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## The Name Says It: Local Media San Diego

Magic 92.5, Z90 and 91X rely on making connections in scenic, unique SoCal market

BY DONNA L. HALPER

*One in a series of articles about successful stations in all market sizes.*

In too many markets, there are at least some stations with seemingly little or no commitment to localism. But as we've discovered in this series, many U.S. radio stations pride themselves on being live and

local while getting results.

A good example can be found in San Diego, a highly competitive market (#17 according to Nielsen), home to a unique three-station cluster.

XHITZ(FM) "Z90," XETRA(FM) "91X" and XHRM(FM) "Magic 92.5" are owned by Chicago-based private equity firm Thoma Bravo LLC and operated by Local Media

*(continued on page 8)*



Hilary Chambers is music director of 91X.



The listener plays an active role in BBC R&D's "The Inspection Chamber," by talking to the play's characters through a smart speaker.

BBC R&D video capture

## BBC R&D Team Airs Interactive Radio Play

Uses listeners' smart speakers to let them determine how the plot progresses

BY JAMES CARELESS

LONDON — By using voice-to-text comprehension services, internet-connected "smart speakers" with internal microphones (such as Amazon Echo and Google Home) can fulfill spoken requests from users. Ask your Amazon Echo smart speaker, "What is the weather like?" and this unit

*(continued on page 6)*

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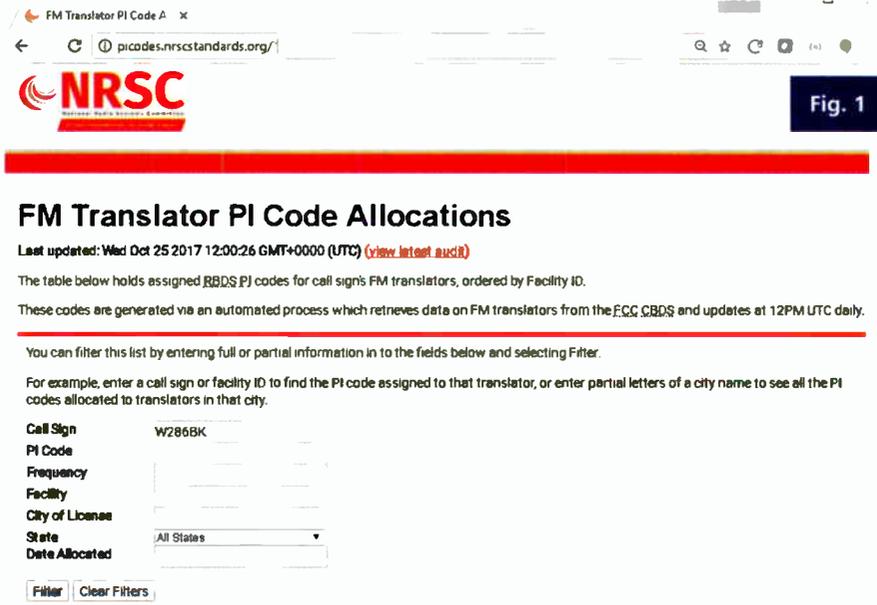


Fig. 1

**FM Translator PI Code Allocations**

Last updated: Wed Oct 25 2017 12:00:26 GMT+0000 (UTC) (view latest audit)

The table below holds assigned RBDS PJ codes for call sign's FM translators, ordered by Facility ID.

These codes are generated via an automated process which retrieves data on FM translators from the FCC CBDS and updates at 12PM UTC daily.

You can filter this list by entering full or partial information in to the fields below and selecting Filter.

For example, enter a call sign or facility ID to find the PI code assigned to that translator, or enter partial letters of a city name to see all the PI codes allocated to translators in that city.

Call Sign: W286BK  
PI Code: \_\_\_\_\_  
Frequency: \_\_\_\_\_  
Facility: \_\_\_\_\_  
City of License: \_\_\_\_\_  
State: All States  
Date Allocated: \_\_\_\_\_

Filter Clear Filters

Call Sign	PI Code	Frequency	Facility ID	City of License	State	Location	Date Allocated
W286BK	D387	105.10	150239	BIRMINGHAM	AL	33° 29' 4.00" N 86° 48' 25.00" W	06/01/2017

**Check out the NRSC PI Code Allocation Website**

The committee worked with NAB Pilot to devise a PI code assignment for each FM translator

**METADATA**

BY ALAN JURISON

*The author chairs the NRSC RDS Usage Working Group.*

FM translators have been a source of growth for the U.S. broadcast industry. Regulatory changes such as AM revitalization and the provisions allowing

HD multicast translators have brought large interest in these FM signals. They brought new exposure to AM broadcasters struggling with an ever-increasing noise environment and a younger population less familiar with the eldest broadcasting band. AM stations and HD multicast stations that can obtain translators are not only breathing fresh air but offering additional, new content to larger audiences. Niche formats and communities are being served by these

**IN CASE YOU MISSED IT**

*A sampling of recent headlines delivered to Radio World readers in their free daily NewsBytes e-newsletter. (Click the Subscribe tab at radioworld.com, then Newsletters.)*

- **NAB Praises Tax Bill**  
The National Association of Broadcasters joined CITA and the Consumer Technology Association in praising the weekend passage of the Senate tax reform bill.
- **Cumulus to Restructure Using Chapter 11**  
The group owner took a big debt reduction step but says it should be able to continue operations while a debt-for-equity deal is approved.
- **Main Studio Rule Elimination Takes Effect Jan. 8**  
Federal Register published the commission's earlier decision, setting the 30-day clock in motion.
- **NATE Elects 2018 Board of Directors**  
Several were reelected, while Shama Ray, owner and CEO of Above All Tower Climbing in Bonne Terre, Mo., becomes a new member.
- **FCC Seeks Comment on TAC Spectrum Policy Recommendations**  
They promote a "next-generation architecture" for interference resolution, enforcement activity database and "interference hunters," among other ideas.
- **January Will Bring Last AM Window for FM Translators**  
Another chance, possibly the final one, for an AM station to apply for an FM translator will open in late January.
- **FCC Launches New Online Dashboard**  
The agency is looking to provide more transparency to the public with the creation of an online dashboard at its website.

translators.

Listeners are already familiar with FM's band, receivers and high-fidelity stereo audio. Translators allow new voices to "look" the same as traditional full-powered FM stations using RDS. Over the past few years, many translators have employed RDS encoders to offer relevant metadata to their audiences.

**UNEXPECTED USE**

The use of RDS on translators is encouraged, especially in today's modern automotive world, where so many vehicle infotainment systems display RDS text data when tuned to FM stations. In the digital dashboard, the translator stations can compete by providing

**Licensees of FM translators can look up their assigned codes by typing in their call sign, frequency, FCC Facility ID, city of license and state.**

a similar metadata experience including station names, song title and artist.

But this new use of RDS had not been envisioned by the original NRSC-4 FM RBDS standard.

The National Radio Systems Committee, jointly sponsored by the National Association of Broadcasters and the Consumer Technology Association, is a standards organization that publishes the NRSC-4 document. NRSC-4-B, updated in 2011, was refreshed just before the new use of FM translators was permit-

(continued on page 4)

## PI CODE

(continued from page 3)

ted. It and prior editions offer a formula for each full-powered FM station to use its call sign to calculate a unique four-character identifier called a Program Identifier or PI code; but FM translator call signs are not compatible with the formula, creating a dilemma for broadcasters enabling RDS on FM translators where programming originates from an AM or HD multicast station.

In 2012, the NRSC issued a guideline document, NRSC-G300, providing advice for the industry in this area. However this was published just as this influx of translators was beginning. NRSC-G300 essentially offered broadcasters guidance on how to arrive at what was hopefully a unique PI code for their broadcast area.

The guidance was helpful but merely a temporary workaround; a better method was needed. Few broadcasters had at their disposal the tools or knowledge to find a unique code in their area. Clearer guidance was necessary to take guesswork out of the process.

### YOU'VE GOT A CODE

The NRSC has worked with NAB Pilot to devise a PI code assignment

for each licensed FM translator in the United States. These codes are assigned automatically based on data in the FM database. The assignments are processed daily and include anything new published in the FCC FM Database.

**Few broadcasters had at their disposal the tools or knowledge to find a unique code in their area. Clearer guidance was necessary to take guesswork out of the process.**

The codes are unique for each specific translator's geographic coverage area and adjacent areas. This is important to prevent inadvertent and unintended Alternate Frequency switching between other translators in the region.

In addition, the codes are calculated in a way so as to be frequency-unique,

making them compatible with the RadioDNS standard, an open standard of locating metadata or streaming services of terrestrial broadcast stations. It allows this new class of stations to look towards the future and hybrid FM-plus-streaming radio designs.

While all of this sounds complicated — and the assignment process behind the scenes certainly is — a newly launched NRSC PI Code Allocation site takes the complication away.

It is available now at <http://picodes.nrscstandards.org>. Licensees of FM translators can look up their assigned codes by typing in their call sign, frequency, FCC Facility ID, city of license and state.

### CHANGE LOG

To follow the example shown in Fig. 1 at the beginning of this article, type the translator call sign of W286BK and select "Filter" and you will see that the PI code assigned for this translator is D3B7. This is the PI code you would enter in the RDS encoder for this translator.

To confirm you have the correct translator selected, there is a link with the Facility ID to bring you to the FCC database entry for this station. The city and state of license are listed, as are the coordinates in NAD 27 format, as shown

on the station license. The PI code allocator also shows the last date the calculator processed an entry for this station.

Many of the translators that were on the air by June 1, 2017, will list that date. New translators added to the database, translators that have made significant site moves may trigger a change or any frequency change will trigger a new code.

This raises a good point: FM translators are often moved or upgraded, involving transmitter site locations and frequency changes. If you made a modification to your translator, check the calculator after the FCC has authorized the change; the station may have a new PI code assigned to it. This is by design. The calculator detected that the code previously assigned to this station is now in conflict with another station, so it assigned a new code to the station that changed.

The calculator keeps a change log at <http://picodes.nrscstandards.org/audit.html> and recent changes are available there as well for audit.

*Alan Jurison is a senior operations engineer for iHeartMedia's Engineering and Systems Integration Group. He chairs the NRSC RDS Usage Working Group. His opinions are not necessarily those of iHeartMedia, the NRSC or Radio World.*

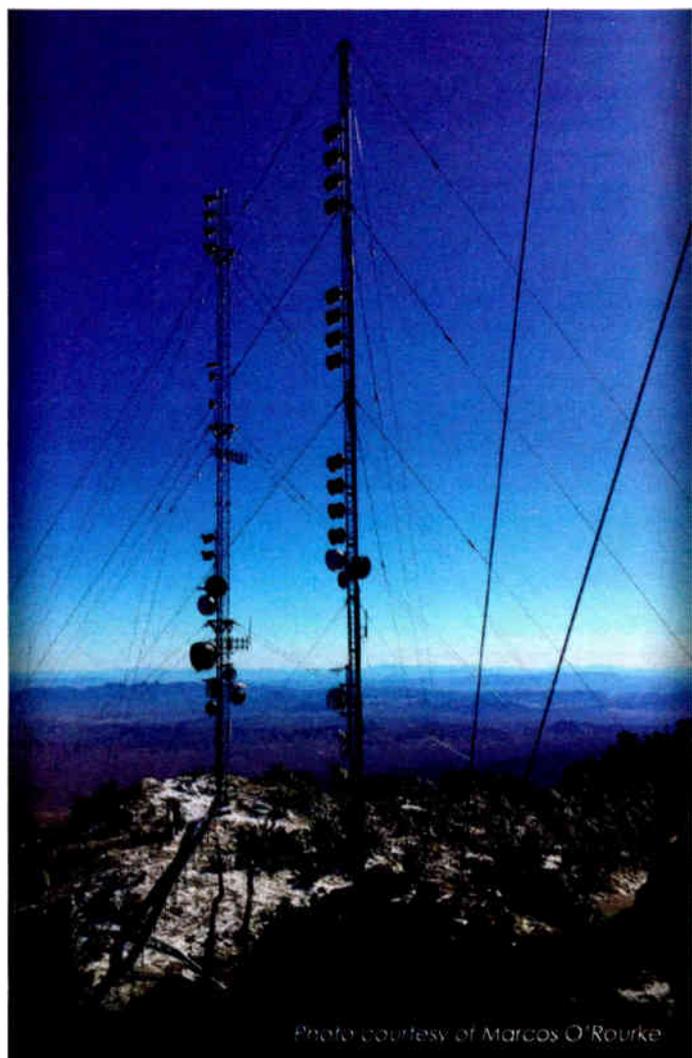


Photo courtesy of Marcos O'Rourke

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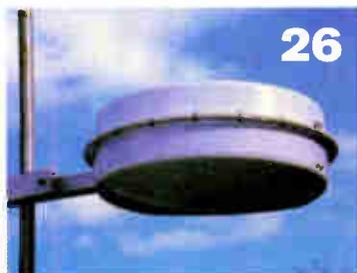
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**SURVEYSAYS**

**SMART SPEAKERS ARE KEY GIFT TREND**

If you thought the smart speaker peaked as the “it” holiday gift last year, you’d be wrong. That conclusion is backed up by results from an online study by Jacobs Media Strategies, jAcapps and Sonic Ai.

Although 18 percent of online households own at least one smart speaker, another 20 percent of respondents 13 and older with Internet access intend to buy a smart speaker during this holiday season. In fact, the study showed that almost half of households with a smart speaker (40 percent)

already have two or more of the gadgets, and 61 percent of the respondents plan to purchase at least one more device.

“Smart speakers are clearly the must-have gadget for the holidays. Like anything else, habits will form quickly, which is the remarkable opportunity for broadcasters and podcasters. They need a smart audio strategy for smart speakers,” said Sonic Ai co-founder Steve Goldstein.

The study also shows that 11 percent of online households owns an Amazon Alexa-enabled smart speaker (Echo, Echo Dot and Show devices); and 69 percent of these owners have at least one Alexa “skill” enabled (45 percent have two or more skills enabled, and 24 percent have one enabled). However, one-third hadn’t enabled any skills for the device.

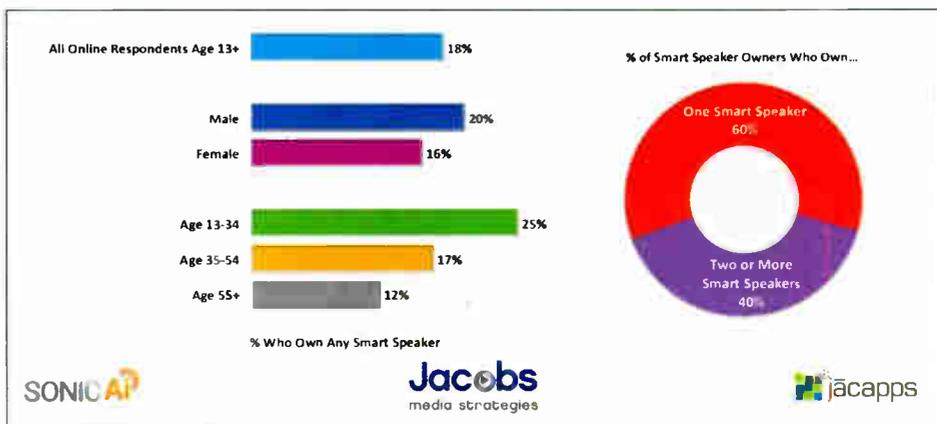
Men are more likely than women to have a smart speaker (13 percent as opposed to 10 percent of respondents owned one). But men and women were equally likely to say they planned to buy a new smart speaker (20 percent of each gender indicated they would do so).

The 13–34 age bracket was the most likely to jump on the bandwagon (14 percent did so), followed predictably by those between the ages of 35 and 54 (10 percent), while only 7 percent of those aged 55 and older owned one.

This study was designed by Jacobs Media Research Director Jason Hollins. From Nov. 17–21, they conducted a nationally representative web survey among 1,005 online respondents age 13 and older using the Survata Publisher Network.

“New technologies such as the proliferation of smart speaker devices undoubtedly bring challenges to the AM/FM landscape, but with that comes vast opportunities for radio as well as audio consumers alike,” said Hollins, who noted the next Techsurvey will reflect this change.

— Emily M. Reigart



More than one in six online households already owns a smart speaker; 40 percent own two or more devices.

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**BBC***(continued from page 1)*

will search the web, find the data, and then speak the results; such as “mild and sunny.”

It doesn't take much imagination to wonder just how interactive smart speakers could become, with respect to “conversing” with their human users. That's a question being tackled in dramatic form by the BBC's R&D department. In partnership with the London audio production firm Rosina Sound, BBC R&D is developing a smart speaker-specific radio drama called “The Inspection Chamber,” in which the listener plays a pivotal and influential role in determining the action.

In this offbeat “‘Hitchhiker's Guide to the Galaxy’ meets Franz Kafka”-style storyline, the listener provides vocal answers to questions posed by “The Inspection Chamber's” computer and two “scientists.” Those responses affect what the computer and scientists say and ask next, and how the plot line progresses. The show was posted on the BBC Taster idea-sharing website before year's end.

“‘The Inspection Chamber’ uses the kind of flexible storylines found in video games, where a preset sequence of actions leads up to various listener-controlled decision points,” said BBC R&D Producer Henry Cooke. “In this case, it is the response of the listener to various questions posed to them throughout the play that determines the shape of the story. Different listener answers result in different dramatic outcomes.”

**AN ALIEN INQUISITION**

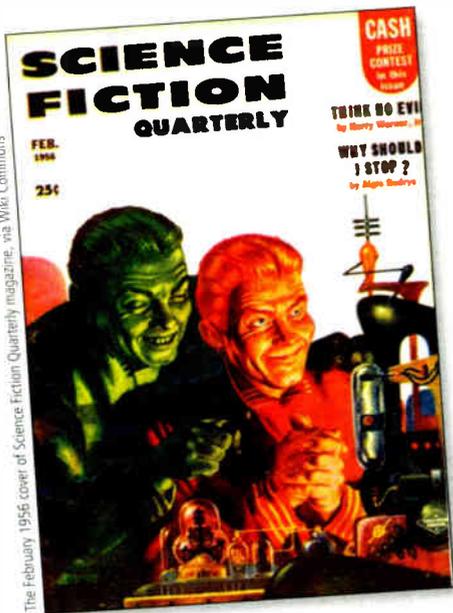
Judging by a preview audio selection available at the BBC R&D department's blog, “The Inspection Chamber” starts off innocently enough. A computer named “Dave” says in halting tones, “The scientists are nearly ready to meet you and start the inspection. You're not one we've seen before, and it's the job of the scientists to identify everything we've never seen before ... You might even be the last thing they have to identify before they go home.”

This last point is important, said Cooke, “because the scientists are impatient to go home.” Without giving away too many details, the scientists may not be entirely human — and the listener is just another sample within their Inspection Chamber that has to be dealt

with. The impatient scientists are not exactly respectful of their sample's feelings, Cooke noted. At the outset, “one of them says to the other, ‘Can it hear us? Does it even have ears?’” he said.

Once the inspection process begins — an interrogation, to be specific — the scientists probe the listener with a range of questions. According to Cooke, the initial questions are trivial, but the later questions are quite probing, with the scientists asking the listener soul-searching queries such as, “Do you think humanity is fundamentally cruel or kind?”

Neither the preview audio selection nor Henry Cooke would reveal the possible outcomes to the listener who par-



The February 1956 cover of Science Fiction Quarterly magazine, via Wiki Commons

**Who are the scientists interrogating listeners to “The Inspection Chamber”? Could they be aliens from outer space?**

ticipates in “The Inspection Chamber.” But what is certain is that the listener is an active participant in this radio play, rather than a typical passive observer. “You are literally a fourth character in the action, and what you say affects what happens next,” Cooke said. “This



BBC R&D video capture

The more questions the listener answers, the more they shape the storyline of “The Inspection Chamber.”

is the level of interactivity made possible by smart speakers.”

**HOW IT'S DONE**

The fact that smart speakers employ voice recognition to “understand” what their users are saying is central to The Inspection Chamber's interactivity. “This part of the translation process is done for us by the smart speakers themselves,” said Cooke.

Taking that text and using it to determine which audio clip to play next is the job of BBC R&D's story engine. The story engine has to analyze each submitted text-from-voice listener response, and then select the audio clip that makes the most sense in relation to it. In doing so, the engine also sets the plot line heading down a specific path; just as a video game does when a player encounters a video “fork in the road,” and decides whether to go left or right.

“Our story engine is smart speaker-agnostic, meaning that it can work with a broad range of speaker makes and models,” Cooke said. “This ensures the widest possible reach for ‘The Inspection Chamber’ when it comes out.”

Using a video game programming

structure allows BBC R&D to create a defined multi-option interactive play that can cope with all kinds of listener responses. “We built tools that enable us to edit the story without having to change any code in the engine,” said Cooke, “which means we're able to amend and adapt the experience efficiently and flexibly as the story is refined.”

**A BRAVE NEW WORLD?**

It will be interesting to see what impact this play will have on BBC listeners, and how this form of interactivity may affect the future of radio drama.

But one thing is certain: The necessary technology is already in place. “Based on the online statistics that the BBC collects, we know that there is a large group of people listening to our streams over smart speakers today,” said Henry Cooke. “So the equipment is there now to let people interact with ‘The Inspection Chamber.’ What we don't know is how the listeners actually talk back to the computer and the scientists when they finally get the chance.”

*James Careless reports on the industry for Radio World from Ottawa, Ontario.*

**MARKETPLACE****CLASSIC RADIO STUDIOS CALENDAR RETURNS**

Radio World contributor John Schneider has let us know that he has crafted a new edition for next year of his amazing Classic Radio Studios calendar. It's a can't-miss item for anyone interested in radio history. Makes a great Christmas gift too!

Featuring 13 banner pictures, it has facility pictures from several radio network operations along with radio stations such from coast to coast. There's even a 1967 look at a VOA studio in Washington.

Schneider enhanced and colorized each picture from mostly black and white originals. Some explanatory historical text is included.

Price: \$21.95 (includes shipping). Find it on eBay by searching “Classic Radio Studios Calendar.”



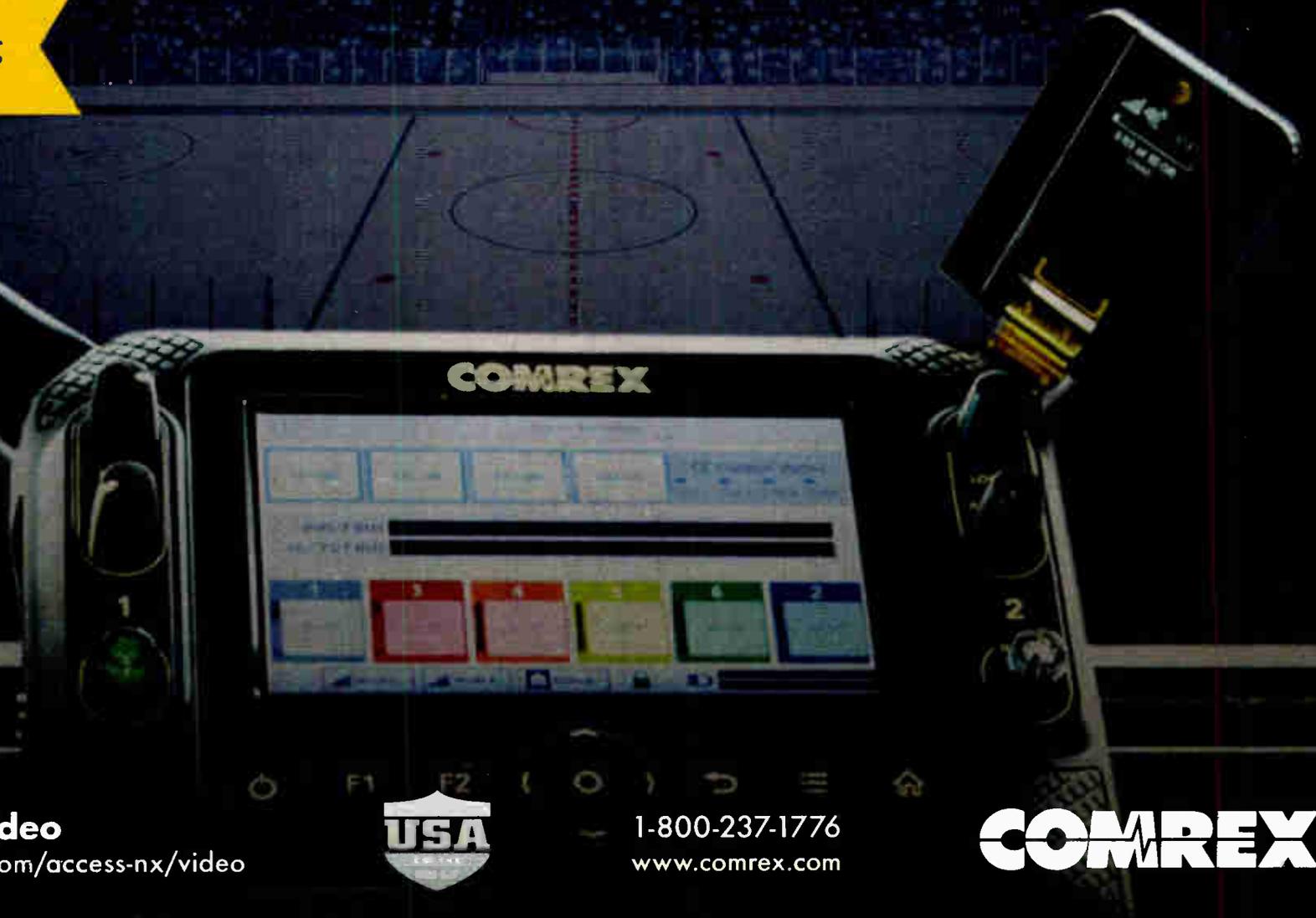
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**COMREX**

# SAN DIEGO

(continued from page 1)

San Diego. Their studios are in San Diego, their programming is in English; but the city of license is Tijuana, Mexico, about 20 minutes away. Every hour, listeners hear a station ID in Spanish; twice an hour, there are public service announcements from the Mexican government, translated into English.

Most of the time, what listeners hear reflects Local Media San Diego's dedication to doing entertaining radio with a community focus.

## LONGEVITY

Z90 is a CHR station, "Today's Hit Music," while 91X plays alternative rock and Magic 92.5 is a rhythmic AC, "The Beat of San Diego."

Each has longevity in its format. Z90 has been a hit-oriented station since the 1990s, Magic 92.5 is celebrating its 20th anniversary and 91X has been playing modern rock for 30 years. Each features deejays who not only do air shifts but interact with fans on social media, make appearances and raise money for local charities.

Listeners seem to feel a bond with their favorite personalities. At Magic, the saying goes that Xavier the X-Man — who does middays and is known for his "Cruise for the Cause" car show to benefit kids with cancer — is so beloved that if he ran for mayor of the city, he would win.

The name "Local Media San Diego" is more than a slogan, according to Vice President and General Manager Gregg Wolfson. "Everything we do revolves around San Diego. We're entwined with the community; we're part of the community's DNA."

That devotion is an essential part of what makes Local Media unique, he feels. "We have the most promotionally active radio stations in the market." He said the stations make money. Declining to offer specifics, he said, "Our rates are similar to our competitors; our profit margins are the best in the market."

Wolfson has been VP and GM of Local Media for seven years. Prior, he was VP of sales for another San Diego-based firm, Broadcast Company of the Americas. When Thoma Bravo acquired Z90, 91X and Magic 92.5 from Finest City Broadcasting in 2010 and created Local Media, Wolfson was hired. He has worked in the past for several broadcasters and said he prefers this employer. "We're different from every other group of stations out there. We're the anti-corporate. We do hands-on broadcasting."

Local Media's COO/CFO is Norman McKee, one-time CFO for Saga Communications. McKee had retired from broadcasting but missed it, and



View from the stage of the annual event Ye Scallywag, 91X's all-day Craft Beer and Punk Rock festival.



Magic 92.5's Xavier The X-Man presents an award at Cruise for the Cause.



Morning hosts Jagger and Kristi are shown with Bodie, who has become the station's unofficial mascot (and knows how to surf).

decided to get involved with Local Media. He says he and Wolfson work well together because their skill sets complement each other. Both men appreciate working for a cluster that is independent and programmed locally.

"It gives us flexibility," McKee says. "We don't have to run every decision up the flag to corporate, and we don't have to do cookie-cutter radio."

Director of Sales Mark Kallen, a 33-year radio veteran, says Local Media is the best place he's worked. "It all starts at the top with Gregg Wolfson and Norm McKee. No one works harder than those two guys and they never ask you to do something that they themselves would not do," Kallen says.

The stations generally air 10 to 12 minutes of commercials an hour. Working for Kallen are three sales managers, one of whom handles national business, another who focuses on digital, and a third who concentrates on local. He has 10 account executives and three sales assistants. The station

announcers don't sell but may accompany an AE on an occasional client call.

## OPERATIONS

Ninety-one people work for the three Local Media stations, 65 full-time. Overseeing it all is Joe Lindsay, director of operations and programming. Wolfson admires Lindsay's versatility: "He's like a Swiss Army knife. He knows production; he knows engineering; he interprets all the research we do, and helps us to execute [it]. Over the past seven years, he's developed into a major asset for our company."

By his own admission, research is something Lindsay loves. The stations use a lot of it, whether auditorium testing, call-out or talking to listeners at events to get their feedback. But Lindsay is quick to say that while research is important, it's no substitute for personal interaction with the listeners.

"All our on-air talent [get] very involved with the audience. It's almost like we're married — we're compas-

sionate toward our audience; we want to know what they like."

Lindsay handles the day-to-day engineering and maintenance. Here's an airchain sampler: The studios feature Neumann TLM103 and Electro-Voice RE20 microphones. Symetrix 528E Voice Processors, RCS Nexgen automation system and VoxPro phone editing software. For audio feeds to transmitter sites, the stations have a dedicated T1 fiber optic line, plus APT WorldNet Oslo and Barix Instreamer/Exstreamer as backups.

The Mexican transmitter sites in Tijuana and Baja California are managed by engineers at Xersa, a Local Media's subsidiary. Xersa engineers perform maintenance and operation of transmitters, antennas and tower equipment. Equipment includes Orban Optimod 8700 and 8600 audio processors, ERI 10-bay antennas and Harris and Continental transmitters to serve the three 100 kW stations. Magic and Z90 feed an FM combiner.

(continued on page 10)

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World Radio History

## SAN DIEGO

(continued from page 8)

In recent Nielsen ratings, Magic 92.5 was fourth in the market, with a 4.9 share; Z90 was 12th with a 3.7, and 91X was 16th with a 2.5 (these are topline numbers for listeners 6+ Mon.–Sun., 6a–12mid).

### SAN DIEGO INSTITUTION

The staff says listeners are devoted, and that seems particularly true at 91X.

Josh Hammond, Local Media's promotion director, cites what he sees on social media, including a Facebook page with 104,000 likes. The modern rocker is also well-known for its iconic logo, the same identifiable logo it has used for 35 years. Mid-day DJ and Music Director Hilary Chambers describes 91X as "a San Diego institution. When people think of San Diego, they think of us." She and Program Director Garrett Michaels believe in playing local music; they also take chances on new artists.

"When radio is conservative, when

and clubs."

The stations have their own vans as well as a party bus. They conduct some unusual promotions and contests, such as one that airs on Z90 called Epic 48 (the most epic 48 hours of your life). A reporter for USA Today called it "the greatest radio giveaway of all time." Last year's winners enjoyed a weekend to remember, being flown to Hollywood, going shopping for boots in Austin, attending the Super Bowl in Houston and meeting Lady Gaga. (See a video about it at [www.youtube.com/watch?v=NbFFPYtIV58](http://www.youtube.com/watch?v=NbFFPYtIV58).)

Local Media's social media presence is led by Director of Digital Media Lisa Waters, who grew up in England dreaming of being an artist or graphic designer. A graduate of San Diego State, she began her media career in television and joined Local Media seven years ago.



R. Dub! in the Magic 92.5 studios.

it plays the same songs, it just becomes 'sonic wallpaper.' Playing new music keeps a station relevant."

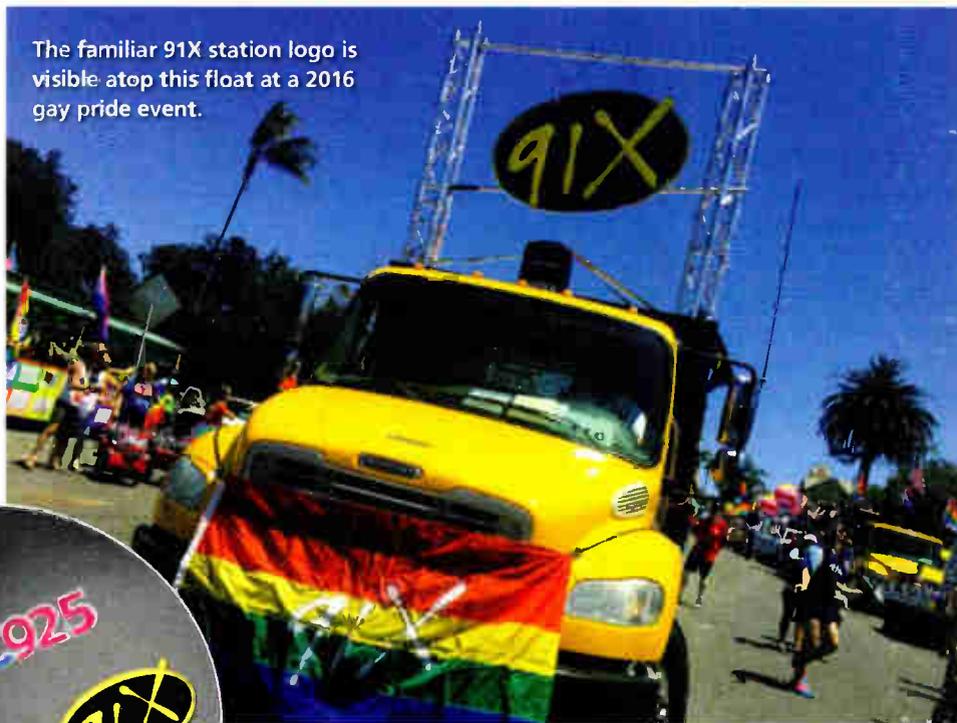
Local Media's stations, like many others, hope to appeal to millennials; there is a constant effort to reach out to them. And billboards generally are not part of the promotional strategy. "We are lifestyle-oriented; you will hear about us by word of mouth," Hammond says. "Our street team goes wherever the listeners are — at concerts, bars,

At the time, she recalls, "There wasn't Instagram or Snapchat, very few people used Twitter, and the jocks only occasionally updated the Facebook page." The company has since made a commitment to social media. Among her duties is to make sure jocks post regularly and that listeners get a response.

"We're hoping to have some podcasts in early 2018, and we're developing a YouTube and Facebook channel that will be hosted by our deejays. It will feature fun, local San Diego stories, unique local characters and tourist attractions."

### UNIQUE GEOGRAPHY

The air personalities say they try to treat listeners like friends. When Z90 morning host Rick Morton married, he not only shared honeymoon plans with his listeners but posted regular updates on Instagram as he and his



The familiar 91X station logo is visible atop this float at a 2016 gay pride event.



Joi Lewis is "director of first impressions" at the front desk.

bride Vanessa experienced a dream trip to Paris.

Morton loves San Diego and says there's no market quite like it.

"Our geography makes us unique. To the north there's [Marine Corps Base] Camp Pendleton; to the south there's Mexico; to the west there's the ocean; and to the east there's the mountains. In other words, we are our own community. We're not an extension of a larger metropolis."

He adds that unlike its vibe in some large markets, "Radio is good-natured here. We're not slick, we're not Hollywood. We don't want to be the coolest. We just want to be natural."

Magic 92.5 morning hosts Jagger & Kristi share Morton's philosophy. Mark and Kristi Jagger, one of the few married morning radio teams in the country, have been doing morning drive here since 2005. Listeners treat them like rock stars when they make an appearance at an event, and that extends to their dog Bodie, an Australian shepherd who has become the unofficial station mascot.

Their show is fun to listen to. "We're not a morning zoo," says Kristi. "Everything is family-friendly ... Our target is 35-42 year-old women, or even young grandparents who watch the kids while their sons and daughters are at work." They never talk politics; news focuses on what celebrities are doing.

"We try to keep things light," Mark says. "We take people's mind off the bad traffic."

Jagger & Kristi are known for their

Christmas Wish-A-Thon, a 14-hour annual broadcast to raise money for local people in need. They blog and emcee events. They own three horses and are known for their work with animal shelters. "Jagger & Kristi's Critters" has helped numerous pets to get adopted.

Another deejay with a unique brand is "R Dub" (real name Randy Williams). A 25-year radio veteran, he is the program director of Magic and Z90, and Magic's afternoon drive deejay. He is best known for his long-running "Sunday Night Slow Jams" program, which features classic and current love songs along with requests and dedications. Back in 2015, he was hoping to expand his show, so he went on ABC-TV's "Shark Tank," seeking \$75,000 to hire a sales manager; he didn't win, but the publicity was invaluable. "Sunday Night Slow Jams" now has fans all over the world and is syndicated on 130 stations.

Williams reiterates what others at Local Media have said: Millennials will listen to radio if a station has good content and interesting personalities. But he believes radio needs to do a better job of telling its story; he sees how the listeners respond to station events and how they get in touch on social media, and he knows radio matters to the audience.

VP/GM Gregg Wolfson agrees. "Being live and local is how you distinguish yourself from a Pandora or Spotify." Or, as Promotion Director Josh Hammond put it, "What makes us special is we really are local. ... We can build relationships with people."

Donna Halper wrote recently about WOOF(AM/FM) in Dothan, Ala., and "Giant 96: Real Radio" in Shelbyville, Ind., among other stations.

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# This Emergency LED Lamp Is a Great Backup

And what the heck is NotaBotYet?

## WORKBENCH

by John Bisset

Email Workbench tips to [johnpbisset@gmail.com](mailto:johnpbisset@gmail.com)

The Middle Atlantic and Northeast regions got hammered with several severe wind and rain storms in October. Extensive power failures were the result, forcing many to the drug store for flashlights and batteries.

Consulting engineer R. Morgan Burrow, Jr., P.E., came across a compact LED Glow Bright Switch “flashlight,” pictured in Fig. 1. The sale was at Walgreens, nationwide, and runs at least through the end of the year.

These LED lamps are dimmable, too. Stick one in your vehicle glove box, or in the drawer at your transmitter site. The



Fig. 2: The battery saver tab on the back helps keep the AAA batteries fresh.

emergency lights have a battery saver tab, shown in Fig. 2, which must be removed before use, but conserves the battery until the light is used.

The lights provide 200 lumens and can be mounted with either magnets, a hook-and-loop fastener or a hook. The light is powered with three AAA batteries, which are included in the initial purchase.

It's cheap insurance for a time when you need an emergency light.

Brian Gullikson is the chief engineer for the University of Northwestern St. Paul stations, KTIS, KDNW and KDNI. Brian and colleague Mark Allard wanted to interface a PR&E mike control panel to a GPIO port on his Axia Power Station.

Using a NotaBotYet breakout-with-relay board, Mark came up with the Visio hookup drawing (shown in Fig. 3).

Not only does the schematic handle

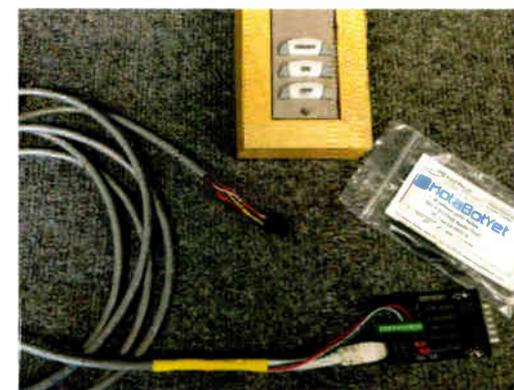


Fig. 4: The remote interface and wiring, ready to install.

the control for the switches, but it flips around the surface-mount LEDs on the panel to the current revision, using the NotaBotYet board.

Fig. 4 shows the parts used. A variety of problem-solving NotaBotYet boards are available. Find out more by heading to [www.notabotyet.com](http://www.notabotyet.com).

The NotaBotYet boards are available from BGS ([www.bgs.cc](http://www.bgs.cc)) and BSW ([www.bswusa.com](http://www.bswusa.com)).

Terry Skelton retired from Clear-Com last year but stays up-to-date on the industry through the pages of Radio

(continued on page 14)



Fig. 1: A compact, dimmable LED “flashlight.”

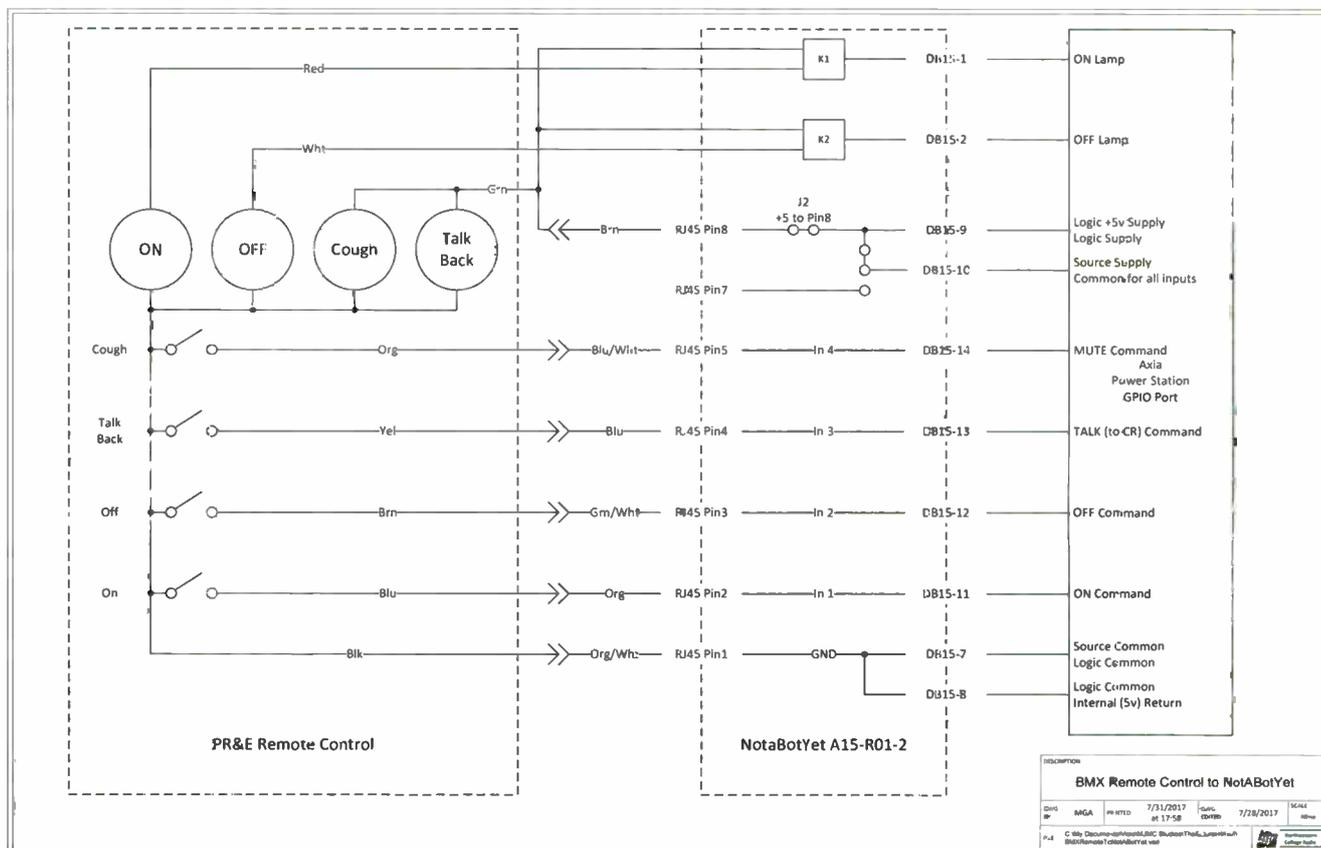


Fig. 3: An interface schematic for a remote microphone control panel, using a NotaBotYet board.

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# KOB: Perseverance Personified

Learn the story that presaged the KOB-WABC brouhaha

## COMMENTARY

BY MARK DURENBERGER

Take a moment to find Las Cruces, N.M., and draw a 100-mile circle around the town. Ten decades ago, that area consisted of scattered farms and ranches, small communities. There was no electricity and few self-powered vehicles beyond the horse or mule.

This was the constituency to be served by the New Mexico College of Agriculture and Mechanic Arts. Some called it “The Cow College.” Yet the land grant school’s 1890 charter of education and enrichment was taken seriously. Major courses of study included engineering, biology, chemistry, fine arts, horticulture and, of course, agriculture.

The college was seeking new ways to reach out to their extended community when an electrical engineer named Ralph Goddard joined the faculty.

Goddard was lured to New Mexico with the college’s offer to be head of the electrical engineering department. He found his classrooms populated with eager young students, who wanted to learn by doing; and climbing a radio mast was the sort of *doing* they loved.

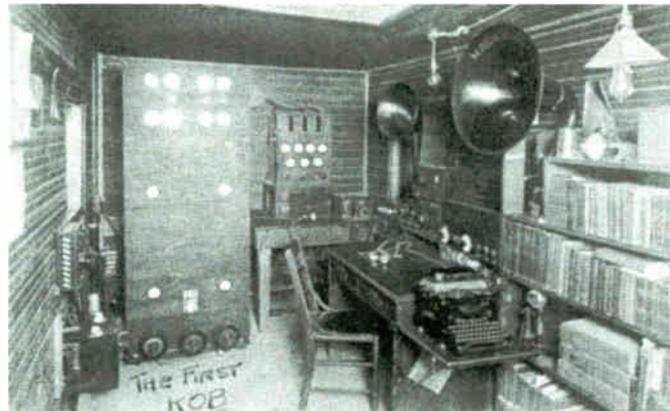
With Goddard’s leadership, a small cadre of the best engineering students and area amateur radio operators built the wireless station that would provide the sought-after college-outreach services. The license for KOB was granted April 5, 1922 ... a radio station that would be expected to service many scattered thousands in behalf of the college.

### GRAB A CUPPA

The new self-funded station had more than its share of start-up issues. It was licensed to the college (and essentially the state); political interference was piled on technology problems. The station dial spot was moved several times. KOB persevered through it all.

Given its early scrappy history, it’s probably not surprising that KOB met various challenges with determination and will. That included the 40-year battle

with WJZ/WABC, the Federal Radio Commission, the Federal Communications Commission and the courts over KOB’s service area. If you’re into David and Goliath tales, click on [www.durenberger.com/documents/KOBWABC.pdf](http://www.durenberger.com/documents/KOBWABC.pdf) to learn about the machinations and maneuverings of crack legal teams,



KOB’s first operating center at the college. This image is from “KOB: Goddard’s Magic Mast: Fifty Years of Pioneer Broadcasting.”

engaged by owners who always had one more round in them after being repeatedly knocked down.

This sort of struggle is fascinating to me as a hardened 60-year radio veteran. It’s one of those stories that’s instructive and almost entertaining — if you’re one

of those folks who care about how the radio business developed in the years when the lawyers made much of the money.

There are dozens of similar stories in broadcasting history. Many are anecdotal and even parochial; but some stand out. Probably the most familiar

to broadcast historians is that of WLW and its super-powered operation. But did you know there are easily a dozen backstories of other big stations fighting the clear-channel developments?

Many of these accounts are highlighted in the “Radio” section of my

website, [www.durenberger.com](http://www.durenberger.com). (This website is an ongoing labor of love.)

I was smitten with radio as a 13-year-old. Dad was the athletic director at a small private college in Minnesota and was friends with the sports announcer on the nearby small-town radio station. After enough bugging, Dad took me to the station to meet his sports pal, who was on the air at the time. I’ll never forget walking up the steps into the control room ... to find *no* sports guy ... just a reel of tape circling around the reels

The KOB crew in 1923.



## WORKBENCH

(continued from page 12)

World and the Workbench column.

Terry shares a good source of hand tools that are suitable for electronics work. He found these at the national “hobby” chain A.C. Moore.

They had a medium-priced line and a higher (approximately \$15) priced line of needle-nosed pliers, diagonal-cutters and similar tools. These tools typically are used for jewelry.

With Radio Shack and many local wholesale electronics parts houses gone, and the tools in the big box home improvement stores more suitable to attacking the power grid, these small tools are a good find, especially if you’re in a hurry.

Shortly after we published Greg Muir’s tip of using the old-style pencil erasers, shown in Fig. 5 and described in the Nov. 22 column, Greg was called to diagnose a transmitter that was on life support on the top of a snowy mountain. While there, Greg had to clean an intermittent rotary switch, and Fig. 6 demonstrates the beauty of these erasers.

Since they can be sharpened to a fine tip, they work great for very small detail work — such as the wiper of the rotary switch.

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



Fig. 5: Useful Faber-Castell eraser pencils.

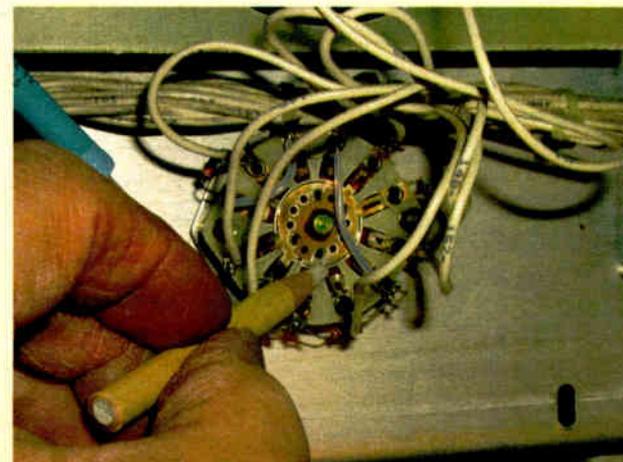


Fig. 6: The fine tip makes the pencil eraser ideal for fine detail work.

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exactly what I wanted to do with my life. Garrison Keillor was correct: "Nothing you do for a youngster will ever be forgotten."

Of course, I followed the usual path into a paid gig at that station: hanging around and bugging folks. I started working there in 1956 and never looked back. The pay was probably \$1.50 an hour.



KOB's tower.

So radio history remains important to your friendly correspondent. Certainly not all tales have been told: it'd be great to hear how WOI Ames, Iowa, was able to hang on to 640 over all these years. And I'll be reporting about the "830" battle between WCCO and WNYC. Then there are the stories around the Catalina Island maneuvers.

My plan is to highlight some of the more interesting battles, beginning with the KOB-WABC brouhaha. There's a good deal of detail here: all of it from official documentation.

So grab a cuppa and navigate to <http://www.durenberger.com/documents/KOBWABC.pdf> for the KOB/WABC battle.

*Mark Durenberger has spent 82 percent of his life in engineering technology, including broadcast, satellite, professional audio, direct broadcast satellite and technical writing, including his work for the early iterations of Radio World. He developed the forerunner of today's multi-line telephone-studio systems. In 2011 he was inducted as a charter member into the Pavak Museum of Broadcasting Hall of Fame.*

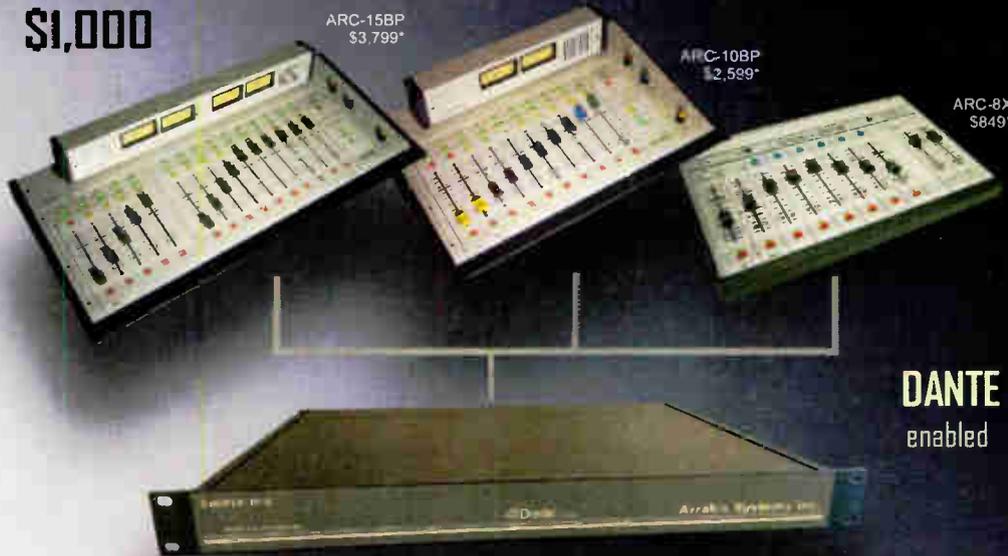
KOB's transmitter building.



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# Remember the Radio Traffic Cowboys of the Skies

## Chronicling the rise and fall of the on-air traffic report

### ROOTS OF RADIO

by John F. Schneider

It was a marriage made in heaven. As America's love affair with the automobile packed the highways faster than the country could build them, motorists needed to know how to navigate the congestion. Meanwhile, radio stations, facing their own growing congestion on the dial, sought new ways to lure listeners away from the competition. It wasn't long after the first radios were installed in automobiles that the radio traffic report was born.

One of the first stations to report on traffic conditions was WINS in New York City. On Aug. 10, 1935, Police Deputy Commander Harold Fowler flew over the city's main traffic arteries in a Goodyear blimp, informing motorists about the least congested routes. Curiously, these first broadcasts were made only on the weekends.

Two years later, KNX in Los Angeles began regular reporting of weekend traffic conditions as announcer Tom Hanlon observed the traffic flow from a United Airlines plane, describing the congestion on the city's popular beach and mountain escape routes.

In 1948 in Chicago, the Cook County Sheriff's Department broadcast its "Birds Eye" service during the Memorial Day weekend over WMAQ. A deputy and a pilot flew helicopter routes over the city from mid-afternoon to dark. They didn't broadcast their descriptions live, but instead would land periodically to phone in their reports to the station. The experiment was carried out with the approval of the City Council in an attempt to minimize holiday traffic congestion in the city. WMAQ repeated the



From the author's collection

The KCRA "Airwatch" plane soars over the California capitol building in Sacramento in this 1970s photograph, provided by former KCRA radio Airwatch pilot Dan Shively.



From the author's collection

August 1937: In an hour-long survey of Southern California highway conditions, CBS Radio joined forces with United Airlines to describe traffic conditions as observed from the air. Here, KNX announcer Tom Hanlon gives motorists a word picture of conditions leading to mountain and beach resorts. Detours, congested areas and other impediments were spotted and pointed out.



November 1966: WCUE in Akron started its "Trafficopter" service on an experimental basis with a leased helicopter. The reports proved so popular that the station soon acquired a helicopter of its own and expanded the service to regular five-day tours of 7:15–8:30 a.m. and 4:30–5:30 p.m. Here, Program Director Joel Rose, center, tells the pilot, inside, which route to take for a rush-hour traffic report. WCUE traffic reporter Charles Watkins is at right.

special broadcasts over the July 4 and Labor Day weekends that year.

But radio reporting of traffic congestion still wasn't universally appreciated in those early years. In 1951, the local police chief of Huntington, W.Va., complained that WSAZ's on-air coverage of a traffic accident had contributed to excessive congestion, "with the net result that we had to dispatch badly-needed traffic

*(continued on page 18)*



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World Radio History



## TRAFFIC

(continued from page 16)

men to attempt to handle the abnormal traffic." The station refuted the claim and affirmed its belief that the broadcasts provided an important public service.

Despite these early instances, the concept of daily commute traffic reporting didn't seem to take hold until the mid-1950s. At first, it was the local police departments dispensing the information, phoned in from police headquarters.

In February 1957, WWJ in Detroit initiated its "Expressway Reports" with an officer calling in every 10 minutes from a WWJ desk installed at the police station. About the same time, WAVE in Louisville began airing morning and afternoon reports from a newsperson stationed at police headquarters. Other stations in metropolitan areas also began covering traffic with mobile units cruising the freeways.

### TAKING TO THE AIR

Gordon McLendon's KLIF in Dallas was probably the first station to broadcast live traffic reports from its own aircraft. In 1956, he hired a helicopter to broadcast hourly traffic reports. Then WOR in New York debuted its "Flying Studio," with traffic reports aired afternoons beginning March 1957. The fixed-

wing WOR plane also served to cover breaking news events. Others following suit in 1958 included WLW in Cincinnati, KABC in Los Angeles, KGO in San Francisco, KXYZ in Houston, WJBK in Detroit and WPEN in Philadelphia.

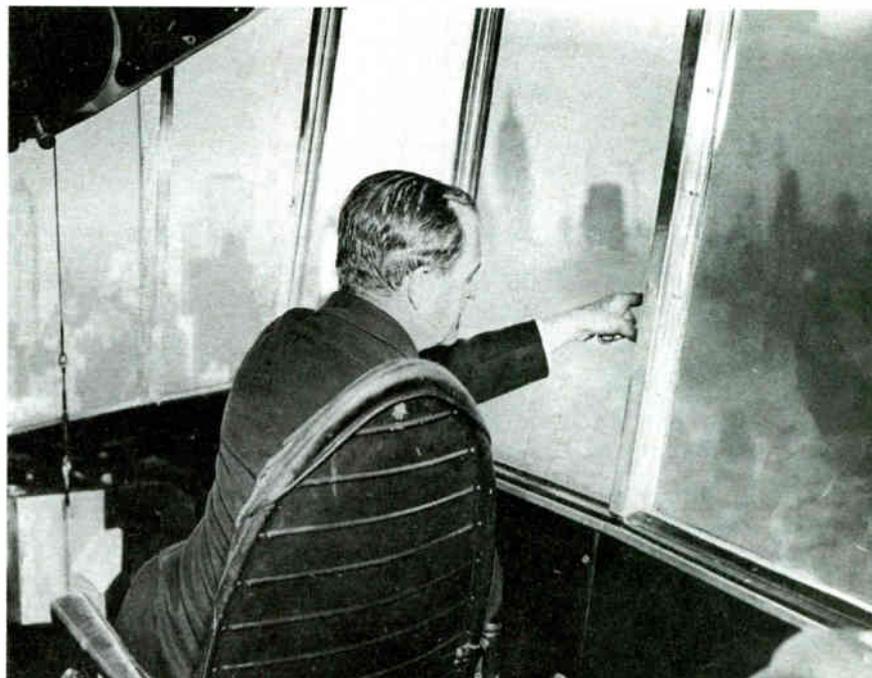
Although a few stations chose to cover traffic conditions from fixed-wing aircraft, most elected to use helicopters in spite of the greater expense because of their superior maneuverability and ability to hover. But this also added an element of risk, as helicopters were not as safe as airplanes.

In 1958, WGN in Chicago introduced its daily "Trafficop" reports with great fanfare. Chicago police officer Leonard Baldy broadcast daily reports over the city, and also conducted regular programs about traffic safety. But on May 2, 1960, WGN listeners were horrified to learn that the popular officer had been killed in a crash after a rotor blade disintegrated during a traffic flight.

Then in 1966, another radio traffic pioneer, Captain Max Schumacher, was killed in a midair collision while working for KMPC in Los Angeles.

As traffic reports became an important feature of the commute hours at major market stations, the number of aircraft in the sky increased dramatically.

More crashes followed. On Jan. 10, 1969, WOR fill-in pilot/reporter Frank



From the author's collection

**What was possibly radio's first airborne traffic report took place on Aug. 10, 1935. Deputy Police Commissioner Harold I. Fowkerer observed New York City's traffic routes from a Goodyear blimp, reporting on the congested routes for WINS. Here, he points to a traffic jam at 59th St. and the Queensboro Bridge.**

McDermott died when his helicopter fell into an apartment building in Queens. Listeners heard the crash live during the middle of a traffic update. Three alarms were needed to contain the blaze, which gutted the building's entire top floor.

Another WGN "Eye in the Sky" reporter, patrolman Irv Hayden, died along with his pilot on Aug. 10, 1971, when their helicopter struck a utility pole.

On June 4, 1986, "KFI in the Sky" reporter Bruce Wayne died when his Cessna fixed-wing plane crashed shortly after takeoff from Fullerton Municipal Airport.

On Jan. 11, 1993, traffic reporter Mike Roszman and his pilot were killed in Buffalo, N.Y., after their WGR helicopter hit a power line in heavy fog and crashed into the Niagara River.

### TWILIGHT YEARS

With mounting expenses and risks, the heyday of the air traffic reporter began to wane in the early 1990s.

WOR ended its traffic flights in 1993 and sold its helicopter to WCBS. Then the ownership consolidation that started with the 1996 Telecommunications Act allowed station clusters to share their traffic resources. This in turn put more of a load upon the pilots.

In Los Angeles, Commander Chuck Street complained that he was reporting for three stations each day, including one that required him to pitch hamburgers, breath mints and sex-enhancing products while airborne.

Finally, emerging technologies laid their disruptive hand on the traffic reporter's art, as less glamorous but more cost-efficient forms of data collection became

available. Now a traffic reporter could sit comfortably in his office while watching highway video cameras, listen to police radio scanner, and talking to stringers on the highway with their cell phones.

Take the case of "Fearless Fred." After flying WOR's helicopter for nearly 20 years, he left the station to become the manager of Shadow Traffic in New York City. His company contracted with several stations to provide traffic information, mostly gathered on the ground from a variety of sources. By the time it was sold to Westwood One and folded into Metro Traffic in 1998, Shadow Traffic was serving 350 radio and TV stations in 15 markets. Metro Traffic in turn was bought by Clear Channel Communications in 2011 for \$119.2 million, and is now a part of Clear Channel's Total Traffic Network.

Motorists no longer have to sit through the commercials to catch "Traffic on the 8s" in the hopes of catching a nugget of useful detail about their own routes. Today, with the confluence of internet, cellular and GPS technologies, radio traffic reports have become almost irrelevant. Phone-based services like Google Maps and Waze automatically aggregate information from their users' phones, combine it with data from local highway authorities, and then share the information back to their subscribers in a localized map-based format.

These apps have become so popular that Waze now claims to have 90 million users worldwide. Also, Sirius/XM provides continuous traffic information to its subscribers in 23 major cities via dedicated traffic channels.

(continued on page 20)

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World Radio History

# Audioburst Aims to End Internet Audio Dark Ages

New search engine facilitates finding audio content online

## TECHNOLOGY

BY JAMES CARELESS

Until now, searching for broadcast radio or podcast content on the internet hasn't been easy. The best you could do is Google the name of the broadcast or podcast, topic and speaker you were interested in, and see what came back. If Google did deliver relevant broadcast/podcast suggestions, the link descriptions were based on text provided by the broadcast/podcast producers with the content, not the actual audio itself.

Fortunately, the Dark Ages of audio search appears to be over with the advent of [www.audioburst.com](http://www.audioburst.com).

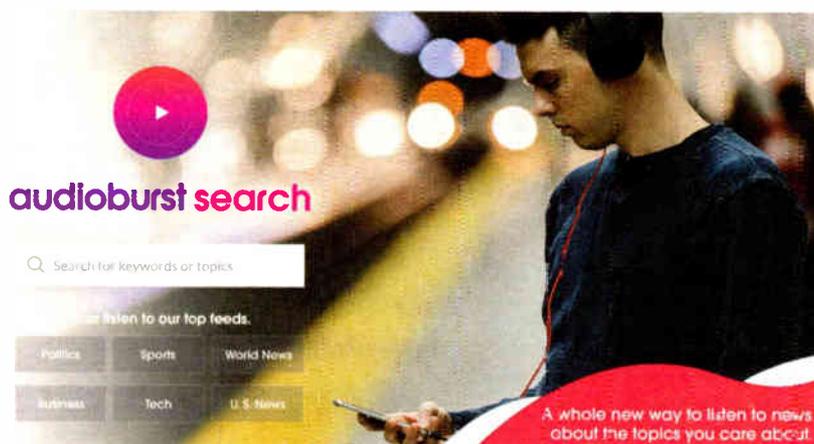
Enter a topic into Audioburst's search engine — perhaps "North Korea" — and the search engine will return an audio clip relevant to this subject, culled from a radio show or podcast available online.

In the case of North Korea, Audioburst called up a segment of "Noon Report with Rick Van Cise" from KOMO News (1000 AM/97.7 FM) in Seattle, just one minute after it had aired live.

I could then listen to the relevant short clip — literally an "audio burst" of sound one-to-three minutes in length — then let the Audioburst player go directly to another North Korea-related audio file, this time from Ray Appleton on 580 KMJ News/Talk Radio in Fresno, Calif. Or I could opt to listen to the entire "Noon Report" radio show, or instead search for another topic that appealed to me.

"Audioburst can offer a true audio search engine because our AI [artificial intelligence] engine 'listens' to millions of live streams across the web, searches for podcasts and ingests audio from partner radio stations and podcasters," said Assaf Gad, Audioburst's vice president of marketing and strategic partnerships. "You can access audio content using our search engine and other search engines like Google and Bing via a computer/smartphone keyboard, or ask for what you want through an internet-connected smart speaker, like Amazon Echo or Google Home."

It is the ability to search for audio



clips when listeners ask for them aloud that sets this search engine apart.

"When you vocally ask Amazon Echo's Alexa to search Audioburst for specific radio news stories, you can get the actual audio stories played back to you, rather than descriptions of their links," Gad said. "Suddenly, the wealth of broadcast/podcast audio that's online is easily available to you."

On the surface, the notion that Audioburst's AI can listen to online audio, categorize it, and make it accessible to listeners via text or voice search seems

pretty cool.

Dig deeper and one discovers that Audioburst's audio search technology is, in fact, *extremely* cool.

"Our system's core technology listens in real-time to online sources of audio content, and processes it on two levels," said Gad. "In the first level, the audio is fully transcribed to text using our ASR (automatic speech recognition) software engine. This text then goes through our NLP (natural language processing) algorithm: It allows us to understand what is being said, and to use this infor-

mation to categorize, classify and store each topic for online searching."

In the second level of the Audioburst process, the company's Segmentation engine analyzes the content to find out when each topic starts and stops, allowing the system to assign discrete "In" and "Out" times to its Audioburst clips. These are the "audio bursts" that are then accessed and presented to users whenever the Audioburst search engine is used.

The format is designed to align with the limited attention span of 21st-century content consumers.

"Today most people don't have the patience to ensure hours of audio to hear the specific segment they are interested in," said Gad. "This is why our Segmentation engine is so important: It helps listeners go right to the topic they're interested in immediately, and moves them to the next relevant clip when discussion of their preferred topic ends in the first audioburst."

### THE BUSINESS CASE

As a technology, Audioburst is, as we have said, cool. But what is the business case for an AI-enabled audio search engine? How is money to be made?

According to Assaf Gad, there are

*(continued on page 22)*

## TRAFFIC

*(continued from page 18)*

Although some large stations remain firmly committed to the service, radio traffic reports are starting to go the way of the dodo bird around the country. Some music stations now even consider them a tune-out risk. It was a wake-up call for many in 2015 when WAMU(FM) in Washington, D.C., announced the end of its legacy morning traffic reports, which Jerry Evans had been broadcasting from his home in Florida. In its statement, WAMU said: "In a world now filled with smartphone map services, GPS devices in cars and traffic apps, there is better, more up-to-date information available to our listeners than we could provide."

The Greek philosopher Heraclitus once proclaimed that "the only constant in life is change," and this has certainly been true of the radio industry. In its almost 100 years of existence, continuously-evolving technologies have brought many disruptive changes. The true survivors among us deftly adapt to the changes without clinging to past traditions.

Nonetheless, as we adopt each new technology, we often trade glamor for efficiency. Such is undoubtedly the case with the "radio cowboys of the skies," and as they fly off into the sunset, we realize we may never see their like again.

*John Schneider worked at stations in Michigan and California before joining the equipment industry. He worked for Sparta, McMartin, RF Specialties, Broadcast Electronics and*



**February 1957: Detroit Police Sergeant Leo Crittenden broadcast expressway reports directly from police headquarters over WWJ. The broadcasts were made at 10-minute intervals from 6–9 a.m. and 4:30–6 p.m. weekdays. Inspector Lloyd Preadell and Traffic Director James A. Hoye watch as WWJ Engineer Harry Lewis and Sgt. Crittenden report.**

*iBiquity before retiring in 2016. He has written two books and numerous articles on radio history and was named a Fellow in radio history by the California Historical Radio Society. He publishes an annual photo calendar and maintains [www.theradiohistorian.org](http://www.theradiohistorian.org).*

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# AUDIOBURST

(continued from page 20)

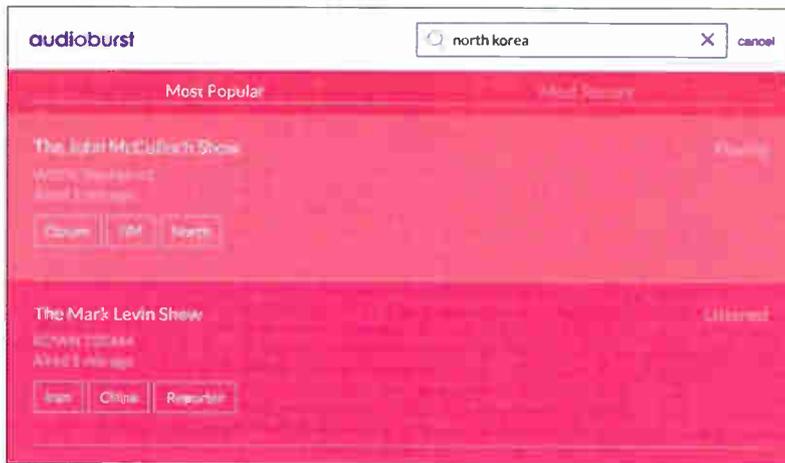
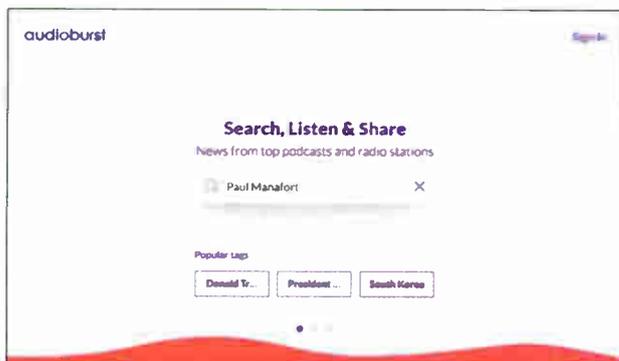
many ways for participating broadcasters/podcasters to profit from working with Audioburst.

“In themselves, Audioburst can create more listeners for specific broadcasts and podcasts, due to our users discovering these sources through our search engine and others like Google or Bing,” he said. “Audioburst can also be hosted on a range of web sites as they are created, and be used as links back the content creators’ own websites.” For broadcasters and podcasters, this provides the option to sell ads on those third-party sites, and to increase traffic on their own ad-populated sites.

Gad also foresees adding onscreen commercials and sponsored links to the Audioburst search results page: just like Google’s results page displays sponsored content now. Audioburst is also compiling “customized playlists” for its users — content suggestions derived from each person’s historical topic

choices and preferred audio sources — that can be sponsored entirely or in part by advertisers.

“Any revenue we make can be shared with our



Search for “Paul Manafort,” “North Korea,” “Donald Trump” or any other term, and you’ll get a variety of results — podcasts, radio programs, audio clips and other relevant content.

content production partners.” he said. “There are real opportunities to remonetize their existing audio content, by working with Audioburst.”

The company seems to have solved the riddle of making audio searchable on the web, and that is no small achievement. Will Audioburst’s profit potential prove to be as strong as its cool factor?

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# OPXONE

# Radio Preservation From the Archive to the Classroom

The task force's November meetup was held at the Library of Congress

## PRESERVATION

BY JENNIFER WAITS

Endangered collections, Cold War radio, metadata, indigenous/First Nations radio, public broadcasting and feminist broadcasts were a few of the topics broached at the second Radio Preservation Task Force conference in early November.

Under the theme "From Archive to Classroom," the 2017 event brought together some 300 participants for in-depth discussions about preserving and utilizing audio archives.

With the 50th anniversary of the Public Broadcasting Act as a backdrop, the multi-day affair at the Library of Congress in Washington was augmented by off-site events at University of Maryland, NPR headquarters and the Woodrow Wilson International Center for Scholars. Among the attendees were scholars, collectors, archivists, radio practitioners and fans, all united by a shared passion for radio.

A project of the National Recording Preservation Board of the Library of Congress, the Radio Preservation Task Force was created in 2014 as part of an effort to identify, preserve and make greater use of radio archives. Since its creation, members of the task force have been working together to build tools to help researchers find radio archives and have also been collaborating on projects related to specific areas of interest and expertise, ranging from labor radio to civil rights radio to commercial radio to community radio.

As the conference theme suggests, the event also emphasized pragmatic uses for radio archives, with workshops focusing on ways to increase collaboration for education, including tips for doing public outreach and lesson plans related to radio collections.

The Radio Preservation Task Force's Communication Director Christine Ehrick said, "There were a lot of folks from different disciplines, exchanging experiences, strategies, etc. The session was organized around the need to



Radio Preservation Task Force Development Director Shawn VanCour observes the Cold War session at the Wilson Center.

complete the circle [archive-research-classroom] and ways to encourage use of archival radio, especially in non-media studies [and non-university] classrooms."

### PUBCASTING'S 50TH

A celebratory tone permeated the "NPR: Founders and Futures" discussion at NPR headquarters, as NPR's first director of programming, Bill Siemerling waxed nostalgic about the early days of the network.

NPR's General Manager of Podcasts Neil Carruth interviewed Siemerling about his radio past and shared audio clips of vintage NPR. Siemerling explained the lofty goals of the National Public Radio Network, explaining that there was a desire to develop a mainstream radio service that was differentiated from commercial radio and educational radio. As an entirely new type of radio, Siemerling relayed that the team developing NPR hoped that it would be an accessible, yet "aspirational" network, with a conversational, "more inviting" presentation style. In his reflection on the 50th anniversary of the Public Broadcasting Act of 1967, Siemerling pointed out that they had to fight to get radio included in the legislation, as an earlier version of it focused on just public television.

Siemerling shared more tales during the American Archive of Public Broadcasting's series of panel discussions, "Preserving Public Broadcasting at 50 Years," on the second afternoon of the conference. It was standing room only for the public broadcasting celebrity-jammed early sessions featuring Cokie

Roberts, Jim Lehrer, Dick Cavett, Judy Woodruff and more. Former FCC Commissioners Newton Minnow (1961-63, via video), Nicholas Johnson (1966-1973) and Ervin Duggan (1990-1993) shared historical tidbits, though with an emphasis on television.

On the "News and Public Affairs Talk Shows" panel, Radio Bilingue co-founder Hugo Morales talked about his work to bring more voices and languages to public radio. He found the English-language media landscape in the 1970s to be "limited," so he worked to launch Radio Bilingue in 1980 as a Spanish language alternative. Today, it bills itself as "National Latino Public Radio Network," reaching listeners across the United States.

### PRESERVING ALL KINDS OF RADIO

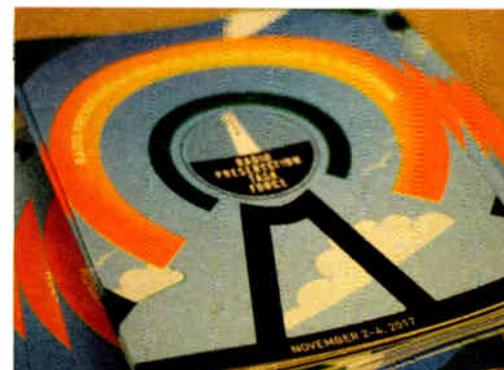
While public broadcasting played a big role in the 2017 conference, presentations and workshops covered a broad range of topics and called for the preservation of all kinds of radio history.

During the "Gender and Sexuality" panel, Sarah Cunningham spoke about the hidden history of female radio station owners and delved into Claudia "Lady Bird" Johnson's purchase (and long-time ownership) of Austin, Texas, radio station KTBC(AM) in 1943. Flashing forward to the 21st century, John Nathan Anderson reported on contemporary pirate radio broadcasts as examples of "endangered collections" and shared that he is working on a project to facilitate the archiving of these fleeting transmissions.

Spanish, multilingual and Caribbean radio scholars also pointed out the



Michele Hilmes speaks at the Library of Congress as Susan Douglas looks on.



Radio Preservation Task Force conference programs.

importance of broadcasts from Latin America and beyond, to both listeners and historians.

Ehrick, a scholar of Latin American broadcasting, shared that, "Christine Hernandez from Tulane University spoke about a large collection of Cuban American radionovelas, and efforts to try and get some of these materials back on the air. And we heard about another Haitian [American] collection, the sound archives of 'L'Heure Haitienne' ['Haitian Hour'], a New York-based Haitian American program on the air from 1969-2002, the archives of which currently reside in a storage shed on Long Island. These archives are very much in need of a preservation and archival home, and the hope was that RPTF might be able to help."

### DIGGING INTO THE COLD WAR

The conference provided an opportunity to highlight a new project of the task force: The Cold War Communication Project. A series of three forums worked to bring together Cold War radio scholars, journalists and archivists for focused conversations about the role of radio during the Cold War. International in scale, the project already has the support of around two dozen researchers along with numerous partner archives and institutions.

Panelists touched on the work of

An advertisement for Nautel NVLT Series audio equipment. It features a row of rack-mounted units and text: "NVLT Series nautel", "3.5 kW - 40 kW Outstanding Efficiency at Exceptional Value", "Now upgradable to HD Radio", and "nautel.com/NVlt".



Neil Carruth and Bill Siemering on stage at NPR.

Voice of America, Radio Liberty and Radio Free Europe, elaborating on both the mission of each broadcaster and on reception by governments and local audiences overseas during the Cold War.

Ross Johnson outlined the original intent of Voice of America as an official United States government station, compared with Radio Free Europe, which he described as a decentralized station organized by overseas broadcasters (yet still under the auspices of a U.S. agency). He added that western Cold War broadcasts overseas worked to “keep alive a hope of a better future” and strived to “encourage peaceful change.”

In describing Radio Free Europe and Radio Free Liberty’s role in U.S. “influence operations” during the Cold War overseas, he said that it was essential that the radio stations provide credible content from local editorial staffs. These stations were and are long-term projects that helped to reinforce democratic ideals within the culture. Johnson added, “You cannot create democratic movements from outside.”

**PRESENT AND NOT-SO-DISTANT PAST**

Preservationists are scrambling to digitize older recordings, as it is a race against time to save audio before tapes and reels deteriorate. But even recent audio is endangered, particularly with “born digital” recordings and podcasts that may never have been preserved on tape or backed up on a hard drive.

Andrew Bottomley has been studying the early days of online audio, including audio blogs, and has found it challenging to locate archived recordings. He acknowledged that some of these posts were akin to home recordings and have been largely lost in the digital detritus of numerous failed private start-ups. While some material may still be in the archives of company founders, much

audio material from the 1990s is likely gone forever.

**INHERENTLY INTERDISCIPLINARY**

In a plenary session on the final day of the conference, radio scholars Susan Douglas and Michele Hilmes shed light on both the importance of radio studies, but also of interdisciplinary conferences.

Douglas pointed out that there aren’t enough conferences that bring together scholars, archivists and practitioners. She also spoke against “presentism” in academia, arguing that “media history

is being minimized” today.

Hilmes articulated her desire for new terminology to describe the work of audio scholars, saying that she’s pushing for the term “sound work,” adding that radio scholars should strive to broaden the relevance of their field.

Both agreed that it’s an exciting time for both radio and radio scholarship.

Reflecting on the conference, Radio Preservation Task Force National Director Josh Shepperd said that he’s most proud of the “increased collaboration between the scholarly, archival, federal, tech and museum sectors for the com-

mon goal of preserving cultural history.”

Shepperd added that he’s particularly thrilled to see “increased emphasis on searching for and preserving archives that house alterity [diverse experiences]. It’s well overdue. Sound is a great place to start for this.”

*Jennifer Waits is co-founder of Radio Survivor and co-chairs the College, Community & Educational Radio Caucus on the Library of Congress’ Radio Preservation Task Force. A long-time college radio DJ herself, she hosts a weekly show at KFJC(FM) in Los Altos Hills, Calif.*



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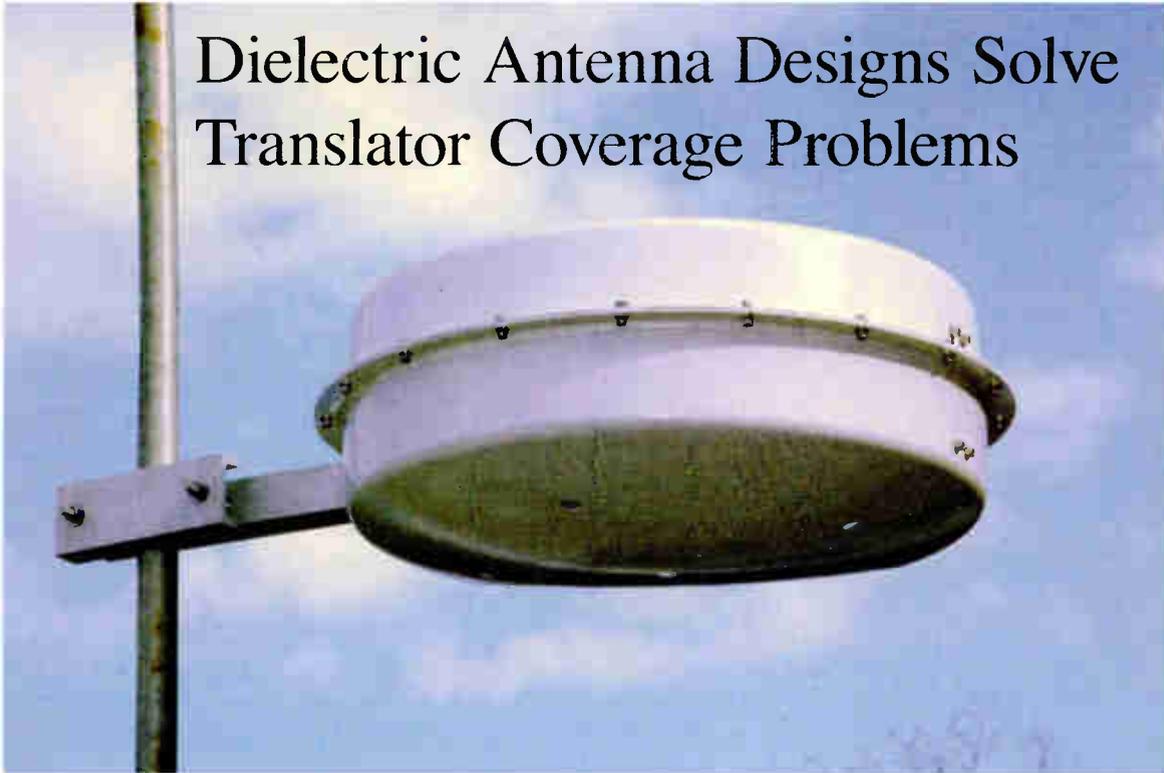


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# Dielectric Antenna Designs Solve Translator Coverage Problems



Software simulator aids design and keeps costs down too

## USERREPORT

**BY BRIAN RAM**  
Vice President of Engineering and Programming  
Full Power Radio

**LEDYARD, CONN.** — With 16 AM and FM signals serving four New England states, we at Full Power

Radio certainly have our hands full as a locally owned and operated group. It's a big reason why we invest in technology that keeps our operation humming and minimizes the amount of engineering labor we endure.

When it comes to RF, we exclusively rely on Dielectric antenna systems for our FM stations. Many of these stations are bolstered by translators that rebroadcast HD Radio channels in signal-challenged areas.

Our latest translator deployment is for WRMQ(FM) in Waterbury, Conn. We recently added a translator site (W258AL) to improve HD signal coverage in downtown Waterbury. The RF design proved especially tricky for this site due to downward radiation and signal suppression problems.

To overcome these challenges, the Dielectric team suggested a six-bay antenna design — a bit unusual for low-power (most translators are two- or four-bay designs), but exactly what we needed to fill downtown with our HD signal with a broader beam.

**The DCR-T** is a finely engineered aluminum design that is lighter in weight than the steel antenna designs that permeate the market.

The six-bay design phase was accelerated using Dielectric's High-Frequency Simulation Software, which allowed us to collaborate with their engineers in bringing the vision to life. This process commenced with a pattern optimization study with our consulting engineer. After that Dielectric mapped and brought the pattern to life in the HFSS program. That helped lower our project costs as it removed the labor of building a model on an outdoor test range.

### SIGNAL PERFORMANCE

The antenna of choice was the DCR-T model, a low-power version of the flagship DCR-H antenna that transmits several of our main FM signals. Like all Dielectric antennas, the DCR-T is a finely engineered aluminum design that is lighter in weight than the

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steel antenna designs that permeate the market. The six-bay version reduces the amount of power required out of the translator to achieve our ERP, which also lowers our electricity bills.

It also gave us a circularly-polarized, directional pattern we required to optimize coverage in those hard-to-fill areas. The bays were half-wave space, which allowed us to achieve a proper phasing through an efficient bay inversion. The result, amplified through the circular pattern, is overall improved signal coverage.

The antenna itself is side-mounted to the 262-foot tower. With eight translators now running on these antennas, the DCR-T has proven very simple to install for our engineers. The quality of parts coming from Dielectric, including all connectors and transmission line, is just as important as the antennas itself.

With each bay weighing under 17 pounds, these are also easy to put together in the field just before the actual installation. No additional tower reinforcement work has been needed for any of our translator installations, including the ones with radomes for extra protection from the elements (this specific project excludes a radome). They are also very easy to tune in the field, which is helpful as translators are occasionally required to change frequencies.

What we have come to learn about Dielectric is that they provide an excellent price point — especially given the engineering quality — and continue to help us find ways to lower our costs. We recently had four translator jobs in process simultaneously; instead of charging per project, they charged per hour. Doing that in combination with the HFSS program returned a lot of money to our pockets. We have had very high success with Dielectric, and it's hard to think of a better-equipped company to fulfill the antenna design needs associated with the increasing number of translators going on the air around the country.

For information, contact Kim Savage at Dielectric in Maine at 207-655-8258 or visit [www.dielectric.com](http://www.dielectric.com).

**ABOUT BUYER'S GUIDE**

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

**TECHUPDATES**

**LBA DEVELOPS CELLULAR ISOLATION UNIT FOR AM TOWERS**

With the increasing use of remote radio heads by cellular carriers, LBA Technology has introduced a special isolation unit to enable their placement on "hot" AM radio towers.

The company says the hardware used for supporting this application is fundamentally different than other AM isolation method approaches using standard coax.

Typically in the remote radio head application, a hybrid multi-conductor cable containing DC power, control circuits and communications data signal is run up the tower to the RRH. An LBA ColoCoil RRH uses a combination of inductive isolators and fiber-optic isolators. Cabinet configurations can vary with RRH support requirements. The access side is always the AM "cold" side for operator safety. The rear of the cabinet has an insulator plate through which the "hot" RRH cables exit to the AM tower.

LBA now offers the ColoCoil RRH-24 and the ColoCoil RRH-12, allowing for the rapid addition of alarm, DC, RET and fiber connections on AM radio towers. New antennas can be accommodated at any time without system redesign.

The new Colocoil line offers an effective solution to take advantage of existing vertical real estate on "hot" AM towers even when remote radios are connected with hybrid cable. Custom configurations are available.

For information, contact LBA Technology in North Carolina at 252-757-0279 or visit [www.lbagroup.com](http://www.lbagroup.com).



**ALDENA ADDS TO HIGH-POWER ANTENNA LINE**

Aldena's lineup of FM antennas now includes three solutions for higher-power applications, up to 12 kW per each antenna.

The ACF218 is a broadband FM double-crossed aluminum dipole antenna featuring omnidirectional patterns with preferred direction. The ASE 01022x0 is a broadband FM dipole antenna in welded aluminum or stainless steel, also with omnidirectional patterns with preferred direction, while the ASR0318 is a broadband-FM three-element yagi.

As for the firm's Band III DAB antennas, Aldena has added to its ADC wideband VHF Band III range with the ADC0x04110. Particularly suited for DAB+ applications, the lightweight ADC omnidirectional series of antennas feature a gain of up to 6.5 dB and vertical polarization.

For information, contact Aldena Telecomunicazioni in Italy at +39-9039-0461 or visit [www.aldena.it](http://www.aldena.it).



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**BUYER'S GUIDE**

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**TECHUPDATES****ERI OFFERS RANGE OF MASTER FM ANTENNA OPTIONS**

ERI's Axiom Series High Power Master FM Antenna provides an economical alternative to broadband FM panel antenna for combined multi-station antenna systems. The Axiom is a simple, side-mounted, broadband Rototiller design that accommodates combined FM stations and is available in four-, eight-, 12- and 16-bay models.

ERI recently expanded its Axiom Series Master FM Antenna product line to include three models. The SHPXA Series (SHPXA4BC-HW-SP is pictured) is capable of handling up to 120

kW of combined power. The MPA and LPA Series Axiom FM antennas handle up to 39 kW and 15 kW, respectively. Axiom antennas are available with optional radomes or deicers for icing protection.

The company also manufactures an array of FM filters and FM channel combiners as well as rigid transmission line components to provide items needed for combined transmission facilities.

For information, contact ERI in Indiana at 812-925-6000 or visit [www.eriinc.com](http://www.eriinc.com).

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

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 [ronwiamm@yahoo.com](mailto:ronwiamm@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 [ronwvtamm@yahoo.com](mailto:ronwvtamm@yahoo.com).

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Floor mounted wire cart rack carousel. Ralph-koal@hotmail.com.

# The Main Studio Rule Is Gone — Virtual Radio Is Here

Easier low-cost, broadcast quality access will make expanding localism attractive for many stations

## COMMENTARY

BY FRANK GRUNDSTEIN

*The author is director of sales for Logitek Electronic Systems.*

OK. It happened. The FCC has done away with the Main Studio Rule. Much debate preceded the ruling. The arguments are pretty well known, but we'll briefly recap them here.

Those in favor of the ruling stressed the financial burdens the rule imposed and the fact that the main studio really wasn't necessary because of ease of access to the station public files through online access.

Those against elimination maintained the position that can be summed up as "How can we be 'local' if we are actually 'remote'? If radio's key value to its city of license is its attachment to the community, how can we fulfill our mission if we dissolve that attachment?"

Whichever viewpoint you hold, the necessity for a physical main studio that is staffed during business hours is gone. Whether you want it or not, some form of virtual radio is probably in

your future. With estimates of cost savings of between \$60,000 and \$80,000 a year, every general manager and owner will have to consider the feasibility of virtual radio.

### HERE TODAY

About 20 years ago, I was in a discussion group evaluating a product that might offer remote facility control from great distances. It wasn't ready yet, but the conversation drifted from the possible to the extreme.

One engineering manager even postulated the scenario that, with remote access, it could be possible to have your radio station in the garage of a local sales manager. (Yes, you will still need local sales people.) We all chuckled but knew someday it would be possible.

With the advances and adaptation of audio over IP and virtualization of consoles, we can now say that virtual radio is not only possible but *here*.

While virtual consoles have been around for over



Frank Grundstein



10 years, they never really were accepted as a physical console replacement. But at the 2017 NAB Show, Logitek introduced a virtual console that uses HTML5 graphics to control audio at remote locations. This is not a bare-bones console, but a fully realized version of the physical consoles we have used for years. It even provides multi-touch functionality to finally allow for

notice even when people are in different cities.

Since JetLink uses no proprietary hardware, it can be put on any PC making the implementation simple and inexpensive.

Want an intercity link? No problem. Need multiple cities talking because your morning show host is in Denver but the sidekick is in Tulsa? This can all be achieved without special hardware or services.

A soon-to-be-released subscription plan will further simplify operation by providing phone books, intercity directories and the ability to start an interview by having the guest click on an emailed link. The service will also help make a connection through corporate firewalls without the need for engineering assistance.



crossfades. (We know the debate about needing physical faders and buttons. We have a version of that too. But that is a debate for another time.)

Other manufacturers such as Lawo and Axia also have virtual controllers.

So we have the control figured out, but what about a cost-effective method for getting talent audio to that salesman's garage from remote locations and maybe adding some additional talent from other cities?

There are many methods to get audio from one point to another. Comrex, Tieline and APT have had hardware-based solutions for many years. At the 2017 Radio Show, Logitek demonstrated JetLink, a free version of its new Opus-based, low-latency, high-quality codec that sends audio from one PC to another.

A chief difficulty with most codec systems is the time lag between a host and remote guest hearing each other. This can hinder the easy flow of conversation and the immediacy of an interview. Combining the highly efficient Opus software with Logitek's advanced error control keeps this latency below

### LOCALISM AND YOU

While virtualization certainly achieves its cost saving objective, it can also be used to foster localism. Talent can still be local. Just because we can operate from a tent at the North Pole, it doesn't mean we have to. Local talent can still be used to reach the local community. They just won't be driving to work anymore.

Smartphone apps can be used to connect to people at places of immediate local importance with high quality. Cloud storage can distribute produced programming of local interest. Local podcasters can appear as guests with little effort. Small to national networks can be set up with little cost.

Localism does not have to die with the main studio rule. The use of virtual radio will certainly reduce operating costs. But low-cost, broadcast quality access from anywhere in the community will make expanding localism attractive for many stations. And, as we all regularly hear, localism is the key to radio's popularity.

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

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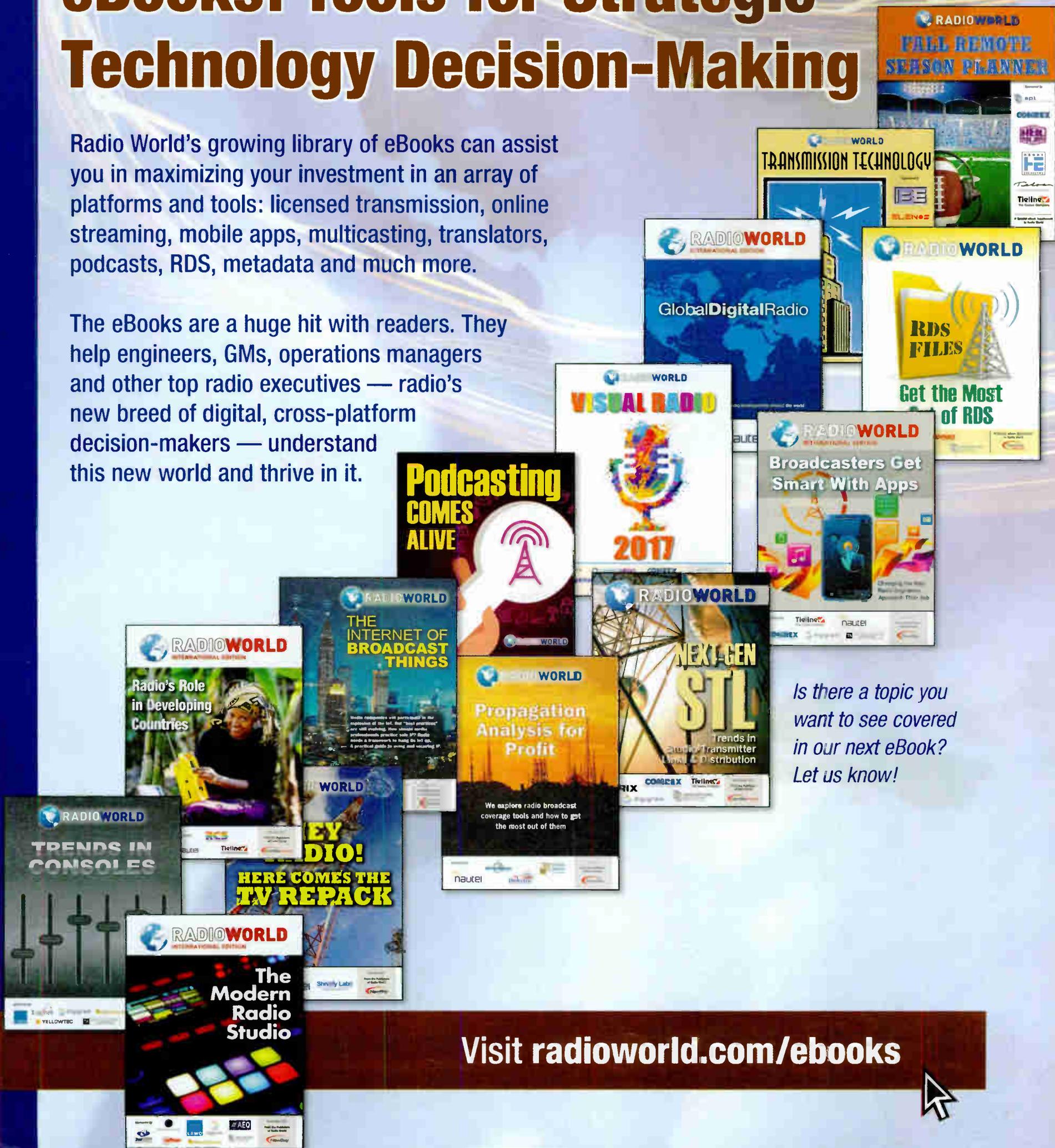
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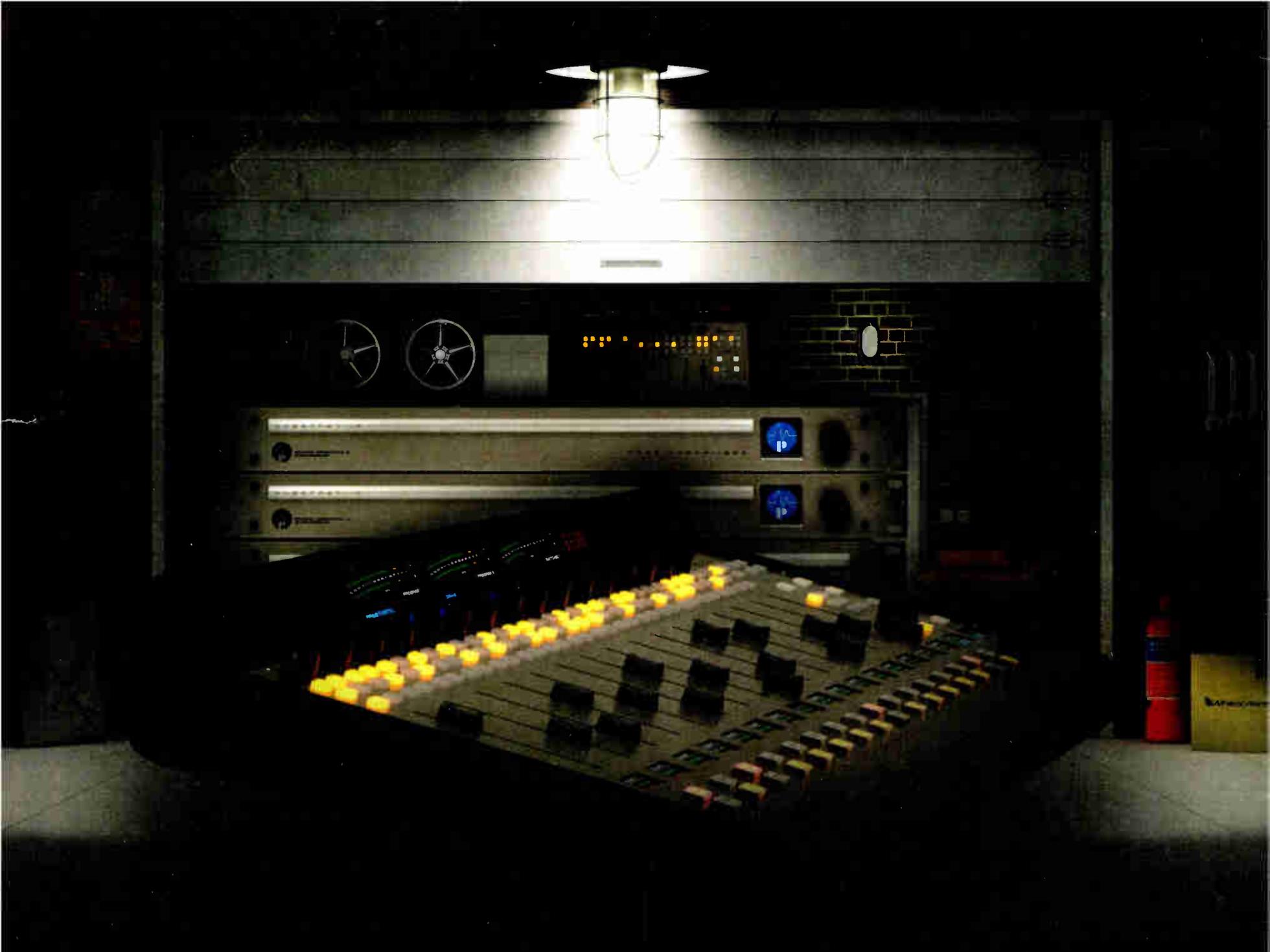
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