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Cooney helps keep Beasley looking forward

Whether he's working in a C-suite or getting his hands dirty to rebuild a transmitter room, this year's recipient of the NAB Engineering Achievement Award prioritizes business continuity.

iHeart says keep FM subcaps

The media company doesn't want the FCC to relax local radio ownership limits.

EAS in software?

NAB asks that stations and other EAS participants be allowed to use software-based encoder/decoders in place of hardware.

Give your ATU a spa day

David Morgan shares tips for a springtime inspection and cleaning of your tuning unit.

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Write me, maybe

You know I love receiving letters to the editor

Paul McLane
Editor in Chief

If you haven't sent me a letter to the editor for publication in a while, here are a few topics you might care to comment on:

How will AI change radio? Could it put air talent out of work? Futuri Media is promoting RadioGPT, a system that combines GPT-3 technology with synthetic voice and an AI-based discovery and social content system. It can identify topics that your listeners want to know about right now, and then create a radio program about it, with multiple AI "hosts." Wow. The NAB Show will reveal other products along these lines.

What's the future of radio in the dashboard? The news we've been reporting about some carmakers being willing to pull AM radio from both electric and gas-powered cars feels like an important inflection point to me. What will the broadcast bands look like in five years? In 10?

Should the FCC allow unlimited consolidation of AM stations in all markets? Should it ease the limits on consolidation of FM stations in any markets? (See a related story on page 37.)

What do you think of DTS AutoStage? Xperi has officially launched its Broadcaster Portal, which means participating stations can access data about their listener engagement. We told you about this concept last fall. Now stations can access their data by registering through a portal. Features include the nifty looking "heat map" radio salespeople could use to impress retailers. If your station is using the new portal, let me know what you think of it.

There are so many story lines. What will radio studios of the future look like, if we still have any? Are the FCC's letters to landlords who shelter pirate operators making any difference? Should the commission allow FM stations to raise their HD power levels? Should Congress make Daylight Saving Time permanent?

Last, how is Radio World doing with our growing ebook library? Are the topics we've been covering — trends in AoIP, the impact of the cloud, photos of cool new studios — interesting to you?

Tell your fellow radio professionals what you think about these or any relevant questions. Email me at *radioworld@futurenet.com*. RW

THIS ISSUE

Make AM Mandatory

A congressman from New Jersey wants the government to add AM radio to the list of safety equipment that carmakers must include in their vehicles.

Rep. Josh Gottheimer in March called on the National Highway Traffic Safety Administration to "add AM radio to the Federal Motor Vehicle Safety Standards to require that all automakers, including EV manufacturers, include AM radio as a stock feature in their vehicles. Federal Motor Vehicle Safety Standards are the minimum safety standards that a manufacturer must meet when making a vehicle — including requirements related to airbags, brakes, seatbelts, tires, controls and displays." He also wrote to major carmakers urging them to retain or restore AM.

Gottheimer, a Democrat who represents a district along the state's northern border, held a news event next to a Tesla dealership in Paramus, N.J., along with New Jersey Broadcasters Association Executive Director Jordan Walton.

BFA Honors Mason, Thompson


Dan Mason

Dan Mason, former chief executive officer of CBS Radio, is the recipient of the 2023 Lowry Mays Excellence in Broadcasting Award presented by the Broadcasters Foundation of America. The award honors an individual in broadcasting whose work exemplifies innovation, community service, advocacy and entrepreneurship. Mason is a past chairman of the Broadcasters Foundation.

The foundation also named the late Jim Thompson as recipient of its Chairman's Award. Thompson was known in radio for his work at Group W and Liberty Broadcasting; he created the Radio-Mercury Awards and helped the Broadcasters Foundation grow significantly as its president. The foundation helps people in radio and TV who are in acute financial need due to an illness, accident or other misfortune.

Writer

Randy J. Stine

Radio World's lead news contributor wrote about conversational AI in the March 15 issue.

Above
Mike Cooney helps restore a transmitter site in Fort Myers that still stands despite fire and flood.

Cooney helps keep Beasley looking forward

Business resilience and continuity are priorities for NAB Engineering Achievement Award recipient

Based as he is on the Gulf Coast in south Florida, Mike Cooney has experienced natural disasters. He knows that hurricanes, floods and wind present serious threats to broadcast infrastructure.

The chief technology officer of Beasley Media Group says facing such challenges gives him a better understanding of how to manage his employer's resources and build redundancy into its systems.

Cooney's skillful guidance through natural disasters and all sorts of industry technological changes are among the reasons he is the 2023 recipient of the NAB Radio Engineering Achievement Award.

As CTO, he is responsible for the supervision and oversight of all engineering and technology matters related to Beasley's 61 radio stations, as well as assisting in the management of the company's capital and operating budgets. He is also a member of the company's executive committee.

Cooney, 59, received the Radio World Excellence in Engineering Award in 2016. He is well regarded by his peers at the top of the radio engineering profession.

"What I think makes Mike effective, in addition to his obvious technical knowledge, is his collaborative approach to working through major issues," said Jeff Littlejohn, executive VP of engineering systems at iHeartMedia.

"Mike brings his own views and opinions to a topic, but also spends the effort to learn the opinions of others."

Roz Clark, executive director of radio engineering for Cox Media Group, said, "Mike's ability to provide a clear perspective on complex topics that our industry faces is valued in the many working groups he is involved with. His enthusiasm for the business is well known among his broadcasting friends, which includes pretty much everyone that has made his acquaintance."

Cooney's influence has indeed been felt far beyond Beasley.

For example he is a former chairman of NAB's Radio Technology Committee and a member of the Technical Committee for the Broadcast Traffic Consortium, a coalition of North American radio organizations that formed a terrestrial broadcasting network to distribute content via their signals. He's also a former radio representative for the NAB FASTROAD Committee. He is active with the Society of Broadcast Engineers.

His career began with studying industrial electronics at Lake Area Technical Institute in Watertown, S.D., and he got his start at South Dakota Public Television and Radio. He worked for a military subcontractor, designing and installing radio and TV facilities around the world, including high-power projects in the Philippines. He then spent eight years with the former Entercom before joining Beasley in 2007.

Beasley's broadcast portfolio includes 48 FM stations, 12 AM stations and 20 FM translators spread across 15 U.S. markets. Cooney also manages a large number of digital multicasts and oversees the IT and web departments. In all, he oversees approximately 50 engineers and IT staff.

Cap-ex management is part of the job, and gets to do what he loves: manage construction projects as design engineer. Major recent projects include a studio reconfiguration at One Bala Plaza in Philadelphia and a brand-new studio build in Boston.

"We think [virtualization] is great for redundancy and in some small applications, and will be more prevalent in the future, but we really have been more focused on hardening facilities and adding redundancy."

"Downsizing was a part of the reason for the projects in Boston and Philly," he said. "We didn't eliminate as much space in Philadelphia as we wanted because we stayed in the existing building. Obviously everything has changed when it comes to space requirements. We now utilize smaller studios and fewer of them."

Beasley went from 36,000 to about 30,000 square feet in Philadelphia. It has five FM and three AMs in the City of Brotherly Love.

"Boston was more of a significant downsizing. We went from 45,000 square feet, which included some indoor parking, to about 28,700. Studios are smaller and we have fewer sales staff, which also allowed us to shrink the office space with fewer sales cubes."

Building redundancy

As part of its modernization efforts, the company is doing testing with WideOrbit cloud-based products, though Cooney says Beasley has yet to adopt many of the virtualization and cloud possibilities being explored by some radio companies.

He acknowledges that virtualization of PPM encoding and audio processing have had a big impact in the industry, and that virtualization of EAS is probably next. He knows

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that some competitors with large broadcast facilities in big markets now have only a few racks of equipment where once they had many.

"We think [virtualization] is great for redundancy and will be more prevalent in the future, but we really have been more focused on hardening facilities and adding redundancy instead of virtualization and going to the cloud."

Beasley has been adding backup transmitter facilities in some markets, Cooney said; it's currently working on additional aux sites for Tampa and Las Vegas.

"And we are putting WideOrbit systems emergency IP connections at most transmitter facilities for redundancy. We also built an off-site WideOrbit system in Charlotte, N.C., which if needed can run up to 13 stations in any of our markets across the country," he said.

Like many radio companies, Beasley uses cloud-based products for front-of-office applications, including Marketron traffic and Microsoft 365. "That makes a lot of sense and we're expanding that," he said. "Also, a lot of our digital products are cloud-based, and we spend a lot on protecting all our systems with various cyber security products."

While Beasley has not suffered a major hack or ransom attack, Cooney is well aware that cybersecurity has been an issue for several large broadcast groups.

"My concern with virtualization is that everything is great when the cloud is working and your network is working, but if you have a cyberattack and everything is tied to the cloud, you are off the air," he says.

Above
Cooney in an undated photo with Beasley Chief Content Officer Justin Chase, Chief Communications Officer Heidi Raphael and former Executive VP of Strategy and Innovation Buzz Knight.

"That's one of the reasons we are adding playback systems at our transmitter sites. For that specific reason, so we can stay on the air."

Recent events have only reinforced the importance of thinking about business continuity. A fire at an American Tower site near Fort Myers, Fla., last summer did nearly a million dollars in damage and forced Beasley to move to its aux site in nearby Estero.

Only a few weeks later, the ravaged site was hit again, this time flooded out by Hurricane Ian. The storm also tore a part of Cooney's roof off of his Naples home.

He and Beasley's chief in Fort Myers, Tigram Grant, worked around the clock to keep their stations on the air, including having to scramble to obtain diesel fuel to run generators at the backup site.

He said at the time that the experience was a good example of how radio broadcasters work hard to serve the public interest. "I worry that the younger generation doesn't quite comprehend what it takes to do this, the dedication and the commitment."

Beasley is rebuilding transmission facilities at the restored Fort Myers site.

"What I think makes Mike effective, in addition to his obvious technical knowledge, is his collaborative approach to working through major issues."

Future of AM

Cooney has been part of AM revitalization discussions and was the chairman of the NAB's Radio Technology Committee for eight years. He also serves on the NAB

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Automotive Initiative Committee and the Automotive Digital Dashboard Committee.

He is aware of the decision by some car manufacturers to discontinue analog AM radio in new vehicles.

"Some of the responses I've seen the from carmakers are a cause for concern, but others are still big supporters of AM. AM is important, especially for me, when it comes to emergency alerting, and none of us want to see it go away. It all depends on whether the automakers want to spend money on the filtering in electric cars."

Beasley itself has turned off several AM facilities in recent years, including expanded-band stations in Augusta, Ga., and Charlotte, N.C. Last year it also swapped an AM station in Las Vegas with Audacy, which the latter has now turned off in order to sell the property.

"Honestly having a few less AM stations is not a bad deal to me, and it may clean up the band some," Cooney said. "But broadcasters are shutting down AM signals because the property the sites sit on are more valuable than the station."

If necessary, he said, the federal government should step in to protect AM radio in cars.

Beasley is a company with a high profile within broadcast. Caroline Beasley has been highly visible in the commercial U.S. radio industry since becoming CEO in 2017, appearing often in public settings and serving stints as chair of the NAB's joint board of directors and of its radio board.

Under her leadership, the family-owned company hasn't been afraid to explore new ideas and digital initiatives.

In 2018 it launched an e-sports division and acquired an e-sports team. It is an investor in Quu, which helps radio stations monetize their RDS and HD Radio in-car displays. It also is a backer of SpokenLayer, a provider of voice and audio content for virtual assistant and connected devices.

Cooney said another example is Beasley's participation in Xperi's hybrid radio platform in cars, DTS AutoStage. "It seems to be expanding and it looks great. It's really a phenomenal user experience."

Beasley also has voiced support for the proposal from NAB and Xperi asking the FCC to grant a power increase for FM HD Radio radio stations.

Cooney resides in Naples, Florida, which is home to Beasley's corporate offices. He restores old audio amplifiers in his spare time and sells them on eBay; he also buys houses to renovate and resell.

Other recent radio recipients of the NAB's award include Ashruf El Dinary, Dave Hershberger, Jeff Welton and Gary Cavell. The television recipient this year is Doug Lung of NBCUniversal.

"Obviously everything has changed when it comes to space requirements. We now utilize smaller studios and fewer of them."

Competent and Direct

"When you talk with Mike Cooney, you get the sense not only of high competence but of directness glimmering from behind a quiet, even-keeled personality (though he insists he isn't always so mild in the office)."

That's how Radio World's Paul McLane described Cooney upon the presentation of the Radio World Excellence in Engineering Award in 2016.

"You aren't surprised to learn that he comes from the upper Midwest, a rural South Dakota town of about 350 people — the kind of place where folks left their keys in their vehicles and where even today they don't lock their doors. His dad was a postmaster, his mom a legal assistant. It was a great place to grow up, but not one with a lot of career opportunities unless you wanted to work the land, as most of his friends did."

You can read about Cooney's early career — including his work at South Dakota Public Television and Radio, Radio One Broadcasting and Entercom — at *http://tinyurl.com/rw-cooney*.

John Bisset
CPBE
The author is in his 33rd year of writing Workbench. He handles western U.S. radio sales for the Telos Alliance and is a past recipient of the SBE's Educator of the Year Award.

What's Your Idea?
Workbench submissions are encouraged and qualify for SBE recertification credit. Send to *johnpbisset@gmail.com*.

Springtime brings AM ATU maintenance

David Morgan shares tips for keeping your tuning unit in good shape

David Morgan, CBRE, is director of engineering for Sinclair Telecable Norfolk. He took advantage of early spring-like weather to have all the AM towers in his cluster inspected.

While his sticks are being looked at, David uses the opportunity to inspect and clean his antenna tuning units at the base of each tower, either in Kintronic weatherproof cabinets or in small block buildings.

Here are some tips from David. His process begins with a series of safety precautions.

First, throw the transmitter breakers or, in the case of an AM directional, feed the furthest tower to run non-directionally at reduced power.

Before you work inside an ATU, use car battery jumper cables to short or ground the tower to the base ground strap. This is for your safety and that of the tower climber.

Next pull the J-plug between the tower and the tuning apparatus for extra isolation.

As a further precaution, David uses packs of good, brightly colored alligator clip leads, available from Amazon, to ground everything inside the ATU. The bright colors reduce the chance that you'll leave one attached accidentally. If a distant tower in the directional array is transmitting non-directionally — even at reduced power — the near-field RF can bite you!

Wear a hard hat when anyone is on the tower. Not only might someone drop a tool, but it'll protect your head when you're working in the tight spaces inside an ATU. (David

Above
The ATU can be in a cabinet or a building.

Right
Pepperminty Mouse Magic smells pleasant to humans but rodents hate 'em. Scott Rags in a Box have a thousand uses.

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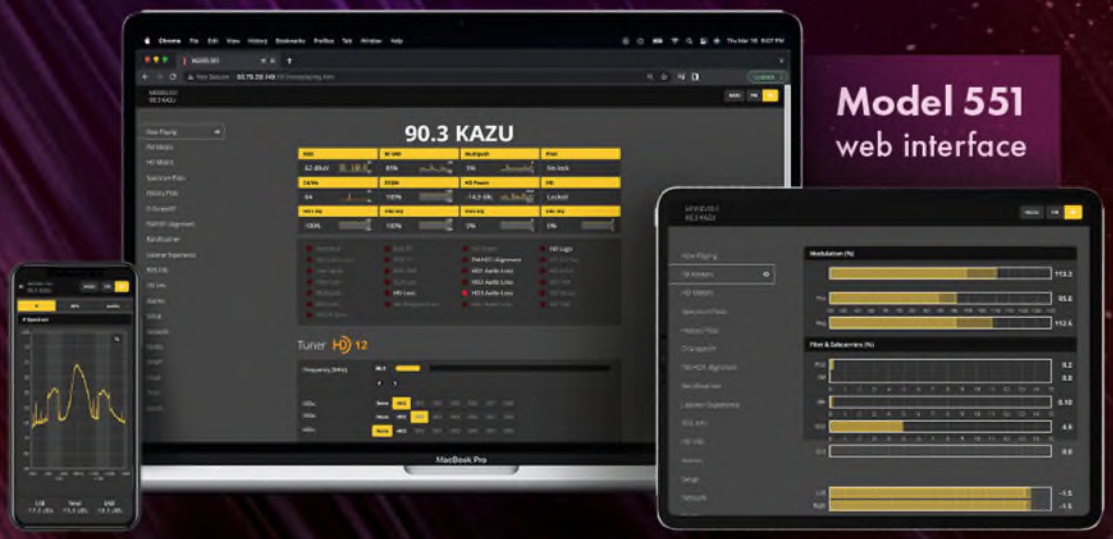

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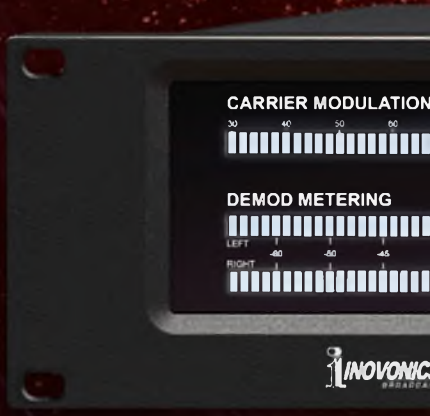

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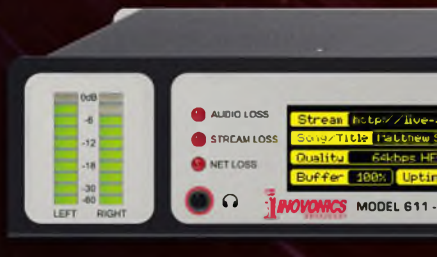

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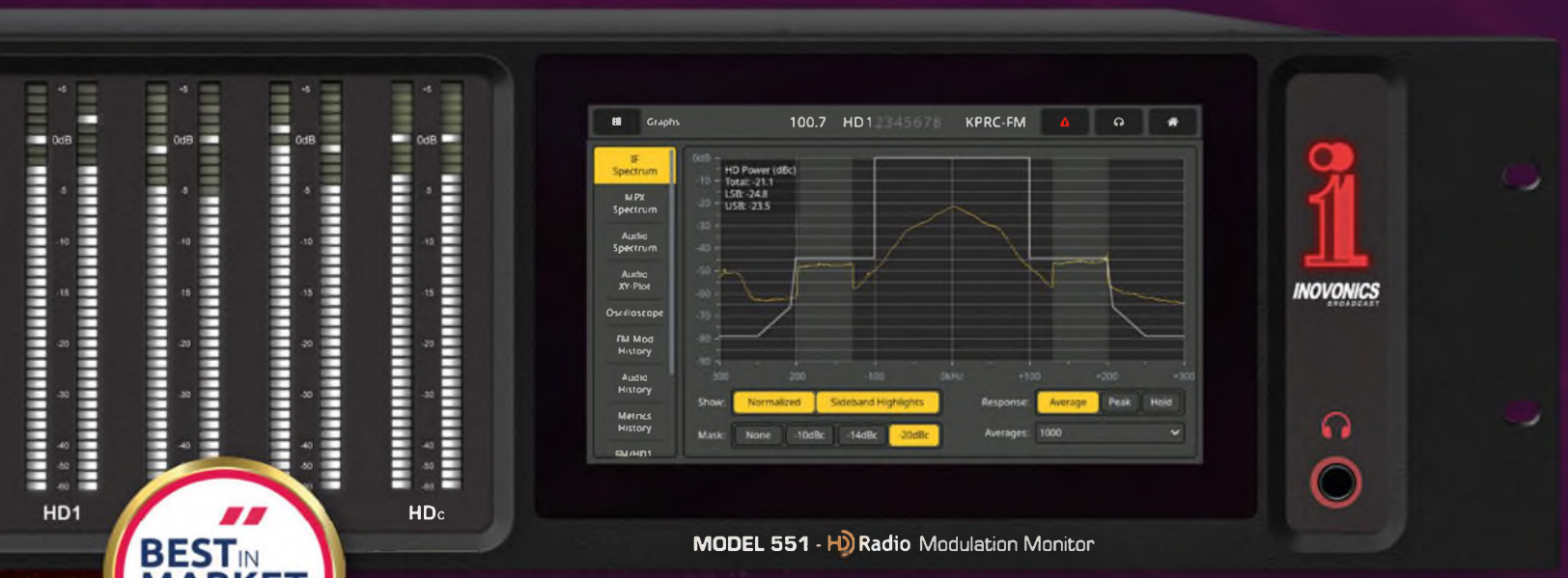

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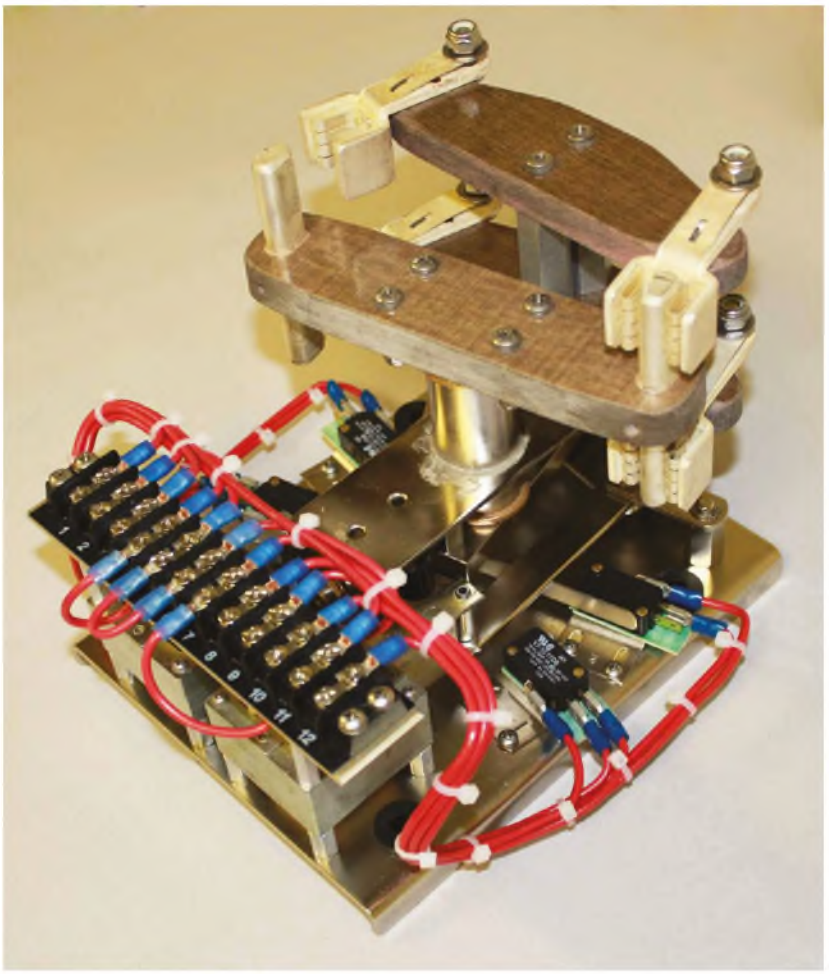

says this has saved him more than one headache from whacking into something with his skull.)

Begin your thorough cleaning process by donning a pair of gloves and a mask. You can't be too careful. Then give the interior a good vacuuming, using either a battery- or AC-powered vacuum. Ryobi and others make cordless wet/dry vacuums that are ideal for this purpose and can be found at the big box stores.

It's amazing how many bugs can get into the ATU, only to die. And not just bugs. So before you vacuum, use a strong light to look for mouse excrement. If mice are getting into the ATU, try to determine how. Look for ill-fitting covers, gaps or holes, and repair them.

You might also place a pouch of Bonide Mouse Magic on the floor as a stopgap or insurance measure. You'll find this product sold online as well as at garden centers.

Cleaning continues with a spray bottle of 99% isopropyl alcohol and a box of rags. These can be picked up at a hardware or big box store. Clean the insulators, capacitors and other components and hardware.

The combination of humidity, dirt and lightning can cause a carbon track to form across a component or porcelain insulator to ground; so keep them sparkling clean.

As you work, check coil clips and copper tubing or strap connections to the various components for tightness. Where coil clips attach to coils, you may want to mark the connection with a Sharpie or other brand permanent marker.

If an RF contactor is present, inspect the finger stock for signs of failure or overheating. Manually move the contactor armature, checking for easy movement and proper pivot bar contact seating into the finger stock sockets.

Above left
Mark the location of removable coil clips with a permanent marker.

Above right
Manually switch the contactor, looking for smooth engagement.

Below
This industrial cleaner and degreaser is ideal for removing dirt on the bowl insulator.

If the movement is not smooth, you may need to lubricate the mechanical linkage controlling the pivot bar. Use lube sparingly and apply it only to the mechanical linkage, not to the solenoids. Don't forget to leave the armature in the correct position after exercising!

If your ATU is in a building and you discover peeling paint or efflorescence (crusty white mineral salts that can leach from concrete, brick or mortar), use a wire brush or putty knife to scrape the surface clean. If this is a problem at your site, perhaps start with this task so you don't have to vacuum twice!

Next, clean both the inside and outside of the "bowl" insulator, and inspect the tubing that passes through this insulator to the tower. David uses Simple Green All-Purpose Cleaner, available from Amazon and the big box stores. It cuts through the dirt.

Follow that cleaning with a rinse and wipe with the isopropyl alcohol.

Throughout this process, take plenty of pictures to share with the staff and GM — especially if you encounter bee nests, snake skins or other interesting finds. These pictures help you promote yourself and your department — reinforcing that you aren't going to the transmitter site for a nap!

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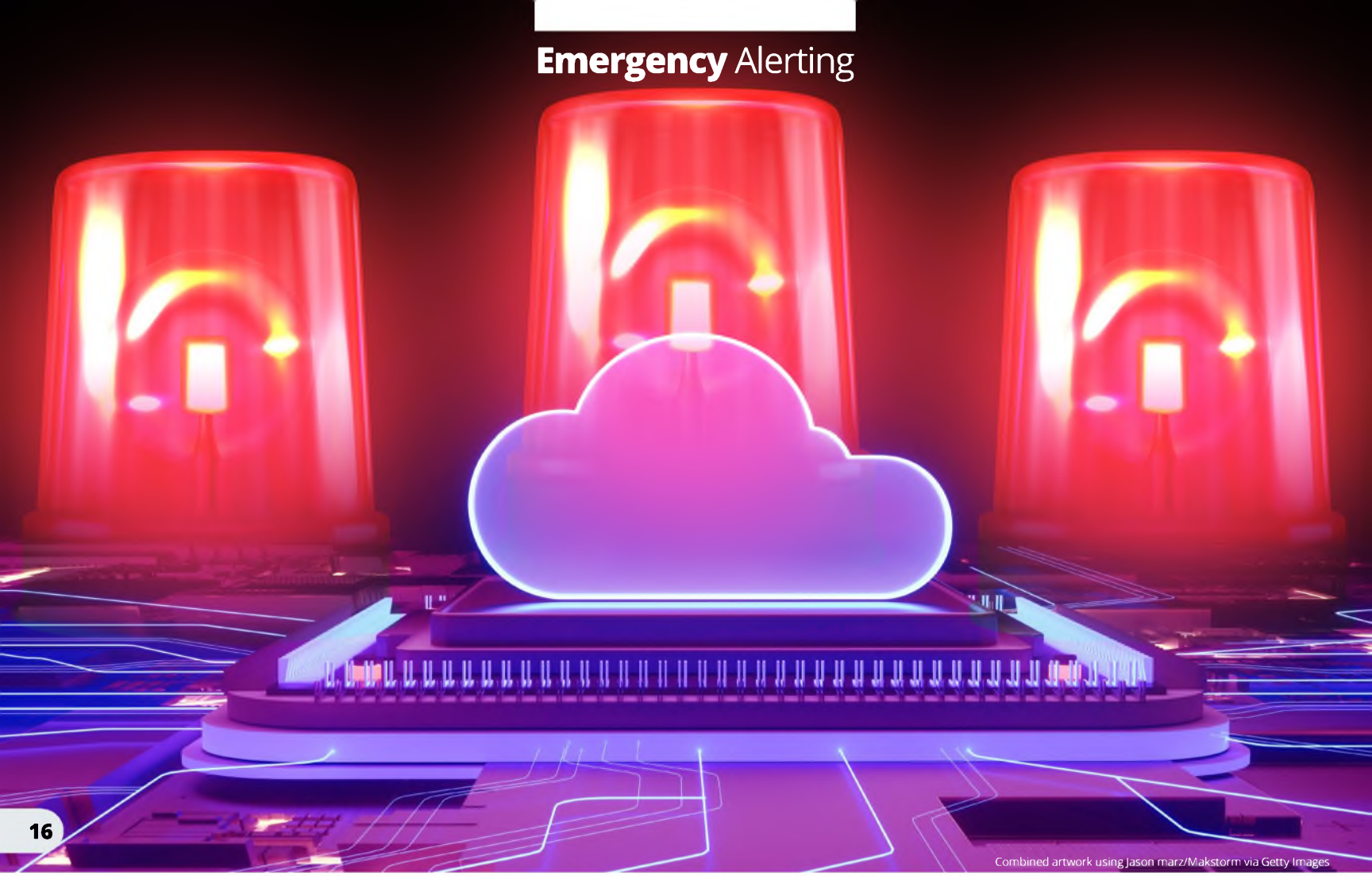

Combined artwork using Jason marz/Makstorm via Getty Images

Writer
Randy J. Stine

Broadcasters propose use of software-based EAS

NAB says it will help with security and eliminate need for specific hardware

A new optional approach to internal EAS operations is being advocated by the National Association of Broadcasters as a way to help broadcasters secure alerting equipment from cyberattack.

NAB says using software-based encoder/decoder technology would eliminate the need for physical EAS equipment and promote the aims of the FCC.

However, one EAS equipment manufacturer believes that "virtualization" proposals for EAS "would be inherently dangerous" and risk weakening both local and national EAS.

Using software-based tech for EAS is referred to as virtualization in the proponents' comments. Broadly speaking, virtualization typically means that a particular function is no longer tied to a specific physical piece of equipment.

It's common now for equipment providers to supply software that can run on a station's servers. EAS functionality could be added to a piece of equipment in the air chain, observers say, similar to what Nielsen is doing by licensing its watermark technology to audio processor manufacturers, who put PPM encoding right in their products. Or the software could run in a standalone computer.

It presumably also could run in the cloud, although NAB did not specifically ask for that, according to a person familiar with the issue.

"Minor policy change"

The FCC has advanced its own ideas to secure EAS equipment from cyber threats, but broadcasters say the commission's proposal in MB Docket 22-329 is unduly burdensome and expensive and would not improve

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security. It would require stations to report incidents of unauthorized access to internet-connected EAS equipment within 72 hours and file annual reports certifying that they are prepared for a cyberhack attempt.

NAB and others want the FCC to look at flexible alternatives, which is where the proposal to allow software-based EAS comes into play.

"We have joined with leading engineers and technologists in the broadcasting industry to identify one minor policy change that would substantially promote the FCC's goal of enhancing the security of EAS," NAB wrote to the commission, asking that stations and other EAS participants be allowed to use software-based EAS encoder/decoder technology in place of a physical device.

A virtualized EAS platform would receive and create alert messages just like the existing hardware system, it said, functioning independently within a station's infrastructure.

NAB wrote that its idea would promote the "consideration of efficient, secure technologies that could enable flexibility for future enhancements of emergency messaging and other aspects of EAS, including centralized virtualization." It said this "voluntary modernization" will better align EAS components with other modern broadcast systems.

> **The permissive use of a virtual EAS encoder/decoder would provide station licensees with many benefits, including streamlined operations and improved remote maintenance and control.**

"EAS is an unfortunate anomaly in the operation of today's broadcast facilities, as nearly all other components of the broadcast operations chain are advanced, software-based virtualized technology, while the components that make up EAS do not currently have a clear roadmap out of a hardware-only based system," NAB argued.

NAB listed several ways a software approach would promote the aims of the FCC:

- It would free stations from constraints of physical hardware, such as providing a safe, climate-controlled physical location for the box.
- Broadcasters running modern, IP-based air chains would no longer have to convert media content and EAS control signals to either wired analog or digital to feed into EAS boxes and then re-convert the signals back into IP for their air chains.
- Virtualization promotes reliability, NAB said, by providing flexibility for immediate fail-over using multiple instances of EAS software and enabling redundant, replicated systems to operate remotely in diverse geographic locations.
- A software-based approach would facilitate improved system monitoring and alerting through near real-time, automated collection of activity data.
- Software-based systems provide more flexibility to manage and route messaging to various broadcast streams, such as HD Radio main and multicast channels, for the benefit of public safety.

Cox Media Group told the FCC it sides with NAB. "The permissive use of a virtual EAS encoder/decoder would provide station licensees with many benefits, including streamlined operations and improved remote maintenance and control," CMG wrote.

"Software-based EAS systems could be upgraded and repaired quickly and easily, reducing downtime and increasing the operational readiness and security of EAS equipment."

(Addressing other aspects of the NPRM, CMG wrote that instead of adopting new notice and certification requirements, a more "cooperative" approach between broadcasters and the FCC would strengthen the alerting program.)

REC Networks, an advocate for LPFM stations that often comments on FCC technical matters, supports NAB's suggestion and agrees such software-based arrangements can better mesh with a radio station's network.

"This type of change would also better encourage additional developers to enter the EAS arena," REC wrote. "Such software-based infrastructure can better integrate with radio automation systems and streamline the methods for delivery to EAS information on HD multicast streams."

National Public Radio also sees the benefits of a software-based EAS and believes it would permit stations with large coverage areas to better tailor alerts to those who really need them, guarding against EAS-alert fatigue while still being distributing alerts efficiently.

"And unlike the current dispersed approach, stations that chose to use software-based EAS could better tailor alerts without the significant additional costs," NPR told the FCC.

"In addition, software-based EAS equipment could enable stations to pull from FEMA's Integrated Public Alert and

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Warning System as the primary monitoring source, thereby enabling better audio quality and greater information in the broadcasted alerts."

"Weakened security"

NAB considers its proposal a minor change. But EAS equipment manufacturer Digital Alert Systems expressed strong misgivings.

"We contend that virtualization as suggested would not improve security — rather it would lead to much weakened security and reliability of local and national EAS," it wrote.

"The NAB suggestion grossly underestimates — and in fact ignores — the complications and glaring added risks of this approach."

The EAS equipment manufacturer goes further: "Virtualization (in the form of moving critical EAS operations into a software-only or cloud environment) presents multiple challenges. Many experts in network operations have discussed the potential drawbacks of using a cloud computing system and host provider for critical operations."

It worries that much of the industry discussion about virtualization "may be driven more by supposed economic benefits, rather than public safety and public policy requirements." But Digital Alert Systems says depending on the cloud network and risking potential server downtime are not a good combination for reliable EAS.

Among its concerns is network connectivity dependency. "A virtualization of EAS is useless if there is no working internet connection," it wrote.

Other issues include server downtime; lack of support; the cost of cloud computing services over time; and security. "We note that — tellingly — no proposal for virtualized services have stated how this would enhance the actual security of EAS."

It also said moving EAS into a software-only environment raises the risk of SOUP, or "Software of Unknown Pedigree." Such solutions, it said, risk bringing uncertified applications entering the EAS ecosystem.

> **"The NAB suggestion grossly underestimates — and in fact ignores — the complications and glaring added risks of this approach."**

Asked by Radio World to expand on its comments, the company's Ed Czarnecki said, "We continue to work with the broadcast industry to field approaches that are helping to address some of these underlying challenges. EAS devices such as the DASDEC remain critical for on-site EAS functions, which we are complementing with virtualized services for system monitoring, management, reporting and remote software updating."

He referred to this as "hybrid virtualization" and said the approach is widely used in cable TV. He also said hundreds of DASDEC units in the broadcast industry are using the company's Collector and Halo services.

Sage Alerting Systems, also an EAS equipment manufacturer, mentioned virtualization only briefly in its own comments to the commission.

"As to virtualization of EAS, Sage looks forward to working with the FCC and EAS participants to support future directions of the broadcast industry while continuing to meet the needs of FEMA for dissemination of the Emergency Action Notification, and the needs of the other 'legacy' backup components of EAS," it wrote.

Broader Issues Are Raised in NPRM

The notion of EAS functions being performed in software is only one of the issues discussed in comments about the FCC's notice of proposed rulemaking.

The commission says broadcasters need to do more to patch vulnerabilities in EAS gear, eliminating outdated software and installing proper firewalls in EAS encoder/decoder devices. It proposes to require broadcasters and cable operators to report incidents of unauthorized access to EAS equipment within 72 hours. They would also be required to annually certify that they have a cybersecurity risk management plan.

EAS devices and supporting systems would need be monitored and audit logs regularly reviewed looking for unauthorized access. And the FCC asks that broadcasters check with their EAS equipment manufacturer if they are unsure how to proceed with periodic security updates.

The requirements got pushback from broadcasters who worry about compliance issues and the burden on stations, especially smaller ones and noncommercial broadcasters.

Opposition or expressions of concern came from NAB, NPR, state broadcast associations, the National Federation of Community Broadcasters, Prometheus Radio Project and the Federal Emergency Management Agency, among others.

Old house, new digs for Radio Kingston

The Bonesteel House is an octagonal structure in midtown Kingston, N.Y., built as a residence in 1855 and later turned to commercial use. But it recently became the home of new studios and offices of Radio Kingston Corp.

WKNY, heard at 1490 AM and via a translator at 107.9 FM, threw open its doors in 2021, having moved from a longtime location across the street. Its new facility is featured in Radio World's free ebook "Spectacular Radio Studios 2023." Find it at *radioworld.com/ebooks*.


Production room.
Joseph Janisheski, Lightroom Studios Photography

Kingston hired Walters-Storyk Design Group to lead the project and its audio/video and energy systems. The local general contractor was Equinox Construction. Radio engineering expertise was provided by Data Wave LLC, with SAS support and design by Nick Straka and Daniel Hyatt of DNAV.

The station's Director of Finance & Administration Kristen Thorne is also an interior designer and contributed to the decisions about color trim, flooring and other elements.

Executive Director Jimmy Buff said the building's large windows overlooking Kingston's Broadway were a crucial draw. "We imagined people seeing us and us seeing them while we made radio for our city, and it was quickly apparent that concept had been turned into reality when we started working in the new studios."

The project includes a rooftop solar panel installation by SunCommon, backed by three Tesla Powerwall batteries and linked to an off-site community solar farm as well as the local power grid. Buff said this infrastructure proved itself in an ice storm that knocked out power in much of Ulster County.

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Kudos on this much-deserved recognition of your impressive career. We appreciate all you've done for Quu, radio and the entire broadcast industry.

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Your colleagues and fans at WideOrbit send you our congratulations on an honor that is very well deserved.

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Mike, Wheatstone thanks and honors you for your dedication and contributions to our industry. You are an inspiration to us all.

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Your friends at Xperi appreciate all the work and technology leadership you've provided to help advance our industry. Thank you.

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A costly lesson in translator antenna selection

Inexpensive antennas have their role, but when they fail it can cost you

Writer

Larry Langford

Chief engineer and owner of WGTO Cassopolis, Mich., and W246DV South Bend, Ind.

Teach us your tech!

Share your own tech tips or stories about how you solved a problem. Write to *radioworld@futurenet.com*.

I've had the task of building several translator stations over the past few years. As a good engineer should, I share my mistakes with others so they may avoid the same pitfalls.

I have worked with stacked vertical dipoles, folded dipoles, Yagis, narrow- and wide-band circular and even the high-gain, 3/4-wave verticals.

After years of experience, I wanted to share an expensive incident. For my translator in South Bend, Ind., we selected a crossed-dipole, circularly polarized two-bay system. Pretty typical. We purchased from a well-known distributer.

After a year on the air, one day we found ourselves dead in the water. The transmitter said "major fault" and shut down with a VSWR indication of 4 to 1.

We'd had a moderate storm the night before, so I assumed the antenna was damaged. I keep a set of Canon 18x50 image-stabilized binoculars in my car. It will allow you to inspect an antenna that's 250 feet up like it was on the ground.

Right away I could see the problem. One of the Gamma feed ribbons had broken from the dipole arm. In a stroke of good luck, a tower crew was working a nearby job, and they agreed to come by.

Above right
A photo by the rigger shows part of the antenna bay. The loose Gamma feed ribbon should be attached at upper left.

> **Eight months later my phone lit up. The translator was not reaching its normal service area.**

For only a few hundred dollars they went up and reattached the ribbon and we were back on. When I talked to the manufacturer about it, I was told that we must not have tightened the connection properly when we installed it because the ribbons, they said, "never" come out like that.

Although I thought we'd done a good job, maybe we could have tightened it a bit more, so I accepted that.

Eight months later my phone lit up. The translator was not reaching its normal service area. A look at the transmitter via remote confirmed that it had folded back to 38 watts and was shutting down altogether for several seconds at a time.

At dawn I arrived — after an 80-mile drive — and pulled out my super binoculars. Sure enough, one end of the ribbon feed line was disconnected and blowing around in the wind.

This time I had to call a crew that could only get there two days later at a cost of almost $2,000 to go up and make repairs.

Before they arrived, I purchased heavy duty ribbons to take up and attach. Replacing the ribbons took all of 20 minutes once the rigger was up there. The photos he took clearly show the problem, and upon close examination we see that the ribbon had not pulled out, it simply suffered from bending fatigue and broke near the mount.

We replaced the ribbons with a much heavier 14-gauge stock, and I am hopeful that takes care of the problem.

So an antenna that cost $600 ended up costing us close to three grand in climbing cost to repair two Gamma feed failures. In hindsight we should have paid the $40 upgrade

fee to have the original antenna shipped with the heavier Gamma strap. And if I get another one I surely will.

But this caused me to take a close look at durability issues with antennas. When you're in the market, take a close look at how the antenna is built. Does it use thin ribbon for the Gamma feed? Some companies use tubular Gamma feeds that are a bit more robust.

If you do not need broadband performance, consider using a narrow-band circular antenna. You'll have fewer issues with the Gamma straps, but the downside is critical tuning. In very hostile high-wind environments, straightforward vertical dipoles are nearly indestructible, and that might outweigh any perceived advantages of circular.

And while we are at it, I recommend that you stay away from aluminum. Stainless steel is highly preferred. Some of the really big companies use brass!

If your antenna is on a big tower, consider what it costs to have emergency service for a mechanical failure. You might want to make the larger investment in one of the big-name antennas. They may cost more but they're built like battleships and last for decades.

And if you want a further suggestion from an old-timer, stay away from N connectors on translator antennas, if that is an option.

We once had a rigger install an antenna and cross-thread the N connection, which destroyed the socket and rendered the antenna useless. We now only use 7/16 DIN connections with "Superflex" jumpers.

Left
The ribbon suffered bending fatigue and broke near the mount.

If the antenna does not have a 7/16 option, carefully install a flexible jumper on the ground with an N connection on the antenna end and 7/16 DIN to mate to the feedline or divider. Even an all-thumbs rigger should be able to screw a 7/16 DIN connection together with little chance of damage!

Bottom line: Tower crews can have you by the short hairs in an emergency. More bucks paid for a quality name-brand antenna with a heavy-duty construction that can take wind, rain and ice is a wise investment. One climb to replace a bad feed can easily cost several times the original price of the antenna. How does that phrase go? "Pay me now or pay me more later!"

More Larry
Read additional commentaries by Larry Langford at *www.radioworld.com/author/larrylangford*.

About Buyer's Guide

The Buyer's Guide section appears in every other issue, focusing on a particular category of equipment and services. It is intended to help buyers know what's on the market and gain insight into how their peers are using such products.

Sinclair Telecable gets loud but stays in sync

When an SFN flipped from mono sports to music, the broadcaster needed a clever solution

Sinclair Telecable is a family-owned broadcaster operating two AM and three FM stations in the Norfolk, Va., area. Additionally, it has a single-frequency network with two co-channel FM translators within the same market, running the same programming.

"We've happily used Omnia processing for two decades, first with Omnia.6s and later Omnia.11s on the full-power FM stations and Omnia.7AMs on the AMs," said Director of Engineering Dave Morgan, CBRE.

The SFN operated with mono-sports programming until it flipped to music last year. "Suddenly we needed more processing power, upgrading to the Omnia.11 at the studio end."

Morgan noted that everything must be synchronized perfectly in an SFN to minimize mutual interference and prevent awful distortion for listeners in the signal overlap area.

More Info

https://success.telosalliance.com/broadcast-audio-processors-radio

> **How could we add loudness beyond the Omnia.11 and maintain 19 kHz pilot sync between the already GPS frequency-locked translators' exciters?**

"Mono sports was easy with the processor at the studio end, but how could we add loudness beyond the Omnia.11 and maintain 19 kHz pilot sync between the already GPS frequency-locked translators' exciters?"

The answer was to add the Perfect Declipper option to the Omnia.11, plus an Omnia.9sg with composite clipping and internal RDS option at the studio end feeding AES192 digital composite into the existing GatesAir Intraplex IP Link IPL-200 system with GPS and SynchroCast options.

The GatesAir Flexiva exciters support AES192 input. But transparent AES in the IP Link system requires a source of GPS-locked AES3 audio to maintain exact latencies for the two STL paths, one being 5µS different from the other.

"Telos Alliance Support suggested feeding the Omnia.9sg's rear-panel 'Ref In' BNC connector with AES3 audio from any GPS-locked source," Morgan said.

"Turns out we had an unused AES3 output on our bidirectional IP Link. Result: Magic. IP Link latencies are now locked for the SFN, and we have the extra, clean loudness we need." RW

Tech Update

XPN-E Processes Up to Eight Channels

A recent introduction by Orban is the Optimod XPN-Enterprise, a customizable Linux-based processing platform for multiple broadcast stations or streaming services with centralized control.

Orban said XPN-E provides proprietary OptiCloud processing for up to eight HD Radio, DAB+ or streaming processing channels in a 1 RU package.

It has dual redundant audio-over-IP interfaces, allowing audio signals to be routed via AES67, SMPTE ST-110 or optionally Livewire+. With an optional AES Node, XPN-E supports AES3 audio connections.

Each signal coming into the Optimod XPN-Enterprise server can be processed individually, with Orban's OptiCloud providing tailoring of each station's broadcast or stream to meet the requirements of the audience and delivery method.

OptiCloud presets give users a quick start for each format; Orban's "Less-More" controls simplify "dialing in" a desired sound by combining multiple OptiCloud processing parameters with a handful of controls.

The company also offers a pure software solution for HD Radio/ DAB+ and streaming applications.

The Optimod-PCn1600 Audio Processing Software is suitable for Microsoft Windows/Intel PCs as well as virtual machines. The processing provides automatic level control of audio sources, sophisticated multiband dynamic equalization with subharmonic and harmonic synthesis, phase-skew correction, and a oversampled true-peak limiter that the company says prevents distortion and optimizes codec performance without clipping or primitive pumping.

The number of audio processors can be chosen individually according to a customer's needs. The available audio processors can be administrated and controlled via the supplied Windows PC user control application. The Optimod-PCn1600 also includes a batch audio processor for podcasting applications.

Info: http://orban.com

Heritage CHR goes MP-532

Mark Lee of Compass Media turns to Wheatstone multiprocessor

Compass Media's Z99.9 in the Cayman Islands has a fiercely loyal listener base. Islanders there had grown up with Z99.9, a heritage CHR that was the first commercial station on the air in the islands almost 30 years ago.

Compass Media Operations Manager Mark Lee didn't want to change out the audio processor on a station like that without careful consideration; but for a beloved station like this, he also couldn't ignore notable subsequent product introductions.

Lee said he was cautiously optimistic when racked up Wheatstone's MP-532, one of the first to do so when the AM/FM/HD multiprocessor came on the market.

He started with the CHR preset and noted the clarity on the high end.

More Info
http://wheatstone.com

"It is so much brighter than anything we've had before, especially on the high frequencies. It's just much cleaner up there," he told Wheatstone.

He then began tweaking using the processor's bass tools, starting with rolling back the clipper a bit, seeking to find that balance that produces a deep, impactful bass and detailed highs.

"It's the best processor I've laid my hands on," said Lee, who is also now using them on other Compass Media stations in the Cayman Islands.

In addition to Z99.9, Lee is the operations manager for Compass Media's Gold 94.9, Island FM 98.9 and Rooster 101.9. "For heavy baseline urban and R&B, it definitely copes with the low end much better than the processor we had before. And, of course, it's just cleaner on the high end."

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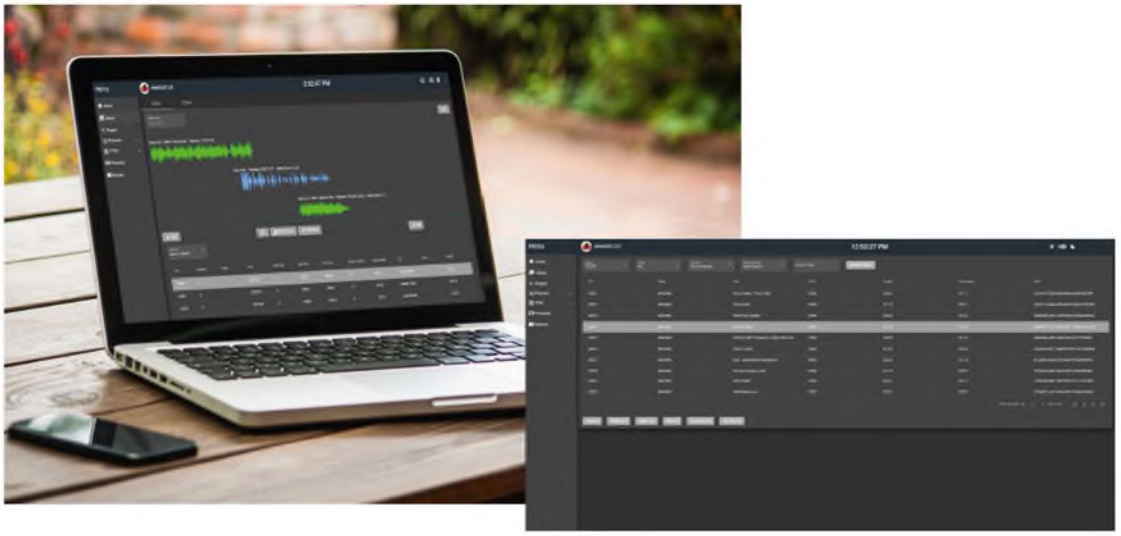

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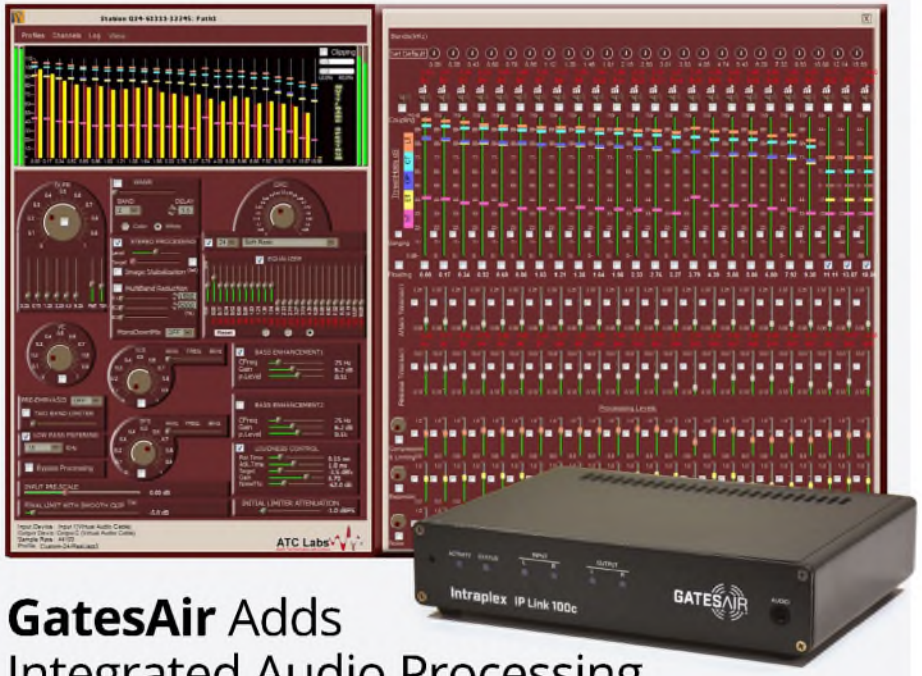
Tech Update



GatesAir Adds Integrated Audio Processing

GatesAir said it now offers professional 10-band audio processing software within its Intraplex IP Link 100c hardware codec and Intraplex Ascent cloud transport platform, which can scale audio processing requirements for multiple channels.

"The embedded software innovation in either product can save users thousands of dollars in auxiliary equipment," the company said.

The inclusion of ATC Labs' Perceptual SoundMax Audio Technology allows broadcasters to activate accurate, high-resolution audio processing functionality within either product.

"In addition to achieving exceptionally bright and open sound, broadcasters eliminate the costs and rack space of external audio processors inside studio and transmitter facilities."

GatesAir said the higher-resolution audio processing in Intraplex products brings better control to broadcasters because the technology affects only specific and targeted audio characteristics.

"Perceptual SoundMax combines high-resolution audio processing technology with psychoacoustic principles and wide-band perceptual models, which ensures the greatest possible accuracy in tuning the sound quality for each application."

Info: www.gatesair.com

Tech Update

SEPsoniX Processor

JT Communications offers options to the SEPsoniX FM processor that expand the features and performance of the product.

"High-ended processing, in conjunction with digital STL, network latency etc., creates a dilemma that prohibits the ability to utilize live talent monitoring of the processed audio," the company states.

"One solution is to provide an artificial, minimal-delay processing sidechain for the talent to listen through, at the sacrifice of additional expenses and maintenance issues."

With the JT Communications SEPsoniX, there's no processing delay. This allows the live talent to listen to the identical processing that is passing through the SEPsoniX, while the main processing passes to the station RF chain.

A programmable FM signal generator option can be configured into the SEPsoniX chassis and provide a low-level (–10 dBm) signal to drive directly into a conventional FM tuner, so that the processed audio can be monitored for live on-air talent, or for comparisons to competitive stations. Since the SEPsoniX has no processing delay, live talent can talk live and not have to deal with hearing their voice out of time.

This feature can be added to existing SEPsoniX models or configured direct from the factory. The signal generator is programmable in 100 kHz steps from 87.7 MHz to 107.9 MHz. A modulation calibration control on the signal generator allows for independent control of the generator's audio independent of the main composite output control.

An additional feature is the inclusion of a "pilot out" connection, allowing for RDS devices to properly synchronize the 19 kHz pilot signal to the RDS generation equipment.

Retail price of SEPsonix is $1,095, and the FM generator option is $1,295.

Info: www.sepsonix.com

Tech Update

Novia 272 Processor
Is Compact but Powerful

Inovonics said its Novia 272 Processor for FM on-air applications has been growing in popularity with small and mid-size broadcasters. It reports sales of this unit growing over the last two years by 30% annually.

"The steady growth in popularity is because broadcasters are discovering the value proposition for the small, half-rack Novia 272 FM processor, available at a very interesting price. It also ships economically due to its reduced size."

Features include a three-band processor with parametric equalizer, 10-factory presets, stereo generator, streaming input/output, failover input sources, Dynamic RDS Encoder and remote monitoring capabilities.

Inovonics said this unit is notably easy to install and use, with menu-driven setup and an IP/browser interface compatible with any PC or mobile device.

The Novia 272 accepts both program line and streaming inputs and allows remote IP audio monitoring. Streaming output can be used for monitoring or as a streaming source for internet radio multicasting.

The Novia family of processors also includes models 236 for AM and 262 for Dual-Mode Stereo Processing. Novia's parametric equalizer offers continuous control over the audio signal's frequency content with three bands of dynamic compression and selectable crossovers.

Info: www.inovonicsbroadcast.com

Tech Update

Ecreso On-Board Processor Available on Free Trial

WorldCast Systems said its Ecreso FM transmitters now include a free three-month trial of its onboard five-band sound processor.

The processor is integrated in the direct-to-channel digital modulator for the range of Ecreso FM transmitters from 100W to 2000W, as well as the high-power and redundant 3 kW, 5 kW and 10 kW. It's also available with the new AiO Series from 100W to 1 kW.

"The five-band sound processor is enriched with more processing power, resulting in highest sonic performances. A wide-band version is also available as it comes as a standard feature, but for even more advanced processing, the optional five-band is easy to activate via a simple software upgrade," WorldCast said.

The company said this digital processor aligns with the market's transition to more software-based solutions versus additional hardware, bringing benefits of higher reliability, no maintenance, less costs and immediate availability for deployed Ecreso FM systems.

The processor is supplied with multiple, customizable presets for varioius formats and requirements. Radio users can easily choose the one that best enhances their specific needs and music content. Functions include automatic gain control, three parametric equalizers (equalization, bass, treble), a stereo enhancer and limiter and final limiters. It comes with an intuitive graphical user interface for fine-tuning.

The company also welcomed queries from current Ecreso users about the five-band processor.

Info: www.worldcastsystems.com/en/

Tech Update

Chameleon C6s Is Processing for Your Streams

Angry Audio has launched the Chameleon C6s, audio processing software for streaming.

"Controlled by our exclusive AI software, Chameleon analyzes the incoming audio and continually adjusts its parameters to fit the program," the company says.

"Built around the same decision-making engine as the Chameleon C4, the C6s adds several personality controls so users can influence the results."

It said Chameleon has an open and natural sound that preserves the character of the content, and that the C6s will adapt to any format or audio type automatically.

"Even with wildly uneven source material, the processing software will deliver perfectly consistent loudness at all times. Perfect for all types of streaming media."

C6s features the company's precision loudness controller. The user can set any loudness target between –24 LUFS and –10 LUFS; the software will maintain it without intervention.

Angry notes that streaming platforms such as YouTube, Amazon and Apple require their users to comply with a certain streaming loudness specification. "With C6s, this is as easy as turning a dial."

Also among its features is "Codec Camouflage," which compensates for the known limitations of typical streaming coding algorithms.

C6s is available for Windows and MacOS in application and VST and AU plugin formats. The program is available for download on the Angry Audio website. List price is $599.

Info: https://angryaudio.com/c6s/

BROADCAST EQUIPMENT EXCHANGE

BROADCAST EQUIPMENT EXCHANGE

Read More
Read comments filed with the FCC about media ownership at *www.fcc.gov/ecfs/search/search-filings*. Enter 22-459 in the "Proceedings" field.

Above
A view of the historic Blaw-Knox tower serving WLW in Cincinnati, taken from the station's website. WLW today is owned by iHeartMedia and is heard on 700 kHz.

iHeart asks FCC to "do no harm" to AM

The company reiterates its opposition to raising local FM subcaps

iHeartMedia, along with a few other companies, believes the FCC should remove its limits on local AM ownership, allowing more consolidation, but retain its local FM ownership caps.

In this they differ from the NAB and many other radio groups that have pushed for relaxing or eliminating the caps in both bands.

Today, in each of the largest markets, a given licensee can own up to eight radio stations, but no more than five in either the AM or FM service in a given market. The NAB has proposed that in markets 1 through 75, an entity could own up to eight commercial FMs per market, with no cap on AM ownership, and an owner in the FCC's incubator program could get waivers for two more FMs. In smaller or unrated markets, the NAB recommends no cap on FM ownership, so a licensee could own all FM stations in markets 76 and smaller.

The issue was highlighted as the FCC took comments in its 2022 quadrennial review of media ownership laws.

Below is a sampling from iHeart's reply comments in late March.

iHeart submits that the commission squarely fixate its rule changes on the one aspect where there is overwhelming consensus: valuing and avoiding harm to the AM band. ...

Such a targeted reform by the commission would guard against the highly negative impacts on America's AM radio stations and the tens of millions of Americans served by those stations (as well as hundreds of millions potentially served were there to be a national emergency prompting a Presidential alert) from the diversion of critical resources

from the AM band to the FM band that would result were the commission to adopt the vastly broader deregulation proposed by some.

In fact, permitting greater local ownership of AM stations could give a significant boost to the vitality of the AM band — a particularly timely and pro-consumer outcome as certain automakers are considering removing, or have even already removed, AM reception capability from their vehicles.

Left unanswered, this trend threatens, at best, to force Americans, including lower-income groups, into a pay-for-information/pay-for-safety construct that relies on less resilient communications networks while in This car; at worst, it would leave those fleeing an emergency ... without access to life-saving information from what is often the only source of local emergency information following a disaster: AM radio.

It's hard to imagine an outcome that is less in the public interest.

... NAB states that "to continue AM radio's revitalization, the FCC should encourage as much investment in the struggling AM band as possible and permit broadcasters the flexibility to form viable ownership structures, unencumbered by competitively unnecessary caps on AM ownership."

This imperative is even more insistent of late, with NAB, like iHeartMedia, highlighting the warning of Commissioner [Nathan] Simington that "the continued inclusion of AM radio in electric vehicles already needs 'urgent attention.'"

Similarly, Senator [Ed] Markey — who recently surveyed 20 auto manufacturers about their plans to include AM radio their vehicles, including electric vehicles — states unequivocally: "Broadcast AM radio is an essential part of our emergency alert infrastructure ... Although many automakers [suggest] that other communication tools — such as internet radio — could replace broadcast AM radio, in an emergency, drivers might not have access to the internet and could miss critical safety information. The truth is that broadcast AM radio is irreplaceable." ...

While certain other commenters ... have stated their preference for the commission to retain the local radio subcaps, it is readily apparent that their principal concern is their objection to any loosening of ownership limits on the FM side, with fears that the AM band would be weakened by relaxation or repeal of the limits on local FM station ownership.

How to submit

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

For example, the Multicultural Media, Telecom and Internet Council focuses on the deleterious impact on AM that implicitly flows from lifting FM limits: "Eliminating the Subcaps Rule would result in dramatic devaluation and flight from AM radio stations. Not only would this leave millions of Americans without access to local news, information and weather, but it would also deeply diminish the value of AM stations, harming minority and women owners."

Similarly, the National Association of Black Owned Broadcasters, in pointing out that the subcaps rule was adopted to protect AM radio, states: "The rule was put in place because the commission recognized that AM and FM radio stations have technological and marketplace differences that disadvantage AM stations ... a further devaluation of AM stations in relation to FM stations would result in a loss of service to many Americans who rely on AM radio for local news, information, sports and weather."

> **This trend threatens, at best, to force Americans ... into a pay-for-information/pay-for-safety construct that relies on less resilient communications networks while in their car.**

Salem Media Group also focuses its concern on proposed radio ownership rule changes that would favor the FM band while weakening AM: "If that content [robust, highly rated content on the AM band] migrates to FM, overall listenership on the AM band will diminish, ultimately placing remaining AM stations at a further weakened position."

... Salem sets forth examples of harm to the AM band when AM to FM migration occurs, observing that "the possible resulting migration of leading radio brands to the FM band could accelerate a departure of the AM audience" and "a policy decision that encourages station owners to consolidate their holdings in the FM Band could leave many listeners disenfranchised, potentially eradicate certain formats and increase risk in times of crisis."

Salem sums up its paramount concern: "Driving Salem's comments with respect to the Local Radio Ownership Rule is the ultimate goal of preserving the viability of AM radio, which traditionally has served as a vital source of news, talk and information, as well as a critical lifeline in times of emergencies and man-made or natural disasters." ...

In conclusion, iHeartMedia, along with other stakeholders recognizing the critical imperative to "Do No Harm" to the AM band, continues to strongly oppose relaxing FM local ownership limits and FM subcaps.

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