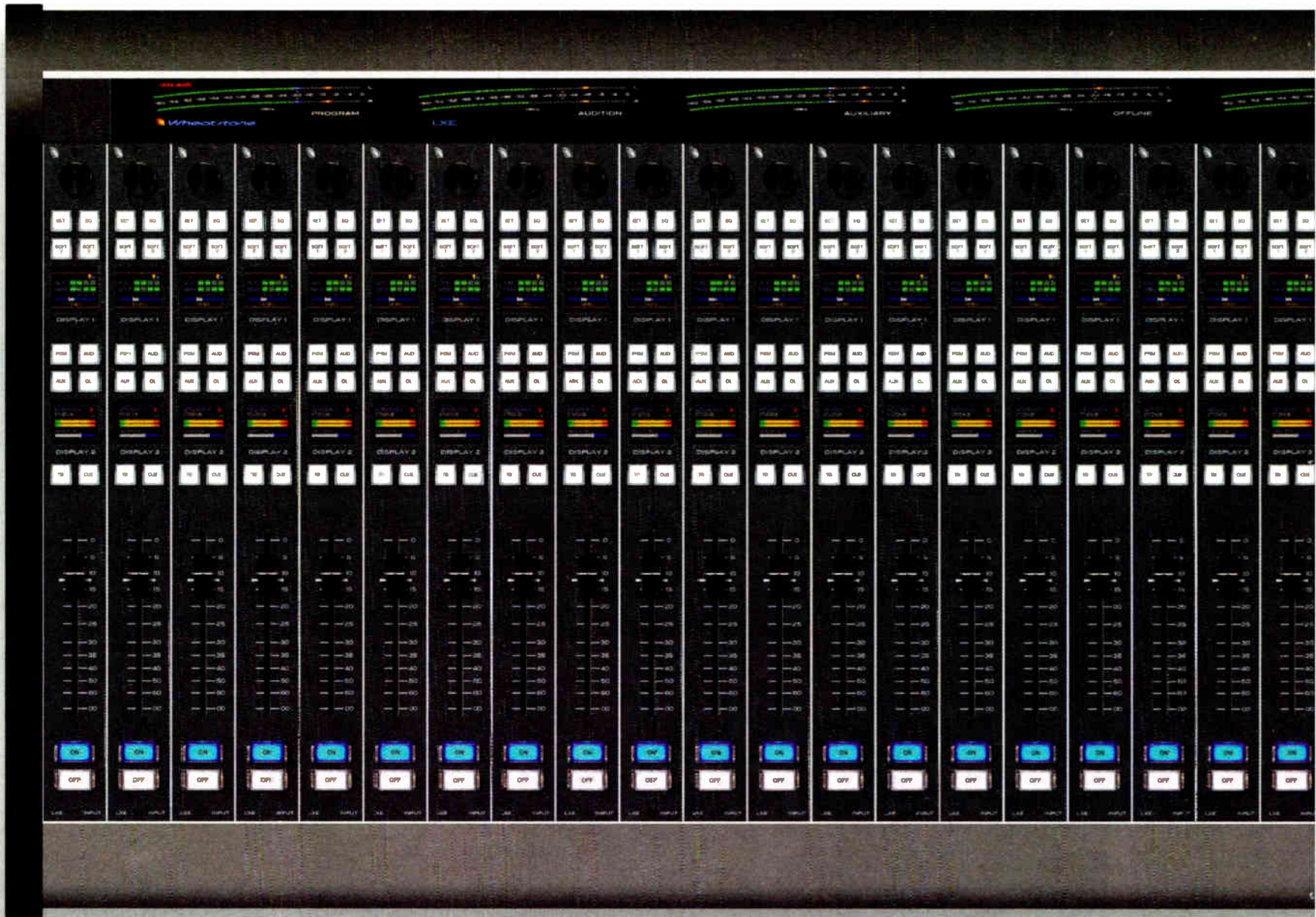


Making Digital Broadcasting Work.

Learn more at Nautel.com



LXE evolved



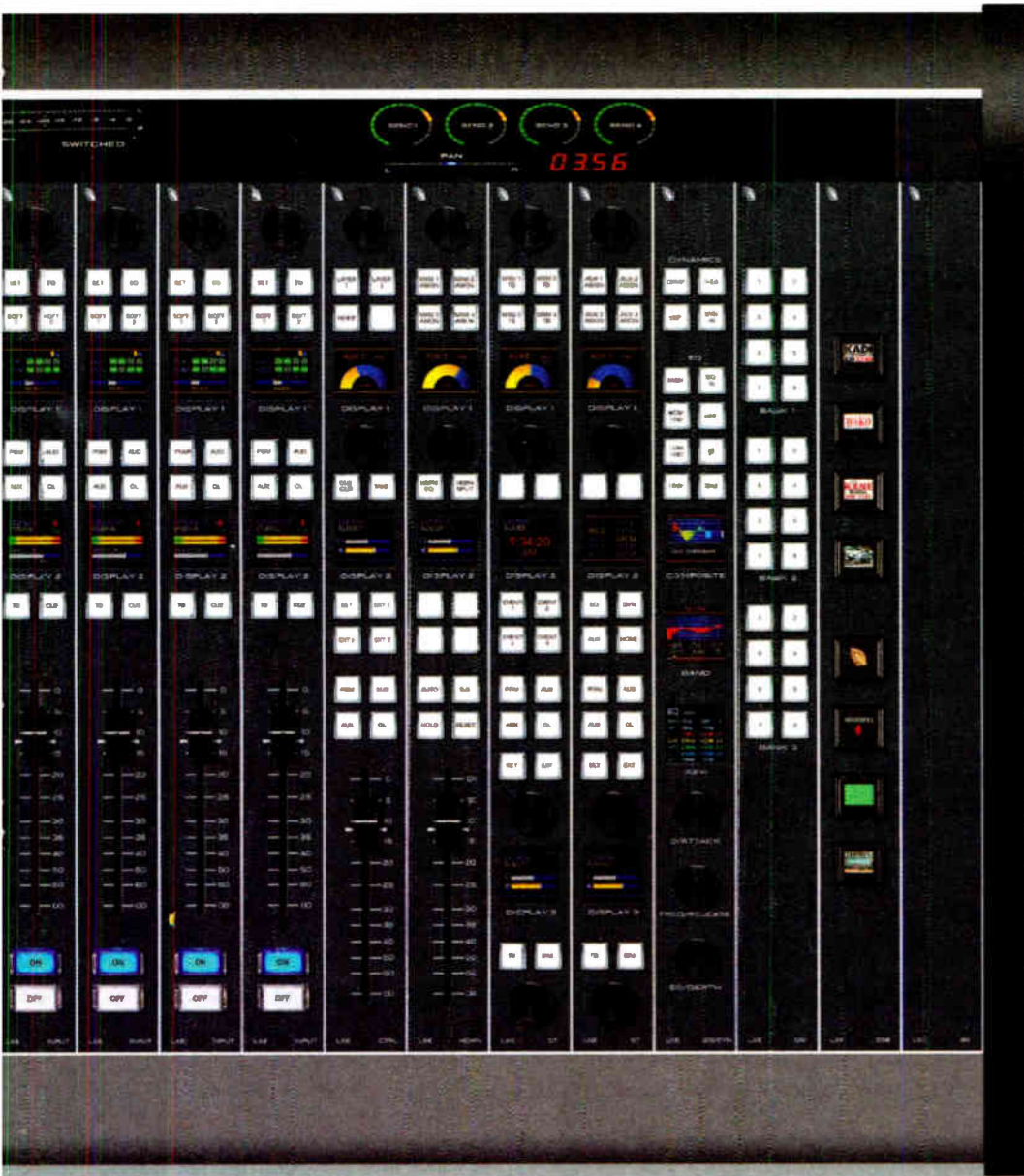
The Evolution of LX Radio Control Console

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

Any Way You Want It

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





The World At Your (Motorized) Fingertips

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



All New Graphical User Interface

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

THE ALL NEW LXE BROADCAST AUDIO CONSOLE

Alert FM Offers a Flood of Information

And try these bright ideas to save money and space at your station

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

The recent floods of epic proportions in southern Louisiana caused a multitude of problems. Louisiana's Deputy Director of Preparedness Chris Guilbeaux writes that alert messages to the public were delayed in many cases, as internet and cellular networks were overloaded or flood waters damaged key cellular infrastructure, especially in Baton Rouge.

In 2013, the state's emergency officials recognized the need for improved emergency alert communications because the existing emergency alert system had not kept pace with modern technology. The Governor's Office of Homeland Security installed an Alert FM system to send out its emergency messages to all 64 parishes, as well as multiple colleges and universities in the state.

Guilbeaux writes that Alert FM is unique when compared to other notification systems because it delivers emergency messages using the data subcarrier — also known as the Radio Data System — of existing local FM radio stations, providing overlapping and redundant signal coverage. The broadcast messages are free to the public, and they don't require a long-term contract.

The investment paid off during the recent flooding, as messages streamed out regularly and rapidly and were displayed on personal Alert FM receivers. The overlapping FM station signal coverage also insured widespread dispersion of the data



Fig. 1: Look into saving money by converting to LED bulbs. This display was found at a local Batteries+Bulbs store.

messages, even if a station or two were impacted by the flood and off the air.

The Alert FM Portable Receiver or USB stick with Windows Application cost under \$50 each. Find out more at www.AlertFM.com.

I visited Batteries+Bulbs the other day and was impressed with a display (shown in Fig. 1). I knew LED bulbs were cost-savers, but not to the extent indicated by their sign.

I've spoken to a good number of readers who have replaced their incandescent studio flood with LED versions, to save not only electricity but also cooling costs, as the LED bulbs are practically cool to the touch.

Yes, the initial investment can be

steep, but the long life and savings certainly offset that. Besides, wouldn't you like to retire your stepladder?

In my Aug. 3 column, Cumulus Tucson market engineer Julio Alvarado displayed a Middle Atlantic rack panel equipped with brush bristles, through which Cat-5/6 cabling could pass.

Engineer Marc Mann points out another feature of this panel: In addition to keeping wiring looking smart and reducing dust, it can assist with "active cooling."

In a rack, where circulating fans move the equipment-generated heated air from the bottom of the rack to the top and out, the nylon bristles provide a seal to ensure most of the air is routed properly and does not leak out.

Longtime Radio World contributor and professional engineer Charles S. "Buc" Fitch had a dilemma.

His bride, Mary Ann, had a countertop microwave with a straight NEMA 5-15P plug, which sat nearly at the counter's edge because of the 3-inch-plus space taken up by a heavy-duty AC plug.



Fig. 2: When you're squeezed for space, this kind of plug can wreak havoc.



Fig. 3: This slim-line AC plug's pigtail design can buy a few precious inches of space.

We've all encountered similar situations in which a slim-line AC plug would buy us a few precious inches of space. Cruising the web, Buc found a number of right-angle plugs in the \$20 price range; however, he also found a slim-line plug and outlet with several advantages.

First, since the plug was a pigtail, it enabled immediate use — there was no wiring of the plug or the wall socket. The assembly was also compact. The actual cord is only 8 inches long, for a total length of about a foot. Most important: The assembly is UL-CSA rated, which none of the Chinese types are. The assembly is made of #16 gauge wire in the SJ format, so it is good for at least 10 Amperes continuous. Perhaps the best feature of all is its \$6.95 price.

You may not have a microwave that could benefit from this plug, but perhaps

(continued on page 28)

"Desktop SSD" RADIO AUTOMATION SYSTEM Bundle



DJB RADIO
HOME OF THE Digital Juice Box

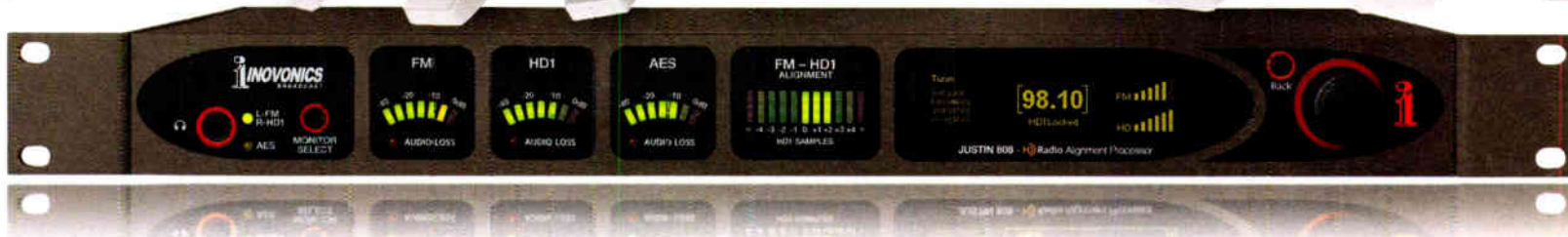
\$5,995.00

- HP Elite Desk 800 (Fits Rack Tray U3)
- 250GB SSD & 1TB SATA Audio Drive
- Win10 PRO - 8GB RAM - Intel Core i7
- DJB Radio OnAir & Production Suite Software
- Scheduler - Local & Remote Voice Tracking
- 4 Hrs Web-Phone Training - 1 Yr Support

 SSD - Solid State



DJB Sales - sales@djbradio.com 702-487-3336 - www.djbradio.com



Get in Sync

Analog FM & HD1 Perfectly in Sync

The JUSTIN 808 is a single-box solution that securely adjusts FM & HD1 Time alignment without affecting your critical FM transmission.

“The JUSTIN 808 continues to do a consistently great job at keeping our HD and analog signals in alignment... The combined time, level and phase alignment that the JUSTIN 808 provides makes any switching between HD and analog listening undetectable.”

— Sam Caputa, Director of Engineering, Emmis Communications.

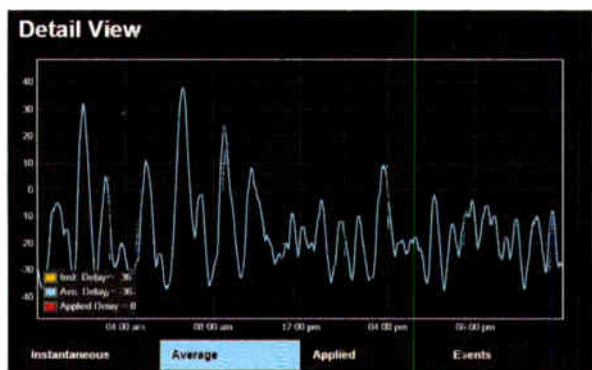
Contact your preferred Inovonics Dealer for more information. Join our TRY-N-BUY program.

GETTING FROM HERE



TO HERE

+38/-34
Samples



Typical FM/HD1 drift over a 24 hour period.

±2
Samples



Corrected FM/HD1 audio within ±2 samples within 24 hour period.

Why Inovonics?

Quality Solutions. Competitive Prices. | Three-year Factory Warranty.
Quick to Install. Easy to Program. | Quality after sales service.

www.inovonicsbroadcast.com | sales@inovonicsbroadcast.com | 831-458-0552



Princeton Keeps WPRB's History Alive

Student-oriented station has been on the air for 75 years

ROOTS OF RADIO

BY JENNIFER WAITS

In honor of its 75th anniversary, Princeton University's college radio station WPRB curated a special exhibit full of radio artifacts: "WPRB: A Haven for the Creative Impulse."

Containing a variety of materials, the exhibit traces the station's long history from its start as carrier current radio station WPRU beginning in 1940, to the launch of WPRB(FM) in 1955, to its current incarnation as one of the rare commercial FM college radio stations in the United States.

Licensed to the Princeton Broadcasting Service, WPRB is unusual in that it is a student-oriented radio station run by a nonprofit organization that is separate from the university.

The exhibit captures the story and culture of WPRB as told through station equipment, music and ephemera. Carts, reel-to-reel tapes, 7-inch records,



WPRB's Mike Lupica curated the exhibit with help from Princeton University archivist Dan Linke.

an instant replay machine and a massive vintage Gates board (WPRB's Educational Advisor Mike Lupica describes it as "a tank"), rescued from a dumpster by a former WPRB volunteer are reminders of college radio's ever-chang-

ing technological needs.

Press clippings, photos, playlists, program guides, fan letters and a fascinating collection of promotional items (including T-shirts, buttons and a WPRU ashtray from 1954) fill the glass



display cabinets, giving a sense of life at WPRU/WPRB in many different eras.

The physical exhibit closed earlier this year but the affiliated WPRB History website (wprbhistory.org) is online and is chock full of photos, stories and sounds from the station's 75 years on the air.

"The only source of knowledge is experience." ~Albert Einstein

For over 50 years Shively Labs has designed and manufactured FM products to work flawlessly; at any site, under any conditions, and at any power level; year after year.

Whether it's one of our newest designs, or a decades-proven classic, you can rely on Shively to provide the specific solution, for your specific project.

RADIO SHOW

Produced by RAB and NAB

Stop by: Booth 1 - Sept. 21-23
NAB Radio Show, Nashville

Shively Labs[®]

A Division of Howell Laboratories, Inc. Brighton, Maine 04009 USA

- An Employee-Owned Company since 1995 -

Call Toll-Free: (888) SHIVELY
Or visit us on the Web at: www.shively.com

WORKBENCH

(continued from page 26)

it might apply to a rack located against a wall or to CD players mounted in a tabletop rack enclosure.

Head over to www.sfcable.com and enter "P7PE-RA45-01" in the search box.

Contract and specials projects engineer and principal with Radio Art Enterprises Art Reis writes from Chicagoland, to recommend that those readers who are still fortunate enough to have a Radio Shack to visit, do so.

This is especially true if you're at the store looking for components.

Many of their smaller parts are being sold in these little zip-lock bags. One look convinced Art that these are wonderful for storing small parts that might get lost. The hole in the top makes for great peg-board storage, and the clear bag means you can see what's inside. Very creative packaging. Just add a label and go.

When Art attended Michigan State University back in the early '70s, a new school of packaging was started there. At the time, he thought that to be a trivial waste of time and resources. He doesn't think so any more.

Contribute to Workbench. You'll help your 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.



Fig. 4: Radio Shack now offers small parts in see-through poly bags, which make organizing and storing easier for the broadcast engineer.

Work smarter. Anywhere.

Remote access is here!

Simian Radio Automation with iPad,
iPhone and Windows remote.



Call (888) 274-8721

(888) BSI-USA-1

or email us at sales@bsiusa.com

Pop Up Archive Solves Transcription Headaches

Online service offers transcripts, audio file storage, editing tools and more

PROBLEM SOLVERS

BY JAMES CARELESS

Audrey Dilling is a reporter/editor for KALW(FM) Public Radio's "Crosscurrents" news magazine, which airs in Los Angeles. One aspect of her reportorial duties is to transcribe her research audio into text, for archival and search purposes for subsequent stories.

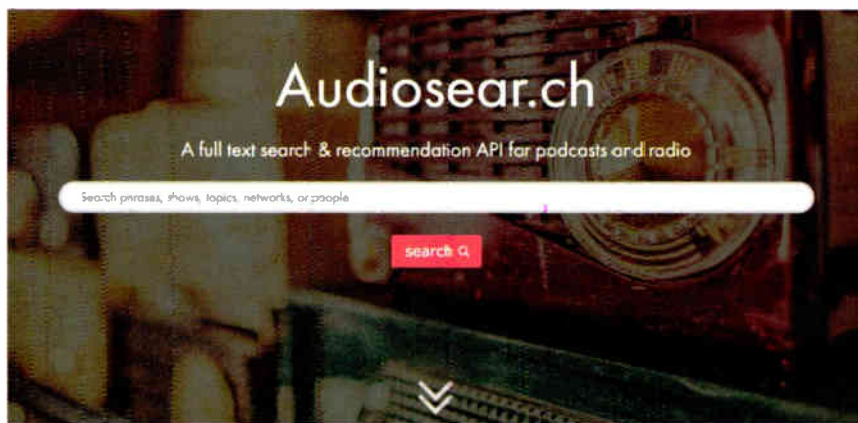
In the past, Dilling had to produce these transcripts from scratch, literally listening to the broadcasts and typing what she heard. "This could take anywhere from four to five hours a day," Dilling said. "Now, using Pop Up Archive, I have been able to reduce the transcription process to just an hour daily."

POP UP ARCHIVE TO THE RESCUE

Created by former journalists Anne Wootton and Bailey Smith, Pop Up Archive (www.popuparchive.com) is a major advancement in audio-to-text transcription.

The idea is to allow broadcasters, podcasters and other producers of audio content to convert their audio files quickly into readable text files that can be stored, indexed and searched easily.

The transcribed files are automatically time-stamped and analyzed to create descriptive keywords, further improving the search process. (Wootton and Smith have also created Audiosear.ch, a full-text search and discovery engine for podcasts and radio that aggregates



and analyzes transcripts with other data, like charts positions, reviews, recommendations and social media mentions.)

"Pop Up's website offers tools to make audio-to-text transcription as easy as dragging-and-dropping audio files onscreen," said Emily Saltz. Pop Up Archive's content strategist. "The customer receives computer-generated transcripts within an hour or less that are indexable and searchable. They are made available on our website as soon as they are ready."

For a monthly fee, based on customer usage, the Pop Up Archive service provides the transcripts, online storage of the audio files, transcript editing tools for the customer to correct any wrongly-transcribed words, customer-specified and auto-generated tags to help identify each transcript's content and embeddable players that enable anyone to search within a Pop Up Archive audio file.

BROAD USAGE

In addition to employing Pop Up



Pop Up Archive rescued five years of KALW(FM)'s content.



Pop Up Archive offers editing tools to enable customers to correct any wrongly-transcribed words.



LOW PROFILE MIC BOOMS: No Springs Attached

(Microphone/Shockmount Optional)

<p>AMB22-4MOT \$399</p> 	<p>AMB16-4 MINI MOT \$399</p> 	<p>HMB-14-4MOT \$299</p> 	<p>HMB8-4-MINI-MOT \$299</p> 
<p>AMB-22-4 \$350</p> 	<p>AMB16-4 MINI \$350</p> 	<p>HMB-14-4 \$250</p> 	<p>HMB8-4-MINI-MOT \$250</p> 
<p>AMB-22-4E \$299</p> 	<p>AMB16-4E MINI \$299</p> 	<p>HMB-14-4E \$199</p> 	<p>HMB8-4E \$199</p> 



STUDIO ITEMS INC. www.studioitems.com



FEATURES



Democracy Now! Tuesday, May 24, 2011

Democracy Now!
Democracy Now! radio program for May 24, 2011. This item belongs to: a... has files of the following types. Checksums, Flac, Flac FingerPrint, Metadata, Ogg Vorbis

Created: Mon, 08 Aug 2011 00:00:00 GMT
Added: Wed, 08 Jan 2014 23:25:32 GMT
Duration: 00:00:00

- ▶ 00:00 **Bob Dylan** turn 70 years old today a democracy now special
- ▶ 12:10 today **Bob Dylan** turn 70 years old and Weber
- ▶ 12:50 January 1961 with a couple years **Bob Dylan** would be viewed by many
- ▶ 13:00 in 1963 **Bob Dylan** perform with Joan Baez the march on Washington
- ▶ 13:10 folks and **Bob Dylan** with Explorer many other Sean rich from ROC to count

▶ [More](#) ▶ [More](#) ▶ [With Bob Dylan](#) ▶ [Entertainment and Culture](#)

Audio tags are like visual markers to help users search within the transcriptions of the audio content.

Archive to transcribe audio to text. KALW hired the company to build a "custom, easily searchable archive of five years' worth of unindexed program transcripts," said Dilling. "For us, this rescued five years of valuable content from being lost."

KCRW Public Radio of Santa Monica, Calif., also uses Pop Up Archive to transcribe a number of its shows, including "To The Point," "Bookworm" and "The Treatment."

Pop Up Archive's audio-to-text transcription client list includes KQED, "This American Life," the Canadian Broadcasting Corp., Duke University, the New York Public Library, Illinois Public Media and Public Radio International.

"Overall we produce audio-to-text transcripts for about 30 major enterprise clients and 150 smaller ones," said Saltz.

LIMITS

The toughest challenge for any speech-to-text recognition engine is deciding the specific text word that is associated with a given spoken word accurately, especially given the wide variations in human speech across regions, socioeconomic groups and personal vocal inflections/idiosyncrasies.

These factors explain why retail voice recognition software such as Nuance Dragon NaturallySpeaking insist on users "training" the software to "recognize" their voices first. The process entails each user reading and recording a number of preset text sections into the software using a headset microphone. Doing this allows the voice recognition software to actively associate the user's spoken words with specific text, giving the software access to a sound/text database that it can then employ to compare the user's speech entries against during actual audio-to-text transcriptions. Using this approach, Nuance Dragon NaturallySpeaking promises users "up to 99 percent accuracy out of the box," according to the company's website (<http://shop.nuance.com/>).

Because it does not enjoy the advantage of user training and has to con-

vert voice-to-text from audio for an unrestricted number of voices, the accuracy of Pop Up Archive's transcripts can vary widely depending on speaker, background noise and crosstalk (when two people are talking at the same time).

But even the 75 percent accuracy rate experienced by Dilling is a lot better than transcribing audio from scratch.

"Seventy-five percent accuracy means that three-quarters of the words in the transcript are already right," Dilling told Radio World. "The time spent to correct the remaining 25 percent is still much less than having to do this all without Pop Up Archive's help — and the accuracy rate keeps improving."

Hence, even with its flaws, Pop Up Archive is proving to be a useful tool.

"I can't imagine doing my transcriptions without it," said Dilling. "I certainly wouldn't want to go back to the old ways of doing things."



Pick a Winner

ASI6744

ASI6788

44

8

PCI EXPRESS

www.audioscience.com

AUDIOSCIENCE
Sound Engineering
Some Experiences

THE ASI67XX SERIES is another Notable Solution from AudioScience. With up to 8 stereo balanced analog and AES/EBU inputs and outputs, along with our unique "anything to anywhere" mixing and routing, the ASI67xx series has everything you need in one place. That includes industry required features such as balanced analog and AES/EBU I/O, MRX simultaneous multi-rate mixing, TSX time scaling, a low profile PCIe form factor and GPIO. Windows/Linux drivers and BOB bundling are available. With up to 8 cards in one system, the ASI67xx series cards are the winning numbers for your audio needs. Call +1-302-324-5333 or email salesasi@audioscience.com to learn more.

Virtual Reality Check

Next-gen consoles are taking us deeper into a mashup of computers, IP audio, broadcast gear and reality

COMMENTARY

BY DEE MCVICKER

The author is a spokesperson for Wheatstone Corp.

Who could have predicted that people would be running around in parks looking for cartoon characters using their smartphones?

The Pokémon GO phenomenon just goes to show you how much we've underestimated the importance of *reality*. This simple smartphone app has managed to get people out of their houses and into the streets in droves, and for broadcasters in particular, it has injected a healthy dose of reality into our quest for "virtual-dom" in the studio.

Virtualization is good — it's great, actually — for reducing costs and streamlining operations. But there's something to be said for augmented reality, which for our purposes could be described as a mashup of computers, IP audio, broadcast gear and reality.

Yes, IT and IP technology have made it possible to mix, process and route audio in the digital domain. And, yes, we've made studios smaller and budgets even smaller still. We have moved little black boxes out of the chain and into the

software realm, where we can scale up or down, and store, recall or mix audio anywhere — whether it's in the PC, on the console or as an IP audio stream anywhere in the network.

I think of those virtual mixers we designed into our WheatNet-IP I/O BLADEs about eight years ago now. And the compressors, limiters and EQ we put in our next generation I/O BLADE-3s awhile back. Wheatstone has augmented a few realities with that technology, namely eliminating the need for physical DAs and reducing, sometimes eliminating, outboard processing gear.

In fact, that tipping point where we could technically run an entire radio station off of a laptop and a few servers has happened already, and we are certainly poised for that eventuality. We have virtualized just about everything, from how we push around audio, to how, when and where we can control it. Even the IP control surface — which doesn't actually bring up live audio — is itself another interface to this highly virtualized world.

But at the end of the day, the studio-in-a-PC and the all-virtual on-screen console haven't really taken off in radio, and it's not for lack of trying.

FROM VIRTUAL TO AUGMENTED MIXING

In fact, Wheatstone introduced the Glass E virtual mixer as an adjunct to



Pokémon GO has put augmented reality in the front and center of the public consciousness.

our E series control surfaces some years ago now. If we had unrealistic expectations that this GUI screen version of the console would supplant the console on the desk, broadcasters quickly reminded us of another reality. We later introduced ScreenBuilder, our IP network custom on-screen interface creator, with the expectation of not doing away with tactile control, but more of a way to augment it.

ScreenBuilder is now widely used as a way to program events or functions by assigning faders, knobs and other widgets to various elements in the network — one of many in a string of studio augmentations. With ScreenBuilder, we can accomplish things that we have no way, or no easy way, of doing in the physical world, such as monitoring and controlling levels and other vital settings at stations scattered around an entire country.

It's becoming increasingly clear that as an industry, we're blurring the lines between what's physical and what's virtual, but wisely — to the extent that one augments or complements the other.

Instead of putting the console in the computer, for example, we've learned to keep it real by giving control of the computer to the console. After all, we still need an interface to the broadcast apps and functions that run radio, and what could be better than the trusted console surface that has evolved to fit this very purpose? It's the best of both worlds, really. This arrangement gives us a whole new reality when it comes to per-

sonalizing the console for anyone or any purpose, without physically removing it.

Virtualization has happened, but it has largely happened across the entire audio ecosystem known as the studio operation, as we see with Wheatstone I/O units that put both processing and mixing at every access point in the network.

Whether the information resides on a server, a PC or in the I/O interfaces is really a moot point as long as it can be accessed and updated quickly and efficiently. We still need hardware to interface microphones, headphones, speakers, Ethernet connectors, etc. Why add more PC hardware when we can use these local devices, which need to be there anyway, to store, control and manage this virtual DNA?



Broadcasters have yet to fully embrace this idea of virtualization as a PC in the center of the studio. In fact, in many newer studios, broadcasters are doing away with the PC altogether by "virtualizing" automation to the rack room.

Instead, the next generation of IP consoles seems to be taking us deeper into this mashup of computers, IP audio, broadcast gear and reality.

For example, you can script every knob, every button and every switch on our new LXE IP audio console, but those are still physical knobs and buttons and switches that you're programming. The difference now is that instead of one button being tied to one function, it can now be programmed for talkback or cue or start/stop or for toggling between functions, at any time. And instead of having fixed functions at fixed locations, you can augment them — even split them up into separate fader banks networked through Ethernet across the room or down the hall so that you can share mutes, tallies, speakers and other resources with others.

When and if that virtual station in a laptop or tablet happens, we're already ready. But until then, we will continue to augment a few realities.

Comment on this or any story. Email radioworld@nbmedia.com.

PRODUCT SPOTLIGHT

ADVERTISEMENT

Audio-Technica BP40 Large-Diaphragm Dynamic Broadcast Microphone

Audio-Technica's new BP40 broadcast vocal microphone offers a rich, natural, condenser-like sound from a large-diaphragm dynamic design. The 40 mm diaphragm features patented floating-edge construction that maximizes diaphragm surface area and optimizes overall diaphragm performance, while the humbucking voice coil prevents electromagnetic interference (EMI).

With rugged construction and stylish, waveform-inspired design, the BP40 delivers clear and articulate reproduction. Optimized capsule placement helps maintain a commanding vocal presence even at a distance, while the multistage windscreen provides superior internal pop filtering. See the BP40 review on www.radioworld.com. U.S. estimated street price \$349.

www.audio-technica.com
pro@atus.com • 330-686-2600



PEOPLE NEWS

The Ennes Educational Foundation Trust has announced the 2016 scholarship winners (shown clockwise):

James Copeland, Ruth Willet, Michael Frushour and Cliff White



Greg Smith
Cumulus Media

promoted to VP and GM of WDVD(FM) and WDRQ(FM) in Detroit



Brian Beasley
Beasley Media Group
upped to chief operating officer

Josh Everett
iHeartMedia's
Kentucky-Indiana
Region

named the director of spoken word programming, taking over for PD Kelly Carls

Bill Michaels
Cumulus Media

was promoted from to operations manager for the Toledo, Ohio, and Monroe, Mich., cluster

William J. Brooks
Radio Frequency
Systems

tapped as regional product manager for broadcast products

Michael Hendrickson
SBE

won the Robert W. Flanders SBE Engineer of the Year award



National Association of Broadcaster's Education Foundation

Broadcast Leadership Training program graduates are:

Erika Beasley, Lori Flowers, Kenneth W. Forte, Tricia Gallenbeck, Laura Griffith, Karima Khawja, Paul Levingston, Rita Marcocci, Jim Roberts, James Robinson, Samuel Tatum, Cedric Thomas, Lori Waldon, Tim Ward, Steve Zafiropulos

Send information to radioworld@nbmedia.com with People News in the subject field.

Looking for a **future-proof solution?**



Capture, produce, manage, share, publish and broadcast your audiovisual content anywhere, at anytime, on any device.

Media Software
made easy!
www.netia.com

NETIA



MEDIA
software

Meet us at IBC2016:
9-13 September
RAI Amsterdam
Booth 8.C77

Discover Why NPR One Is “The One”

This prominent radio app might not be perfect, but it sure gets a lot right

I’m in love.

It’s been a long time since I’ve fallen this hard for a radio app. The object of my desire? NPR One.

I listen to NPR One in the car. I listen while I walk. I have even been known to bring this app with me to the place where I dream at night.

Why do I find it so appealing? “Discovery” is its main selling proposition. With gazillions of podcasts out there, I love that NPR is learning what I like by tracking my behavior and then pushing me to discover new shows. It’s like Pandora for podcasts and spoken-word programming.

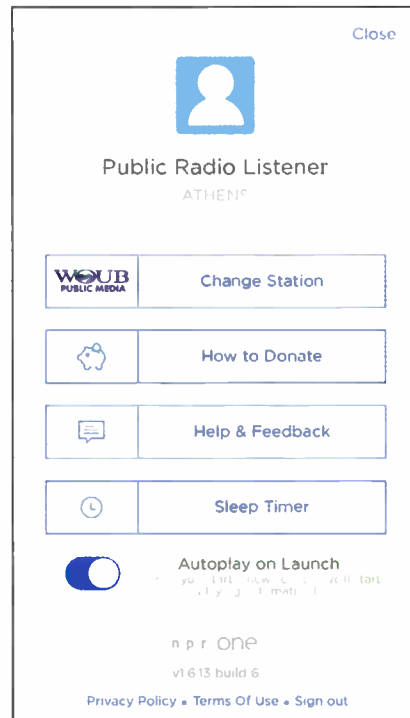
The longer I listen and the more I tap the word “interesting,” the more stories and shows come up that I personally find appealing. Sure, I don’t enjoy every new show or segment NPR One serves me, but I’d say it’s right half the time. For someone as persnickety as I am, those are good odds!

You can also use the search function to explore topics or to look for specific programs, all of which can be accessed on demand.

It’s super cool to get NPR’s over-the-air stories just minutes after they are broadcast, as well as on demand. It is also possible to check numerous stories quickly, listening only to what’s personally interesting or relevant.

Now, just as love-at-first-sight can be

brought down to earth after some time, there are flaws in this gorgeous app. But they aren’t serious turn-offs (for me) and may well be remedied by the developers in the future.



Choose your “local station.” It will automatically choose a home station based on your location, but you can manually adjust this.

THE NOT-QUITE-AS GOOD

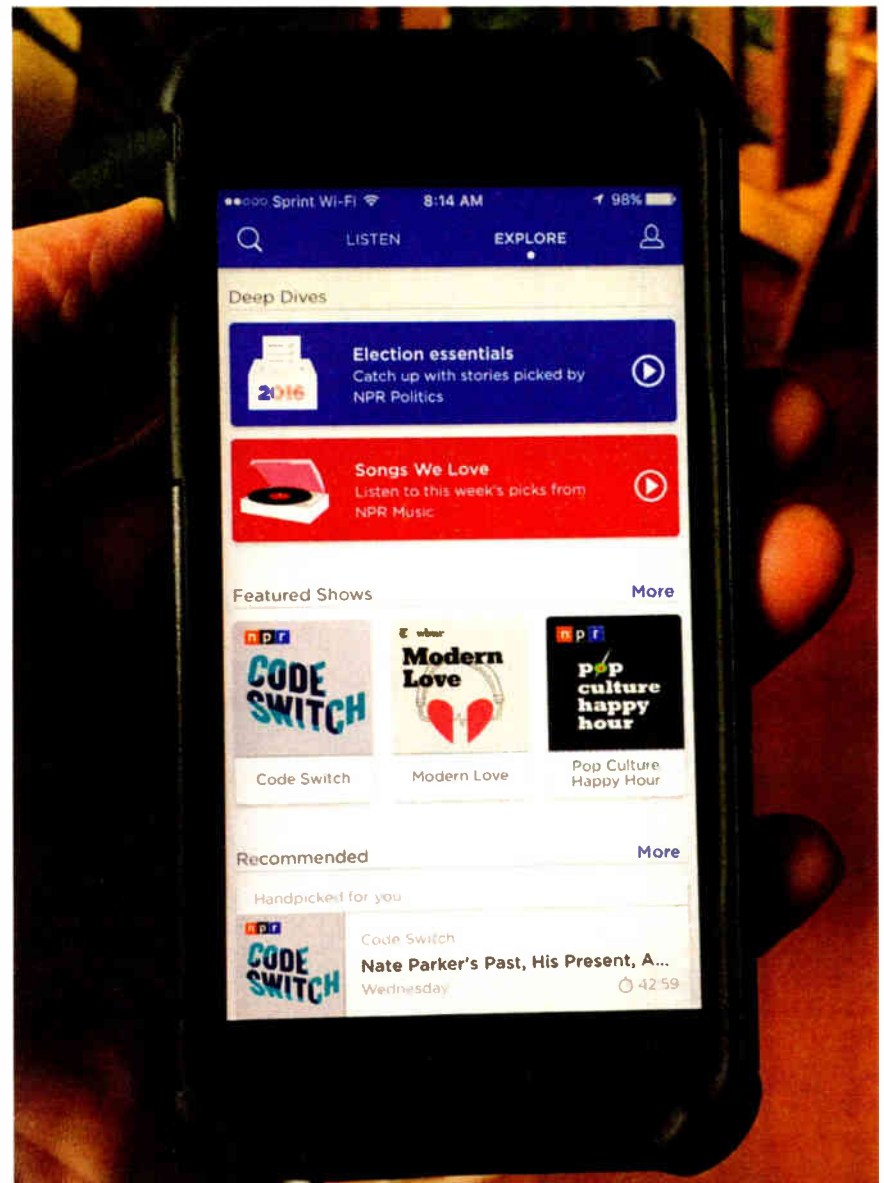
A short feature called “Songs We Love” serves up a pick from NPR’s music staff, which, by the way, does a fantastic curation job. However, this feature could use a quick voiceover announcing the song title; those of us listening to NPR One while we drive, walk or run are not looking at our screens to see band names and titles. The same idea applies to many

PROMO POWER

Mark Lapidus



employer and alma mater). The quantity of localism varied by station, but — you know me — none of them offered quite enough “local” for my taste. This is new territory, so it will no doubt take time for the folks at member stations to recognize its power for increased reach and even for local fundraising.



The app’s “Explore” tab shows popular and featured content, as well as recommended new programs that are personalized for you based on your indicated interests and listening habits.

shows that could use a very brief intro, custom-cut for the app.

The local station inserts with news and features add a charming scent. I tested three stations: WLRN, Miami; KQED, San Francisco; and WOUB at Ohio University, Athens (my long-ago

The audio quality is typically fine and dandy. However, NPR One is plagued by audio loudness and softness issues, which I’m sure they get quite a bit of grief about. It’s addressed in their FAQ section, where they state that they are working on it.

At NAB Radio Show Booth 9 see Traffic and Billing Software that's Easier, Faster, Cheaper...

#1 in User Satisfaction
overall & 13 of 19 categories
2016
TDGA Radio Survey

Save Money
Save Time
Best Technology
Auto Import Nets
Best Technology
Work On Internet
Work on logs from home (snow, sick kid)
Order entry anywhere
Automatic backup
Tablet Support
No Server Cost

Custom Reports, Pacing Charts & Graphs



See User Report in 9/28 Radio World
RadioTraffic.Com
1-888-888-RADIO
Former CEO Scott Studios **Dave Scott Companies**

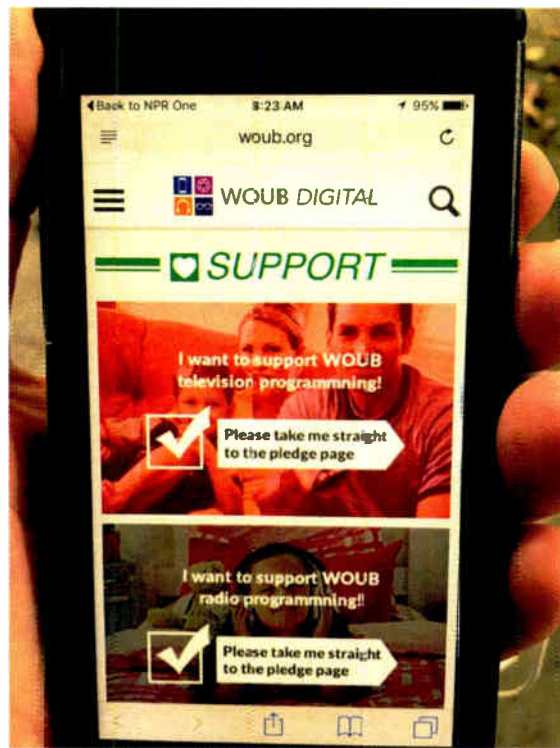
I'm lucky to have unlimited data on my iPhone, so I don't worry about bandwidth. I have noticed that, when using a mobile data connection instead of Wi-Fi, I do experience drop-out and non-connection more often with NPR One than with several other streaming apps that I regularly use. This will vary by phone carrier, plan or device, so before you write a letter to the editor, please know that I know that *you* know that not everyone will have that experience.

It will no doubt take time for the folks at member stations to recognize its power for increased reach and even for local fundraising.

The app also seems to drain my phone's battery more quickly than some others. That appears to be due to the art that accompanies some of the stories, which looks great but may not be worth the energy for some users.

What else could be improved? A few minor things that tend to bug broadcast guys like me: Script writing and audio production. The first time I opened the app, a voice shouted at me, "Hey, NPR One!" Reflexively, I almost turned it off. My name is not "NPR One," so I don't know why you are saying this to me, and besides, it sounds amateurish and out of character.

More on personality: Studio production quality on

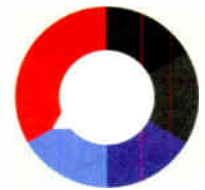


When used to its full potential, member stations can use the app as a tool to remind listeners about pledge drives and other station announcements.

the NPR broadcast network has forever been safe and unimaginative. Back when, this may have conjured the "we are a serious news organization" image, but in this era, it's just plain boring. Fortunately, audio production

NPR One is available via:

- Apple App Store
- Google Play
- Amazon
- Microsoft



is somewhat better on NPR One than on the network; at least the producers seem aware that their new app deserves more pep.

I hope they'll take advantage of one of the many creative agencies that can make magic with short promotional audio to fit any personality; I've worked with people on the commercial side who can paint your mind with 10 seconds' worth of sound. If NPR One can't afford top-notch, in-house creative talent, it's worth their investment to sign on with a creative agency.

Another little imperfection: I know that live station streaming exists on NPR's other news app, but for those of us who don't use it much, it's an inconvenience not to have the same ability on NPR One.

A final confession from this man-about-town: I cheat on NPR One with Stitcher. I've been listening to the Stitcher app for years, logging 538 hours and 7,099 episodes. It's irresistible. NPR One could take a beauty tip from Stitcher's robust streaming, off-line listening and folder organization.

But even with its flaws, I'm still bedazzled, smitten, lost in my mind.

Did I mention that you can drift off to La-La Land with the NPR One sleep timer? For my part, I've tried and failed. When you're in love, large quantities of compelling content are more powerful than caffeine.



KINTRONIC LABS

an ISO 9001 registered company

AM diplexers
FM combiners

All the antenna system solutions for AM multiplexing, FM station combining, or co-locating FM services on AM towers



FM combiner
5-input 1kW/channel

Come see us at NAB Radio Show
Booth #211



Kintronic Isocoil ISO-170-FM-N
for 4xLPFM station combined
antenna feed on AM tower



Kintronic supplied pre-fab tuning houses
1380 kHz WKDM - 1660 kHz WWRU
Jersey City, NJ



FM isocouplers
1.5 / 2.5 / 7.5 kW
10 / 20 / 30 kW

+ 1 (423) 878-3141 KTL@kintronic.com www.kintronic.com

Hyundai's Connected Cars Go the Distance

Connection options and longevity make these vehicles an attractive option

CONNECTED CARS

BY PAUL KAMINSKI

One in a series of articles intended to familiarize readers with the range of automotive infotainment platforms now on the market.

Not only do Hyundai's "connected cars" have a 100,000-mile limited powertrain warranty; more and more of them are using Apple CarPlay and Google's Android Auto to make driving convenient, entertaining and safer. When combined with the BlueLink vehicle telematics system, built-in apps like Pandora and the vehicle's audio systems (base and optional), there's a forest of choices for what can be seen on the display in the center stack of Hyundai dashboards. Those three systems make up Hyundai's version of what we call a "connected car."

As part of my recent test of a Hyundai Genesis and 2017 Hyundai Elantra for the "Radio-Road-Test" program, I put the audio, BlueLink and Android Auto systems through their paces.

Hyundai's BlueLink system keeps tabs on vehicle status and systems (such as remote starting, locking/unlocking, vehicle system diagnostics and maintenance reminders, etc.) and shares center stack touchscreen time with the audio



Photos by Paul Kaminski

apps and on-board audio systems. When using the CarPlay and Android Auto connection to the compatible smartphone, drivers will see small icons on the center stack screen to make quick choices between navigation (maps), music apps and the phone, for example. To make more detailed choices safely, the system "greys out" those choices from other on-screen menus until the vehicle is stopped.

Miles Johnson, senior public relations manager for Hyundai quality, service and technology, explained that the BlueLink system "works off an embedded modem with a 4G connection. CarPlay and Android Auto work off smartphones." To connect either an iPhone or Android device, the user connects with the appropriate

USB connection cord.

The Android Auto capability debuted on the 2015 Hyundai Sonata. CarPlay and Android Auto capabilities are now available on the 2016 Sonata and the

2017 Elantra. Both CarPlay and Android Auto will find their way to more models in the Hyundai line.

AUDIO

On the Elantra and the Sonata, for example, one can find a pushbutton to get the touchscreen in the center stack to the radio screens, where settings can be configured for AM/FM and HD Radio reception.

HD Radio capability is standard on the 7-inch touchscreen display audio system and also on the 8-inch touchscreen navigation upgrade. The base model has AM/FM and SiriusXM reception capability.

Another option is to "bring-your-own" audio via connection with a patch cord or USB. The USB connection is also how Hyundais connect using CarPlay and Android Auto, with the native music apps contained on the connected smartphone. The vehicle's audio system can be controlled by a mix

This is a Hyundai audio display or center stack. Will content from your radio station convince listeners to take the steps to make your station show up here?



AcousticsFirst.com®

Materials to Control Sound & Eliminate Noise.™

Sound your best... From LA to VA.

Sonora® Wall Panels

StratiQUILT™ Acoustic Blankets

Toll-Free Number: **888-765-2900**

Background: iHeart Radio Theater LA
Inset: The National Theater VA



Photos courtesy: Hyundai



Hyundai's virtual reality owner's manual helps owners program their audio systems.



The home screen on a Hyundai Elantra. To get to the radio screen, press the physical radio button located below the screen.

of new-school techniques (touchscreen and voice recognition) and also by old-school buttons and knobs.

As an option for upgrades from the base AM/FM and SiriusXM audio system, Hyundai offers Sirius XM NavTraffic, NavWeather, as well as sports and stocks in a three-month trial. That data is delivered separately from the data received and transmitted via the smart phone for apps like Pandora, for example. BlueLink data is delivered by a dedicated and embedded 4G modem; BlueLink data works with vehicle control, some navigation

information (directions) and alerting information.

Part of Hyundai's delivery process, whether it's a custom-ordered vehicle or a model in stock, includes working with the new owners (post-delivery if necessary) so they can easily tune in to their favorite radio stations and navigate through the audio system to use certain apps.

"Hyundai's customers love to have the freedom of choice," Johnson says. "That's why we provide them with CarPlay, Android Auto, Blue Link, Sirius XM and HD Radio."

What does this mean for a radio station with a heavy advertising schedule from a Hyundai dealer or for a radio station that would like to have such a schedule? That station should be working closely with dealer reps, who help new customers get the most out of their new Hyundai's infotainment system.

Before a radio station begins this outreach, the station should ensure that song metadata is entered accurately, all of the RDS data systems are working properly and that station sound is optimized. It should go without saying that compelling content — whether

broadcast on an HD channel, primary FM or AM channel, or streamed via an app — is what will convince listeners to take the time to navigate through the forest of choices.

As we prepare future articles about connected car ecosystems, what other questions should we be asking? Email me via Radio World at radio@world.com.

Paul Kaminski, CBT, is producer and host of msrpk.com's "Radio-Road-Test" program. Reach him on Twitter (@msrpk_com) and on Facebook (PKaminski2468).

Broadcast Electronics redefines

INNOVATION...

STX 10

Intelligently designed to offer the perfect combination of audio quality, reliability, redundancy, serviceability and efficiency, in an amazingly compact design! No other 10kW transmitter can match the design, feature set, and BE tradition of providing the best value.

AudioVAULT FLEX

The latest version of most flexible automation system includes enhanced schedule tools such as selective Schedule Tracking, Schedule Highlights and more.

com motion

FUELING ENGAGEMENT

A social media and mobile app management platform that keeps listeners engaged and generates revenue.



Broadcast Electronics • 4100 North 24th Street • Quincy, Illinois 62305-3606 U.S.A.
Telephone: (217) 224-9600 • E-Mail: bdcast@bdcast.com • www.bdcast.com

**SEE US AT
NAB RADIO SHOW
BOOTH #28**

A new Seacrest Studio at Monroe Carrell Jr. Children's Hospital at Vanderbilt University



Ryan Seacrest Foundation Opens Studio in Nashville

INVOLVEMENT

Seacrest Studios are radio and TV broadcast facilities built inside and run by pediatric hospitals. Shows are broadcast on the hospital's TV system and sometimes to other Seacrest Studio locations via a Polycom video conference system.

The studios center around a custom and shapely Omnix broadcast desk. The show host stands at the mixing



The Space Before

Mitch Robertson gets involved in helping deliver music to children's hospitals

FACILITY PROFILE

BY MITCH ROBERTSON

When I began my career of making studios work I never imagined some of the places it would take me. From senior staff positions at high-profile Hollywood recording studios, to major-market radio broadcast facilities to leading pediatric hospitals around the country.

The hospitals have been proud recipients of their very own Seacrest Studios multimedia production facilities, donated by the Ryan Seacrest Foundation.

The most recent opened in March in the Monroe Carrell Jr. Children's Hospital at Vanderbilt University in Nashville, Tenn. The grand opening ceremony featured speeches from benefactor Ryan Seacrest, hospital administrators and Mr. Seacrest's secret special guest, Taylor Swift. After the ribbon was cut, he kicked off the new studio with an interview and live music show, then spent the rest of the day visiting with patients.

board to run things. Across the desk there are five seated guest positions. Patients, their family members and others are invited to join the show host and sometimes celebrity guests, to put on a live radio show with a TV simulcast. Patients that cannot make it into the studio can still call in from their rooms to participate.

I became involved with the Ryan Seacrest Foundation through my relationship with Director of Engineering Brian Clark. For many years he has used my studio integration company, Immaculate Connections Inc., on facility builds such as Radio Disney in Burbank, Calif., and the Los Angeles Angels radio station at their stadium in Anaheim, Calif.

In January of 2013 he recommended the foundation hire us to do the broadcast integration for Seacrest Studios at Children's Hospital of Orange County in California. Since then, we have done five more of the facilities: Levine Children's Hospital in Charlotte, N.C., Children's Hospital Colorado in Denver, Boston Children's Hospital, Children's National Medical Center in Washington, and now the Nashville studio.

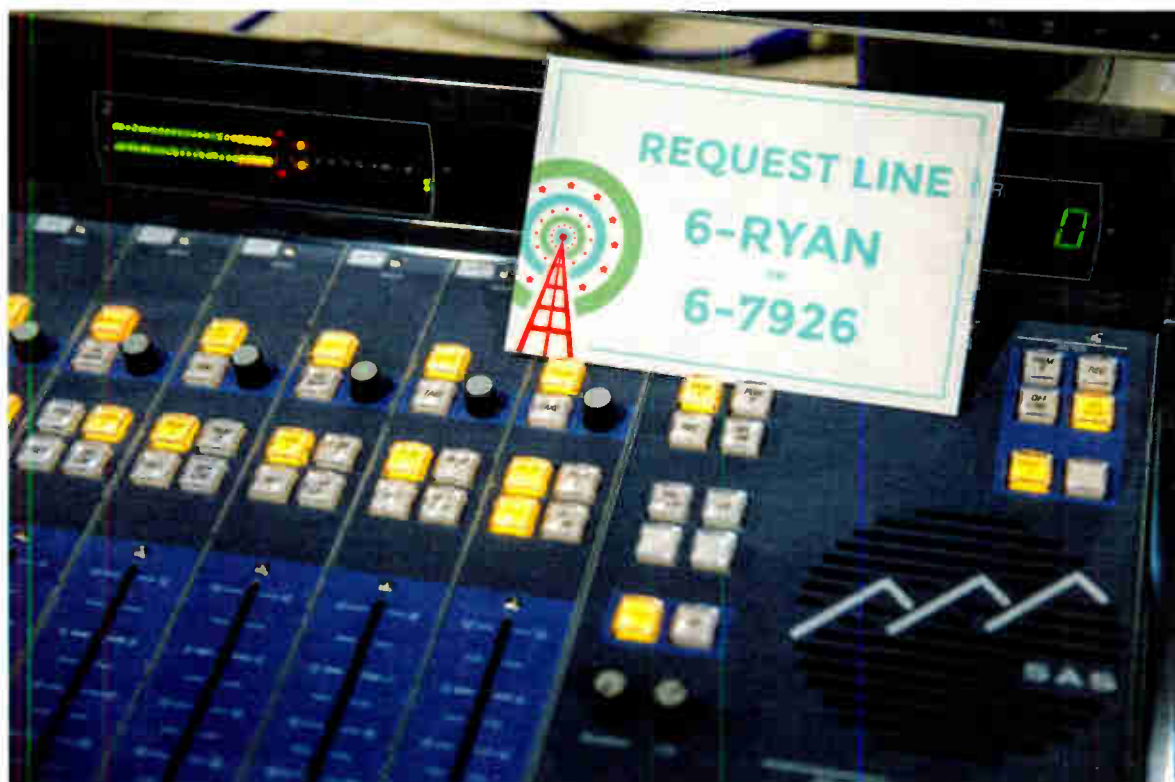
Seacrest Studios Nashville Manager Mamie Shepherd served as the original studio manager at the Charlotte hospital for two years before moving to Nashville to manage the new facility. She believes that "Seacrest Studios has signaled an awakening in the way events, activities and some therapies are

Dielectric

VISIT US AT NAB RADIO

BOOTH 11

www.dielectric.com



handled at children's hospitals across the country."

"Parents routinely thank us for what the Ryan Seacrest Foundation has provided. Seacrest Studios can be one part reality, one part fantasy. It's a place for a kid to dream, plan, grow, learn, sing openly and just be a kid again — not a diagnosis. The generosity of the

foundation, has given sick and injured children across the United States a place to be cool."

PARTICIPATION

My participation in a new Seacrest Studio begins on conference calls and email exchanges with local hospi-

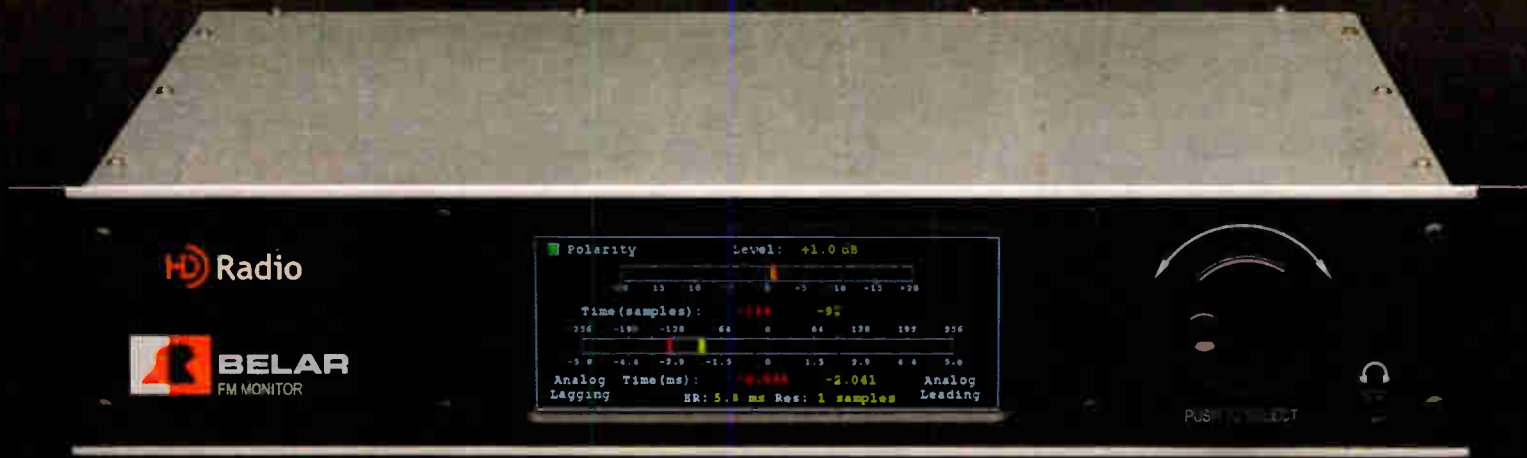
tal staff and construction officials. Questions are asked and answered in both directions. Early on I send a list of the studio's requirements so they can be ordered in advance.

Since these studios are located inside hospitals, strict compliance with Health Insurance Portability and Accountability Act Privacy Rule Standards must

(continued on page 40)

YOU DESERVE OPTIONS

Eliminate HD Radio air chain time alignment issues automatically



- **Multi-Scan function for delay corrections on up to 6 stations in a market**
- **Streams delay corrections directly to your exporter/audio processor using IP**
- **Automatically adjusts your existing device's delay, no air chain modifications required**

BELAR
 610-687-5550 • BELAR.COM • SALES@BELAR.COM

Manufactured in the USA

SEACREST

(continued from page 39)

be maintained. All hospital network traffic is highly monitored and controlled.

This creates a problem for engineers and equipment manufacturers who need to remote-in to configure and maintain equipment. Special provisions have to be set in place to allow this type of remote access without endangering patient medical records. Once in place the automation system music can be updated regularly and the mixing console can be reconfigured as changes come along.

For most of these builds I travel to the sites by myself, having shipped my tools and materials in advance. Ideally, I arrive after most of the construction trades are done, but this happens only half the time. I also hope that all work to be performed in the ceilings is complete and that they are closed. When ceiling tiles are not in place, it is always raining dust particles into the room, no matter how loud your HEPA filter is.

Soon after arrival, I meet with the

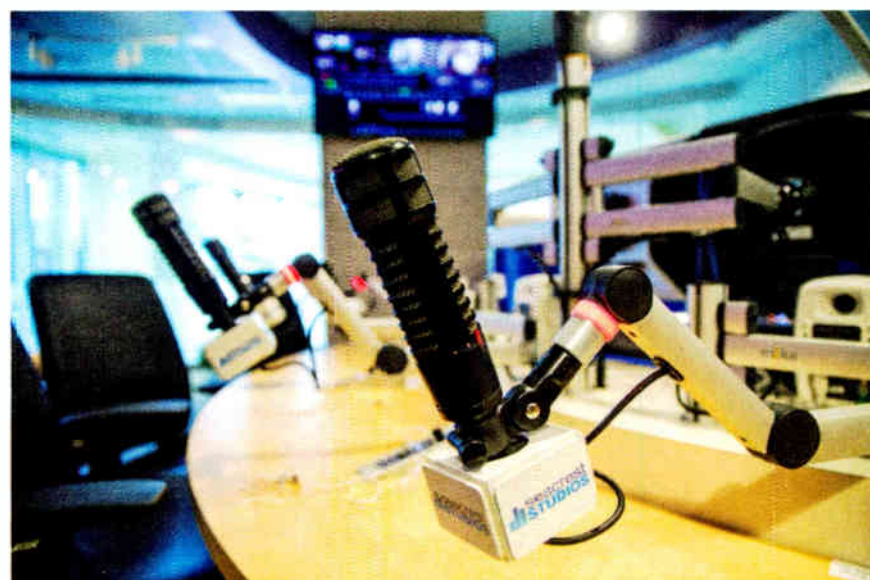
electricians and data cabling people to advise on outlet and jack locations inside the studio furniture and on air warning sign locations and control. I also confer with the A/V contractors on the overall goals of the systems.

It takes about 18 days to complete the broadcast audio integration of the studio. I receive lots of help from the local crews and staff with things like cable pulls, equipment delivery and heavy lifting. We always have in mind the fact that a hard deadline is speeding in our direction and there's a lot to get right and reliable before that time arrives.

EQUIPMENT

Seacrest Studios all utilize the same equipment, originally specified by Clark, with some adaptations and changes from time to time. Audio and control center on a Sierra Automated Systems Rio Link mix engine and iSL mix surface from the same company. Automation comes from a Broadcast Software International Op-X automation system.

Equipment includes a 360 Systems Instant Replay and a Wheatstone Vox-Pro recorder/editor. A Comrex STAC



eBooks: Tools for Strategic Technology Decision-Making



Radio World's growing library of eBooks can assist you in maximizing your investment in an array of platforms and tools: licensed transmission, online streaming, mobile apps, multicasting, translators, podcasts, RDS, metadata and much more. The eBooks are a huge hit with readers. They help engineers, GMs, operations managers and other top radio executives — radio's new breed of digital, cross-platform decision-makers — understand this new world and thrive in it.

Visit radioworld.com/ebooks



It takes about 18 days to complete the broadcast audio integration of the studio.

telephone hybrid takes calls on six lines and a Telos Zephyr Xtreme codec is used for remote connection. The microphones are processed through a Symetrix Jupiter 8 and are mounted on low-profile Yellowtec miKa! On Air mic arms.

On the video side, there are two high-definition remote control cameras mounted in strategic locations and processed through a NewTek TriCaster unit. The TriCaster is also used for video production. A rack full of Crestron and Extron equipment handles the video switching, scaling and distribution. And a green screen rolls down out of the ceiling for all kinds of video production.

Of unexpected benefit are intern programs. Interns are recruited from local

colleges to assist in all capacities. Shepherd notes that "While interning for RSF, college students from across the country gain valuable experience working radio boards, operating video cameras and editing footage from celebrity visits. That is the technical side. Interns also get hands-on experience behind the microphone when they interview guests who make appearances in the studio. We give students a place to bring what they are learning in college to a working broadcast media center."

The foundation continues to work toward its goal of building Seacrest Studios, contributing to the healing process of children and their families. It has been my privilege to work with this fine organization and to see the miraculous work performed every day at the hospitals we work in.

For information on the Ryan Seacrest Foundation, browse to ryansecrestfoundation.org. Radio World's 2011 special report on the early days of the project is available at www.radioworld.com/supplements.

Mitch Robertson is chief engineer for Immaculate Connections Inc. in Tarzana, Calif.

MARKETPLACE

Processor Power: Wheatstone says its AirAura X1 is aimed at mid-range budgets.

A release says that the processor use "the advanced algorithms found in Wheatstone's top-of-the-line AirAura X3 for turning up the volume without causing listener fatigue, yet comes with a user interface that doesn't require a power user to operate."

The X1 is equipped with a "distortion-managed" final clipper, five-band spectral controller, 31-band limiter, 10-band mastering limiter, stereo enhancer, multipath controller, diversity delay of 0-10 seconds, adjustable in 100 µS steps, Vorsis Bass Tools, group of factory processing presets and Wheatstone Baseband192 for direct digital input.

Senior Product Development Engineer Jeff Keith said the processor includes popular features of the AirAura X3 with newly designed PC and front-panel user interfaces. He said this presents audio controls to the user in a clear and intuitive way that is a good fit for mid- and small-market broadcasters.

Info: wheatstone.com



The Switcheroo: Broadcast Devices Inc. has announced the availability of an 8- or 16-channel passive A/B switcher. This multipurpose device can cover many duties such as basic audio routing, emergency multipair backup switcher, 7/5.1 audio monitor selector, emergency studio switcher, emergency router bypass switcher, emergency digital console switchover and whatever else can be dreamed up.



"Because the 8/16 switcher is passive in its switching function signals can be mixed in one switcher to include analog or digital audio and control signals."

If more than 16 pairs are involved multiple units can be linked. It is shielded against RFI and its onboard power supply is designed for "harsh electrical environments," while also being flexible enough to handle foreign power systems. The interfaces are Tascam 25-pin. XLR and BNC adapters are available.

Info: www.broadcast-devices.com

PRODUCTS & SERVICES SHOWCASE

Coaxial Dynamics A CDI INDUSTRIES, INC. COMPANY
Specialists in RF Test Equipment & Components

- Digital Broadcast
- Directional Wattmeters
- Line Sections
- Plug-In Elements
- Loads and Attenuators
- Signal Samplers
- Meters
- Accessories
- Low Pass Filters
- Power Sensors
- Custom OEM

Coaxial Dynamics (a CDI Industries, Inc. Company)
6800 Lake Abram Drive - Middleburg Hts, OH 44130
Phone: 440-243-1100 Toll Free: 800-COAXIAL Fax: 440-243-1101
sales@coaxial.com • www.coaxial.com

NOT out of the blue
Bext's loyal customer base did not come out of the blue. It's a 30-year track record of high quality RF broadcast equipment, experience & 24/7 customer service. Call Bext today to find out what Bext can do for you.

888 239 8462
www.bext.com

GR Gorman-Redlich Mfg. Co. CAP-DEC1

The CAP-DEC1, Gorman-Redlich is a stand-alone CAP-to-EAS converter for use with your existing emergency alerting equipment. This cost-effective device allows broadcasters to easily meet Common Alerting Protocol (CAP) compliance requirements mandated by the FCC without requiring the purchase of an additional encoder/decoder system or other costly equipment. The CAP-DEC1 is CAP 1.2 compliant and requires only one unit of rack space. Trust the experts with over 35+ years experience in the emergency alerting industry to help you meet your broadcasting needs. Visit our website or contact us today for more information about the Gorman-Redlich CAP-DEC1. We continue to support equipment we made 35 years ago.

Now CAP-CP COMPLIANT

- Compatible with any existing EAS encoder/decoder made by any manufacturer. Will drive multiple EAS units.
- Powerful 1.6GHz dual core processor and 1GB of memory
- Built-in text-to-speech conversion functionality
- FAST Gigabit network capability with built in firewall for security
- Options to print, store or email logs via built-in email server
- Nearly limitless storage capacity for logs and audio messages
- Five (5) USB and RS232 ports for peripherals
- Automatic clock synchronization via NTP servers
- Software can be updated via LAN or USB
- Print alert reports to USB or network printer
- Polling 3 JRL's currently with room for future expansion
- FEMA independent lab affirms CAP 1.2 compliance
- Printer no longer required for EAS log

Gorman-Redlich Mfg. Co.
www.gorman-redlich.com

257 W. Union Street, Athens, OH 45701
Phone: 740-593-3150

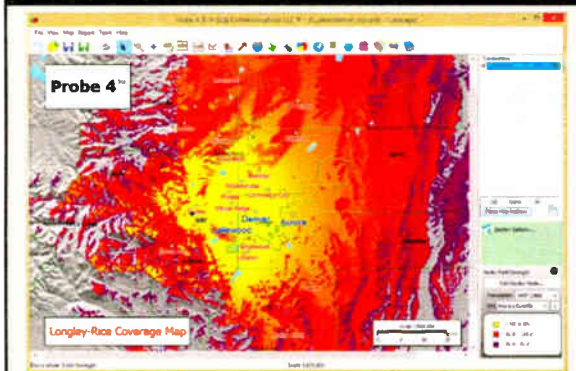
Choose power levels 50 to 10,000 watts
Technologix has outstanding values on Solid State FM Transmitters, Exciters, Amplifiers, Translators, Antennas, Combiners, and Accessories.

LPFM Transmitters and Translators are FCC Type Certified

Standard features on all transmitters & Translators
Automatic power control and fold back protection ensures Reliable operation under most operating conditions.
Input/output interface built in high performance stereo coder, L&R analogue audio inputs, mono input, MPX composite and auxiliary input for SCA.
World class reliability and quality
Broadband across the FM band
Metering: Output power, Reflected Power, Current on each amplifier
Voltage on each amplifier
Voltage and current on IPA, Temperature
Remote control for easy remote operation
North American design and manufacturing
High efficiency with state of the art Solid State Devices
Two year warranty
Fast Delivery

Contact **Jimmie Joynt**
Ph: 972.473.2577 | Email: jjsbp@msn.com
18208 Preston Rd. Suite D9-297 Dallas, TX 75252

Broadcast Engineering Software



- Create stunning "real-world" coverage maps, interference studies, and population reports with Probe 4™
- Find STL broadcast auxiliary and Part 101 microwave frequencies and generate PCN letters with Microwave Pro™
- AM Pro 2™, used daily by FCC engineers, performs skywave and groundwave allocation studies and AM coverage mapping
- Map FM stations and discover upgrade possibilities using FCC minimum separations and contour-to-contour methods with FMCommander™



www.V-Soft.com

(800) 743-3684

ACOUSTICS



ANTENNAS/TOWERS/CABLES

WANT TO SELL

CCA FM8000G Trans 107.9, great cond; 4-Bay Jampro antenna w/deicers; 3-bay Shively antenna FM. D Brockman, 606-965-3436.

WANT TO BUY

Circular single-bay FM antenna, worked great for a translator at 105.7, make offer, Paul Wilson, 662-627-1450.

AUDIO PROCESSING (INCLUDES ON-AIR)

WANT TO BUY

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

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

RADIOWORLD
Equipment Exchange

MISCELLANEOUS

ROTRON BLOWERS AND PLATE BLOCKERS, new & rebuilt for Elcom, Harris, CCA, CSI, McMartin. Goodrich Ent. 11435 Manderson St. Omaha, NE 68164 402-493-1886 Email: charlesgoodrich44@gmail.com.

FOR THE BEST PRICE & 24 Hr service on transmitting tubes & sockets/parts, new & rebuilt call Goodrich Ent. at 402-493-1886 day or night, www.goodrichenterprises.com.

WANT TO SELL

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

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

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

WANT TO BUY

Collector wants to buy: old vintage pro gears, compressor/limiter, microphone, mixing consoles, amplifiers, mic preamps, speakers, turntables, EQ working or not, working transformers (UTC Western Electric), Fairchild, Western Electric, Langevin, RCA, Gates, Urei, Altec, Pultec, Collins. Cash - pick up 773-339-9035 or ilg821@aol.com.

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

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

I'm looking for San Francisco radio recordings from the

CONSULTANTS

Without advertising a terrible thing happens...
NOTHING...
For information contact Michele at 212-378-0400 ext. 523 or minderrieden@nbmedia.com

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

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

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

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

RECEIVERS/TRANSCIVERS

WANT TO SELL

Johnson Electronic SCA880 module, 67/92 Khz, 417-881-1846.

RECORDING & PLAYBACK HARDWARE

WANT TO BUY

1960s-vintage MacKenzie Repeater machines, magazines, spare parts and manuals, complete or "parts" machines considered, James, 870-777-4653.

Large or small collections of 16" transcriptions or 12" tran-

scriptions, not commercial LPs. Bill Cook, 719-684-6010.

Schnader telecriptions 16 mm musical films produced in the early 50 s. Bill Cook, 719-684-6010.

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

TAX DEDUCTIBLE EQUIPMENT

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

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS
Full Service From Allocation to Operation AM/FM
Field Work, Antenna and Facilities Design
Over 45 years engineering and consulting experience
912-638-8028
202-393-5133
www.grahambrock.com

TRANSMITTERS/EXCITERS/TRANSLATORS

AM Ground Systems Company
Complete AM Ground System Services
amgroundsystems.com
866-22RADIO

WANT TO SELL

NAUTEL 25 KW AM TRANSMITTER, THE BEST, TWO YEARS OLD, NOW ON 810 AM, MOVING SITE & DOWNSIZING, 3 PHASE, NOW. CARL 386 566 4299, ORLANDO.

For sale-5kW collins-ITA FM xmt, \$2000/BO. 432-559-1738.

DISTRIBUTOR DIRECTORY

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

CORNELL-DUBILIER MICA CAPACITORS

FROM STOCK

JENNINGS VACUUM CAPACITORS

FROM STOCK

HIGH ENERGY CERAMIC CAPACITORS

SURCOM ASSOCIATES

5674 El Camino Real, Suite K
Carlsbad, California 92008
(760) 438-4420 Fax: (760) 438-4759
e-mail: link@surcom.com web: www.surcom.com

TUNWALL RADIO

SWITCH AND TRANSMITTER CONTROLLERS



AM/FM/MULTI-SWITCH AND CUSTOM DESIGNS

330.995.9642

www.tunwallradio.com



Rebuilt Power Tubes 1/2 the cost of New!

Se Habla Español

ECONCO

Se Habla Español

Tel: 800-532-6626 Web: www.econco.com
Intl +1-530-662-7553 Fax: +1-530-666-7760



TRANSMITTERS/EXCITERS/TRANSLATORS

TRANSCOM CORPORATION
Serving the Broadcast Industry Since 1978
Transmitters and Broadcast Equipment for Radio & Television

Used FM Transmitters

55 W	2000	Harris D-GIT CD
3.5 KW	2000	Harris Z3.5CD, solid-state
1.3/3 KW	2006	Harris Z6HD- Tri-Mode HD
5 KW	1995	Harris HT5CD
5 KW	1992	BE FM5B
7.5KW	2006	Harris Z7.5CD, solid-state, 1-phase
1D KW	2002	Harris Z10CD, solid-state
14/6KW	2006	BE FM1405, complete HD system
2D KW	2007	BE FM20S, solid state
21.5 KW	1990	Continental 816R2B
25 KW	1982	Harris FM25K with DIGIT
3D KW	1988	Harris FM30K* Special Sale Price*
35 KW	1991	BE FM35B

Used AM Transmitters

10 KW	1998	Nautel ND10, solid-state
10 KW	2001	Nautel XL12, solid-state

Exciters & Miscellaneous Equipment

Exciters->DIGIT, CE802B, BE FX50
Bird Model 3932, 10 kW air-cooled RF Load
Harris N + 1 Controller

Used TV Transmitters DTV & ATV

** FLO TV Transmitters**
Rohde & SchwarzHarris Maxiva

Please visit our website,
www.fmamtv.com, for additional listings.



HARRIS nautel

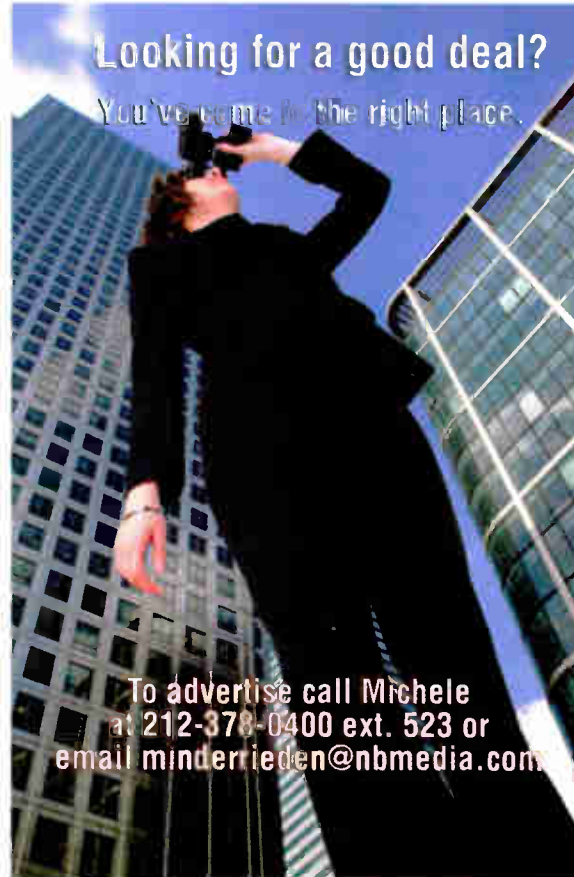
CROWN BROADCAST

New TV Transmitters- DTV & ATV
OMB, Rohde & Schwarz and
Technologix

1KW Special w/4 channel encoder
VHF and UHF TV Antennas
(10 W to 10 KW) TV STL

800-441-8454 • 215-938-7304 • FAX: +1-215-938-7361

www.fmamtv.com • E-mail: transcom@fmamtv.com
RETUNING & TESTING AVAILABLE • CALL US FOR A QUOTE!



Looking for a good deal?
You've come to the right place.

To advertise call Michele
at 212-378-0400 ext. 523 or
email minderrieden@nbmedia.com

TUBES



ISO 9001 Certified
The Choice of Successful
Broadcasters Since 1934

NEW POWER TUBES

Triodes
Tetrodes
Pentodes

NEW SOCKETS & REPLACEMENT PARTS

Worldwide Availability

Made in U.S.A.

CALL (800) 414-8823
Int'l (650) 846-2800
Fax (650) 846-3795

Visit our Web Site at
www.cpii.com/eimac



www.radioworld.com

EMPLOYMENT

POSITIONS WANTED

Are you a small market station needing a good nuts & bolts engineer in the Los Angeles area? I will make your station shine! CET, fully FCC Licensed. Available for Full/Part-time/Contract work. Available immediately. Mitchell Rakoff, 909-446-6820, mitchellrakoff@yahoo.com.

Experienced radio station manager seeks new management opportunity. More than 39 years experience in radio. Willing to relocate. Family-friendly format(s) preferred. Send details about your management opening to: radiogm@hotmail.com.

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

SPACE IS AVAILABLE!

ADVERTISE YOUR EMPLOYMENT AD ON OUR WEBSITE FOR ONLY \$2 PER WORD!

ADS GET POSTED THE NEXT BUSINESS DAY AND WILL RUN FOR A FULL TWO WEEKS!

COMBINE THIS WITH AN AD IN OUR RADIO WORLD NEWSPAPER EMPLOYMENT SECTION AND REALLY COVER THE BROADCAST INDUSTRY AND THEN SOME!

www.radioworld.com

Call Michele Inderrieden for all the details at
212-378-0400 ext. 523
minderrieden@nbmedia.com

Considerations for Designing an AoIP Network


Stockphoto/istock

When AES67 is not AES67 — what does a facility over IP look like?

COMMENTARY

BY MARTY SACKS

The last three years — following the ratification of the AES67 standard — have brought about an amazing transformation in the broadcast industry. Audio over IP is on everyone's lips. With no exaggeration, AoIP is a juggernaut racing through our industry at a pace approaching that of wildfire.

As the first company to develop AoIP for broadcast, the Telos Alliance is gratified to see our idea so widely adopted. And now, we have front-row seats to a whole new phase of this as the television industry firmly jumps into AoIP with its adoption of AES67. This is very cool, and we've only just begun to see the impact that AoIP will have in TV with its more complex workflows.

As you can imagine, we have many conversations each day with clients across the world seeking to understand more about AoIP and specifically how they can use AES67 in their facilities. There are two topics that we're frequently being asked about right now:

AES67 COMPLIANCE VS. COMPATIBILITY

We hear the terms AES67 *compliance* and AES67 *compatibility* raised during countless discussions. Sound like the same thing, right? Not so. Here's the difference and why it matters to you:

Just as the Telos Alliance created Livewire and Livewire+ (our Livewire AoIP plus AES67), other companies have created their own versions — or protocols — of AoIP with AES67, e.g. Ravenna. Each protocol that has implemented AES67 has not done so in the same way. This is because AES67, like all standards, can be minimally implemented and still “sort

of” do the job. In other words, it is possible to achieve some level of audio interoperability under AES67 and yet still not fully comply with the standard.

This is what is meant by *compliant vs. compatible*. Simply put, *compliance* means that *all* aspects of the AES67 standard are met; *compatible* means *some* of the standard is complied with. There is a big difference.

For example, one aspect of the standard calls for Unicast mode using SIP. Such a usage could be the exchange of audio between city pairs using AES67. City-to-city connections are normally created using a wide-area network where the multicast streams (normally found in AoIP) are not likely to be supported. If your audio network's native AES67 protocol *or* your specific gear does not support Unicast, you might not be able to move the audio back and forth without purchasing additional gear. To be clear, a full implementation of AES67 is required at the protocol level *and* by the manufacturer of the gear you are purchasing to be assured of Unicast mode using SIP.

Why don't all AES67 protocols and/or manufacturers provide Unicast mode using SIP, you ask? It is because this part of implementing the standard is pretty challenging. We know it's hard work, but we also know from our experience with IP codecs that many of our customers will want this capability. Still, some manufacturers and protocols will “short-cut” and leave it out. Now, officially speaking, those protocols and manufacturers are no longer AES67-compliant. Because there are no AES67 police, you'd be wise to confirm compliance and receive assurances that your protocol and/or vendor is fully compliant to assure best performance now, and in the future.

Unicast is just one example where something specified in the AES67 standard is not complied with. There are others. For example: One AoIP protocol dynamically assigns IP addresses to its network-connected devices

in AES67 mode. This is analogous to your mobile number changing every time you power it up! As you can imagine, this can wreak havoc with other devices intending to share audio on the network using AES67.

A FACILITY OVER IP

Naturally, once people catch on to the vision and capabilities of audio over IP, they want their entire facility from that point forward to take full advantage of the technology. In our 10+ years helping people first begin to consider AoIP and then ultimately adopt it, we've had many discussions to encourage these folks to consider the entire process of converting or creating their AoIP facility.

Our customers have helped us to understand that it's important to think through certain aspects of AoIP usage (or workflow) prior to choosing a baseline protocol and beginning the conversion. Choices made at this earliest stage in the adoption will affect the future

The design of a facility over IP will need to take into account the anticipated need for not only audio interoperability, but also advertising/discovery, GPIO and PAD.

capabilities in a way we've never seen before in broadcast technology. This is due to the beauty and functionality of fully interconnected gear. Perhaps the biggest decision to make in the beginning is the determination of a baseline protocol one — that is at the foundation of the network.

Here's why: A baseline standard (be it Livewire+ or another) will define a master set of capabilities over and above the most basic audio interoperability made possible by AES67. Aspects like Advertising/Discovery, GPIO (General Purpose I/O, also called “tally” or contact closures) and Program-Associated Data (PAD) are all defined by the baseline protocols, but these are not in AES67. For example, if you chose a baseline AoIP protocol that does not support GPIO, you may not be able to easily start and stop external gear. In other words, for the announcer to be able to start the next song or commercial using the buttons on the console, GPIO must be supported. Needless to say, this is a major consideration.

So, in total, the design of a facility over IP will need to take into account the anticipated need for not only audio interoperability, but also advertising/discovery, GPIO and PAD amongst all the devices that will make up the core of the network. Sure, AES67 will assure some level of audio interoperability, but don't assume that your workflow will automatically be supported.

Like all equipment-buying decisions, careful consideration of how you will use your gear will help you make choices you'll be happy living with for a long time.

The author is vice president of sales, support and marketing for the Telos Alliance.

My 30+ Years at Radio World

Longtime contributor reminisces about three decades of reporting and feature writing

FIRSTPERSON

BY KEN DEUTSCH

My first article for Radio World was an unsolicited (and unpaid) opinion piece. Even though it must have taken a lot of work by the editors to turn it into something readable, it did get me noticed by the staff. That was in 1985, and somehow I am still writing for this fine publication today.

Under the guidance of patient editors like John Gatski and Paul McLane, my writing gradually became more professional. And with the appearance of my second article, I surrendered my amateur status and have been receiving these nice checks in the mail ever since!

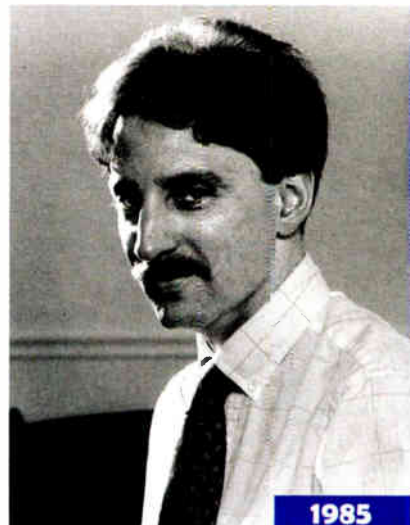
OATING MYSELF

Thirty-one years ago, when I began my career at this publication, Madonna and DeBarge ruled the airwaves, and the VHS/Betamax video format war was well along. It's possible that I owned a leisure suit.

With the exception of some professors and military folk, few people had heard of the internet yet. Email (via CompuServe) and fax machines were available but not yet ubiquitous.

When I began submitting articles to

RW on a regular basis, snail mail was what we used. I'd type my piece on my state-of-the-art computer, the one that featured the dark green CRT screen with light green font, but I'd print it out



1985

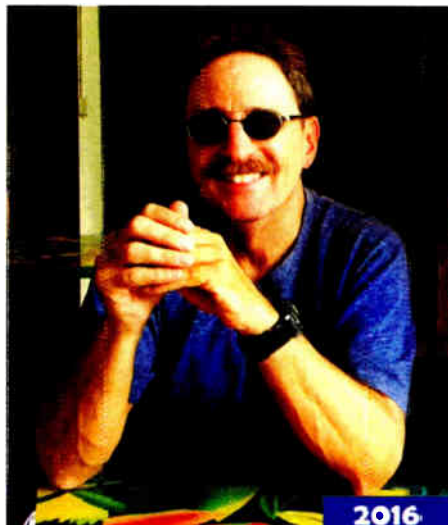
Ken, then and now

and send the paper copy to my editor, along with a 3.5-inch back-up floppy disk.

NOTABLE INTERVIEWS

Over the years, my editors encouraged me to interview some brilliant people.

Nancy Cartwright was and is still the voice of Bart Simpson, but she began her career at a small radio station in Dayton, Ohio. Johnny Donovan, now retired, was the production director at WABC(AM) in New York. Another talent I wrote about at that same station is still on the air: conservative talker Mark Levin. Additionally, some of the



2016

best engineers in radio, young and old, have consented to interviews, and I was inspired by their spirit and enthusiasm.

It was a lot of fun talking on the phone and then in person to a man whose name few recognize. It was Fred Newman, the guy who voices the great mouth sound effects for "A Prairie Home

Companion," distributed by American Public Media. I had the pleasure of watching him work from backstage during a performance in Ohio.

The late Marian McPartland, a sublime jazz pianist who was also heard on public radio, admitted to me that

Radio World represents no less than the written history of the broadcast radio industry.

when she made a mistake during a concert, she would play the same key several more times — in the hopes that people would think she was doing it on purpose.

Some of my articles were about preserving radio's heritage. Some focused on new gear that I got to play with and review before anyone else had it. Articles appeared under my byline about pending legislation, the controversial HD Radio standard, service awards, online innovation and the always sought-after-but-often-elusive "trends" in the radio industry. (The latter — trend — is always a great buzz word in reportage.)

Radio World represents no less than a written history of the broadcast radio industry, week by week, year by year. And I consider myself lucky to continue to play even a small part in chronicling it.

READER'S FORUM

AM EXPERIMENTS

Regarding "From the FCC, a Cautionary Note About Experimental Licenses" (radioworld.com):

The FCC should be encouraging experiments in single-frequency networks in the AM band as they are being tried and even encouraged in the FM and TV band worldwide.

Why build wasteful 50 kW directional transmitting plants when the same area and population could be covered effectively by three 5 kW nondirectional facilities? Why do we have to build a huge facility and prove the real coverage is less than projected before we can ask to fill in some of the same area with smaller simple facilities? Just asking!

I own and operate KJME 890 and KCEG 780, duplexed stations licensed to Fountain, Colo., which happen to be six-tower directional facilities located 20 miles outside of any town.

Over the years I have set up synchronous slaves for several stations and had them work very well to make the "protected service" actually listenable over the populated area, and yet the FCC still considers it temporary and unnecessary, except for academic study.

Actual service improvements rarely make it into the rules.

*Timothy Cutforth, P.E.
Broadcast Engineering Consultant
Denver*

HD RADIO DROPPING OUT

I was really disappointed when I bought my new Impala and found out that GM had dropped HD Radio in favor of a Wi-Fi Hot Spot. However, my city has no HD Radio. Reason: too expensive. Kansas City has a lot of stations, but they drop in and out, so I can't enjoy it anyway.

If we could get the FCC to make it mandatory that all radios sold in America must have the ability to receive HD. Like in the 1960s, when it became mandatory for all radios sold to have the capability to receive FM. Boy, did that work fine!

Maybe, if most of the local listeners had HD Radios, perhaps the radio stations would start installing HD capability. Maybe, if we talk it up, we can get a ruling on that.

*Richard L. Erickhouse
Retired
Topeka, Kan.*

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.

COMMENT ON ONLINE STORIES:

Post your opinions about any Radio World story using the DISQUS commenting tool. Just scroll down to the bottom of any story on the Radio World website: radioworld.com.

CHANGE YOUR MAILING ADDRESS:

Visit radioworld.com, click on the subscription button and follow instructions to change a subscription address.

CONTRIBUTE FREELANCE ARTICLES:

Email radioworld@nbmedia.com and request our Writer's Guidelines.

GET INFORMATION ABOUT ADVERTISING:

Download a media kit including editorial calendar at radioworld.com/advertise.

PURCHASE REPRINTS OF ARTICLES:

Email Caroline Freeland at cfreeland@nbmedia.com.

ADVERTISER INDEXThis listing is provided for the convenience of our readers.
Radio World assumes no liability for inaccuracy.

PAGE	ADVERTISER	WEBSITE/URL
18	305 Broadcast	www.305broadcast.com
36	Acoustics First Corp	www.acousticsfirst.com
32	Audio-Technica	www.audio-technica.com
31	AudioScience Inc.	www.audioscience.com
11	Axia - The Telos Alliance	www.axiaaudio.com
39	Belar	www.belar.com
41	Bext, Inc	www.bext.com
37	Broadcast Electronics	www.bdcast.com
29	BSI	www.bsiusa.com
41	Coaxial Dynamics	www.coaxial.com
7	Comrex Corporation	www.comrex.com
15	DAWNco	www.dawnco.com
4	DaySequerra/ATI	www.daysequerra.com
38	Dielectric	www.dielectric.com
26	DJB Radio	www.djbradio.com
47	DTS Radio	www.hdradio.com
1	ENCO	www.enco.com
14	ESE	www.es-web.com
8	GatesAir	www.gatesair.com
41	Gorman Redlich Mfg	www.gorman-redlich.com
46	Heil Sound, Ltd.	www.heilsound.com
5	Henry Engineering	www.henryeng.com
27	Inovonics Inc	www.inovonicsbroadcast.com
35	Kintronic Labs Inc	www.kintronic.com
17	Moseley Associates	www.moseleysb.com
6	NATE	www.natehome.com
23	Nautel Ltd.	www.nautel.com
33	Netia	www.netia.com
19	Omnia - The Telos Alliance	www.omniaaudio.com
13	Orban	www.orban.com
34	RadioTraffic	www.radiotraffic.com
21	RCS	www.rcsworks.com
28	Shively Labs	www.shively.com
30	Studio Items Inc.	www.studioitems.com
41	Superior Broadcast, LLC	www.superiorbroadcastproducts.com
9	Tieline Technology	www.tieline.com
2, 24-25, 48	Wheatstone Corporation	www.wheatstone.com

READER'S FORUM**ALL-DIGITAL AM**

I commend Robert Meuser's "Class Warfare in the Senior Band" (RW, May 11) as a cogent, well-written, balanced examination of the issues surrounding the state of the AM band and pending FCC contour protection changes. Each station class faces upsides and downsides to both the status quo and the changes. HD Radio is a further complicating matter, addressed below.

Thomas McGinley's "NAB Tests Address Digital AM Concerns" (RW, May 25) purports to be an objective engineering analysis replete with due diligence: data points, five HD receivers, three low-power HD transmitters a spectrum analyzer; plus field tests with real radio stations and simulated interference. Impressive method, graphics and descriptive narrative. However, that's where the favorable impression ends.

The statement by HD Radio owner DTS Inc. that "there are close to 30 million HD Radio receivers in the hands of consumers and ... continues to grow steadily" begs for documentation and lacks credibility. HD Radios are scarce in box stores, and many stations have turned their HD transmitters off for lack of listener interest. With the exception of HD Radios shipped in new cars by default, consumers are staying away from HD Radio in droves. In truth, AM HD is dead in the water.

Most of the technical narrative takes an unemotional scientific tone, avoiding exaggerated performance claims. However, the overall conclusion — "The test project concluded that 'interference concerns of all-digital signals into existing analog stations should *not* be an impediment to the rollout of all-digital'" — does not follow strongly from the results.

Rather, this conclusion is lamely supported by: "The relatively small increases of background noise contributed by all-digital signals will likely be mostly masked by the ambient noise floors already present in the listening environment of most areas." The glaring weasel words "relatively small," "likely be," "mostly masked" and "most areas" jump off the page at the reader as very guarded language.

This feebly-supported conclusion unmasks the NAB agenda biased toward HD AM Radio. NAB's AM Radio Board is loaded with senior officials of major radio properties heavily invested in AM HD, including two from iHeartMedia. The article intends to persuade the FCC to continue, rather than quash AM HD for the failed experiment it plainly is.

It's time to write off those investments and take AM HD off the front page. The conversion of existing stations' transmitter facilities to digital would cost billions of dollars in aggregate in a business sector long-struggling for mere survival. All digital AM radio is sheer fantasy; a dead horse.

James B. Potter
Kimberling City, Mo.

CORRECTIONS**NEXTRADIO CORRECTION**

The page 8 sidebar of the story "NextRadio Seeks Revenue Tipping Point" in the Aug. 17 issue omitted Connoisseur Media from the list of companies that have contributed financially to the Sprint payments.

NILSSON TAMED WAGNER

In the photo for our story "What to Do With 5,600 Studs Terkel Shows?" in the Aug. 17 issue, the unidentified woman being interviewed is Swedish soprano Birgit Nilsson. When she died in 2006 at age 87, the New York Times described her as the "Soprano Legend Who Tamed Wagner."

**RADIOWORLD**

The News Source for Radio Managers and Engineers

**Our readers have
something to say:**

**"We most appreciate your
publication: very informative, usable
information for broadcasters at all
levels. Always a must-read!"**

Ron Crider

Chief Operating Officer
Pilgrim Communications
Vero Beach, Fla.



www.heilsound.com

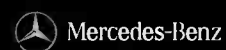
Shown: The Fin

Almost 40% Of New Cars Sold This Year

Will Include HD Radio™ Technology



Jeep



HD Radio®
a **dts** solution

HDRadio.com



VOXPRO MAKES YOU THE BEST DJHOSTENGINEERPRODUCER YOU CAN BE

VoxPro, the only audio recorder/editor/playback system designed for live on-air operation, is absolutely indispensable to those who use it. It provides a unique set of software tools designed to record, edit and play back audio in real time, as well as a dedicated hardware controller that intuitively lets you get your job done with absolutely no fuss. It literally becomes a part of your routine.

For VoxPro 6, we're adding new features to let you enhance your productions. For instance, you can now, at the push of a button, simultaneously record audio while editing/playing back other audio. There's a Gap-Buster function that automatically removes silence. Detach the Hot Keys panel and hide the Editor and File lists to reduce on-screen clutter.

WheatNet-IP routing and playback tallies (with warning flash) let you control your network. And there's foreign language Unicode label support, color-coded Markers, and plenty of user interface streamlining. There's so much more.

For the whole story, check us out at voxpro.wheatstone.com



VOX 6 PRO

RECORD/EDIT/PLAYBACK AUDIO - LIVE, IN REAL-TIME, ON THE AIR