BLOOMBERG RADIO'S NEW STUDIO — Page 24

RADIOWORLD

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SPECIAL
REPORT

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Radio Seeks Its Future in the Vehicle

What happens when the car becomes a browser and the driver becomes just another passenger?

BY RANDY J. STINE

Leading U.S. radio organizations continue to work, publicly and behind the scenes, to secure a place of prominence for their offerings in future center-stack consoles of connected cars.

Broadcast stations and their online signals already must share space in a content ecosystem that includes smart audio options accessorized with infotainment management systems like Apple Carplay and Google Android Auto that form a bridge between smartphones and the car.

Amazon, too, is aiming to get its Alexa personal assistant into the car. Amazon Auto is expected to be available later this year as an after-market accessory. The company's Alexa Auto division hasn't announced any content delivery plans, but: "You can bet they are looking at it," one industry observer told Radio World.

Amazon, like Google and Apple, eventually wants to embed its systems into the dash entertainment box, ana-

(continued on page 8)

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Veteran GMs: Now Is the Time to Buy Stations

Tom Langmyer and John Beck believe being local is the key to growth

BY DAVE BEASING

This is the story of a very long journey. It began years ago, when eight-year-old Tom Langmyer toured the studios of WBEN(AM/FM/TV) in his hometown of Buffalo, N.Y., and decided that broadcasting would be his life's work. He's made many stops along the way and played many roles, eventually becoming the general manager at legendary radio stations like KMOX in St. Louis, WGN in Chicago and WTMJ in Milwaukee.

As you read this, chances are good that Langmyer is out on the open road, pulling his "teardrop" camper, looking for a place to stop and stay a while.

But as he'll tell radio station owners and brokers, not just anywhere will do. As CEO and founder of Great Lakes Media Corp., he's looking for what he calls "news deserts in decent-sized places with real upside, out of the shadow of major cities, which may be underserved

(continued on page 22)

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Olivier Soulié of Worldcast Systems and Vincent Simonacci of Radio France, center, were interviewed during the European Radio Show about the first file transfer demo using RDS2.

Radio France Displays RDS2 File Transfer

COMMENTARY

BY DIETMAR KOPITZ

The author is CEO of the RDS Forum Office in Geneva, Switzerland.

During January's European Radio Show in Paris, Radio France, in collaboration with Caméon and Worldcast Systems, gave the first public presentation of the new RDS2 file transfer specification RFT defined within the RDS Forum in October 2018.

For the presentation, a Caméon receiver capable of decoding RFT and a Worldcast Systems' RDS2-ready RDS encoder were used to present Radio France programs and additional information.

Objectives of this demo included:

- The ability to display the station logo of Radio France station FIP and to accompany the station's musical radio program, showing that was fully synchronized with the songs being played;
- To complement FIP's program with texts (the artist name, song title, length of piece, along with any additional text;
- To provide an electronic program guide for programs from France Inter, France Info, France Culture, France Musique, Mouv and FIP, showing current event, as well as the following three;
- The display a long PS name comprising up to 32 characters.

All cover art, texts and EPG files were distributed on the three upper data streams using the RFT pro-

(continued on page 5)

David Jaillet, left, and Laurent Michel are Caméon engineers who developed the RDS2 test receiver used in the demo.

World Radio History

TIS Is a Stalwart of Our Radio Landscape

New technology supplants some highway systems, but TIS stations still play key role in emergencies

BY JAMES CARELESS

Back in 1977 — before the Sony Walkman and compact discs, back before the internet, as we know it, existed — the FCC authorized the creation of Travelers' Information Stations, also dubbed Highway Advisory Radio stations by some departments of transportation.

Licensed in the AM band (530–1700 kHz) with a power limit of 10 watts and typical coverage radius of three to five miles, TIS was intended mainly to provide motorists with vital (live and recorded) information about local road and traffic conditions; hazards and travel advisories; and lodgings, rest stops, service stations and local points of interest. Ads and music were forbidden. In emergencies, local authorities could use TIS stations to broadcast evacuation routes and other life-saving news.

Today, when drivers can access real-time traffic, news and weather on our smartphones, TIS might seem as technologically relevant as VCRs and 8-track players. Anecdotal evidence suggests that some states operate fewer TIS transmitters than in the past, and at least one state plans to turn off its last systems.

Yet TIS stations remain popular with states, local governments, parks and government agencies that want to keep operating them. And advocates say the systems can provide an important safety channel for times when other networks fail.

THEY LIKE TIS

To assess how TIS operators feel about their stations, Radio World contacted a number of state departments of transportation. We heard back from Caltrans in California, MDOT in Michigan, TDOT in Tennessee and VDOT in Virginia.

Caltrans "operates 201 HAR stations in 10 out of 12 of our Caltrans districts," said Matt Friedman, Caltran's senior transportation planner and lead for traveler information. (Caltrans District 4, serving the San Francisco Bay Area, has the most with 64 HAR stations.) "HAR stations are often used to provide information about road closures and areas of chain control during normal operations as well as emergencies," he said.

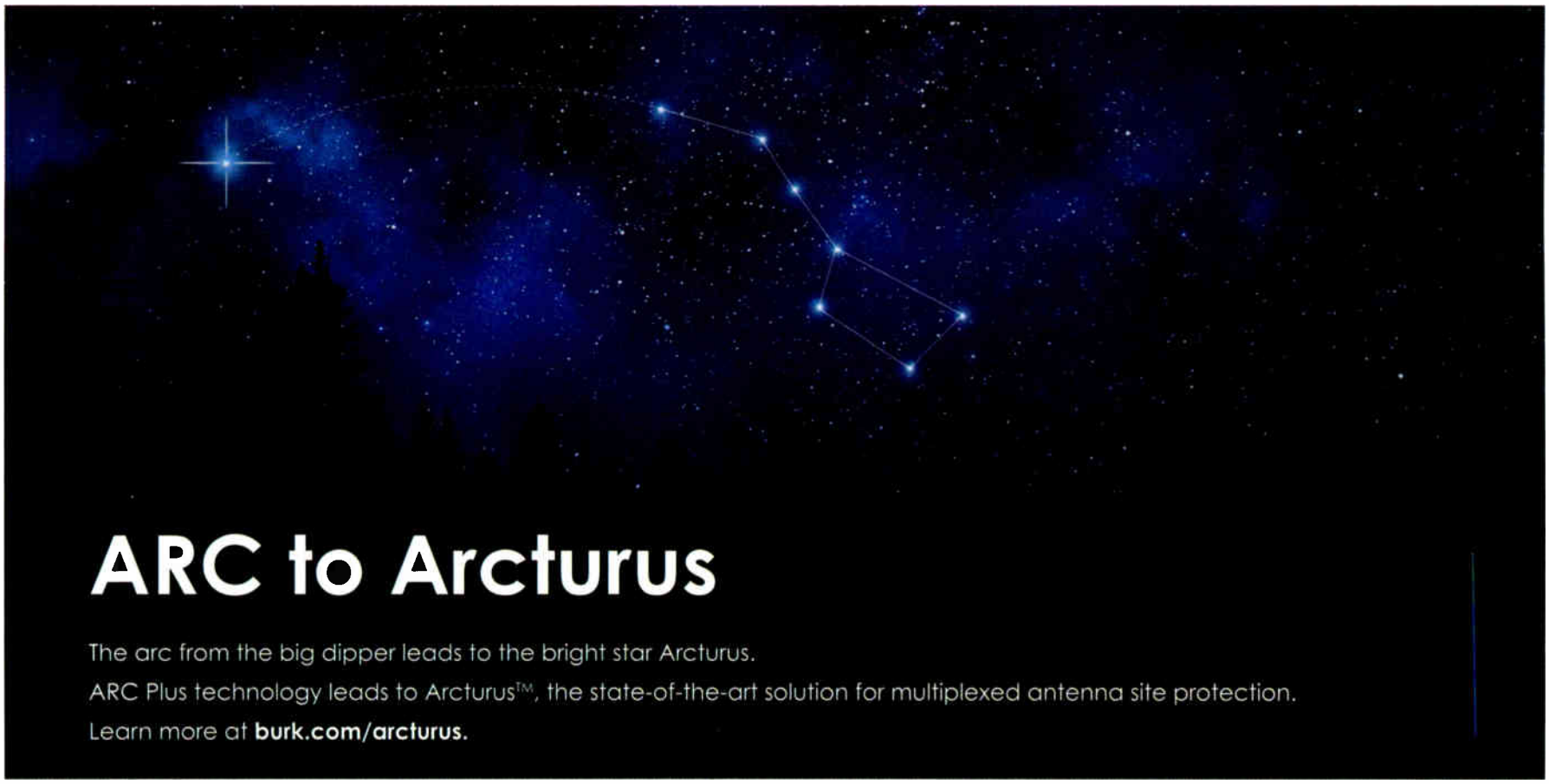
Michigan operates three TIS stations, one at the Blue Water Bridge international crossing at the Canada-U.S. border, two at the Mackinac Bridge that links the peninsulas and have been in operation for more than 30 years.

"This is a supplemental means of relaying basic information regarding the customs crossing into Canada — toll rates, et cetera — along with emergency notifications," said Collin Castle, MDOT's ITS program manager, about the Blue Water location.

In Tennessee, TDOT operates 57 AM transmitters and 146 static signs with information to tune into regional frequencies for traffic information when beacons are flashing. "Information may

(continued on page 6)

Michigan operates a TIS system at the Blue Water Bridge on the St. Clair River, which links Port Huron with the Canadian city of Sarnia.



World Radio History

THIS ISSUE

MARCH 1, 2019

NEWS
Radio Seeks Its Future in the Vehicle . . . 1
Radio France Displays RDS2 File Transfer . . . 3
TIS Is a Stalwart of Our Radio Landscape . . . 4

FEATURES
This Resource Resizes, Reformats Your Logo for HD Radio . . . 12
Graham McNamee: Radio's First Superstar Announcer . . . 14

GM JOURNAL
Veteran GMs: Now Is the Time to Buy Stations . . . 1
It's OK to Broadcast Your Success . . . 20
Scenes From Super Bowl LIII's Radio Row . . . 22

STUDIO SESSIONS
Inside Bloomberg Radio's New York Home . . . 24

OPINION
Improve the Senior Band With These Steps . . . 29

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RDS2

(continued from page 3)

tocol. The EPG could be accessed via the Caméon receiver through a menu on the tactile interactive screen. During the presentation, FIP played mostly short popular music with short news items once per hour.

During the demo, the same radio program was also broadcast as an internet radio stream with the same cover images and metadata that was being displayed on the FM/RDS receiver from Caméon.

The FIP website was displayed during the demo to ensure that the cover art image and respective musical items were aired in sync. For the demo, the cover art of the following track was always sent using FTP to the RDS encoder. The file size was reduced to 240 x 240 pixels per inch, which yielded file sizes of about 10 kb.

Using all three RDS upper subcarriers at once, the transmission time over RDS took about one minute. This provided ample time to synchronize the image display with the music that was being played. Radio France's central data server triggered the signal to show the buffered image on the left side of the receiver's display.

The presentation successfully demonstrated to attendees that it is possible to achieve perfect synchronization between the cover art display with the corresponding music.

The receiver displayed cover art on the left side the screen, while the RadioText RDS feature appeared at the bottom. The right half was composed of several items, including the FIP logo, the long PS and artist and album name and date. When the receiver was tuned to FIP, the FIP logo appeared in the center of the screen.

World Radio History

TIS

(continued from page 4)

include traffic, weather, Amber alerts and emergencies," said Ray Hallavant, TDOT's traffic management center operations coordinator.

Caltrans has no doubt that TIS remains relevant to motorists. "We know that the Highway Advisory Radio is an essential tool because not all of our customers have access to other tools while they are driving such as social media and our QuickMap app," said Friedman. "We receive regular feedback that customers rely on this tool while they are travelling.

"The benefits to using TIS allow us another method of communication to the public and motorists who can listen to messages without being distracted from driving by a device," he added. "There are some areas of the state where commercial radio coverage is very spotty, such as the Sierra Nevada mountain range, and a HAR station can provide a way to communicate information to motorists in those areas."

This is why, even in the internet age, "There are no plans to discontinue the HAR program" in California, Friedman said. "Many of the transmitters are approaching the end of their service life and are due for an upgrade. We are hoping to get them replaced in the near future."

Michigan sees a similar value to TIS in 2019. "The messages that are relayed continue to be of use to the motoring public," said Castle. He noted that TIS costs little to maintain and "allows for a longer message to be relayed than what could be shown on a dynamic message board; you are getting the message out to a wider range of communication than you normally would with a sign needing to be viewed by line of sight."

The state plans to maintain its TIS stations. "As long as this technology continues to be a beneficial tool for the dissemination of information to the motoring public regarding the crossing, we will continue to support this as a resource for the state of Michigan," Castle said.

Since 2016, Tennessee has based its TIS decisions on a continuing online driver survey at *www.tn.gov*. According to the most recent data, 41 percent of drivers surveyed use TDOT's TIS service. About 6 percent said the TIS offered "great assistance," roughly 10 percent chose "moderate," 15 percent "little assistance" and 11 percent said none.

As far as the state is concerned, this response level is sufficient to justify continuing TIS and improving it over time. That said, "TDOT will consider any technology that will provide the best information resources for Tennessee roadway users," said Hallavant.

SHUTTING DOWN

Virginia used to have TIS stations across the state but has since shut all of them down except for one: the eight-transmitter TIS on 1680 kHz that serves the Hampton Roads Bridge Tunnel and connected roads.

In the past, Advanced Traffic Management System information was fed by VDOT's Hampton Roads Regional Traffic Operations Center into the TIS stations' server as recorded audio and as data into the state's roadway message boards.

"In recent years, through a state contract, VDOT has phased in a common statewide ATMS in four of its five Regional TOCs to streamline its operations," said VDOT Communications Manager Holly A. Christopher.

This Highway Advisory Radio system south of Norfolk, Va., got a reprieve, but the state appears to be moving away from TIS.

"Hampton Roads VDOT, currently operating on an independent system, is the last to enter into this statewide network, which is a cloud-based system that increases control center interoperability. This means that should something happen in any one of the TOCs, another TOC will be able to provide continuity of operations."

The downside: "This statewide network does not support HAR, which has already been discontinued in the rest of the state districts as the new communication system was phased in," said Christopher. "As a result, the HAR station was discontinued at 9 p.m. on Sunday, Jan. 6, 2019."

This shutdown didn't last long: "As a combined result of motorist feedback and a delay in the installation of the new statewide communications software, the Virginia Department of Transportation is extending the operation of HAR in Hampton Roads." Christopher said. The station resumed operation at 8 p.m. on Tuesday, Jan. 8, and will stay on the air while the state waits to install the new ATMS, now expected in late spring.

"During the extension, VDOT will explore alternative opportunities to provide hands-free options for motorists to receive travel updates," Christopher

(continued on page 8)

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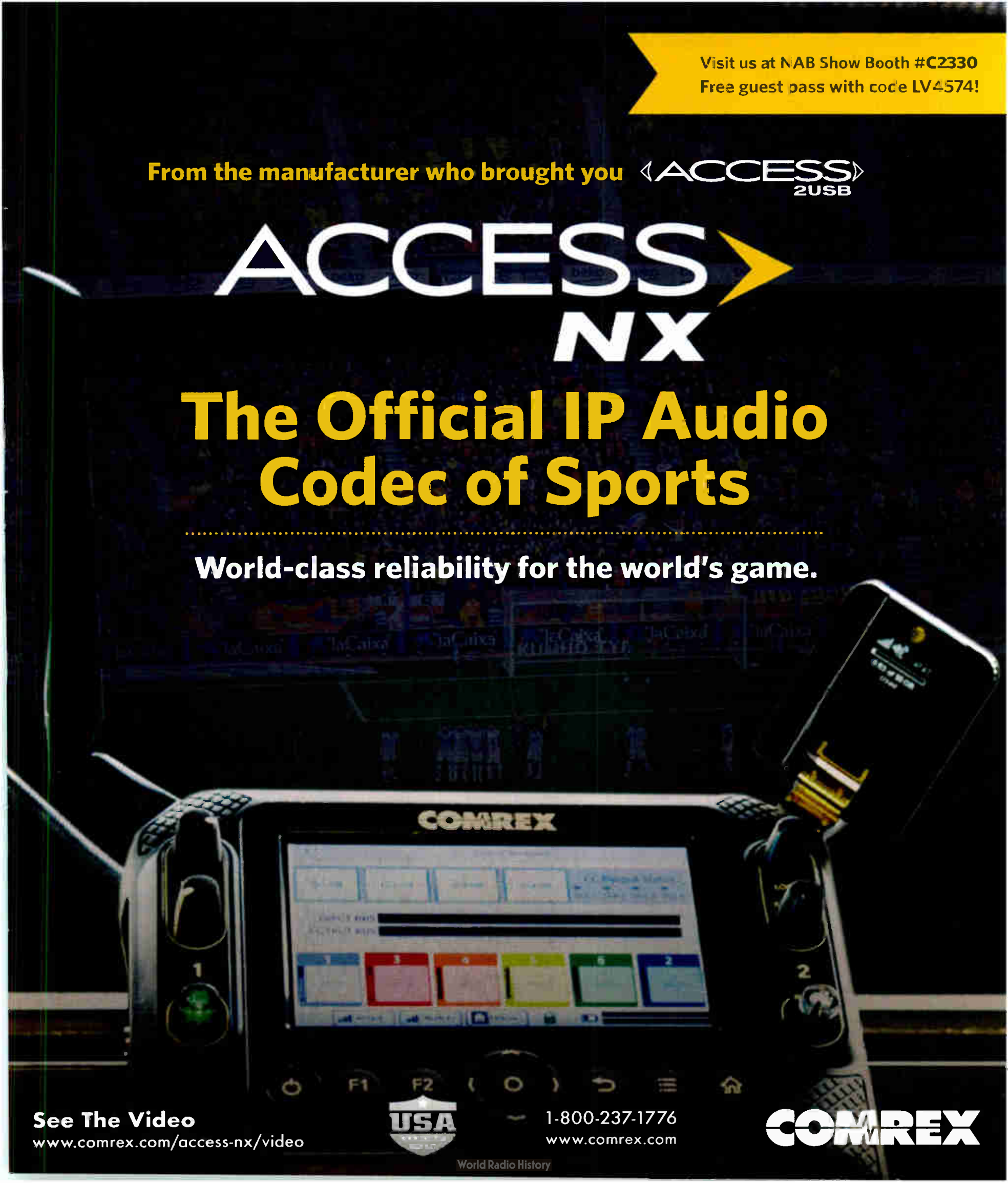

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CONNECTED CAR

(continued from page 1)

lysts say. This alone will be an important change in how consumers use audio platforms; but beyond that are the many implications of the rise of fully autonomous vehicles.

RUBBING ELBOWS

Influential radio executives have spent several years networking and building strategic relationships with carmakers, their "tier one" suppliers and infotainment system developers, according to people familiar with the process.

Significant players from the radio and auto industries were at CES in January for a special reception hosted by NAB and GenIVI, a consortium of auto experts dedicated to open software for infotainment systems in the automotive space. Participants were treated to dinner one night and then a networking event at Bellagio Hotel and Casino the next that included about 1,000 guests.

In April, NAB will host an "In-Vehicle Experience" at its Las Vegas show, according to a press release. "See firsthand from today's leading manufacturers, technologists and content creators why connected vehicles are being lauded as the next horizon for content consumption," the announcement states. Topics include the connected car, voice-activation, ATSC 3.0 and HD Radio.

"What we want to do is leverage the NAB Show and the fullness of the technology and the education, and layer in the most profound endpoint, which is the automobile," said John Ellis, founder and managing director of Ellis and Associates. "And then begin a cross collaboration on this new ecosystem of automobile."

Ellis says car companies will have an "increased presence" at the NAB Show. "They'll be involved in panel sessions and technology demonstrations, possibly even show floor demonstrations."

Meanwhile, Xperi Corp. keeps pushing to expand the availability of HD Radio in cars; it also plans a commercial launch this year of its DTS Connected Radio Platform, which pairs broadcast programming with IP-delivered content via a modem or smartphone. That system is one of several "hybrid" radio platforms under development. Xperi has indicated it has at least one carmaker signed up for DTS Connected Radio but has yet to identify it.

Really massive changes are coming with the introduction of metadata, digital technology and the visual component in the enabled car.

— Fred Jacobs

TRANSFORMATION

Steve Newberry, NAB's executive VP for strategic planning/special events, said radio broadcasters are committed to retaining a dominant position in the automobile.

"We are taking a lot of meetings. We think there are a lot of opportunities for radio and television in the connected car of the future. Part of that is partnering with representatives from the auto industry. We are pleased that more and more auto companies are seeing the value in radio," Newberry said.

The broadcast group's Auto Initiative Committee, which was formed in 2016 and consists of a mix of small and large broadcast groups, continues its work, Newberry said, and is making progress bonding with automakers.

"We have projects underway with OEMs and Avis/Budget looking for synergies and have expanded our focus to include voice control."

Fred Jacobs, an advisor to the Auto Initiative Committee, said during a recent NAB podcast that broadcasters understand they are no longer competing

(continued on page 10)

TIS

(continued from page 6)

said. "These alternatives have not yet been identified."

Bill Baker is an observer with a particular interest in the subject of TIS. He owns Information Station Specialists in Michigan, a long-time supplier of such systems, and he is a director with the American Association of Information Radio Operators.

"I had read that VDOT had announced they were stopping the 1680 service but listeners/travellers who use it balked, and so they are going to continue it for now," he said.

But Baker believes TIS remains a critical service. "Because the 'internet age' also corresponds with the age of tenuous communications during an emergency, these stations are more valuable than ever to their host communities, airports, national parks, federal agencies and military bases."

Baker wrote in a commentary in Radio World last fall that the value of TIS was bolstered recently when the FCC clarified that local officials have authority to broadcast emergency information directly to citizens on these stations, and that determination of content lies entirely with public safety officials in charge of incidents. The commission also relaxed bandwidth restrictions on the TIS service from 3,000 to 5,000 Hz.

As a result, he said, more stations are finding use for community safety purposes. He believes that it is local emergency managers, fire officials, broadcast engineers and amateur radio operators who collaborate to make TIS radio stations function for communities that may find themselves in harm's way.

CASE STUDY

North Plainfield is a pleasant New Jersey borough of 21,936 people. It is also home to a TIS known as North Plainfield 1630 AM Radio, available on the web at *www.northplainfield.org* and whose mix of recorded voice programmer is provided by Municipal Clerk and Chief Operator Rich Phoenix. He happens to have more than 50 years' radio experience, which is why the TIS' recorded audio is professionally delivered.

North Plainfield's TIS transmitter is located at the town's Department of Public Works garage where a natural gas generator provides uninterruptible power for all DPW functions. This allows North Plainfield 1630 AM Radio to stay on air in virtually all situations. The transmitter feeds a 36-foot vertical antenna mounted on the building's metal portico, which looks like a standard CB whip.

"TIS is the ultimate local radio station with information keyed to a particular locality," said Phoenix. Take weather, for instance: When NOAA Weather's VHF station KWO35 left the local airwaves in 2017, "I became the de facto hippy-dippy weather man, reading summaries from NOAA's on-line weather for our locality, updating twice daily — more frequently if severe weather was on its way."

Today, North Plainfield 1630 AM Radio transmits a regular warning "about winter conditions, preparations and safety issues, including the need to keep hydrants clear in snowstorms and protecting against carbon monoxide buildup in homes," Phoenix said. Its messages also promote free radon detection kits, flu inoculations for local residents, and in-depth news bulletins and information. But no commercials or music; that's not within TIS' mandate.

"Thanks to my broadcast background, I'm a fast writer, having spent many years writing both news and commercials," said Phoenix. "In some emergency situations I have recorded from home, as my wife and I own our home five blocks from Borough Hall. When the snow piles up, the phone allows me to stay up to date on the TIS and work from home. In the event of a storm-related power failure, it is also possible for me to insert messages via mobile phone."

As for coverage? "With 10 watts on what amounts to the low end of the 160 amateur band, our best DX (distant reception) reports from listeners have come from as far as some 15 miles distant," Phoenix said. "In rainy weather, no problem; as a matter of fact, coverage probably improves slightly with the enhanced ground conductivity. Snow is also OK; freezing rain can slightly attenuate coverage, but the stick's in a sunny spot and the problem quickly corrects itself."

Rich Phoenix with the "flamethrower" serving North Plainfield 1630 AM Radio in New Jersey.

(Phoenix sends out "QSL cards" to listeners who write to his TIS, reporting how well they received its signal at a distance.)

"When we first went on the air years ago, there was a local pirate in the next town operating on an adjacent frequency; we are 1630 while they were on 1620," he said. The pirates "complained bitterly when they discovered that they had a federally-licensed neighbor sitting next to them — although the interference was minimal."

World Radio History

Cover all Bases with ViA

Bill Eisenhamer, Chief Engineer (Left) with JR Rogers, Technical Director

The Tieline ViA has been the backbone of the San Diego Padres road play-by-play live broadcasts.

"The ViA comes with an SD card slot for recording, so no more worries trying to keep someone at the station focused on recording. The crew on the road takes care of that and records interviews for playback during their live show. Being self-contained makes the device more flexible for the real world."

The ViA is a winner for The Fan, and Entercom San Diego.

Bill Eisenhamer
Chief Engineer, Entercom San Diego

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CONNECTED CAR

(continued from page 8)

only with other radio stations in their coverage area.

"Radio is competing with everything and everybody. The competitive arena for content is quickly expanding. We have to connect radio with new technology. It's really a transformation for the future," he said. "Really massive changes are coming with the introduction of metadata, digital technology and the visual component in the enabled car."

One observer involved with the latest developments told Radio World he believes some automakers might now regret their decision to allow Android Auto and Apple Carplay into their vehicles. "The consumers love the experience, so it's harder now for the automakers to develop their own dashboard solution," this observer said.

John Ellis, who consults NAB on dashboard strategy and was global technologist for Ford's connected car business, said automakers are being lobbied heavily with dashboard entertainment and information options from a variety of interest groups. He noted that car companies "still control the dash," with final say about what goes in the cars they build.

"The question is becoming more complex though. Now there is this construct of the consumer with the ability — technology enabled — to dictate that relationship. The consumer has a voice in what happens in the dash, which is really new territory," Ellis said. "How do we make the consumer to want to keep interacting with broadcast? Those decisions will be driven by content."

In addition, he said, radio should keep its eye on the opportunities presented by autonomous vehicles and gaining the attention of a driver no longer engaged with the road.

"It really opens up the opportunity for the audience to interact with the media," he said. "Think about this whole wireless construct in the connected car. Think about NPR or any other content house, and think about how much more they could do with an audience in a vehicle that's moving but with no distraction. Those are the collaboration opportunities we are exploring."

The "passenger economy" is something NAB is focusing on as more autonomous vehicles appear on the roads, NAB officials say.

"The passenger economy is set to be a significant player in the monetization and business case for the first wave of this new mode of transportation," the association stated in a press release about its NAB Show session.

Newberry expanded on the theme: "Clearly, the more we learn about our listeners, the more we can build that deeper connection and then more easily provide the types of content they want. We can provide a lot of information about our listeners. The more the automakers know about their customers and the more we can learn about our listeners means everyone will win."

Think about NPR or any other content house, and think about how much more they could do with an audience in a vehicle that's moving but with no distraction.

— John Ellis

Honda's prototype Dream Drive (see info box below) is an example of how mobile technology is expected to become more integrated with the car. This image shows control of a Honda Odyssey FM tuner through an iPad-based app. Consultant John Ellis explains, "When Honda/Connected Travel work with a given broadcaster, they can detect their local stations and 'Feature' them in the 'Featured Stations' list. The customer/passenger will also see their vehicle's radio pre-sets across the top of the screen in the application."

URGENCY

There is a sense of urgency. Observers say radio must move quickly to avoid being relegated to the background of the dash in next-generation cars.

Roger Lanctot, director of automotive connected mobility for Strategy Analytics, said that at CES this winter he saw demos of in-dash systems that ignored the radio or even excluded it during presentations.

"It's clear that some infotainment system designers are either taking radio for granted or forgetting about the radio entirely instead of making it a focal point. That's a problem," Lanctot said.

Lanctot's observations come at a time when digital assistants and better metadata will allow broadcasts to be searched and found more easily with a voice request, he said.

"The car is really being turned into a browser. In essence, these personal assistants will become the browsing aid, and that changes the value proposition of radio listening," Lanctot said.

"The biggest significance of radio listening is that it is local content, which is ironic, because most of these connectivity platforms in the car being developed are trying to replicate what the radio creates for free, which is local news, sports, weather and other local information. Even the advertising will be locally relevant."

Current smartphone connection systems like Apple Carplay and Android Auto have reduced radio to a simple "icon" that is a part of a greater infotainment ecosystem, Lanctot said. They quickly are establishing more control over the dashboard experience.

"There is a certain de facto sense of leadership and control being achieved by Google and Apple. They have certification authority over the vast majority of head units in the marketplace at this time. They have created a very big pool of users and are seen as the quickest path to market now for any kind of app," he said.

HONDA DREAM DRIVE

At the recent CES 2019, Honda demo'ed the latest version of its prototype Dream Drive, which it calls the auto industry's "first integrated driver and passenger infotainment, commerce, services and rewards dashboards within the vehicle environment." It was developed in collaboration with Connected Travel, a connected vehicle platform and application services company.

Dream Drive uses mobile-based "dashboards" — the driver dashboard demonstrates payment technology to enable drivers to pay for things like fuel, movie tickets and parking, make restaurant reservations and order food, while the passenger dashboard lets occupants play games, watch movies, access other content and control the radio and cabin features.

"Moreover, customers will have access to purchase Honda Dream Drive content, movie or event tickets, order ahead and a variety of other convenience options provided by Honda's collaborators," the company said. Among its partners for these dashboards are iHeartRadio and Entercom/Radio.com as well as companies like Atom Tickets, Chevron, Grubhub, Parkopedia, Phillips 66, AAA and the LEGO Group.

World Radio History

Lanctot said anecdotal evidence about dashboard developments collected from CES points to the modern audio marketplace becoming increasingly fragmented in the connected car.

"Samsung had a digital dashboard experience in their booth. I left after a time and never saw a radio-related screen. It seems the suppliers to the auto industry are obsessed with doing everything else but radio. The new systems can do all of these cool things like control your garage door, control the lights in the house, make a Skype call and even connect to your refrigerator," he said.

It's clear that some infotainment system designers are either taking radio for granted or forgetting about the radio entirely instead of making it a focal point.

— *Roger Lanctot*

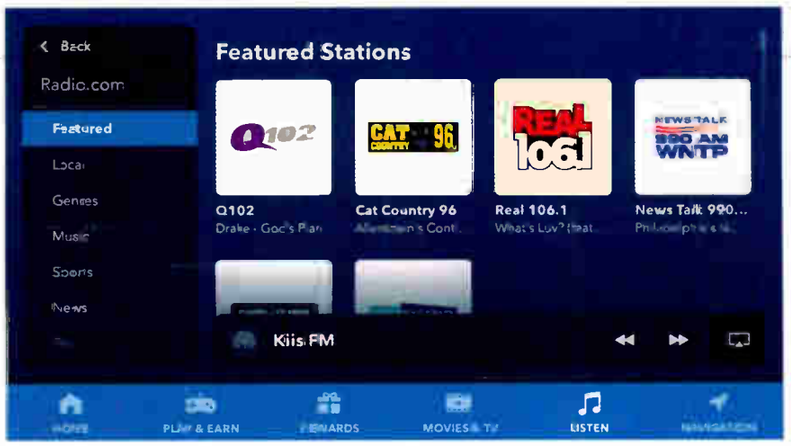
This all comes at a time when radio is becoming more of a visual medium in the vehicle, Lanctot said, with a lot of groundwork being done to the "plumbing of radio" to make it more of a visual experience.

"At CES I just didn't see a widespread recognition of the work radio has been doing," he said. "There seems to be a limited understanding of how the dash can be influenced."

Lanctot cited General Motors and Honda for their work in trying to gain a better understanding of content consumption in the car, work that will help define what future infotainment systems look like. He said Ford expects to place 5G modems in its entire fleet of vehicles within three years.

A game-changer will be when auto manufacturers embed the infotainment system in the car, Lanctot said.

"The transition to the embedded system marks a significant turning point. It would seem logical that instead of maintaining these two parallel platforms, their own and the projected smartphone platform, that car companies would prefer one embedded system," he said.



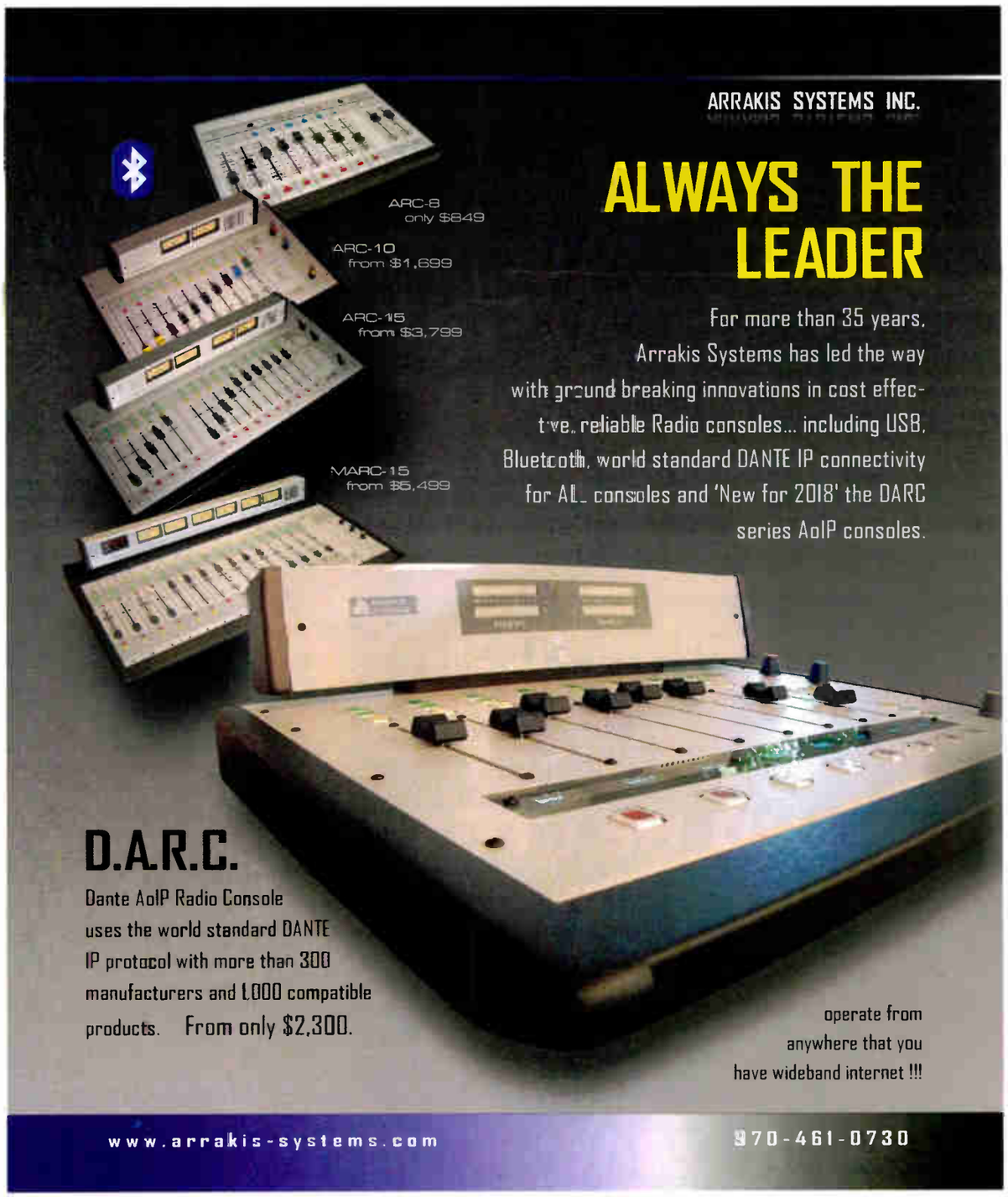
Dream Drive integration of Entercom's Radio.com streaming radio service, including 235 local radio stations.

"That's the transition we are in right now. And the 5G rollout will accelerate that transition."

Lanctot expects to see embedded infotainment systems, most likely based on Android Auto, to begin appearing in connected cars by 2020. "I would expect Volvo to be the first to launch it," he said.

Analysts say the improved connectivity with 5G will allow even greater in-car smart mobility options.

What do you see ahead for radio and the connected car? Email radioworld@futurenet.com *with "Letter to the Editor" in the subject field.*



World Radio History

This Resource Resizes, Reformats Your Logo for HD Radio

Also, another inventive coffee-maker hack, and other tips for the resourceful engineer

WORKBENCH
by John Bisset
Email Workbench tips to johnpbisset@gmail.com

Broadcast engineer Lewis Callaway recently was tasked with getting the logo of his station, KCVM(FM), on his HD Radio channel. Lewis ran into a problem when he couldn't compress the image sufficiently and in the right format to be read by the HD Radio software.

Rather than spend hours messing around with it, Lewis reached out to Xperi, the company behind HD Radio. Xperi pointed Lewis to its website *www.hdlogoverify.com*.

Once on the site, you can upload an image, and the site will format the logo for HD Radio, as well as rename the file to the proper conventions. See Figs. 1–3 to see what he means.

Lewis says it's a neat little tool, it's free and it saved him time.

Salem Media New York's Stu Engelke saw Alan Peterson's suggestion about using a plastic CD case to hold coffee filters after the original part disappeared in a move.

On Bunn brand coffee makers, Stu would put an aluminum hub from a 10-inch tape reel between the coffee pot and the burner. The coffee would stay warm but not too hot and not burn so quickly.

Engineers think of nearly everything!

When it comes to racking up heavy equipment, Stu offers another tip:

Before mounting the equipment, put a rack screw half-way in, screwing it into the hole just below where you want the equipment mounted. Then lift the equipment into the rack and let it sit on the shaft of this rack screw. The head of the rack screw will keep the gear from falling out while you go find the screw gun and rack screws.

When you are removing the heavy equipment, reverse the process and put those screws in before you pull the mounting screws. As you remove the mounting screws, the unit will fall onto the screws right below the device and hold it until you are ready to lift it and remove it from the rack.

William Harrison is with WETA(FM) Washington, just down the road from Radio World's home office in northern Virginia. The other day he needed a crossover network cable in order to configure a piece of gear. The problem was he did not have one, so William made one out of two short Ethernet cables and two StudioHub+ XLR adapters.

The process is simple. You take the StudioHub+ adapters and plug the left channel connector from one adapter into the right channel connector of the other, and vice versa. By doing this, you take the TX pair from one RJ-45 and put it on the RX pair of the other RJ-45. Then, add the two Ethernet cables and connect to the gear. Voilà!

William admits that he wouldn't want to use something like this in a production situation, but for the 10 minutes he needed to configure the gear to work on his subnet, the adapters worked like a charm. William's adapter cable is shown in Fig. 4.

Gary Peterson (KØCX) is semi-retired after spending nearly 55 years in the technical end of broadcasting.

Commenting on our discussion about failed Type N connectors, Gary says he would rather not deal with them in the first place. It has been his experience that in almost every situation, he can affix a Type N, 90-degree elbow to equipment, whether it

(continued on page 14)

Fig. 1: Xperi's HD Radio logo station image verifier.

Fig. 2: The software is free and easy to use.

Fig. 3: Mix 93.5's logo is displayed on the HD Radio screen.

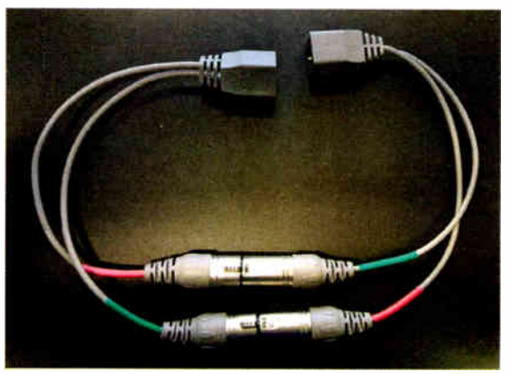


Fig. 4: A couple of Radio Systems StudioHub+ adapter cables make a quick crossover network cable.

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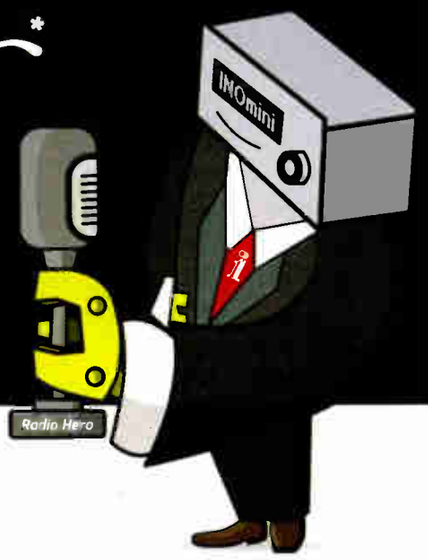

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World Radio History

Graham McNamee: Radio's First Superstar Announcer

He was a jack of all trades who pioneered sportscasting and live political coverage

ROOTS OF RADIO
by John Schneider

He is mostly forgotten today, but at one time it was said that more people had heard his voice than any other human's in the history of the world.

Graham McNamee practically invented the art of radio announcing, and was the industry's first nationally-known celebrity personality.

Born in 1988, he was raised in St. Paul, Minn., where his father was an attorney. He demonstrated an early love of sports and played them all — football, baseball, hockey and boxing — but his mother wanted to be an opera singer, so he also took voice lessons.

After his parents divorced in 1907, he moved with his mother to New York City, where he continued his musical training and sang in church choirs. He found work as a railroad clerk while pursuing a singing career. In 1920, at the age of 31, he made his professional singing debut at New York's Aeolian Hall, but despite good reviews, his concert and church work continued to be scarce.

Early in 1923, while serving jury duty, he took a lunchtime break and walked over to AT&T's radio station WEAF, inquiring about singer auditions. There were no singing opportunities, but the manager liked McNamee's baritone speaking voice, its clear enunciation and pleasant tone, and he hired him as an announcer on the spot.

McNamee knew nothing about radio and didn't even own one at the time, but he had everything an announcer needed: a clear and pleasant speaking voice, ample vocabulary and a knowledge of music and sports.

WEAF in 1923 was a crude operation, broadcasting just four hours daily from two rooms with a tiny staff. McNamee's job was simple. He wrote, "All the man before the microphone had to do was to say, 'Miss So and So will now sing such a number,' and at the end, 'Miss So and So has sung such a number,' without any comments or explanation of the music."

Library of Congress

Graham McNamee, broadcasting from the WEAF studio early in his career.

Author's collection

Graham McNamee, left, was the emcee and straight man for Ed Wynn, center, in the popular NBC "Texaco Fire Chief" program from 1932 to 1935. Orchestra Leader Lennie Hayton is at right.

McNamee initially adopted the formal style of announcing that was common in early radio — the precise pronunciation and clear articulation of every word, and formal greetings like "Good evening, ladies and gentlemen of the radio audience."

SPORTSCASTING

In August, McNamee received his first important assignment: the ringside broadcast of the Greb-Wilson middleweight boxing championship match. He realized that the usual stilted announcing style would not be suitable — just saying "Greb hit Wilson" and "Wilson hit Greb"

(continued on page 16)

WORKBENCH

(continued from page 12)

be on the transmission line for STL transmitters, STL receivers or test gear.

He leaves the Type N elbow on the gear as if it were permanently attached. If the female end of the elbow becomes damaged, he just carefully replaces the elbow with a new one and tosses the damaged one in the trash.

Doing this does introduce a small amount of loss (on the order of 1 dB, per adapter, at 950 MHz). However, if the link budget won't allow for an extra 2 dB of loss (1 dB on each end), there are bigger problems to contend with.

Gary adds that he is not in favor of using unnecessary connectors or adapters in an RF path that serve no useful purpose. But in this instance, not having to ever spend significant time dealing with a damaged connector is a good tradeoff.

The usual caveats apply. Don't mix 50- and 75-ohm items; and use good silver-plated connectors and adapters. In Gary's opinion, nickel-plated connectors and adapters are junk — stick with the silver.

Your ideas are what make Workbench possible. Please send tips, questions and photos of completed projects to John Bisset at johnpbisset@gmail.com. *Tips also qualify for SBE recertification credit.*

John Bisset has spent 49 years in the broadcasting industry and is still learning. He handles western U.S. radio sales for the Telos Alliance. He is SBE certified and is a past recipient of the SBE's Educator of the Year Award.

Library of Congress

McNamee broadcasts a World Series game for WEAF on Oct. 5, 1924.

World Radio History

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World Radio History

McNAMEE

(continued from page 14)

would not convey the story. He started to embellish his portrayal, describing the finer points of boxing based on his own experience as an amateur fighter, and describing people he saw in the crowd.

As the rapid-fire action increased, he became more animated, caught up in the emotion of the moment. Afterwards, letters of congratulation poured into WEAF. "Wonderful, brilliant, we saw it as if through our own eyes," wrote one admirer. McNamee had found his calling.

Live event broadcasting — especially sportscasting — was a new field. Before radio, no one had needed to describe an event in spoken words to a live audience. There were no "old hands" or idols to emulate, and so McNamee and a handful of other pioneers had to create their own style and techniques — many of which are commonplace today.

Soon after the Greb-Wilson fight, McNamee was assigned to the first World Series broadcast, but the task of announcing was given to a well-known newspaper reporter, chosen for his ample knowledge of baseball. McNamee was just there to assist — coaching him in how to use a microphone. However, the sportswriter, for all his baseball knowledge, knew nothing of broadcasting. He described each play in a deadpan voice, remaining silent between the plays. Finally, in the middle of game three, he tired of the chore and asked McNamee to take over.

To fill the gaps in the action, McNamee fell back on his technique of describing the scene. He wrote,

"You must make each of your listeners ... feel that he or she, too, is there with you in that press stand, watching the movements of the game, the color and flags; the pop-bottles thrown in the air; the straw hats demolished; Gloria Swanson just arriving in her new ermine coat; McGraw in his dugout, apparently motionless but giving signals all the time."

His performance so impressed the management that he was asked to announce all the remaining games. Afterwards, more than 1,700 letters of praise poured into WEAF.

POLITICAL COMMENTARY

He became WEAF's "go-to man" for special events. In December, McNamee was dispatched to Washington to broadcast President Coolidge's address to Congress over a multi-station hookup.

Broadcasting Magazine, 1935

A Detroit News cartoon combined old racial tropes with new sportscasting ones, imagining how McNamee might cover the war in Ethiopia.

It was the first presidential address broadcast on the radio. As the president spoke, McNamee took notes on the back of an old envelope.

"When the speech was half through, it occurred to me that many would perhaps tune in late and miss much of the message. It would not be a bad idea, I thought, to recapitulate it for them. So, when the President had finished speaking, I went to the microphone and read my summary. It was an innovation that seemed to please our audience, for the letters following showed a most favorable reaction."

WEAF was now one of the nation's foremost radio stations. AT&T was using its flagship station as a springboard to launch a network of stations, all interconnected through its own long lines. The staff grew from a handful to over 100 in just three years. McNamee's voice increasingly was being heard around the country.

In June 1924, McNamee broadcast the first coverage of the country's two political conventions over a temporary hookup of 18 stations. "Again, no orders were given us by the office — there were no precedents or rules to guide us."

The Republican event in Cleveland went smoothly, nominating Coolidge with little controversy. But the Democratic convention from Madison Square Garden turned into a marathon, as the conventioneers battled through 103 ballots before selecting John W. Davis. McNamee worked the microphone 16 hours a day for 15 straight days, again using his ad-lib talents to depict small details of the event to fill the many long gaps in the proceedings.

He had everything an announcer needed — a clear and pleasant speaking voice, ample vocabulary and a knowledge of music and sports.

Other choice assignments followed. He reported Coolidge's inauguration from Washington on March 4, 1925. He announced Philharmonic concerts from Carnegie Hall, dozens of boxing matches and college football games, and the 1925 and 1926 World Series.

In 1925, he received Radio Digest Magazine's Gold Cup Award as America's most popular announcer.

WORKING FOR NBC

In July 1926, AT&T unexpectedly sold its flagship station and fledgling network to RCA and got out of the radio

(continued on page 18)

World Radio History

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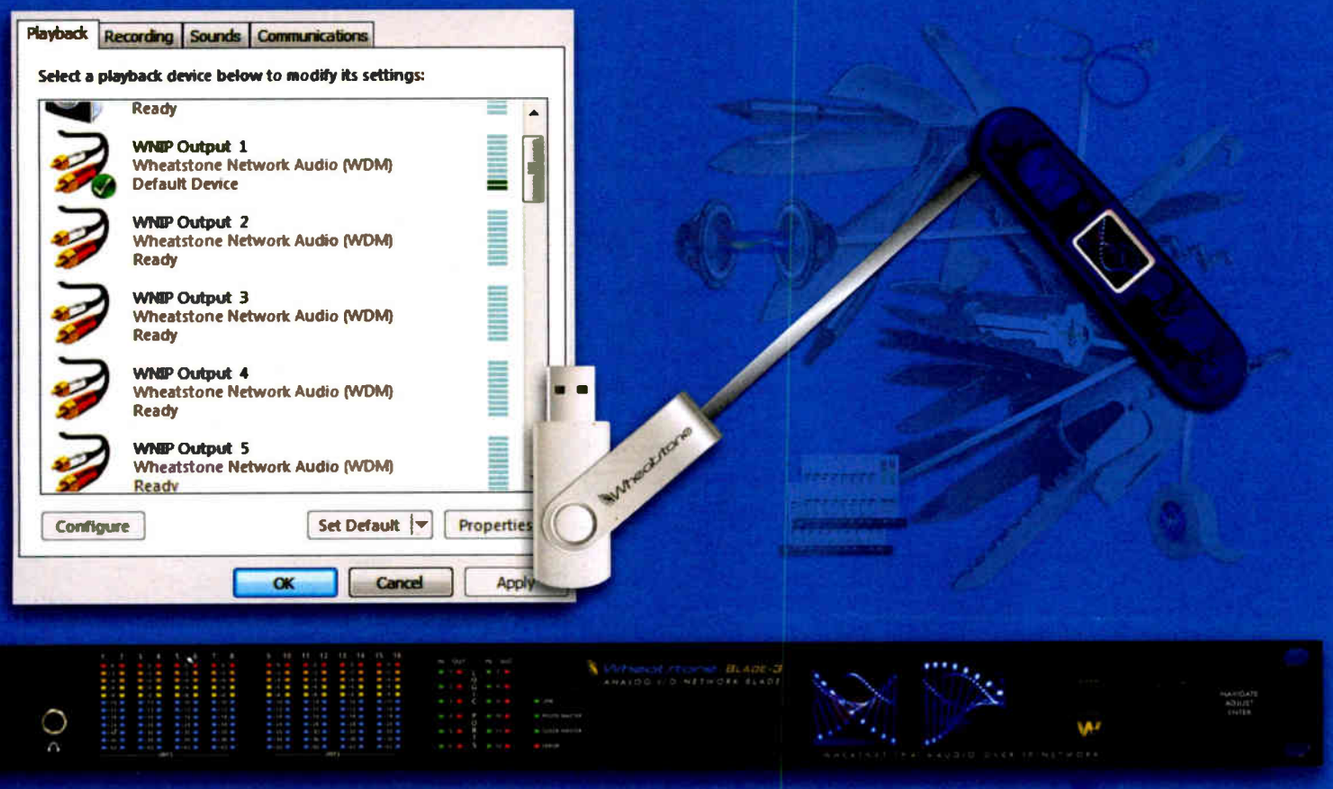

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World Radio History

McNAMEE

(continued from page 16)

business. WEAF was moved to Aeolian Hall, sharing space with its former competitor, WJZ. In November, the two stations became the flagships for the new National Broadcasting Company and its two networks, NBC Red and NBC Blue. McNamee's fame rose even more, as he was now being heard over a nationwide hookup of the country's most prestigious stations.

On New Year's Day 1927, he called the Rose Bowl game from Pasadena in the first coast-to-coast broadcast. He hosted dozens of other sports events for NBC, including the World Series, championship boxing matches, college bowl games and the Indianapolis 500.

On New Year's Day 1927, he called the Rose Bowl game from Pasadena in the first coast-to-coast broadcast.

In 1927, while he was broadcasting the arrival of Charles Lindbergh in New York, a crowd broke through the barriers and knocked him to the ground, but he continued talking while lying prone on the pavement.

He covered both 1928 national political conventions and the 1929 inauguration.

His voice was heard by upwards of 50 million listeners for the 1927 Dempsey-Sharkey fight over a 51-station hookup. Later that year, his broadcast of the famous Dempsey-Tunney "long count" fight went over the combined NBC Red and Blue networks and was relayed by shortwave around the world. And McNamee was featured on the cover of "Time Magazine" in 1927.

But as the wildcat 1920s gave way to the '30s, radio was becoming more commercial, more professional and more competitive. Scores of talented young men were making their way to the top — NBC alone employed nearly a hundred. The "jack-of-all-trades" announcer was giving way to specialists with expert backgrounds in music, news, sports and entertainment.

Author's collection, colorized by author

Graham McNamee broadcasts the fire and capsizing of the Normandie in New York Harbor in February, 1942. He died three months after this broadcast. The photo has been colorized.

At the same time, McNamee's grueling travel schedule was starting to wear him down. He made some notable gaffes on the air, such as calling the wrong players in football games and naming the wrong winner in a 1934 regatta. Increasingly, he was being marginalized — assigned to pre-game coverage, with others calling the action.

EMCEE AND STRAIGHT MAN

As his sportscasting star began to fade, McNamee was assigned more studio emcee jobs.

In 1929, he hosted Rudy Vallee in NBC's popular "Fleischmann's Yeast Radio Hour." His big comeback came in 1932 when he was chosen to announce Ed Wynn's immensely popular "Texaco Fire Chief" program, where he played the straight man to Wynn's silliness. He also emceed "The Major Bowes Original Amateur Hour" and "Ripley's Believe It Or Not." Universal Studios signed him to voice their weekly newsreel films for $700 a week. His income had grown in just 10 years from $50 a week to an estimated $50,000 a year — a huge sum during the Depression.

Still, McNamee was having a harder time keeping up the pace. He divorced and remarried. He was drinking more. In 1935, he was knocked unconscious while broadcasting the National Soap Box Derby when an errant vehicle crashed into the press stand. The resulting head injury hospitalized him for weeks.

Early in the morning of Feb. 9, 1942, McNamee was called out to report on a fire aboard the French luxury liner Normandie in New York Harbor. The ship was being converted into a troop carrier when a welding torch ignited a fire that swept the ship, which ultimately capsized. McNamee spoke live for four hours in the cold, catching a sore throat that he was unable to shake for weeks. By April, it had turned into strep throat. He was hospitalized and was discovered to be suffering from a heart ailment.

On April 24, McNamee signed off a radio show with a prophetic, "Good night all — and goodbye." The next day he suffered a heart attack. He died in the hospital from a brain embolism on May 9, 1942, at the age of 53.

Eulogizing the famous announcer, the New York Times estimated he had "uttered 10 times the number of words in an unabridged dictionary during his radio career."

Graham McNamee was awarded a star on the Hollywood Walk of Fame for Radio in 1960. In 1984, he was inducted into The American Sportscasters Association Hall of Fame, and in 2011 to the Radio Hall of Fame.

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The Albuquerque International Balloon Fiesta

Courtesy KKOB

cancer. Having participated in several personally, I can attest to the sincerity and dedication of it's staff.

It's always a thrill to see the numbers come in. Congratulations to these Entercom stations: Now in its 28th year, Chicago's US99 raised $751,358; WYCD(FM) in Detroit raised $651,900; San Diego's KSON(FM) raised $257,110; KMLE Phoenix raised $326,705; and Pittsburgh station Y108 raised $110,820 for the hospital.

NOT ALL HOT AIR

What festival is often cited as "the world's most photographed event?"

It's the Albuquerque International Balloon Fiesta, which is run by a nonprofit and has consistently generated over $100 million in local economic impact.

Local station KKOB(AM) provided traffic, weather and official updates during the event. And, of course, they had their own hot air balloon. It's great when nonprofits and stations team up to boost tourism and dollars that stay in market.

PHILLY CAMPING

For most folks, camping during winter in Philadelphia is not a go-to activity. That's one of the many reasons why the 21st annual "Preston & Steve Camp Out for Hunger" is so compelling. The boys camped out for five days, collecting a record 1.83 million pounds of food (913 tons), plus nearly $200,000 in, literally, cold cash.

If you have a Radio Doing Good story you'd like to share, send it to *radioworld@futurenet.com*. Now...go and do some good!

❤ RADIO DOING GOOD

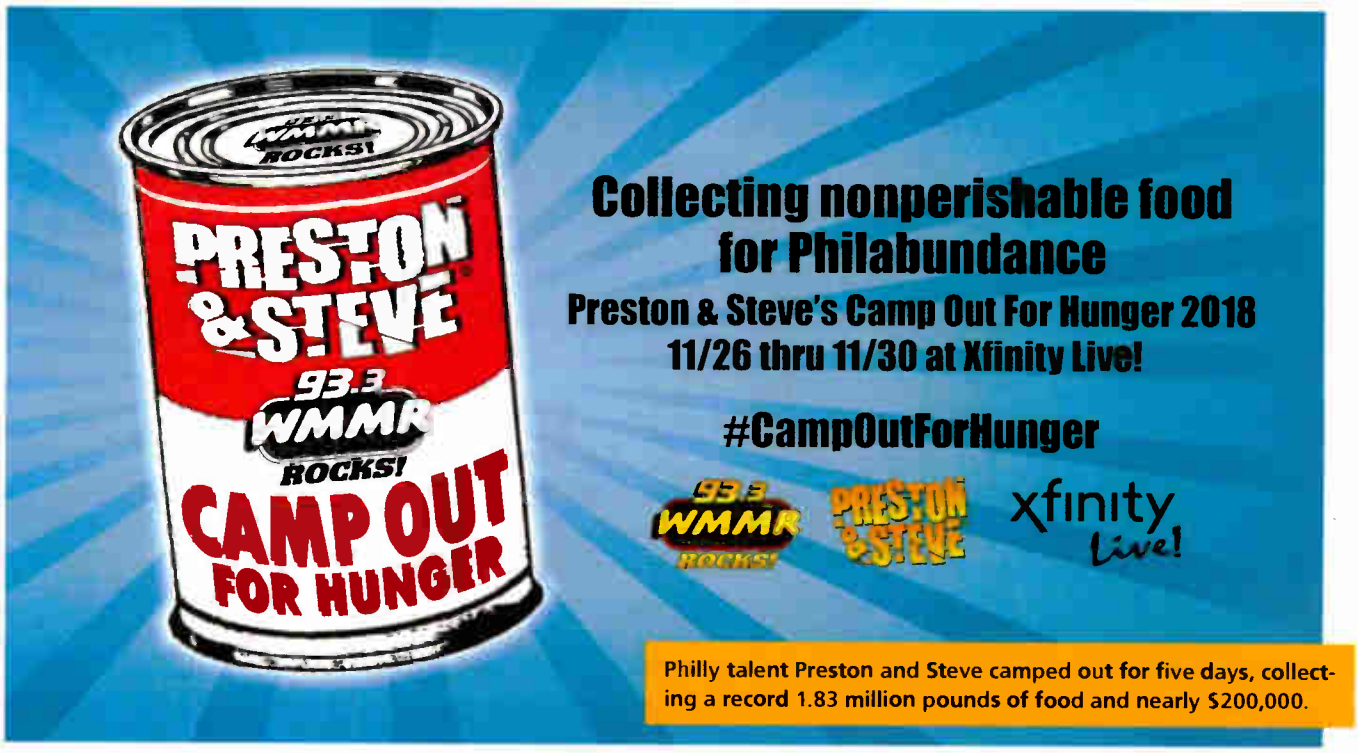
BY MARK LAPIDUS

Radio Doing Good covers how broadcasters contribute to their communities and is a regular feature in Radio World.

This is so smart: Cumulus Media's Dallas-Ft. Worth cluster aggregated the total funds it raised last year and released the following dollar figure as an accomplishment — you gotta admit that $1,304,861 is impressive.

I love this approach when it comes to educating locals as to how a station is adding value to the community. Think about it for next year. A promo of local voices thanking the station(s) and all participating charities is easy to execute and has quite an impact.

This Cumulus cluster consists of KPLX(FM); WBAP(AM); Sportsradio 1310/96.7 FM The Ticket; KLIF(FM); KSCS(FM); KLIF(AM); and KESN (FM).



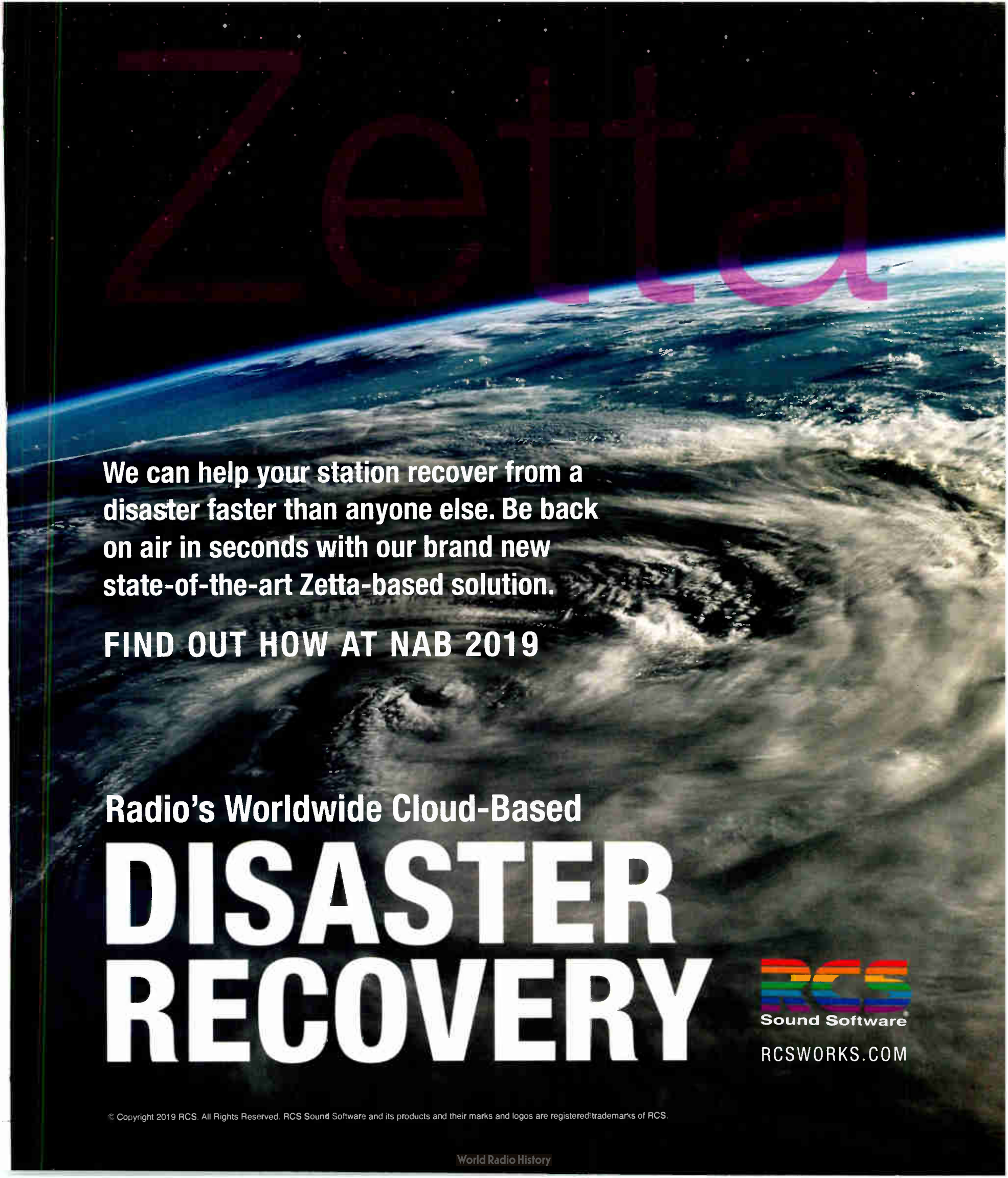
Philly talent Preston and Steve camped out for five days, collecting a record 1.83 million pounds of food and nearly $200,000.

ST. JUDE RADIOTHONS

Elsewhere on the "Radio Doing Good" beat:

St. Jude has set the gold standard for radiothons. It's a wonderful experience listening to the heroic stories of people and their families who are fighting

World Radio History



World Radio History

LANGMYER

(continued from page 1)

by local media — be it radio, TV, a newspaper and/or a pure-play digital outlet."

You could say that Langmyer has chosen to travel in a different direction than radio's consolidators.

"During the past 20 years or so, companies quickly scooped up as many local stations as possible to create scale, and they used new technologies to create more efficiency," he says.

"Although that's a great idea in some ways, they missed the most important part, the actual purpose of local radio. Some companies didn't understand how these local businesses actually operated in the first place, how local-direct sales worked, because they never took the time to actually meet the people or visit the stations let alone the communities they served."

Tom Langmyer hits the road looking for local media opportunities.

"LOCAL MEDIA ECOSYSTEM"

Langmyer believes that approach devalued radio's greatest value proposition: Localism.

Instead of simply using technology as a means to reduce expenses, Langmyer wants to use it to help create a "local media ecosystem," and hire creative people who can use it smartly to generate stronger local content. He plans to build "a total local media experience, not just 'radio stations' or 'websites' — but a robust local multiplatform experience, offering credible local news coverage and local entertainment through audio, video, local stories, images and combining that with true community leadership."

Who wouldn't be excited about that? Actually, quite a few people, he says.

As industry leaders tried to grow radio's bottom line through operational savings and transactional revenue methods, the industry hired what he calls "radio factory workers" and "implementers," rather than entrepreneurial leaders with vision, sales, marketing and product skills. Langmyer believes the key will be to add people who can deftly create content across a broader array of platforms and those who can sell a breadth of marketing solutions locally.

Langmyer doesn't want negativity about radio's recent past to impede its future. He's looking for people who are

SCENES FROM SUPER BOWL LIII'S RADIO ROW

Veteran radio engineer and consultant Gary Kline shared many great photos of activity and equipment while he was walking around "Radio Row" ahead of this year's Super Bowl in Atlanta. Here are a few of his images that we posted online. Radio World welcomes pix from you of your own radio event, project or activity. Email *radioworld@futurenet.com*.

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thrilled about the opportunity for local media to reinvent itself with radio as a part of a new media mix, rather than those who "bitterly sit in a bar with a shot and a beer, staring at the closed-down radio factory across the street, pining for the good old days."

JOHN BECK'S PERSPECTIVE

Like Langmyer, John Beck is a veteran large-market radio manager who is excited to be entering into radio station ownership.

After spending 35 years building local brands for Emmis in St. Louis, Beck's longtime friend Joe Schwartz

Former Emmis St. Louis GM John Beck, now a partner in Stone Creek Media.

of Cherry Creek Media asked him to join in owning a radio cluster in the Flagstaff/Prescott, Ariz., area. They've teamed up with Withers Broadcasting President Dana Withers to form Stone Creek Media.

"The four Grenax stations we purchased in Arizona billed 9.8 percent of the market last year. Our fair share should be at least 25 percent," so Beck is optimistic. While smaller markets are often good at the longstanding basics of radio, "many are inexperienced in the full spectrum of digital, event and influencer marketing. We had to learn those skills to compete in bigger markets."

As Beck and Schwartz kick the tires on more potential acquisitions, Beck's observations mirror Langmyer's.

"Unfortunately, empty studios are the rule rather than the exception. This is the opposite of what radio must do to survive. Being local is our advantage over all the new audio services. We have to be there, have personalities that go out, meet people and become valued members of the community."

Many community leaders welcome that approach.

"In one case, a bank wanted Great Lakes Media to come to their city badly enough that they offered to finance a deal 100 percent with no money down," says Langmyer. "The need is definitely there."

"I don't think that radio station prices are going up anytime soon. The way to increase a property's value is to grow its cash flow," says Beck. He firmly believes that's possible. "Advertisers love the impact that radio has had on their businesses and have thanked me over and over again for helping them grow."

> **The way to increase a property's value is to grow its cash flow.**
>
> — John Beck

"It's time to stop wagging fingers at the 'big, bad corporations,' asking what they will do for us from the top down," says Langmyer. "Instead, let's ask ourselves how we can create content and advertising solutions for today's local media consumers, from the ground up."

Rather than transition out of radio, longtime programmer and consultant Dave Beasing is helping in radio's transition. His new LA recording studio "Sound That Brands" produces podcasts for major national advertisers. Reach him at DaveBeasing@SoundThatBrands.com.

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This glass-enclosed studio features live news feeds on its exterior.

Inside Bloomberg Radio's New York Home

Seeking to "reimagine" the radio news production process

FACILITY PROFILE

BY DOUG IRWIN

Bloomberg Radio is a 24-hour business information network that provides news and information to a global audience, employing a full-time staff of 40+ anchors, producers and reporters. It combines the power of Bloomberg News (with 2,700 journalists and analysts in more than 120 countries) with the data and analytics of the Bloomberg Terminal business research and information network, giving listeners conversation and up-to-the-minute analysis of world events and its impact on markets.

Bloomberg Radio is heard on five flagship stations, in New York, Boston, San Francisco, Washington and an international outlet in London. It can also be heard nationally via Sirius/XM Channel 119, and internationally via Bloomberg Business, iHeartRadio, on TuneIn apps and at Bloombergradio.com. The syndication arm of Bloomberg Radio provides short-form updates to 300+ affiliate radio stations across the country and reaches 27 million listeners weekly.

Originally located at 499 Park Ave. in New York, Bloomberg Radio went live from its 731 Lexington Ave. facility in 2005, serving WBBR in New York as well as both Sirius and XM (prior to their merger). The building was designed by Cesar Pelli and serves as the global headquarters and Americas Media Center. Radio is only part of what goes on at 731 Lex; 12 regional television distributions with digital streaming and video on demand, feeding the Bloomberg Terminal customers, Bloomberg.com, syndication partners along with the global TicToc news network emanate from there as well.

The flagship studio for Bloomberg Radio was designed by award-winning director Roger Goodman, in collaboration with radio programming and technology teams. According to Bloomberg Manager Anthony Mancini if there were any difficulties in the design. "The biggest challenge was thinking about radio differently. Where is the medium going? What haven't we done yet? What is new and exciting that we can do that this space can help us achieve?" he told me. "In the end the push by our technology team and designers helped create a space unique to radio but still fitting the mold and culture of Bloomberg.

> **What is new** and exciting that we can do that this space can help us achieve?
>
> — *Anthony Mancini*

"The collaboration between the technology team and Roger was extensive — we were in lockstep the entire way. Taking key elements of how radio relies on eye contact and anchor synergies to make a great program gave the designers a solid foundation and starting point for the space. In addition, the studio's prominent location inside of Bloomberg's global headquarters allowed designers to not only build a studio but a show piece for the entire company to be proud of," said Mancini.

The broadcast environment was built through integration of IP audio-based

(continued on page 26)

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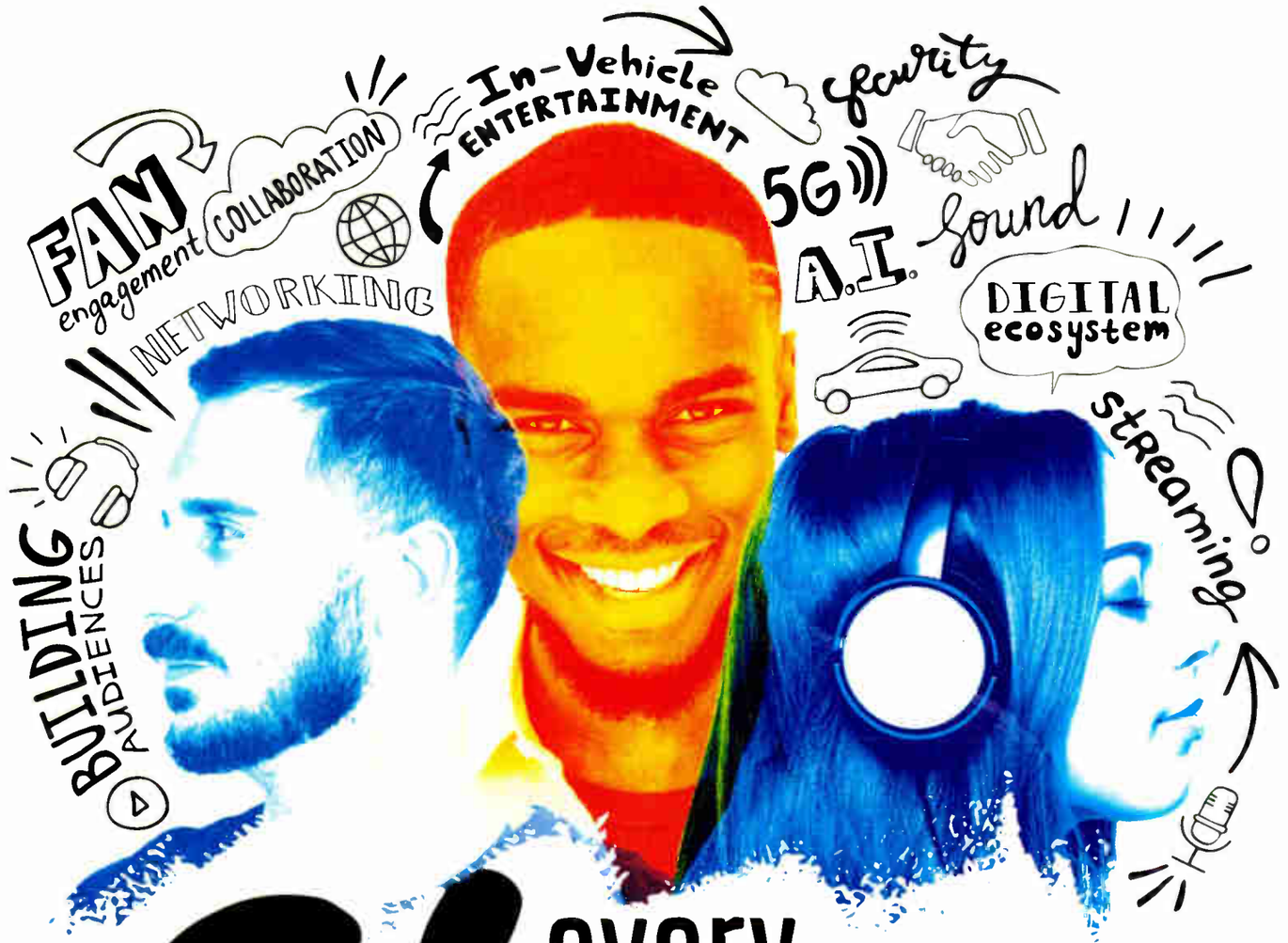

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BLOOMBERG

(continued from page 24)

technology, such as the Wheatstone LXE console, in-house systems and automation, to provide for streamlined operations and access to the company's 120+ bureaus around the world. Specifically, custom-built furniture components were created with the need to maintain clear eye contact for in-studio talent and guests and provide clean visuals without the talent needing to worry about looking toward the camera.

VISUAL RADIO ASPECTS

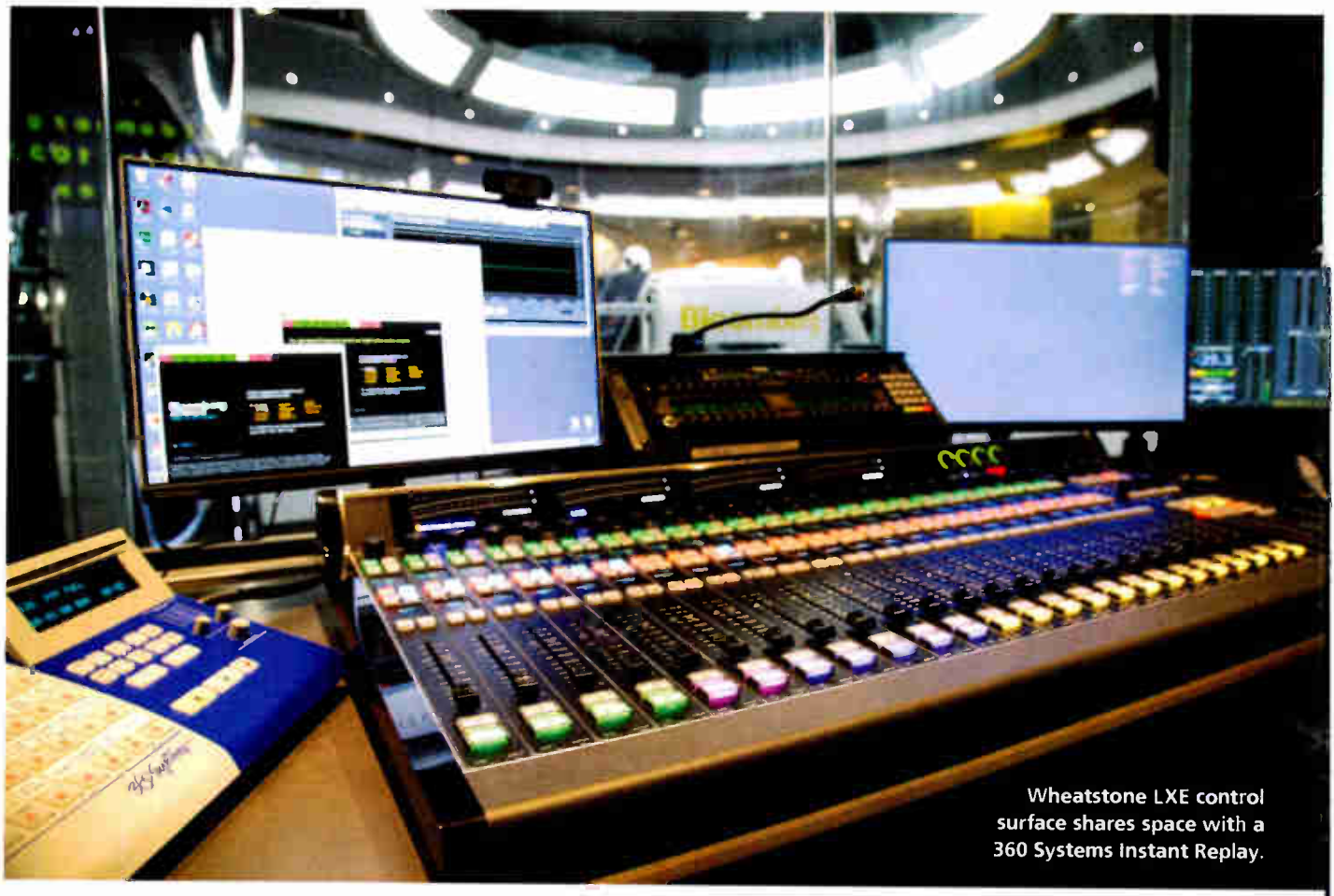
Bloomberg Radio includes a strong visual aspect, so I asked Mancini about those design aspects as well. Were furniture design requirements specified so that the "studio" looks more and more like a TV "set"?

"Design requirements were set to create an environment that enabled comfortable conversation and helped to convey the energy of the show," said Mancini.

"By allowing the talent and guests to have a natural conversation with all furniture and equipment in place to support the conversation they are able to look at each other as you would normally and have the Bloomberg Terminal for information source in camera shots that look clean as well. The main design premise was not to focus on the platform (video or audio) but to enable the show story-telling and reporting capabilities with audio and visual tools for multi-platform distribution.

"We specified microphones and booms that were low-profile and side-mounted to allow clear eye contact for all contributors and captured their shots without having a boom obstruct their face. Heil microphones are used for the profile and sound quality," he said.

Lighting wasn't nearly as important in an older radio studio as it is now, at least considering visual radio, and I asked Mancini about that. What type of lighting is used? "Unlike more traditional sets we selected low-footprint LED lighting to enable it to be seamlessly merged with the architecture and aesthetics of the space. Since all the lighting is LED-based the heat-loads and power loads are minimized versus what would be in a traditional studio," he answered.



Wheatstone LXE control surface shares space with a 360 Systems Instant Replay.

Camera selection is an important design aspect. "Cameras chosen were of the Panasonic AW-HE series for low-profile form factor and aesthetic blending into the sets," said Mancini.

Roman Mackiewicz, Bloomberg Media's chief information officer, said, "Cameras are set up for each talent/guest position so that it is pre-framed to allow for whoever is speaking during the show to be taken to air without requiring camera physical movement or much adjustment to centering of speaker. Camera position and furniture is aligned to enable person speaking to not look into camera to have a good 'iso/single' eye contact with camera while on air."

I asked if camera switching is done by a person or in an automated fashion. "There is an automated switching control program used (in-house, custom) that provides safe shots in standard programming formats and all camera controls, including painting and shading control," Mancini said.

"This automation allows us to switch between cameras, without framing adjustment, while the show is happening, showing the space and talent/guest relationship in a naturally framed setup," said Mackiewicz. "All cameras are available to be used from any control room in the 731 facility, including video distribution, pan, tilt, zoom and color correction/iris control. Camera footage is available live to all production control room for viewing, camera control is selected and 'taken' by the control room doing show production at the time."

Clearly distribution plays a critical role in the success of Bloomberg and I asked about how shows are distributed. "The shows in studio are created live to serve the local, national and digital distributions," Mancini said. "Delivery is a combination of terrestrial, satellite and digital distribution across a bouquet of platforms including our owned and operated properties as well as licensed platforms."

The Bloomberg Radio studio was built from the start to supply audio as well as video content to radio and TV audiences alike. If you anticipate building a studio for one or more of your radio stations now, plan for the video aspects at the beginning, along with the audio aspects. Trying to go back later to "tack on" or change physical features to better accommodate visual radio doesn't really make any sense after the fact.

Thanks to Anthony Mancini, Roman Mackiewicz and Brittany Baker of Bloomberg for assistance in preparation of this article.

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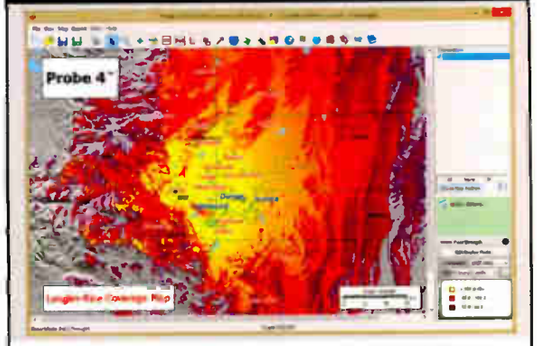

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Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is 0:22 & also the KLX kitchen the program guest is Susanne Caygill, a discussion of women's affairs with a long promotion for Caygill's appearance at a local store. Anne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

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

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

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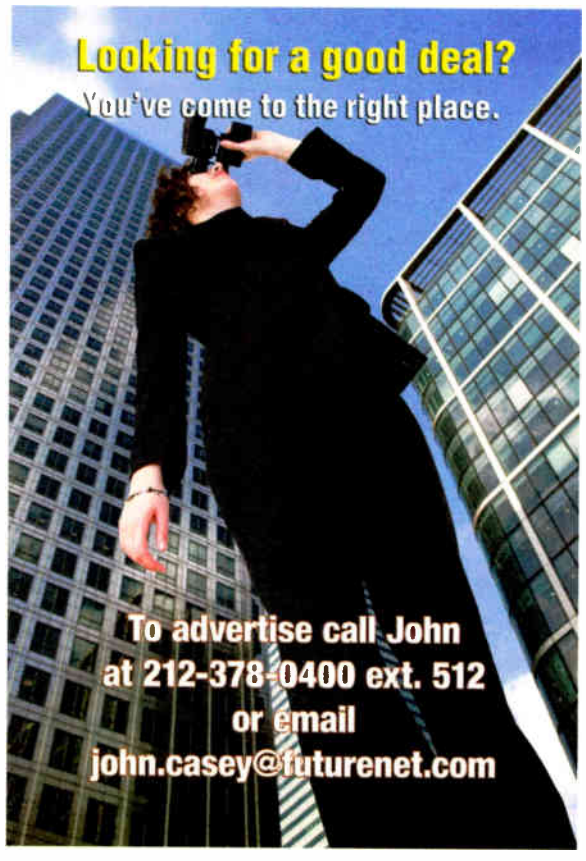

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Improve the Senior Band With These Steps

Stop waiting for the magic pill, says consultant

COMMENTARY

BY TIMOTHY C. CUTFORTH

In the several years since the Federal Communications Commission announced the apparent need to revitalize AM broadcasting in 2014, very few of the possible methods of improving service have been seriously considered — and only three notable proposals have been adopted.

The first method of improvement allowed was permitting FM translators to carry programs from AM stations in a fill-in mode, which has enabled some stations to add another presentation venue to increase advertising cash flow but, in fact, has also moved more of the remaining listeners of the remaining AM stations over to the FM dial.

The second improvement was a recognition that the AM station licensee that must move the transmitter site most often cannot obtain a site that meets the city of license coverage requirements for a new station. That realization has resulted in relaxation of the night coverage "showing" required for licensing. Requiring a station to reduce power to below the Class B minimum to continue nighttime service (as had been required in the past) did not in any way improve service to the public.

The third was a recognition that many areas no longer allowed construction of new towers of the heights required by the FCC rules to meet the minimum efficiency specified for each class of station. In response, the commission promulgated new rules allowing lower minimum efficiencies for AM antennas. The technology to use antenna designs based on shorter towers has been readily available for years, but was not previously allowed. This has enabled a few stations to continue service to their community rather than go dark.

However, other than helping spread the word that AM radio is passé and considered a relic of the past by Washington, very little effort of significance has been made since 2014 to allow most AM stations to actually provide better service in the AM band for their community of license and their market area, whether daytime or nighttime.

NOISE-LIMITED SERVICE AREAS

The FCC is specifically empowered and tasked with controlling interference to communications but has done a poor job of controlling the background noise floor interference levels in the last 20-plus years since digital and switching devices have become ubiquitous.

The FCC always recognized that a higher signal level was required in manufacturing areas to provide community service. For purposes of determining whether a community of 2,500 persons or more received service, it was required that at least a 2 mV/m signal for the community to be considered to receive service.

Even stations that could improve under the present rules are sitting tight, waiting to see what magic pill the FCC might come up with.

Now that these computer and switching noise-making devices are essentially everywhere utility power exists, it has become a de facto standard that a 2 mV/m signal is the minimum to provide service most anywhere a power line is visible. The old 0.5 mV/m primary service level might well have been a desirable standard when noise levels were lower, but at this time in most populated areas, signal levels below 2 mV/m are meaningless except for theoretical analysis.

NEED AND PRECEDENT FOR HIGHER PROTECTED SERVICE LEVEL OF 2 mV/m

Allocation rules specifically based on the 0.5 mV/m protected contour are not helpful in preventing actual interference at this time but are preventing service from being improved to overcome the higher broadband noise level that has caused the de facto standard for a useable signal to become 2 mV/m nationwide.

For years, the commission allowed applications for service to new communities to receive interference up to the 1 mV/m level both cochannel and first adjacent channel and this was considered standard service to the public.

Getty Images/Scukrov

FIRST ADJACENT OVERLAP 1-TO-1 AT 2 mV/m LEVEL

In 1991, the first adjacent prohibited overlap rule was changed in the name of reducing interference levels from the old 1-to-1 standard that required that the 0.5 mV/m first adjacent contours could not cross. The new first adjacent 2-to-1 standard required that the 0.5 mV/m and the 0.25 mV/m contours cannot cross.

Since then, only a few new stations have been added, so very little interference "reduction" in fact resulted from the new rule. However, the few stations that were added since that rule change are significantly disadvantaged in selecting transmitter sites and requiring directional antennas to meet city grade coverage standards while at the same time meeting the 2-to-1 first adjacent overlap standard.

Most of the AM stations in the US already have grandfathered first adjacent prohibited overlap due to allocations having been set by the old standards. Given both the historical precedent of allowing higher overlap standards for stations providing new service to a community, as well as the longstanding standard of requiring a 2 mV/m signal strength to provide service to communities with more than 2,500 persons, and the present background noise level requiring defacto signals of 2 mV/m to adequately serve any area with utility power, the prohibited overlap standard should be changed to a higher level whether 2 mV/m or alternatively 1 mV/m and also be returned to the 1-to-1 ratio at the prohibited overlap level.

COCHANNEL CONTOUR PROTECTION OF THE 2 mV/m CONTOUR

Protection of the 0.5 mV/m contour cochannel does not result in protecting actual coverage in most cases. A higher protected service level is appropriate and would result in very little loss of real service to the public at this time.

SECOND ADJACENT PROTECTION OF THE 25 mV/m CONTOUR

The second adjacent protection standard changing from 1-to-1 at the 5 mV/m contour to 1-to-1 at the 25 mV/m contour is reasonable and desirable at this time.

The state of the art is such that I can often listen to stations on the second adjacent channel from the tower site of that second adjacent station without significant interference.

While I believe that the interference reduction that resulted from the push for NRSC emissions bandwidth compliance was due mostly to improved IMD characteristics of state-of-the-art art transmitters, rather than the limitation of audio bandwidth being broadcast, the result has been dramatically reduced second and third adjacent channel emissions. Third adjacent emissions are essentially no longer a consideration, and second adjacent emissions are not significant on most stations.

CLASS A PROTECTION OF WIDE-AREA SERVICE CONTOURS

Concerning the unique wide area protection in the Daytime to the 0.1 mV/m contour and nighttime protection to the 0.5 mV/m 50 percent skywave contour for "clear channel" Class A stations, it has been years since there was enough white area anywhere in the Lower 48 to justify protecting the daytime groundwave contour of a Class A station below the 0.5 mV/m contour.

Likewise, the critical hours protec-

(continued on page 30)

World Radio History

REVITALIZATION

(continued from page 29)

tion of Class A stations — if necessary at all — is not protecting real service areas beyond the 0.5 mV/m groundwave contour level.

The nighttime skywave secondary service area provides little real service at the 0.5 mV/m level since the background noise level is closer to 2 mV/m nationwide. Protection of intermittent service (50 percent of the time) at a level below the average noise level is a waste of spectrum.

CLASS A EMERGENCY COMMUNICATIONS POTENTIAL

Concerning the potential for Class A stations to provide special emergency service in a true emergency such as a hurricane, the distant weak signal will be available for listening over a wide area specifically because the local utility power will be off in those wide areas, dramatically reducing the background noise impact, rather than due to maintaining antiquated 1930s allocation standards.

During periods when no such cataclysmic emergency situation exists those Class A protected weak signal areas will be adequately served by the ability of the public to use their local station, the internet and other alternate information resources.

NIGHTTIME CLASS A SERVICE VALUE

Protection of Class A night groundwave at the 0.5 mV/m contour against 10 percent skywave will preserve nearly all of the commercially viable service area of Class A facilities. Most of the Class A stations nationwide are identifying themselves by their FM frequency even where it is only a translator.

A local case in point is KOA 850. The Denver Class A station promotes itself continually on air as "KOA 94.1 FM," illustrating how the daily listening value of a long successful 50 kW Class A station has been displaced by local listening to a 250 Watt FM translator.

Even Class A stations are showing little concern for the *real* value of having and maintaining a wide-area AM coverage in their day-to-day promotions and sales.

AM BOOSTER TECHNOLOGY TO BETTER SERVE LISTENERS

The docket to consider allowing AM booster stations to be permanently licensed should be folded into the discussion of AM revitalization as it is one of the known technologies that can provide improved service to the public.

FM stations have been allowed to use permanently licensed booster stations for over 30 years. In the case of FM boosters, the FM licensee has been allowed to use a booster anywhere within the primary service area at his own discretion.

Other than helping spread the word that AM radio is passé and considered a relic of the past by Washington, very little effort of significance has been made since 2014.

Recent improvements in technology has allowed true synchronization of both the carrier frequency and the modulation, down to the HD digital stream, when desired.

I have built two very successful synchronous booster systems that provided very good service to the public and had no significant interference overlap zones. I have constructed means to synchronize the carrier of a station with the incoming foreign 50 kW interferer that dominated the channel. Such technology is available today right out of the box with GPS referenced frequency synthesizers.

AM licensees have been limited to short-term demonstrations of the technology of AM booster synchronization with no foreseeable hope of being allowed to use a licensed booster to serve the public with an improved signal, even though booster technology has been demonstrated multiple times to be functional over the last 30 years.

It would appear that the FCC does not believe that such improved service to the public is of interest when it comes to AM broadcasting, even though the commission has announced to the world that AM radio is languishing and in need of revitalization.

COMMENT SOURCE

These comments have been prepared by me, drawing on my experience in broadcasting and technical consulting.

I am the licensee of two AM radio stations with relatively wide "0.5 mV/m protected coverage" but seriously background noise limited, in fact.

I have been a technical consultant for over 50 years with specialties in design, construction and maintenance of directional antennas and wide experience from constructing tower sites and studios to constructing synchronous boosters, field strength measurements, proof of performance and Method of Moments filings for AM stations.

Many of my clients have asked me about how they can benefit from the revitalization of the AM radio service, and I have had to sadly tell them that the spread of proposals is so wide that I cannot tell them how the final rules might benefit their stations.

In addition the station owners are taking a wait-and-see approach, knowing that the FCC has already taken years to think about it and may not act in a time frame that would allow the present station ownership to benefit from any positive changes that might be adopted down the road. Even stations that could improve under the present rules are sitting tight, waiting to see what magic pill the FCC might come up with.

The value of AM broadcasting has been unnecessarily damaged specifically by the inertia of the FCC in deferring action for years after declaring to the public the declining influence of AM broadcasting. Quick action is necessary if any of this attempt to revitalize AM broadcasting is to have its intended effect. Further delay may seal the fate of many broadcasters suffering from the malaise and lack of viable opportunities to serve their public with an improved signal in the AM radio band.

The author is owner of Broadcast Engineering Consultants LLC and licensee of KCEG(AM) and KJME(AM) in Fountain, Colo.

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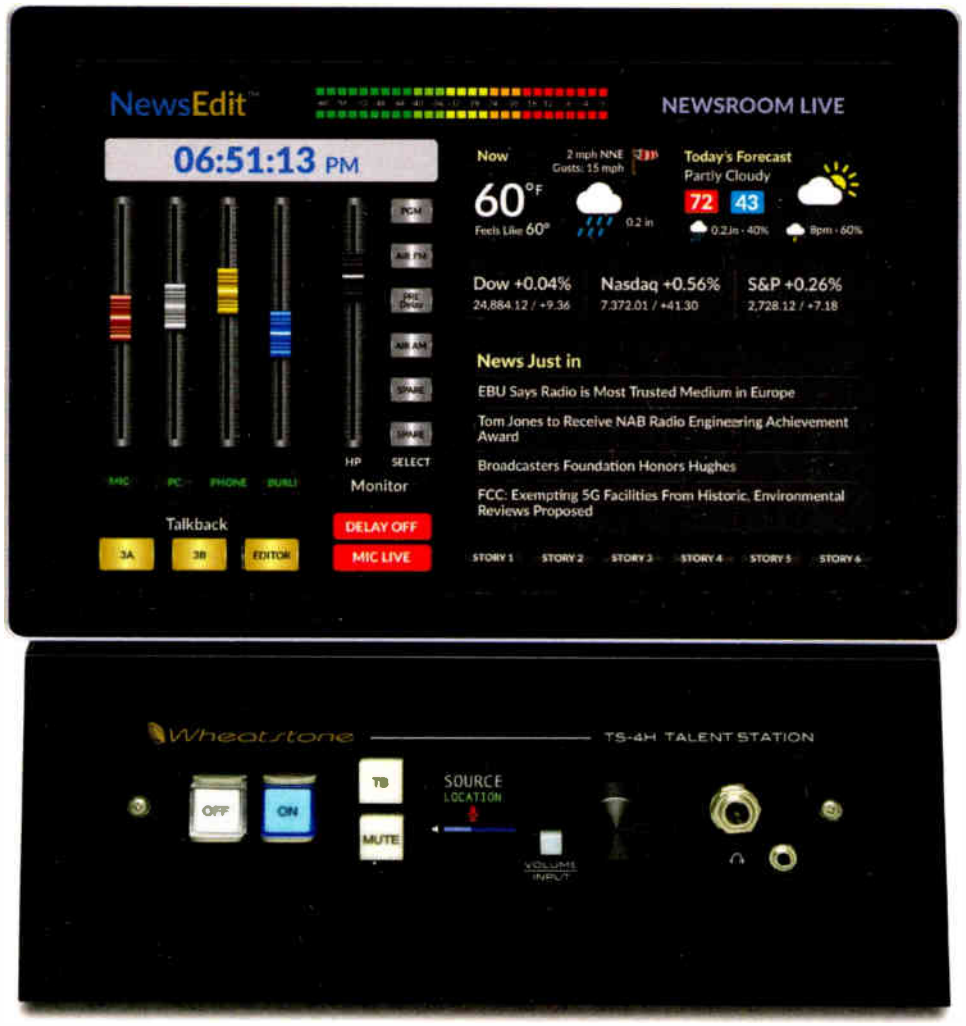

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