RADIOWORLD

Your guide to radio technology

SiriusXM casts its net wide

The satellite company's Fish Mapping service
helps keep it diversified

A chat with
Andrea Cummis
She's the first woman president
in the history of the SBE.

Radio and
the IoT
Xperi seeks a foothold with the
Internet of Things.

Buyer's
Guide
What's new in automation,
traffic and billing.

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FUTURE

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COVID doesn't care about trade shows

Paul
McLane
Editor in chief

Proving yet again that being of Irish extraction carries no immunity against Murphy's Law, I signed off on your previous issue of Radio World, with its preview of the NAB Show, on Sept. 7 only to learn on Sept. 15 that the National Association of Broadcasters had cancelled their event in the face of a resurgent pandemic and the pullout of major exhibitors. The collocated Radio Show and AES Show also were cancelled.

Oh well.

I trust that attentive readers understood why they received an issue with a preview of an event that wouldn't take place!

The inconvenience to me is minor. Harder hit are companies that intended to exhibit and had already shipped equipment to Las Vegas in anticipation; conference planners who designed sessions and panels; and broadcasters who had booked travel and were looking forward to doing some in-person networking again.

It was always an aggressive plan on the part of NAB to try to have a trade show this fall (plus another one six months later). But when it created the plan back in the early months of the pandemic, the chance that things would be well on their way back to normal by now seemed a safe bet.

Obviously that's not the case, with the variant causing cases to spike again in late summer and with Americans still arguing over sensible health precautions like masks and vaccines.

In trying to have a show this fall, the association also no doubt was influenced by the fact that the loss of the 2020 show cost it a considerable amount of revenue. The annual convention is an engine that helps fuel NAB's work as a lobbying force and broadcast advocate. So the decision to cancel a second time must have been particularly painful.

Yet few people would be well served by a lightly attended event with many empty booths. And I confess to being relieved that I won't have to sit in an airplane or mingle in exhibit aisles just yet.

Radio World believes in a strong technology marketplace. NAB Shows play a vital role in that. So here's hoping that by springtime, you and I can start meeting in person safely again.

It's sobering to realize this though: When we do meet in April, it will have been three years since our industry last met in Las Vegas. Wow. 🔴

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Dielectric Expects FCC to OK FM Pattern Modeling

Dielectric is hoping that the FCC will approve a petition to allow computational directional FM antenna pattern modeling. It said it expects the FCC to give its blessing this fall.

"The new rule paves the way for the first directional FM pattern verification rule change in 58 years — a rule change that passes the torch from physical to AI-driven simulated modeling," the company stated.

FM broadcast antenna manufacturers currently must build physical models and collect measured data to verify patterns. Antenna modeling is used in other broadcast products including TV station antenna modeling, which has been allowed for the past four years.

VP of Engineering John Schadler said this change is "simply long overdue. ... FM is the only FCC service that still requires a physical range measurement, and anyone who has worked with range measurements knows that accurately measuring radiation patterns is extremely difficult. Simulated pattern verification is much more economical with less chance of error."

Read the Dielectric proposal in PDF form at *https://tinyurl.com/rw-fm-pattern*.

Hold Off on Foreign Sponsorship ID, FCC Is Told

Several broadcaster advocacy groups asked the FCC not to implement its new rule about investigating the sources of programming content, pending the outcome of a legal challenge.

The National Association of Broadcasters, the Multicultural Media, Telecom and Internet Council and the National Association of Black Owned Broadcasters asked the commission to stay the implementation of its new requirement, which states that every TV and radio broadcaster is to independently investigate every programming lessee to determine whether the sponsor is a foreign governmental entity or its agent — "even where the leased programming poses no colorable risk of foreign sponsorship."

The three organizations are fighting the order in an appeals court.

They said this order will require many broadcasters to spend "tens of thousands to hundreds of thousands of dollars" to hire and train employees to conduct the required investigations, as well as engage counsel to review their lease agreements and negotiate with lessees to bring existing leases into compliance.

Andrea Cummis is SBE's 32nd president

And as the society's first female leader, she hopes to help it diversify

A ndrea Cummis will be the next president of the Society of Broadcast Engineers; she will be the first woman to hold that office.

Cummis, CBT, CTO, has been chief technical officer of PBS39 WLVT(TV) in Bethlehem, Pa., since 2017. Her responsibilities also include technical oversight at NPR affiliate WLVR(FM). She is a member of SBE Chapter 15 in New York City.

She was unopposed in the SBE election and will take office on Oct. 18, succeeding Wayne Pecena, who served two terms and remains on the board as immediate past president.

Cummis has a breadth of expertise, holding degrees in electrical engineering and in law and technology, as well as an MBA. She has worked for more than two decades in engineering, operations and new technology in television, radio and new media.

She and her husband Renard Fiscus also own AC Video Solutions, a systems design and integration firm. Its customers include Christian Faith Network, New Jersey Performing Arts Center, All Mobile Video, M&T Bank and Raritan Valley Community College.

Cummis spoke with Radio World Editor in Chief Paul McLane.

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You've done quite a bit of systems integration and design, as I understand it.

Andrea Cummis: Lots and lots. Many, many years.

How did you get into broadcast engineering in the first place?

Cummis: Oh, it's a funny story. I was in my eighth-grade history class and we were doing projects; you got up and showed your project.

Someone dropped off a cart of equipment — a camera and an old black-and-white reel-to-reel deck — but none of it was put together, it was all just on a cart in a box. I thought it was really interesting. I went over to the librarian and said, "Do you need help with this?" I put it together and started recording projects, and I became the AV person for the junior high.

I would record all the school plays and do the audio recordings for concerts.

> ## "I would like to figure out how to diversify and get more women, more minorities, different ages, and people who aren't necessarily 'straight engineering' but have other technical jobs in broadcasting.

When I was ready to go to high school, the librarian called them and said, "Don't mess around, just let her do video stuff when she gets there, don't make her wait." So I started running a four-camera video studio as soon as I got to high school. I was TD'ing and directing four-camera shoots for the school plays and running monitors backstage. I just figured it all out.

A lot of people in our business would know what that high school AV closet looks like! Yet in 2021 there are still very few women in the field. Why do you think that is?

Cummis: It's really hard, and pretty physical, and you don't get paid that much.

If you're studying engineering in college, why wouldn't you do chemical engineering or IT, where you don't have to be on your feet all day and work crazy hours and be on call weekends and nights and probably get paid a lot more?

I think we as engineers are very undervalued in how hard we work and how much knowledge we need, how we have to work under pressure and respond really quickly.

It's a very unusual job. I wish I knew why more women didn't do it. I don't think they have the opportunity. Maybe a lot of people don't know that this job exists, they were never exposed to it.

As you come in as SBE president, what are your priorities?

Cummis: Well, for me as the first woman president of SBE, I would like to figure out how to diversify and get more women, more minorities, different ages, and people who aren't necessarily "straight engineering" but have other technical

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jobs in broadcasting. It has been our goal as a society for a long time, but it feels really important right now.

RW **Certainly there's been no lack of good intentions on the part of the society over the years, but these also are issues in our broader culture. Those are not small obstacles.**

Cummis: No, absolutely.

One of our goals is to have a strategic planning process that will open things. In the past, we've flown people into one place, trapped them in a room and talked all day. But with all the virtual meetings we have nowadays, it's a great opportunity to be able to invite more people and do sessions in different jobs and locations — really open it up so that we can get a better understanding of what people need, what they think we could do to be better and attract other kinds of people.

RW **You certainly are coming into this position at an interesting time nationally, given the pandemic and the effect it's had on events, meetings and working remotely.**

Cummis: We've done really well at SBE with having virtual meetings, it's been very successful for us.

For me, the interesting thing being in charge of a facility is having to deal with all the COVID stuff and keeping your facility safe and your people safe. A lot of chief engineers and other members have been thrown into being COVID experts and having to figure this out.

Are your people working remotely successfully? Are you increasing your cleaning?

For example I found these really cool wraps that you put around handles that are supposed to keep everything clean magically. I don't know how they work but it's amazing technology. I even had to take COVID certifications including a session with a doctor, a nurse and a lawyer; you had to pass a test.

> **" A lot of chief engineers and other members have been thrown into being COVID experts and having to figure this out. "**

There's so much to know and it changes so fast. It really has changed what our job is in ways you never could have predicted.

RW **We often hear of the traditional divide between IT and broadcast engineering. Many of those skillsets and interest areas now overlap. Is the divide getting any closer?**

Cummis: In some cases it's totally merged and there is really no divide; and in other places that are union shops, they can't get together because they're not allowed to. That's where it gets messy, because the broadcast engineers have a specific domain, the IT guys are on the other side, and there are times they have to work together. But then there's times where you get finger-pointing: Who's in charge of this or that, and who's assigning IP addresses or anything else that crosses over.

I think you're always going to have two paths.

RW **As you look across media technology, are there particular areas where you think SBE members ought to be paying closer attention for their careers?**

Cummis: Well, the ATSC 3.0 stuff is coming up really fast. A lot of places are already starting to implement it. There's so much to know and it's so complicated, so many ways to use it. Each organization is going to have to figure out why they're doing it and what they're hoping to get out of it.

Then having to keep the ATSC 1 going while you're doing ATSC 3. It's years and years that you have to overlap, and nobody's helping you pay for it. How do you do it? How do you "lighthouse"? Are you doing it with somebody else or can you do it with just what you own?

Just taking a webinar is not going to be enough for anyone. There's an awful lot to know, and it's going to keep changing. It will be probably be a few years of people watching to see: "How is somebody else rolling it out? Was it successful? How long did it take? What did it cost?"

We're looking at it here at WLVT, but we're part of a big channel share. It's going to be hard to do that with nine channels on our one piece of bandwidth now; how would you ever lighthouse that?

RW **SBE has done a great job of putting together training materials on many tech topics. Are there other issues you want to mention?**

Cummis: I think overall we've made some really good decisions in the past few years. Our new membership enhancement, SBE MemberPlus, which includes all the webinars, has been really successful. All our education certification, all our big initiatives like the Technical Professional Training Program have been terrific and are continuing — we just started ATSC 3.0 certification, something I should probably take at some point!

There are a lot of things we do really well. I hope to continue those and grow in other places. **RW**

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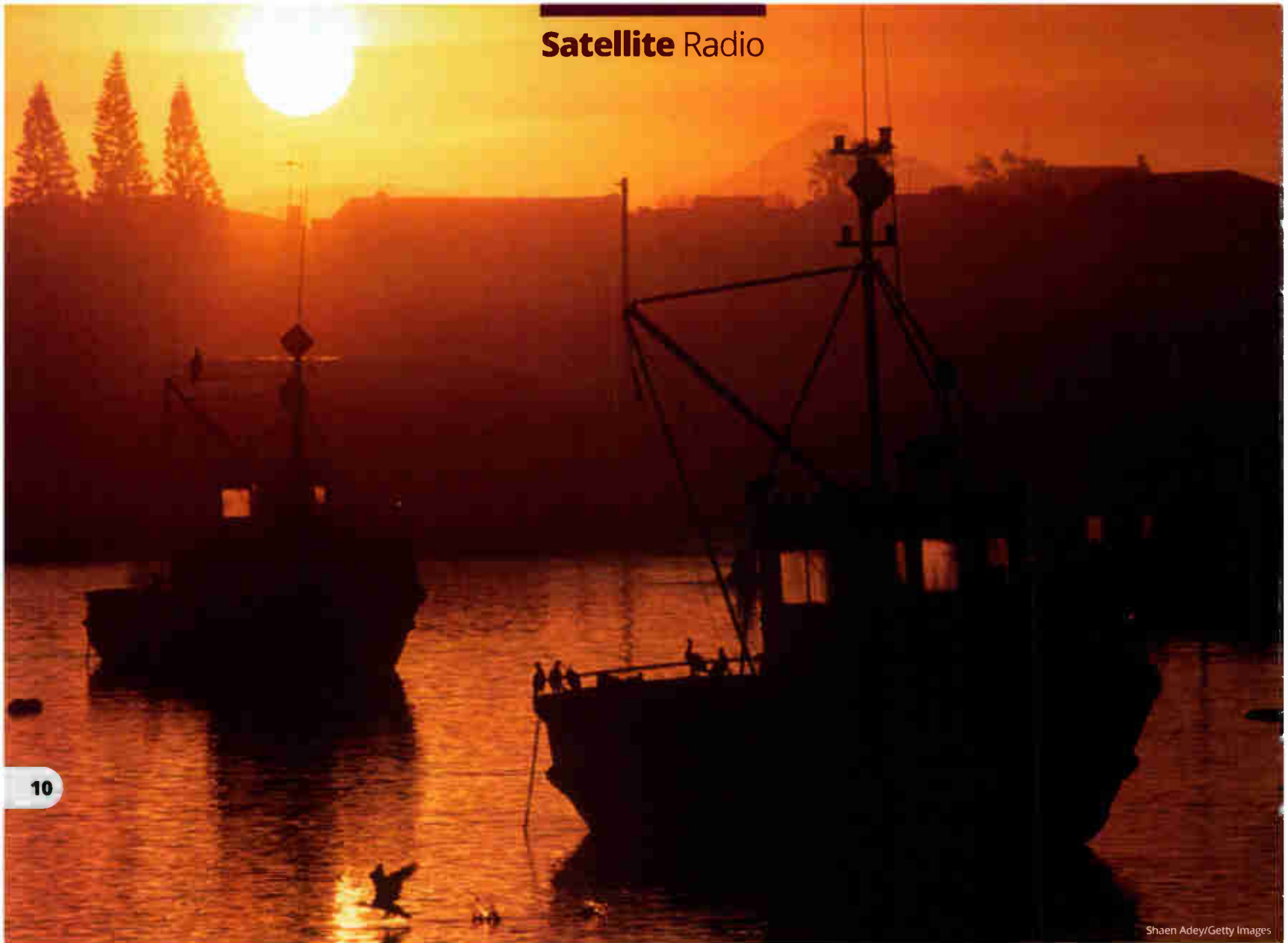
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Writer

James
Careless

The longtime
Radio World
contributor
wrote about
the surprising
resilience of
shortwave
radio in the
Sept. 1 issue.

SiriusXM fishes for diversification

Fish Mapping service provides guidance to recreational fishing craft

n 2019–2020, Florida's saltwater recreational fishing industry contributed $9.2 billion to the state's economy. When COVID-19 finally wanes, that industry is likely to revive, as are saltwater recreational fishing industries off ocean coasts around North America.

For a diversification-minded technology company like SiriusXM, recreational fishing offers a natural business supplement to its core listening audience.

For decades, offshore fishing vessels have relied on radio for vital information. Now SiriusXM Marine is able to provide these craft with a Fish Mapping data service to identify areas in the ocean where the fish are most likely to be biting.

As an example of its activities in this area, SiriusXM announced this spring that it is now transmitting its Fish Mapping service to Furuno's NavNet TZtouch3 line of multi-function displays (MFDs) equipped with BBWX4 SiriusXM Satellite Weather receivers.

"Furuno's strong product line has always helped anglers get on the fish and catch them," said Dean Kurutz, Furuno USA's senior VP of sales, marketing & product planning, in the announcement.

> **Fish Mapping is a SiriusXM Marine package that delivers fishing data and weather service to a boat's display, marking spots where bait fish gather and game fish hunt.**

"Now, with the advanced data provided by Fish Mapping, captains will have the ability to locate ideal fishing grounds by targeting specific species and sea conditions, maximizing their time on the water and helping save time and fuel."

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"Situational awareness"

SiriusXM's main business case is based on providing listeners with a unique broadcast selection of entertainment, music and information audio channels.

Its North American satellite footprint covers from the Atlantic to Pacific coasts and adjoining waters. This is why "SiriusXM has provided key weather information for offshore anglers well beyond the reach of cell or internet signals for many years," according to Geoff Leech, senior director of SiriusXM Marine Services.

Above
SiriusXM Marine's Weather and Fish Mapping services as they appear on the multi-function displays at the boat's helm.

Below
Plankton Front Strength and Sea Surface Temperature Front Strength are features that help anglers identify the most promising areas to fish.

"This information has provided anglers with valuable situational awareness while they are exposed out on the water."

Initially, this weather service was voice-only. But eventually, under the name of SiriusXM Marine Weather, it was expanded to include weather and ocean data to onboard navigation displays made by Furuno, Garmin, Raymarine and the Navico brands Simrad, Lowrance and B&G.

These full-color displays allow boat operators to "see" the weather around them overlaid on top of their electronic navigation charts. The move made sense: Boat operators were willing to pay to access this data, and SiriusXM had the satellite distribution network in place to provide it to them.

So how did an information service for boats end up providing offshore fishing recommendations?

"One feature of SiriusXM Marine Weather that anglers value is Sea Surface Temperature data," Leech replied.

"The areas where ocean surface temperatures change are often where bait fish find nutrients to feed on, and in turn the pelagic species of game fish feed on these bait fish. Knowing that many of our customers were already offshore anglers led us to develop Fish Mapping so we could provide additional fishing information for these valued customers."

An offer on the company website in September priced the Fish Mapping service at $99.99 per month.

The Fish Mapping service costs $99.99 a month and includes SiriusXM Marine's Weather information. The service can be suspended at no charge for up to six months each year.

The science

Fish Mapping works by identifying the qualities in areas of the ocean that influence the likelihood of finding desirable

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game fish such as marlin, tuna and wahoo, among others.

These ocean features include variations in sea surface height (upwellings of nutrients), surface/ subsurface temperatures, "weed lines" — floating vegetation where fish congregate to find food and shelter, and where they are hunted by larger predator fish — and plankton concentrations.

At SiriusXM Marine Weather, "the data for our Fish Mapping service is provided by oceanographers from Maxar Technologies," said Leech.

"Maxar is a satellite company that provides Google Earth imagery and other services including information to help find the best fishing conditions. The oceanographers at Maxar compile and analyze data from various sources and send it to SiriusXM to incorporate in our satellite feed for our Fish Mapping customers."

This feed reaches boats up to 150 miles offshore. A SiriusXM receiver on the boat captures the signal, which is translated into images shown in large-screen format directly on the boat's navigational display.

"Having onboard fishing-specific data showing the areas of the ocean where pelagic species of fish are most likely to congregate is seen as a true 'game changer' by offshore anglers," Leech told Radio World.

"SiriusXM Marine Weather helps boaters stay away from dangerous weather so they can enjoy their time on the water, and Fish Mapping helps anglers find the best spots to fish, saving time and fuel."

Happy customers

Finding that place where the fish are a-bitin' is a constant question for fishing enthusiasts. SiriusXM's Fish Mapping service harnesses science to answer this question, resulting in a lot of happy "fisherpeople," if not happy fish.

"The 'Fishing Recommendations' are my favorite feature," wrote Captain Greg Weaver of E-Fishing Sea Sport Fishing Charters in a testimonial sent to SiriusXM.

"In a recent trip, I headed out to the areas marked as recommended for wahoo. In addition to catching wahoo, I found that the area was productive with bait and I also caught tuna and marlin. Fish Mapping has already made a huge impact on where I take my charter customers."
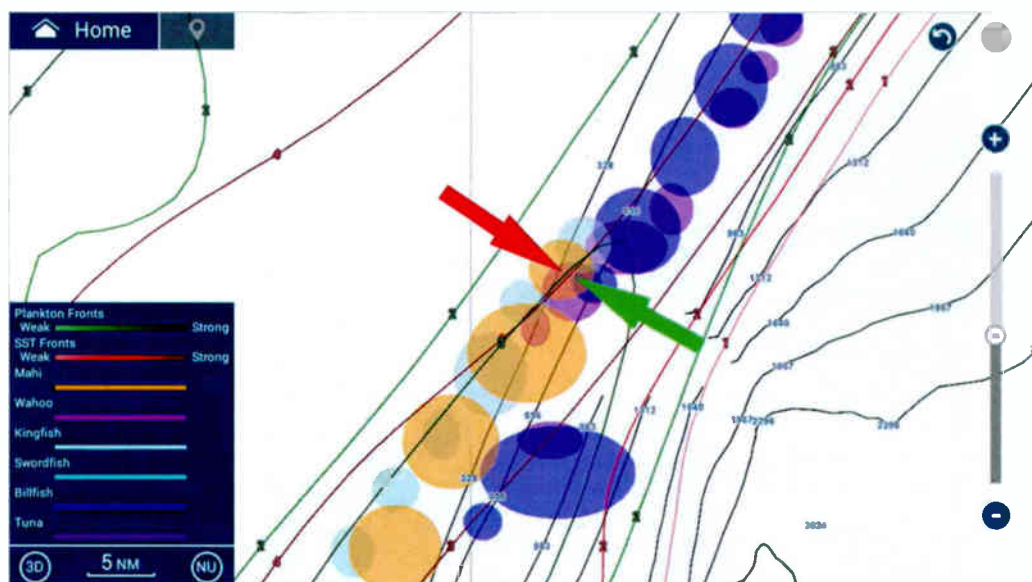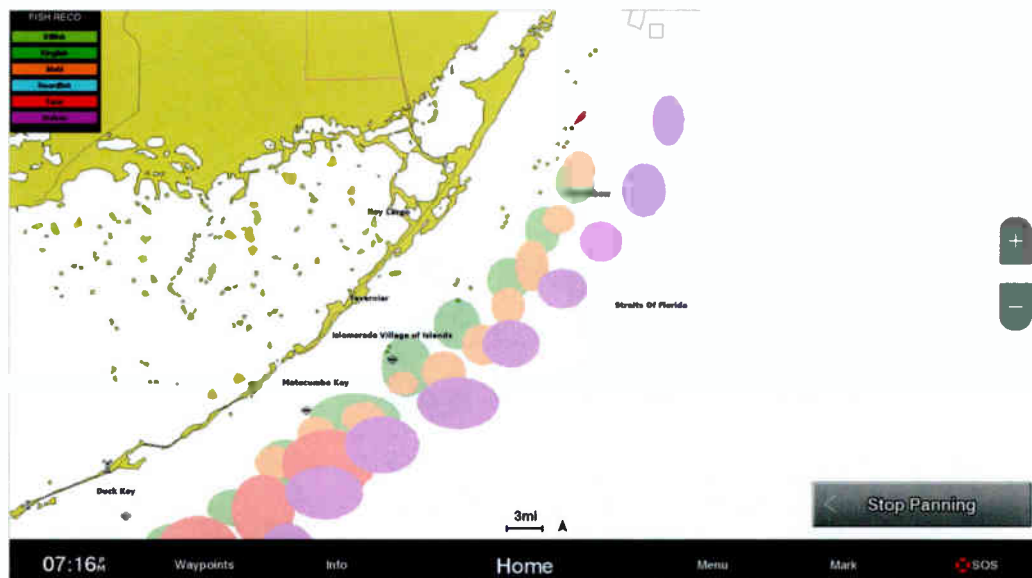
Top
Fish Mapping's Fishing Recommendations feature identifies areas that oceanographers recommend for zeroing in on six distinct target species.

Above
Overlays for plankton and sea surface temperature fronts suggest promising areas to find specific types of game fish.

Dave Johnson, Mike Hatcher and Captain Tom Robinson of the fishing craft "Fixed Income" in Naples, Fla., told the company that after looking at SiriusXM's Fish Mapping Fishing Recommendations feature on their Garmin plotter and seeing several recommended areas for wahoo, they aimed the Intrepid for one of the overlapping "fish bubble" areas about 80 miles offshore.

"We put two weighted wahoo flatlines out well behind the boat and two outriggers with skirts chugging over the wakes and trolled at 8.5 knots. We had our first wahoo on in minutes."

Given its success in Fish Mapping, SiriusXM is understandably motivated to move into new areas beyond its core audio business.

"We are constantly exploring new and innovative services that would bring additional value to our existing and prospective subscribers," said Geoff Leech. R

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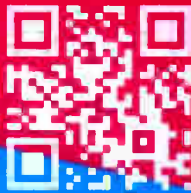
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John Bisset
CPBE

has spent over 50 years in broadcasting and is in his 31st year of Workbench. He handles western U.S. radio sales for the Telos Alliance. He is a past recipient of the SBE's Educator of the Year Award.

Fill us in

Workbench tips and ideas are encouraged and qualify for SBE recertification credit. Email *johnpbisset@ gmail.com*.

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Schematic diagram with annotations:
+ 6 DB Boost
- 6 DB CUT
+ 6 DB Boost
- 6 DB CUT
L − R (Mono L /R Difference) (Vocal Eliminator) (Ambience Effect)
L + R (Mono Sum)
Essentially these are the same but the outputs are 180 degrees in difference
L − R (Mono L /R Difference) (Vocal Eliminator) (Ambience Effect)
NOTE: Install JUMPERS for use of the XFMR Center Taps

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Special Usage
Frank Hertel | Rev 1.0 12/27/2000 | Page # 1 of 1

Readers react to Frank Hertel's "Outtaphaser"

Also, Bill Ruck deploys "the mother of all isolation boxes"

San Francisco contract engineer Bill Ruck awards Frank Hertel a gold star for his unique approach to a noise-reducing mic project as described here in August. Bill noted that a similar system was part of the Grateful Dead's "Wall of Sound."

Bill adds that Frank connected Pin 1 (ground) to the shell of the XLR connector, and says there are two camps in this regard. He has learned not to connect Pin 1 to the shell on his cables because it can induce all sorts of ground issues when interfacing to unfamiliar equipment. He says you never know what "The Other Guy" has done with his ground.

This is especially true with video. Remember that video is unbalanced and that the video folks tend to have a lot of crap on their ground systems. You could hear sync with analog NTSC; but today, SD just puts wideband noise everywhere.
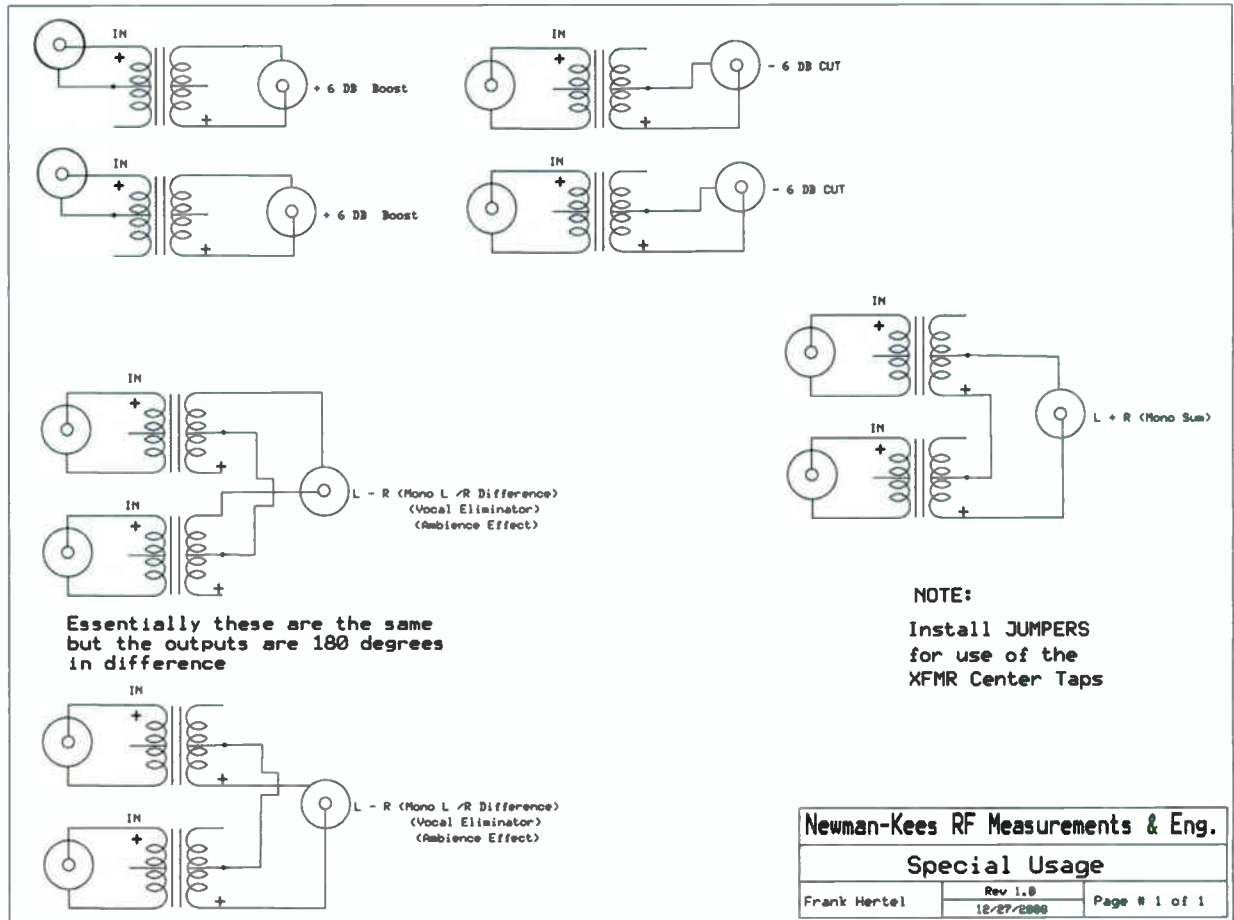
Because of that potential for picking up noise, Bill made what Dan Healy, the Grateful Dead front-of-house mixer, called "the mother of all isolation boxes."

It is a heavy steel box with four Western Electric 111C coils wired 1:1. The male and female connectors on the top were mounted in acrylic and therefore are insulated from each other.

Only Pins 2 and 3 are connected to the 111Cs. No matter how mangled the cables are, they can't cause problems to the front-of-house or recording truck.

"Back in my broke misguided youth," Bill continues, "I used to borrow mic cables for events. I learned the hard way to spend the night before the event testing and

World Radio History

rebuilding them." Nowadays Bill has several thousand feet of cables, all made properly, mostly with Canare L-4E6S.

Like most of us, Bill has seen Pins 2 and 3 reversed as well as the common error of reversing Pins 1 and 2. That can really cause havoc.

From all his cable experience, Bill has learned that even with Pin 1 floating, you can still have issues if the XLR shell is connected to Pin 1.

As a workaround, Bill constructed several 6-inch green cables that have Pin 1 floating at the female end and Pins 2 and 3 through. Pin 1 (the cable shield) is connected only at the male end.

That way, no matter what Pin 1 and the shell are connected to, the ground is broken. This breaks up ground loops.

In Frank's noise-cancelling mic application, tying Pin 1 to the shell shouldn't make much of a difference, since microphones also tie Pin 1 to the mic body.

Splendid isolation

If you don't have Western Electric transformers, you can pick up easy-to-wire isolation transformer boards from Newman-Kees RF Measurements & Engineering, as shown at right.

They provide lightning isolation to 1200 Volts and can be strapped for various applications as shown in the schematic at the beginning of this article. Features include 600 Ohms in and out, primary and secondary center taps, board traces for attenuators and 1/8-inch mounting holes. Cost: $35.50. Email *newman-kees-hertel-rf-eng@twc.com*.

Hard to use?

Another opinion came from Oliver Berliner of SounDesign Engineers.

"Call me a killjoy for fearing that Frank Hertel's clever 'Outtaphaser,' detailed in the Aug. 18 Workbench, may be as tricky to operate effectively as it was to create," Oliver writes.

"That's because the output levels of the two crowd mics must match, leaving the level of the guest's voice to be regulated intentionally and/or inadvertently by the mics' moving toward or away."

Oliver said a way to overcome this limitation while still reaping the advantages of stereo theory is to mount twin

Ambient Noise Is Canceled

Normal Phase

Wired Out Of Phase

Top
Frank Hertel's noise-reducing mic.

Above
This Audio Hum and Lightning Isolator board from Newman-Kees uses high-quality transformers to isolate lines.

mics on a dual-mic stand and use them for the crowd noise throughout the game, giving a third mic to the interviewer.

Cancel that cancellation

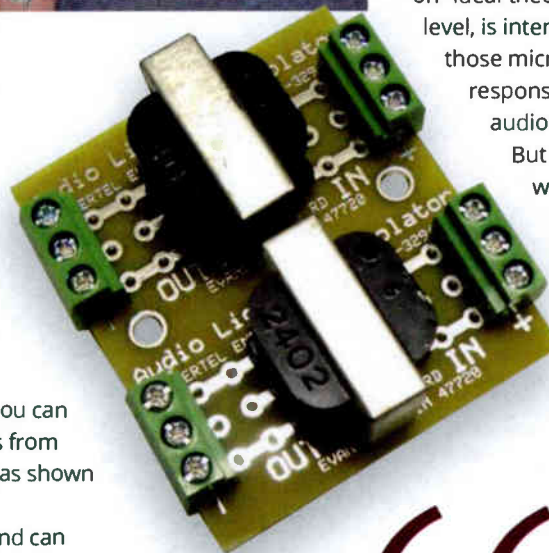I followed up with Frank about these comments.

First, in preparing the article, I should not have used the phrase "noise cancelling," rather "noise reducing." Frank's out-of-phase mic scheme reduces the background crowd noise but doesn't cancel it completely.

Although Mr. Berliner's suggestion of using three mics certainly will work, it's more appropriate for a fixed position mic. Frank's system is best used for a roaming reporter, who is not stationary.

Frank also pointed out that this technique is based on "ideal theory." If an identical sound, at an identical level, is intercepted by both microphones, and if those microphones have identical frequency response and equal sensitivity, the resultant audio output would theoretically be zero. But since we are living in a real world, with a lot of physical variations, the best that can be claimed is that a goodly amount of background noise will be greatly reduced.

Try it out and let Workbench readers know what you experienced. 🔴

> " **Since we are living in the real world, with a lot of physical variations, the best that can be claimed is that a goodly amount of background noise will be greatly reduced.** "

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TASCAM Features Mixcast 4

A product aimed at podcasters but of interest to broadcasters is the Mixcast 4 Podcast Station. TASCAM calls it a "one-stop recording and mixing workstation" that can also benefit streamers and voiceover folks.

The Mixcast 4 can mix and record mic inputs, internal sounds and music via trigger pads as well as external audio input from a phone or PC.

It has an internal 14-track recorder that records to an SD card. The unit incorporates four TRS/XLR combo jack mic inputs and four individual headphone outputs to facilitate podcaster interactions.

Features include an auto-mixing function that automatically adjusts optimal levels and a 5-inch color touchscreen to access menu settings.

Its editing software, included, supports Windows, Mac OS and iOS. (Android OS will be supported later.)

Eight customizable sound pads are eight banks deep. Preset sound effects are provided, and users can assign new sounds or mic sounds prerecorded on the unit. Its sound pads allow voice effects such as voice transformation and reverb.

Other features include a 14-input / two-output USB audio interface for multi-track recording to a computer or other device and support for a Bluetooth connection that allows recording phone calls or playing background music from your devices.

The stereo line inputs are selectable between 1/4-inch TRS and 3.5 mm TRRS. PC connectivity enables it to import sounds from a computer. Other outputs include a front top-panel 3.5 mm TRRS headphone out that can mirror the output of headphone 1, stereo 1/4-inch TRS Main Monitor Outputs and a 3.5 mm Stereo Line Out.

Info: https://tascam.com/us

WorldCast Improves APT IP Codecs

WorldCast Systems recently issued a new release of its IP codec range, available on the APT IP, AoIP Multichannel and MPX Multichannel codecs.

APT Codec 4.0 is intended for MFN, SFN and STL applications and includes several new features and enhancements.

The APTmpX algorithm is available as a software option. The company calls it the only non-destructive MPX/composite compression algorithm to save network bandwidth while maintaining the original composite signal quality.

Also available as an option is SynchroStream, an APT technology for stable time-synchronous IP transmission and playout of audio content. "It is the most effective tool for optimizing analog FM-SFN networks with the most precise time alignment," WorldCast stated, allowing the user to move "mush zones" in the narrowest steps of less than 50 meters in the field. It uses an externally supplied time reference.

Info: worldcastsystems.com

More New Products!
Don't miss Radio World's Fall Product Planner ebook, with more than 50 new products. Access it for free at *www. radioworld. com/resource-center*.

AT2040 Promises Quality Sound for Podcasts

Audio-Technica this summer released the AT2040 Hypercardioid Dynamic Podcast Microphone, a $99 model that it says is its first mic that targets podcasters — although its design was inspired by the pricier BP40 Large-Diaphragm Dynamic.

"The AT2040 brings professional broadcast-quality sound with exceptional vocal reproduction to podcasters and other content creators at an affordable price point," the company said.

Features include rugged all-metal construction and a promised warm natural sound with tight hypercardioid polar pattern. A multistage windscreen combines a nonwoven filter with foam mesh for solid pop filtering, and a shock mount is integral to the mic.

The AT2040 has an XLR output and comes with a pivoting stand mount and 5/8"-27 to 3/8"-16 threaded adapter.

Info: www.audio-technica.com

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RCS

Sound Software ®

LEADS'
THE WAY

The World's Largest Broadcast Software Company

Zetta.
Automation

GSelector.
Music Scheduling

Aquira.
Traffic

Revma™
Streaming

Zetta.Cloud
Peace-of-Mind

RCS2GO
Mobile

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More info

Contact Arrakis at 1-970-461-0730 x2 or visit *www.arrakis-systems.com*

Apex is the peak for Buenas Nuevas Network

Arrakis automation continues to deliver on-site and remotely for broadcaster

Writer
Irving Ravelo

General Manager, GMF-Christian Media, Buenas Nuevas Network

I have been a client of Arrakis Systems and automating stations using their software and hardware since 2005. Four years ago, when I learned of the new Apex automation system, my first impression was that this is the automation system we'd been waiting for.

When we started our Buenas Nuevas Network in 2018, our CEO Dr. Richard Hamlet conveyed a message of quality and excellence in all we do. I started by adding Apex automation. Its versatility, live functions and programming tools have placed this software at the top of its class. Apex is sophisticated yet remains the most user-friendly and intuitive automation program on the market.

In-person staff interaction is a thing of the past, which makes communication of time-sensitive and complex tasks more difficult. Apex has minimized this gap between producers, programmers and DJs.

We have a diverse team in multiple markets including San Juan, Monterrey, Boston, Albuquerque, Jacksonville, Memphis, and several markets in North Carolina. Apex allows my staff to navigate the system remotely as if they are in our studio headquarters. Having staff simultaneously working on production and programming remotely is truly a blessing.

The Apex On Air module is flexible and easy to navigate. My DJs set up their own user profiles, allowing them to quickly bring up their own customized windows layout, which may be as simple or complex as they wish. Using multiple sound cards, they may manually crossfade events or allow Apex to automatically do so.

Features include drag and drop, preview audio, and File Info to share interesting facts about an upcoming song. You can run a game manually or let the system do it.

Apex On Air works with Apex Tools, the management software. Using Tools, we manage audio, create clocks, edit the play schedule, import, voice track, record and edit new audio and pull reports. Apex Tools is the fastest and easiest to learn programming tool out of many programming platforms we have used.

There is a lot to consider when purchasing automation: features, installation, staff training, efficiency of daily operation and the ability to support technological growth. Apex has the bells and whistles. There's no need to purchase additional software as our stations evolve.

Thanks to the Arrakis support staff, installation is smooth and quick; they jump in to train your people and will help with anything that may come up later. I highly recommend that decision-makers take advantage of the time Arrakis gives for testing Apex before making a big automation purchase. It will be worth it.

⟳Tech Update

Instant replay added to **AEQ** AudioPlus

The latest automation and live-assist offering from AEQ is AudioPlus.

It incorporates applications for automatic and manual broadcasting, news and music editing, advertising, music and advertising programming.

It also supports billing, teleprompter for announcers, and remote control of remote stations for decentralized automatic broadcasting with smaller personnel requirements.

New to AudioPlus is an Instant Replay module. For each virtual playout machine, it provides an additional set of pages with up to 30 playback buttons. It allows users to launch audio via a click on a touchscreen or an external dedicated keyboard. AEQ says performance is comparable to physical keys.

Content of each page can be saved as a list in the AudioPlus system, so that it can be used repeatedly and from different workstations. Other features include loop broadcasting, "off-air" level meters, playback audio timers and the modification of pages in active playout mode.

For information in the U.S. call 1-800-728-0536 or visit www. aeqbroadcast.com. For international queries, call **AEQ** in Spain +34-91-686-1300 or visit www.aeq.eu

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WIHS upgrades automation with ENCO DAD

Transition from a legacy deployment goes smoothly

Writer
Steve Tuzeneu

General Manager and Chief Engineer, WIHS(FM)

Noncommercial, listener-supported WIHS/104.9 FM is a ministry of the Connecticut Radio Fellowship and broadcasts music plus local and national Christian programming to listeners in Connecticut, Western Massachusetts and parts of Long Island, N.Y.

I had worked at the station from 1985 to 1991, and returned last year as its general manager and chief engineer.

One of my first priorities is refurbishing all three of our station's studios. The main objective is to update our technology, but also make the studios more aesthetically pleasing.

Phase 1 of the project was the upgrade of our on-air studio, replacing everything from the furniture and flooring to the audio console. At the heart of our technology overhaul was a significant upgrade to our ENCO DAD automation and playout system.

WIHS was a long-time satisfied ENCO customer, but our DAD deployment had not been updated in many years. The software was seven major versions behind the current release, and most of the hardware it was running on was well beyond the viable lifecycle for any computer platform. I felt like we were using the old system on borrowed time.

With our announcers familiar and happy with DAD already, we decided to stay on the ENCO platform for the upgrade. I wanted all of the equipment to come from ENCO so they could fully configure and test it before shipping it to us, making it mostly "plug-and-play" when we received it. We purchased everything turnkey from ENCO,

from the mice and monitors to the workstations and network switch.

Rather than simply replacing the systems in our previous configuration, ENCO's technical team re-architected our deployment to reduce our hardware requirements. Our old installation did not have a true server, and it had two workstations just running supporting utilities. By deploying a DAD server license on a new file server and consolidating those utilities onto it, we went from eight workstations down to five.

The upgrade went smoothly. An ENCO technician helped us migrate our existing DAD libraries to the new system and came to our station for final refinements and training.

Our staff members vary in their technical aptitude, but everybody has adapted nicely to the new system. We went on-air with our new ENCO deployment June 17, and it has made our playout extremely reliable and less prone to the usual issues associated with aging hardware.

Our station is roughly 60% programming and 40% music,

and the DAD platform helps us by making program retrieval largely automated. The combination of the DAD DropBox utility (for watch folder monitoring) and enConveyor utility (for automating FTP and web downloads) lets us efficiently get programs into our system in ready-for-air formats with minimal intervention.

We are also in the process of deploying ENCO's WebDAD for browser-based remote control of the DAD system. My intention is to be able to operate the station remotely, so I can give our on-air staff time off for major holidays or when we can't find somebody to fill a shift. With WebDAD, I'll be able to make any changes from home if needed, without requiring staff to be in the studio.

I have been pleased with both the new system and the upgrade process. The support and level of information we received from ENCO have been stellar, and we have peace of mind that we no longer have to worry about legacy equipment failing. 🔴

⟳**Tech** Update

## **NewsBoss** Ups Newsroom Automation to V6.7

NewsBoss says the release of NewsBoss V6.7 automation offers new features to improve the efficiency and output of radio newsrooms.

Users can customize multiple tab-based screen layouts and swap layouts, creating drag-and-drop workflows for various job roles. The custom Chromium browser in V6.7 includes tools that the company says enable rapid use of online text and media content in NewsBoss stories.

Newscasts can be recorded into audio automation systems for scheduled playback directly from the NewsBoss Prompter. Audio editing in V6.7 is faster and easier with upgraded single and multitrack audio editors.

Enhancements also include ingesting content via SFTP and FTPS protocols, exchanging content with Avid newsroom systems, improved management of media libraries, enhanced archiving of stories and media assets, and new options to synchronize content automatically between NewsBoss systems in different locations.

An updated NewsBoss AutoRecorder captures up to 48 audio channels and enables editing during live recording from any client for immediate turnaround of news audio cuts.
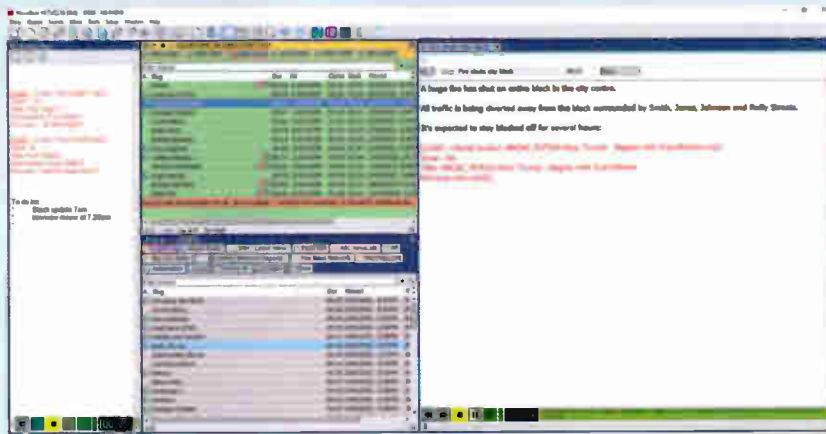
The company says that NewsBoss remains reliable and easy to install and maintain. It operates in physical and virtual environments and is scalable from small standalone systems to major networks. High availability and fault tolerant options are available.

For information, contact NewsBoss in Australia at +61-2-9580-6643 or visit www.newsboss.com.

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World Radio History

♦Tech Update

Salem Sees Change for Good With MusicMaster

Mike Blakemore, the vice president of programming for Salem Communications, switched to MusicMaster from another music scheduling system that he'd used his entire career dating to 1989.

He said he'd used it "up to the moment the president of our company, David Santrella, asked me to test drive MusicMaster. I'll have to admit that I was not only skeptical, but I flat out didn't want to change. Why change something you're comfortable with that you worked with for so many years? Don't fix it if it isn't broke, right?"
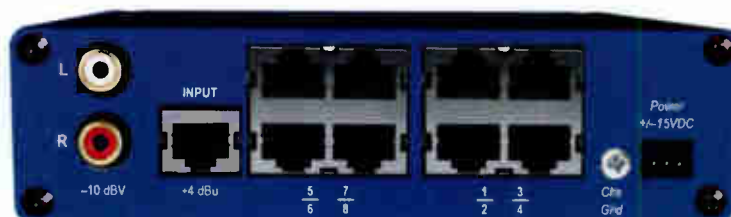
Blakemore told MusicMaster that its system is more versatile and "rock solid. It's flat-out better."
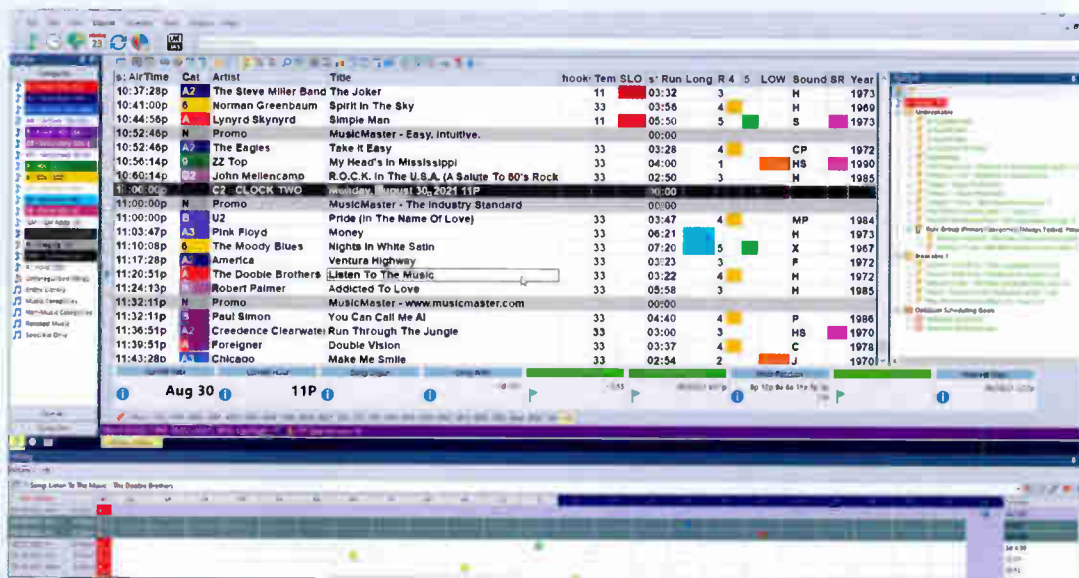
He cited the system's feature set and security. "Plus, you know the owners and creators, so you know you will have the best support ever. Their training is the best."

Contact Melanie Knapp at MusicMaster at 1-214-550-0511 or visit www.musicmaster.com.

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Plug & Play Distribution

2x16 DA/RJ Analog Distribution Amplifier

The 2×16 DA/RJ is the perfect choice for analog distribution. Standard pinout RJ45 audio jacks for easy installation with Cat5/6 cables. Configurable stereo (2x8) or monaural (1x16) outputs. Balanced RJ45 and unbalanced input jacks eliminate the need for external input level conversion.

⟳ **Tech** Update

WO Automation Debuts Radio V5.0

The latest iteration of WideOrbit's WO Automation for Radio, V5.0, includes major enhancements to assist radio stations to work remotely.

The company says the platform makes it easy for broadcasters to deliver programming with native desktop (MacOS, Windows, Linux) and mobile (iOS) apps to support all operating models including live-assist, fully automated and configurations in between, even with entirely remote operations.

V5.0 improvements include enhanced remote voice tracking to provide an at-home radio studio experience that WideOrbit says equals that in-studio.

There are also native apps that can be installed and operated from anywhere there's an internet connection, on most types of devices including desktop environments running MacOS, Windows or Linux, as well as on iOS mobile devices.

For information, contact WideOrbit at 1-415-675-6700 or visit www.wideorbit.com.

User Q&A: WKRQ chooses RCS

Brett Patram cites backups and disaster recovery tools as sweetening the package

Supplier RCS asked its customer Brett Patram of Hubbard Radio in Cincinnati about his experience with its software.

RCS: Tell us a little bit about your position.
Brett Patram: I am the director of engineering for the Hubbard Radio Cincinnati market.

I originally came on to handle their local IT/network infrastructure needs. But I was also handling all the RF needs at the same time. My background is pretty heavy in both RF and IT. Eventually I took over as director of engineering, which made the most sense for everyone.

RCS: What products have you installed from RCS?
Patram: GSelector and Zetta primarily but now we are also using Revma to carry some of the point to multiple DR [disaster recovery] streams to our transmitter sites

RCS: Why did you choose to install Zetta and GSelector?
Patram: As a previous NexGen facility we were used to, let's say, certain luxuries that NexGen offered. When it was time to review our automation choices we were a bit surprised to find

that the other vendors were still playing catchup to NexGen. Zetta in comparison was years ahead, and was a mature product with years of development behind it.

The choice to also migrate from Selector to GSelector was one that made the most sense based on the full integration the two products shared with each other. We have a very particular staff that are passionate about the tools they use to program and run their stations. We saw several workflow improvements that they couldn't do without the Zetta and GSelector integration existing.

RCS: You have added Zetta Disaster Recovery, can you elaborate on this feature and why is helpful for Hubbard?
Patram: Zetta Disaster Recovery was another draw to the overall offering. I needed a backup solution that was multifaceted.

It helps us in several ways. We are always sending a current backup snapshot of our database and audio assets into the cloud. We don't have to be directly responsible to maintain this environment.

Our logs are also being synced and played out in the cloud environment. This creates the ultimate backup audio solution for us. When we need it, it's always available and it's actually going to be what we programmed and scheduled — not some canned fill audio. At our transmitter sites and even in the studios the streamed feed of the Zetta Cloud DR instance is made available to switch into. Because all our logs and assets are backed up into this environment, all our spots would continue to play if we needed to use it for any length of time. On top of that, being able to control these sequencers from a very familiar looking interface makes it that much easier in a true DR scenario to take control and "run" the station from that environment.

⟳ **Tech** Update

Smarts Broadcast Beefs Up Security

Smarts Broadcast Systems notes the many hours and days it takes for any given station to accumulate all of its audio data, an important investment.

But broadcasters, it says, now live in an age when opportunists will try to break into a company's system, hijack data and demand ransom to get it back.

It says its Skylla automation system offers better protection against such attacks than most automation systems,

yet it is still susceptible to attack from infected machines running other operating systems, such as traffic or production machines.

So Smarts Broadcast's new offering called Portcullis keeps an eye on your company data. In the event that something alters data that should not be changed, Portcullis slams the gate down, cutting off all access to the server, except from Skylla machines. That way, the company says, broadcasters stay on the air and their data stays as safe as Smarts can make it.

For information, contact **Smarts Broadcast Systems** at 1-800-747-6278 or visit http://smartsbroadcast.com.
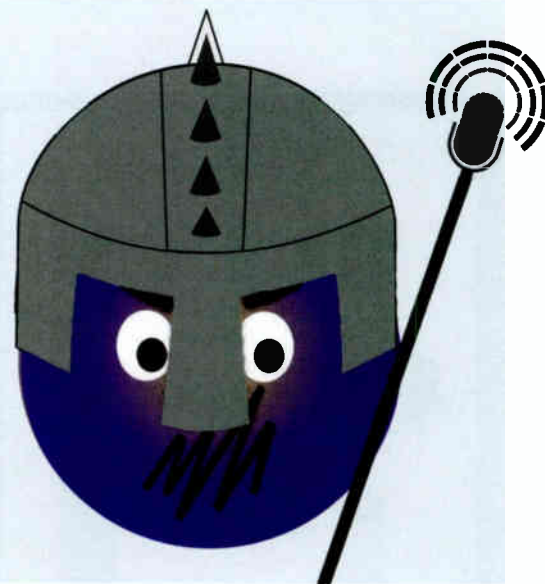
⟳ **Tech** Update

OpX One Is BSI's Flagship

BSI's flagship product is OpX One, an automation suite for Windows operating systems.

The company has kept the OpX family consistent by maintaining a modular suite of programs familiar to users of the basic OpX platform. OpX One also uses the same GUI interface of the original OpX; with easy-to-read colorful logs, import/merge traffic merging software, file management via FTP and File Server, the company says.

Handling of serial remote controllers, satellite receivers and many more serial hardware configurations with the Serial Server, and file playback with the OpX Audio server module.

BSI OpX One features Clock Builder software which simplifies the playback of syndicated satellite programming for configuration of triggering events via time-sensitive cues and audio switching commands.

Audio playback is supported via professional AudioScience sound devices or Axia and Wheatstone AoIP drivers. OpX One supports remote operation, Remote voice tracking and more can be performed from any IOS device via a free app.

For information, contact Broadcast Software International at 1-888-274-8721 or visit www.bsiusa.com.

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Writer
Steve
Brown
Director of
Broadcast
Engineering,
Woodward
Radio Group

More info
Contact Ben
Marth at
Broadcast
Electronics
at 1-217-592-
4228 or visit
*www.bdcast.
com.*

Woodward Radio stays locked in with AudioVault

Stability, familiarity and value earn loyalty for Wisconsin broadcaster

Woodward Radio Group has been using Broadcast Electronics' AudioVault products since 1995 with great results. In 2009 we installed Version 10.10 of AudioVault FLeX, and it has run reliably and economically for over 11 years. In 2021 we have started an installation of new computer workstations based on the current AV FLeX version 10.5.

We looked at offerings from many vendors of content delivery systems, but chose to stay with AV FLeX for a number of compelling reasons.

Top of the list is reliability. The software as installed here is fault tolerant and makes it easy to service without spending a lot of "midnight hours."

Then there is flexibility. One of the strengths of the AudioVault systems has been the ability to customize the applications to handle just about any task you can imagine.

Cost is also important. AudioVault is not the least expensive system you can buy, but to us it appears to be the best value — you get a lot of functionality for the money you spend.

Furthermore, we have received wonderful customer support during installation and during the normal working life of the system.

Not to be forgotten is the learning curve — or lack of it. All current new and improved versions are based on earlier AudioVault virtual "machines" and the improvements are usually incremental, not radical. This makes upgrading to a new version more manageable for a large staff.

The AV system is designed with separate audio engines, dedicated machines and user interfaces like most current systems. It is easy to install and configure extra machines as backup engines and backup user interfaces.

One thing that impresses me is that an engine PC can freeze or fail, but usually audio will continue to play out until the fault is bypassed or corrected. This has prevented a lot of dead air emergencies for us.

The FLeX system has virtual machines for satellite automation, music automation, live radio shows, network recording and time shifting, and other necessary applications. The servers have a suite of background applications that keep all the files transferred and synchronized properly. And there is a powerful suite of maintenance tools that the system administrators use to correct problems that occur.

Some of the support people I work with regularly at BE have been in their roles for decades. The service manager Hector and installation tech Owen have worked with us on all of our systems dating back to 1995. Charlie, the "newcomer," only goes back 20 years or so. All three have seen our system and understand it, so they are very helpful on the rare occasions we need to call for help or support.

The AV FLeX system is a powerful and scalable content delivery product that has really "delivered" for us at the Woodward Radio Group. 🔴

Tech Update

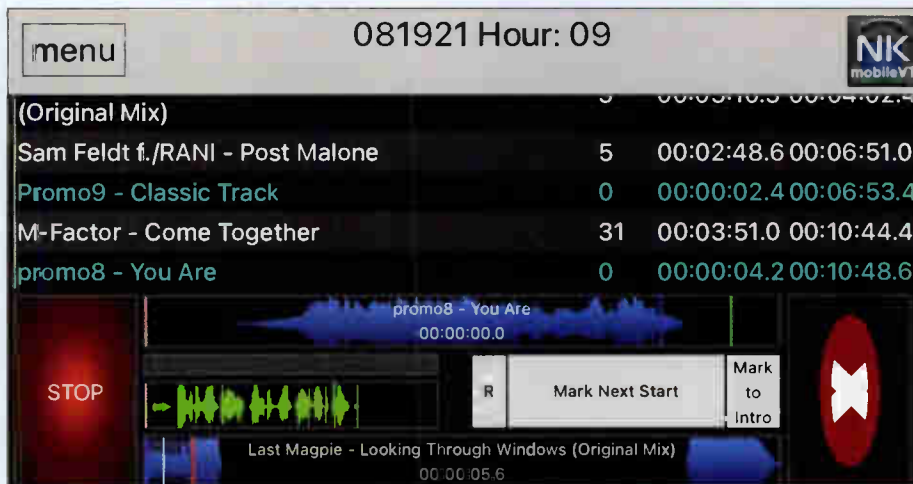# NextKast Releases OnAir Version

NextKast released OnAir, with features focused on modern terrestrial radio automation needs.

The company started in 2012 as an internet radio automation vendor but evolved as its customers, including longtime FM/AM broadcasters, grew into internet radio. The company says this gave it an experienced user base that could request features and help evolve the software.

OnAir features improved traffic merging with RadioTraffic and Marketron Traffic as well as Natural Log, Admaster and others. The new user interface is based on customer suggestions and improves workflow.

A highlighted feature is MobileVT, shown, a web-based voice tracking system that works on mobile devices such as iPhone and Android phones, iPads and tablets, as well as PC or MacOS computers.

MobileVT allows hosts to voice-track seconds before airing, for safe and reliable hosting in "semi-real time."

menu	081921 Hour: 09		NK mobileVT
(Original Mix)		3	00:05:10.3 00:04:02.4
Sam Feldt f./RANI - Post Malone		5	00:02:48.6 00:06:51.0
Promo9 - Classic Track		0	00:00:02.4 00:06:53.4
M-Factor - Come Together		31	00:03:51.0 00:10:44.4
promo8 - You Are		0	00:00:04.2 00:10:48.6

promo8 - You Are
00:00:00.0

STOP · R · Mark Next Start · Mark to Intro

Last Magpie - Looking Through Windows (Original Mix)
00:00:05.6

The new affiliate mode allows for the same core music and voice tracks, but localized traffic and imaging, a solution that is suitable for separating a stream from on-air broadcast.

NextKast also joined MusicMaster to become an integrated Nexus Partner.

The new OnAir version is a competitive buyout option, with optional support plans as needed.

For information, contact NextKast at 1-210-286-2975 or visit www.nextkast.com.

○ **Tech** Update

WinSales Is a Complete Sales Package

For broadcasters who need to manage their advertising portfolios, WinMedia offers WinSales, a solution that handles broadcast commercials as well as digital social networks, and in which users can create packages across several platforms.

The system helps you nourish your customer relationships, prospects and partners while managing the price strategies for the products you sell.
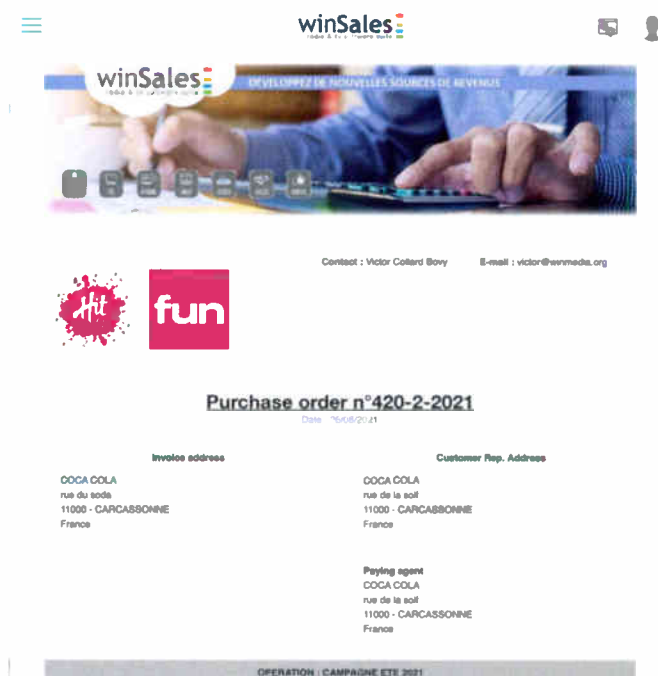
WinSales allows the creation of media plans a year or more out, across multiple ad campaigns, and helps you follow up with clients to ensure the best closing rate.

Once an order has been validated, the system allows campaign planning and traffic while respecting criteria such as business sectors or the voice casting of advertising messages.

Schedules are transferred to the Playout system, which will report the broadcast as run on the log.

Users can print a broadcast report and start billing the campaign, invoicing via several payment methods including a monthly subscription or the method specified in the sales contract.

WinSales monitors payment of invoices with accounts receivable and follows up if necessary. It offers reports and statistical tools that allows users to measure the volume and performance of advertising on their media.

For information, contact WinMedia at +33-494-102-101 or visit www.winmedia.org.

○ **Tech** Update

DJB Radio's Zone Hits Version 2

DJB Radio says its creative minds have been hard at work during the COVID lockdown tuning up and polishing the DJB Zone radio automation suite.

New treats included enhanced remote and local voice tracking interfaces, SQL refinements for wide-area and multimarket operation, a heads-up "now playing" display in the Production module to monitor on-air remotely and a new multistudio module for transitions between control rooms or wide-area studios.

Zone V.2 still comes packaged with innovations such as satellite switching, URL scheduling in the main log, and automated time and temperature announcements for that "live feel" when your station is automated.

DJB Zone On-Air can be remote managed using iPad, Surface, slate or smartphones with a browser remote interface.

DJB Zone is scalable to small, medium-sized or large radio groups. The DJB Zone software is available with or without computer hardware although specifications for the system are provided on request. DJB WebStream Logger, Radio Spider and Button Broadcasters are all compatible with DJB Zone systems.

For information, contact DJB Radio at 1-702-487-3336 or visit www.djbradio.com.

⟳ **Tech** Update

Music1 offers "Total Solution"

Music1 says its MusicONE scheduling software has an innovative scheduling and editing algorithm that is designed for maximum play reliability and category rotation consistency.

The TrafficONE app for traffic and billing was introduced in 2012. The MusicONE/TrafficONE combination is a full scheduling package for the radio broadcasting world, the company says.
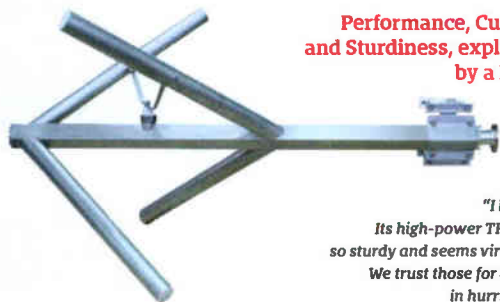
According to Music1, the two apps are integrated and work

MusicONE   **TrafficONE**

smoothly with all radio automation systems.

The company also offers Music1 SE, a scaled down scheduling software designed for internet radio stations.

For information, contact **Music1** at 1-512-392-2415 or visit https://Music1.pro.

BROADCAST
EQUIPMENTEXCHANGE

Radio broadcasting and the Internet of Things

Why Xperi is testing an end-to-end data system in several markets

As broadcasters, we often limit our perception of radio to audio programming. But we shouldn't.

Today, Radio Data Systems (RDS) and HD Radio technology mean that data can be sent over the air through radio's cost-effective and reliable, one-to-many delivery system. Each week, radio broadcast touches the lives of over 93% of the U.S. population, with no point-to-point connection, conveying simplex data effortlessly to a single unit or millions of devices.

Because it's scalable, broadcasters can add millions of new data "listeners," without increasing infrastructure costs or reducing existing service quality, for analog and digital broadcasts.

While FM analog RBDS services offer limited data, text or messaging, HD Radio technology enables digital audio programs and much higher levels of data services to automobiles, homes and portable devices. In other words: digital radio IoT.
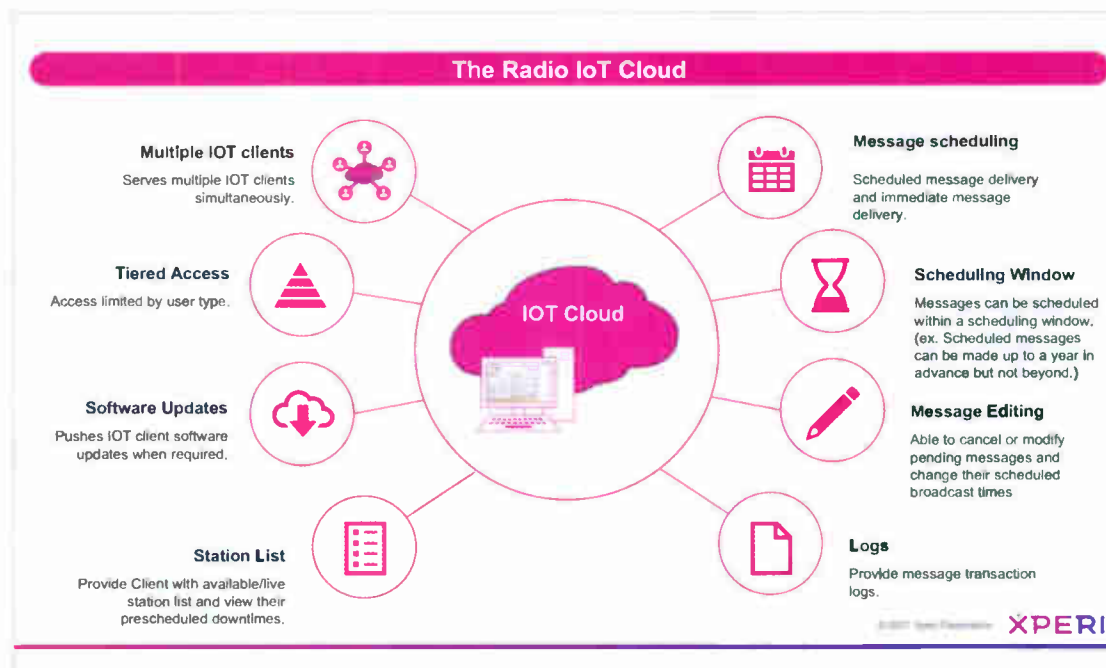
Internet of Things

The Internet of Things, or IoT, has service providers who want to deliver content over a secure cost-effective platform, but security is a big concern.

At present, most connected devices allow bidirectional communication, with vulnerability to hacking. Configuration data, including personal information, may be exposed. Plus, there is the challenge of keeping those devices connected on in-home networks.

Unidirectional communication can mitigate these challenges: Device applications can benefit from a one-way secure communication path.

Green initiatives

Recent regulations on Green House Gas (GHG) emissions mandate an energy shift from fossil fuels to an already oversubscribed electrical power grid, impacting electric energy pricing, billing and consumption. Radio is poised to play a significant role in this changing landscape.

On Aug. 5, 2021, President Joe Biden signed an executive order targeting that 50% of all automobiles be zero-emission by 2030, jump-starting a dramatic shift toward EVs. In 2020, California Governor Gavin Newsom signed an executive order banning all in-state sales of gasoline-fueled vehicles by 2035. In addition, the California Air Resources Board, Natural Gas (NG) plans to tighten rules on natural gas for home heating and hot water, effective in 2023.

Real-time demand/response

The proliferation of electric vehicles, and the shift from gas-fired heating to electric, will further burden an already overtaxed power grid. Constructing new generation plants, or adding battery storage, comes at a high cost to utilities, without addressing the variable nature of the load.

Creation of an intelligent demand/response network for managing power usage offers a solution. How? Providing real-time energy pricing to devices means they become "smarter" about energy cost, use and charging decisions — and this is where radio has a critical role to play.

Writer

Jeff Detweiler

Executive Director, Broadcast Technology, Xperi Corp.

The Radio IoT Cloud

Multiple IOT clients
Serves multiple IOT clients simultaneously.

Tiered Access
Access limited by user type.

Software Updates
Pushes IOT client software updates when required.

Station List
Provide Client with available/live station list and view their prescheduled downtimes.

IOT Cloud

Message scheduling
Scheduled message delivery and immediate message delivery.

Scheduling Window
Messages can be scheduled within a scheduling window. (ex. Scheduled messages can be made up to a year in advance but not beyond.)

Message Editing
Able to cancel or modify pending messages and change their scheduled broadcast times

Logs
Provide message transaction logs.

XPERI

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The Consumer Technology Association has defined CTA-2045 as a modular communications interface (MCI) to facilitate communications with residential devices for applications such as energy management.

Among these are:

- Electric Vehicles (EV) charging systems
- Water Heaters
- Heating, Ventilating and Air Conditioning (HVAC)
- Emergency shutdown of electricity and gas
- Smart City Lighting management and control
- Pool and spa pumps
- Autonomous vehicles
- Connected car

As the number of electric vehicles increases, peak use will exceed the design limits of the electric grid, overloading it with potentially disastrous consequences, including wildfires that cause loss of life and property. Rolling blackouts in California have become commonplace to reduce these risks.

Smart charging systems and utility control data mean EV chargers could manage charging times to avoid peak power demands and optimize charging costs. This requires tight collaboration between the auto industry, electricity providers and data service companies, which is where radio can be indispensable: conveying pricing and control data. While this data distribution may not be exclusive to radio, it just may be the best fit due to security, reliability and cost concerns.

The competitive landscape

Sending 1 MB of data to 10,000 IoT devices requires 1 GB capacity for cellular, but only 1 MB for radio.

While 5G's capacity and interconnectivity can offer advantages to connected cars and personal entertainment, 5G, like the power grid, may be oversubscribed before it reaches mass adoption. In 2020, connected cars and autonomous vehicles were expected to generate 380 GB/hour to over 5 TB/hour of data, according to the Automotive Edge Computing Consortium.

A limitation on 5G networks is that they are yet to be fully deployed. 5G build-out in high population density and urban locations may be cost-effective for providers, but suburban and rural deployment will be a challenge given low population density and high rollout costs.

⊕ ✉
How to submit
Radio World welcomes comment on all relevant topics. Email *radioworld@ futurenet.com* with "Letter to the Editor" in the subject field.

This is an opportunity for radio broadcasters, who offer broad reach through over 2,400 digital HD Radio stations, as well as scalability and reliability.

Today, through HD Radio data technology, stations are already transmitting real-time traffic and weather data directly to car navigation systems. Multiple automakers are working with HD Radio technology developer Xperi Corp. to investigate, demonstrate and test additional data services, including software and ECU updates, map updates, navigation corrections, customer relationship management and more.

What is needed

Several components need to coalesce to achieve digital radio IoT. These include a content distribution system and a backend that enables service providers to connect to local radio stations or subscribers to provide content over available data bandwidth.

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Radio stations could register to participate in data services and allow part of their data capacity to be used for services or applications. For example, an application provider (utility, city management, etc.) could have a data service or application that needs to communicate to their devices. The cloud distribution system would manage the data input and then route to the appropriately registered stations in the given market. Authentication, scheduling and routing would happen automatically. The radio station simply has to configure their HD Radio Importer to open the available data ports. This data content distribution system has been prototyped and is operational in selected markets.

At the consumer end is a low-cost, low-power HD Radio-enabled IoT receiver module in the form of a plug-in card for an existing CTA-2045 compatible smart appliance or, ultimately, built-in to the appliance circuit board. The IoT module scans the band, detecting the application's required data service. Once data is available, the HD Radio IoT device pulls the appropriate data from the digital broadcast and provides the content to the smart appliance application.

Xperi is testing this end-to-end system in several markets, gathering data on coverage and data reliability to create Quality of Service (QoS) metrics for these data applications. Xperi, together with the broadcast community and our development partners, looks forward to bolstering radio's future with digital radio IoT, providing game-changing, cost-efficient and reliable data transmission services. 🔴

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EBOOKS: Tools for Strategic Technology Decision-Making

Radio World's growing library of ebooks can assist you in maximizing your investment in an array of platforms and tools: licensed transmission, online streaming, mobile apps, multicasting, translators, podcasts, RDS, metadata and much more.

The ebooks are a huge hit with readers. They help engineers, GMs, operations managers and other top radio executives — radio's new breed of digital, cross-platform decision-makers — understand this new world and thrive in it.

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