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Internet alerting
Should the FCC expand EAS to include streaming?

Workbench
12 fun workplace items to buy yourself as gifts for the new year.

Best in Market
Five products that stand out this winter.

RADIOWORLD

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Radio makers manage Reciva fallout

Qualcomm's move disrupted a specialized radio sector

Paul McLane
Editor in chief

Do you own an internet radio that ran on Reciva? Did it stop working? You're not alone.

As reported at *radioworld.com* by our contributor James Careless, the impact of Qualcomm shutting down its Reciva aggregation platform earlier in 2021 continues to reverberate.

"The loss of this platform means Reciva-enabled internet radios can no longer connect to audio streams on the web — rendering them effectively useless," James wrote.

Sangean Electronics is one of the manufacturers left stranded by the Reciva shutdown.

"The official date was April 30, 2021," Sangean Marketing Director Andrew Wu told him. "The response we got [from Qualcomm] was, 'We have decided to withdraw this discretionary service, for business reasons. We wish you well in finding alternative solutions.'

"It's not the first internet radio platform to shut down," said Wu. "But it is the first time for a supplier to not offer any viable solutions."

"The shutdown was difficult on both the brands and customers who used Reciva-based devices," said Greg Fadul, CEO and cofounder of Grace Digital, another internet radio manufacturer. "We are a family-run business and we were partners and friends with the Reciva team. However, over the years Reciva was sold twice and the companies that acquired them decided that they would no longer support the legacy servers."

Andrew Wu of Sangean

Qualcomm did not respond to Radio World's requests for comment.

If you're interested in this topic and how listeners and manufacturers have responded to it, check out James' story. At *radioworld.com*, search Reciva.

On the cover: *James Ruedlinger of Fullwave Tower & Broadcast on Sutro Tower, San Francisco.*

THIS ISSUE

San Jose Station Tests Geo-Targeted Ads

KSJO(FM) in San Jose, Calif., broadcast "hyper-local" geo-targeted advertising, according to technology supplier GeoBroadcast Solutions.

It said the station aired several breakfast promotions for Jack in the Box targeted to the areas of Livermore and Pleasanton along the I-680 corridor.

The station, which is branded "Bolly 92.3FM, The Bay Area's Bollywood Station," has experimental authority from the FCC to test the GBS ZoneCastingFM booster system. GBS said the tests would continue during short parts of the broadcast hour through February.

Jack in the Box CMO Ryan Ostrom was quoted saying the company is "only scratching the surface with our first test, and we will continue to lean into the unpacked potential of geotargeted radio activations."

KSJO's Brad Behnke, vice president and chief operating officer of station owner Universal Media Access, encouraged the FCC to allow such geo-targeting.

The station also is experimenting with zoned traffic reports.

GeoBroadcast has asked the FCC to change its booster rules to allow this kind of content origination.

1,300 Apply for FM NCE Slots

The FCC's Media Bureau published the list of mutually exclusive applications submitted in its recent window for new noncom educational stations in the reserved band, the 88.1 to 91.9 portion of the FM spectrum.

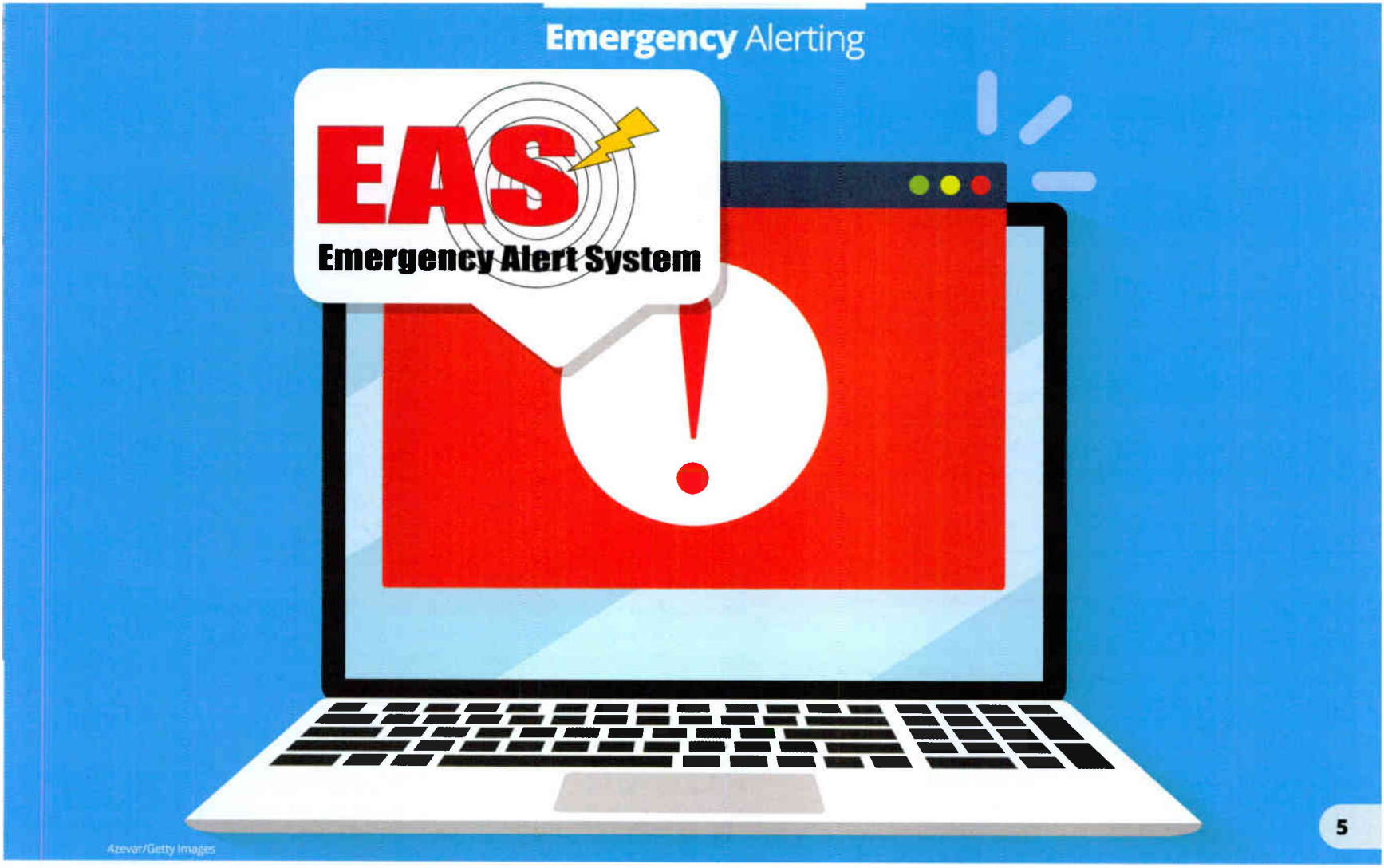
The commission received almost 1,300 applications. Out of those, there are 231 MX groups with a total of 883 applications.

Now comes the 60-day period in which MX applicants can reach settlement agreements and file them with the FCC, and/or submit technical amendments to resolve conflicts.

It said it will expedite the processing of all complete and rule-compliant settlement agreements and technical amendments that are filed by Jan. 28, 2022. Applicants in MX groups that have not submitted settlements or technical amendments during this period will then proceed to a comparative analysis.

The bureau also dismissed 13 MX applications that had "numerous significant and egregious technical defects." Each applicant has an opportunity to ask for reconsideration.

Eight of the rejected applications were from The Fort Ward Amateur Radio Club, a newly formed club in Washington state.



Azevar/Getty Images

Writer
Randy J. Stine

Radio World's lead news contributor wrote in November about the career of SBE General Counsel Chris Imlay.

Speak your mind
Comment on this or any story. Email *radioworld@futurenet.com.*

The FCC studies internet EAS alerting

But broadcasters worry about technical, regulatory and compliance obstacles

Broadcasters are expressing concerns about the notion of changing the Emergency Alert system to add or expand alerting via the internet, including via streaming.

Congress instructed the FCC to examine the feasibility of such changes and of improving alerts that are already delivered online. A notice of inquiry from the commission invited public feedback.

The comments from broadcasters and other interested parties reflect a general wariness of modifying EAS in this way.

The majority of commenters told the FCC they worry about the practicality of enabling online alerts via streaming services. Proponents of the established system say it is proven and that alerts are available via radio and TV broadcast stations, analog and digital cable, satellite radio, cell phones and other mobile wireless devices.

In addition, some broadcasters worry that any lessening of the FCC's regulatory jurisdiction over EAS could create enforcement issues involving the streaming platforms.

"Expanding emergency alerts through non-FCC regulated streaming services not only presents technological challenges, but also fundamental regulatory and compliance challenges," iHeartMedia and Cumulus Media wrote in joint comments to the FCC.

The broadcasters expressed concerns that internet-based services such as Netflix, Spotify and Hulu operate from centralized platforms, which if enabled with emergency alert capabilities could leave them susceptible to hackers.

"An intentional hack into one of these platforms by an actor with the malicious intent to cause public panic through false emergency alerts could have very broad national impact, all outside the regulatory control of the FCC," iHeartMedia and Cumulus wrote.

It's also not clear how a national streaming service could receive and then geographically-target locally generated alert messages in a timely manner, they said, thus undermining the current alerting system.

"Complicated if not infeasible"

The National Association of Broadcasters expressed similar concerns in reply comments: "Extending EAS obligations to internet streaming services would be complicated, if not infeasible."

NAB sees maintaining a "reliable EAS" as a crucial calling of all broadcasters. Reliability of alerting was one of the issues cited by Congress when it told the FCC to explore ways to coordinate multiple technologies for advanced alerting.

The NAB said the only online audio outlets that currently may retransmit EAS messages are websites and apps that simulcast radio stations.

"As a general matter, the streaming feeds at the broadcast station are originated upstream of the EAS encoder/decoder in the programming chain, meaning that an EAS alert is typically relayed only if it occurs while a station's own programming is broadcast on-air. If an alert occurs during a commercial break in the on-air programming, when different content is inserted into the online stream, the EAS alert is not usually retransmitted to the listener or viewer," NAB wrote.

In addition, pure-play online content streamers are not "well-positioned to participate in the existing EAS ecosystem" for live streaming feeds or on-demand content, according to NAB. "In general, online streamers lack the infrastructure to geographically localize any alert," it wrote.

And the association theorizes that using IP addresses to geofence the dissemination of alerts could raise even more issues.

NAB concludes: "It remains unclear how the FCC could extend the EAS rules to largely unregulated internet streamers or ensure the reliability and security of EAS over the internet. Therefore, NAB respectfully submits that the commission should report to Congress that enabling EAS alerts to consumers provided through the internet would be too complex and likely infeasible at this time."

National Public Radio agreed with the overwhelming majority of comments in saying that streaming services

The FCC Inquiry


Charles O'Rear/ Getty Images

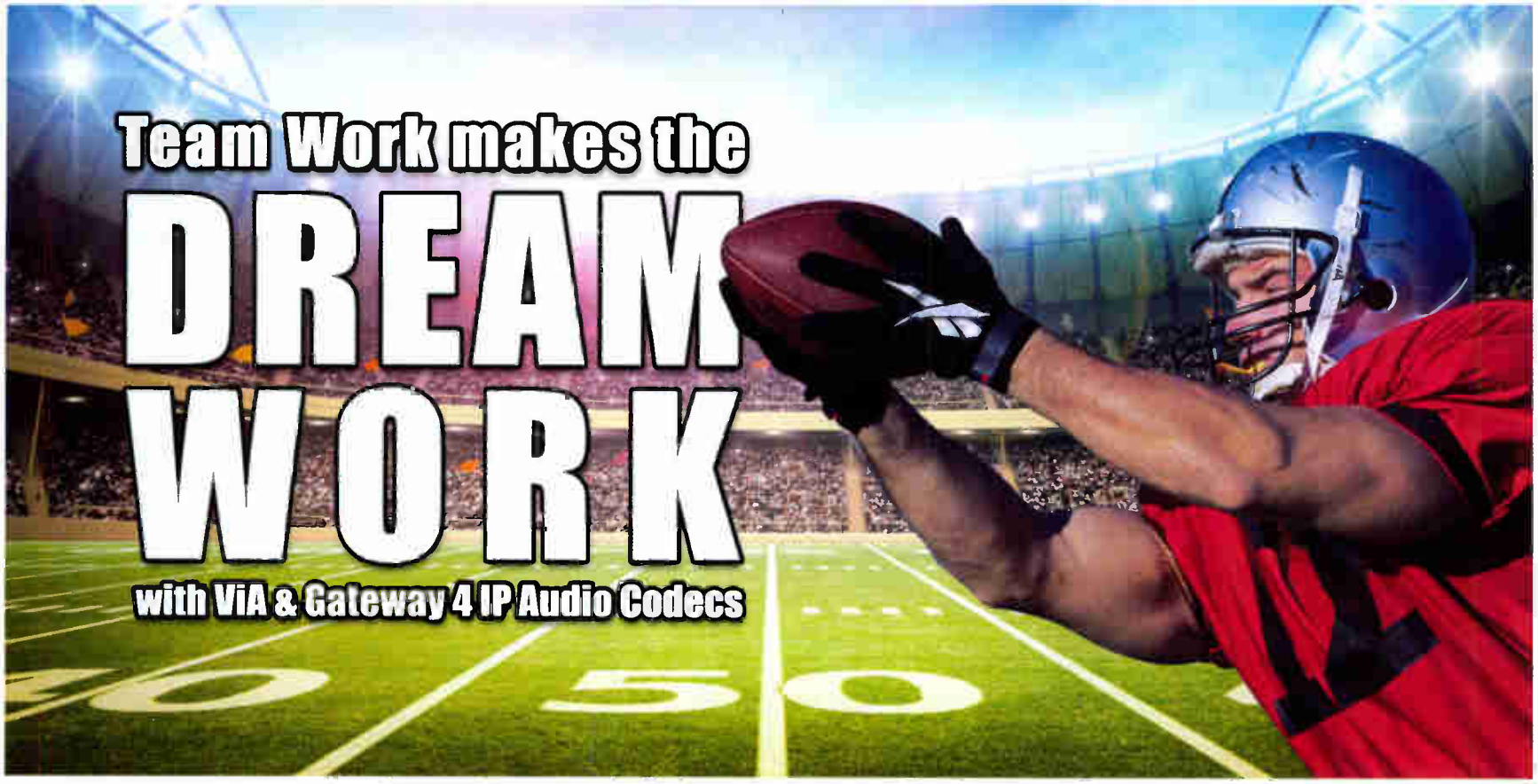
The commission noted in March that Congress had instructed it to conduct an inquiry to examine the feasibility of updating the Emergency Alert System to enable or improve alerts to consumers provided through the internet, including through streaming services.

"Accordingly, in this Notice of Inquiry, we seek comment on the definition of 'streaming services' and whether it would be technically feasible for streaming services to complete each step that EAS participants complete under the commission's rules in ensuring the end-to-end transmission of EAS alerts, including monitoring for relevant EAS alerts, receiving and processing EAS alerts, retransmitting EAS alerts, presenting EAS alerts in an accessible manner to relevant consumers, and testing."

Congress also told it to look into the feasibility of improving alerts to consumers that are already delivered over the internet. "Accordingly we seek to establish whether it is feasible for EAS participants to leverage the internet to offer the full feature suite of the Common Alerting Protocol to the public."

The NOI included many specific questions and issues that these concepts raise. You can read it in a PDF posted by Radio World at *https://tinyurl.com/rw-noi*. The discussion starts on page 26, paragraph 57.

> **"[T]he commission should report to Congress that enabling EAS alerts to consumers provided through the internet would be too complex and likely infeasible at this time."**



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should not be required to provide EAS alerts.

"NPR also asks the commission to be mindful of imposing any potential costs that would result when adopting new requirements, especially for under-resourced public broadcasting entities," NPR wrote. "Requiring public radio stations to provide EAS alerts through internet streams could introduce cost and possibly significant complexity."

Further, stations do not completely control the end-user player experience with their streams, and some streams have sponsorship message insertion, which can interrupt an alert, NPR pointed out.

"It would be almost impossible for a station to monitor and verify that EAS alerts air on all of the different streaming players and aggregators, so measuring and logging compliance would be difficult," NPR said.

NPR said the NOI's definition of "streaming services" is quite broad and included websites, applications and services that are nationally focused and stream on-demand content.

NPR did suggest that current EAS participants should be encouraged to furnish EAS alerts over the internet on a voluntary basis when feasible.

More to come

The FCC at its December meeting was expected to consider a notice of proposed rulemaking "to improve clarity and accessibility" of EAS visual messages. More on that next issue.

"According to the Pew Research Center, 61% of U.S. consumers aged between 18 and 29 say an online streaming service is the primary way they watch television now," NOAA officials wrote in reply comments to the FCC.

Technology licensing company Xperi Corp. believes the nation's digital alerting ecosystem does need "reimagining," but rather than adopting internet capabilities, it believes the FCC should make its HD Radio technology an integral component of the digital emergency alerting fabric.

"Not only can HD Radio broadcasting serve as a model for how to integrate EAS notifications with other digital technologies, but HD Radio technology should play a central role in any efforts to modernize the EAS, providing important resiliency and redundancy," it wrote.

Xperi said HD Radio would allow for the use of Common Alerting Protocol elements that can be leveraged to render message text, graphics and audio that maximize the accessibility and effectiveness of emergency alert information.

And what about streamers?

The Digital Media Association (DiMA), whose members include pure-play online content streamers like Pandora and Spotify, believes it may be it may be feasible to complete some, but not all, steps required for end-to-end transmission of EAS alerts through the internet, specifically via the music pure-play streaming services offered by DiMA member companies.

"While receiving and processing EAS alerts may be technically possible, however, the national and global nature of these streaming services, which operate as apps on hardware devices or through websites relying on networks these services have no control over to transmit data, makes monitoring for, retransmitting, and delivering EAS alerts to end users infeasible, if not impossible," DiMA told the FCC.

Therefore, "rather than increasing the reach of EAS, streaming services' involvement will duplicate and possibly interfere with activities of existing participants, including broadcasters, cable systems and telecommunications providers, and others who remain better positioned to deliver clear, targeted and relevant alerts to local communities," DiMA wrote in its comments.

> **Requiring public radio stations to provide EAS alerts through internet streams could introduce cost and possibly significant complexity.**

REC Networks, a low-power FM advocate, made the following observation in its comments: "As many people listen to audio streaming services through a wireless device, they already have a tool, a much more reliable tool on their phone (Wireless Emergency Alerts) that can do the same thing — if not better — than what the inquiry suggests should be imposed on small and large streaming services."

Other views

However, the National Oceanic and Atmospheric Administration's National Weather Service supports the efforts to extend alerts to the internet and streaming services. Specifically, it believes the use of streaming services for emergency alert information will expand message dissemination, particularly to younger audiences.

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Tips for RF system installation and maintenance

A sampler of things to watch for on your antenna and its supporting systems

Author Sean Edwards is director, RF engineering at Shively Labs.

Good ideas

This is an excerpt of an article (with the same headline) that you can read in full at radioworld.com, search "Sean Edwards."

Just about anything can happen to cause failure in an RF system.

Antenna damage from wind, falling ice, lightning, tower work, vandalism, loose connections and aging components are just a few. When an engineer has multiple systems to take care of, something always seems to be in need of attention.

One way we have some control over such failures is regular system maintenance.

Have you ever checked site parameters after a significant weather event and found that some parameter had changed — not to the point of failure, but enough to prompt an investigation? Then upon a closer look you found damage that needed repair?

Or perhaps on a routine site visit, you discovered excessive heat on one or more components, and upon further investigation found an elbow that was nearly kaput — it would have failed catastrophically within weeks or days.

This is proactive maintenance and repair. If these near-misses haven't happened to you, they likely will.

Had you been unable to check those readings after that storm and thus could not notice increasing VSWR, or had you not visited that site and noticed the hot elbow, the condition would have persisted, worsened and eventually failed, taking your station off the air.

That call usually comes at midnight on Super Bowl weekend.

Checking sites that have suffered through extreme weather events is a prudent practice. So are regular visits, even to sites that may be considered trouble-free. The periodicity will vary — more frequent for trouble sites, perhaps quarterly or even semiannually for more reliable sites.

Annual tower climbs are great if it's in the budget, but when they are not possible, we come back to intimate

knowledge of system performance and those baselines, and running history logs that allow us to review for any indication that a problem has started and at what rate it is changing.

This can be useful information when determining if you need to scramble to make a maintenance visit immediately or can schedule for a later date.

Sample issues

Some things to look for when inspecting for damage in an antenna:

Loss of dry air pressure, whether entirely or through a slow leak.

Missing or damaged radiators. Pay close attention to the ends of the radiator and the feed points.

Kinked, compressed or burned cables.

Broken or unsealed radomes and/or plugged drains that cause water to collect.

In more complex systems, the power dividers and coaxial lines should be installed without undue mechanical stress on the components.

The coax should have the appropriate hangers and fasteners where they cross tower members or other antenna feed components. Consult the manufacturer for specific recommendations and best practices.

Antennas that have deicers systems usually have an external wiring harness to distribute AC power to each heating element within each radiator. The manufacturer will have the resistive values for each element and current draw to expect.

An ammeter measurement of each leg of the circuit, including the neutral, will give the first clues to the condition of the deicer system.

If the wiring harness was not installed correctly or fasteners have fallen away over time, the harness can hang in the high RF environment. This can cause reflected power issues at the transmitter and changes in coverage; it can cause currents to be induced into the wiring harness, and voltages large enough to cause arcing between the conductors of the wiring harness and tower members or other cables that pass in close proximity.

Left
These damaged components are an example of the "outside in" sort of burn that can occur when lines pass too close or touch other coax or tower members.

Right
Burns are visible where wire had been used to secure a flexible 3-inch line.

John Bisset
CPBE
With more than 50 years in broadcasting, the author is in his 31st year 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.

Gifts to yourself to start a new year right

A dozen affordable ideas to refresh your toolkit

As a treat to help get your 2022 off to a good start, I thought it might be fun to spend a Saturday afternoon at a hardware store to identify items useful for any radio engineer.

This year's visit was to Ace Hardware, but these or similar items can be found at Lowes, Home Depot or online. I have tried to stay under $25 to $35.

Let's start with an economical tool box by Stanley. There are lots of varieties at different price points. The one pictured — a 19-inch, one latch-model — has two snap-lid hinged compartments that will hold your rack screws, washers and other frequently used small hardware. No more removing tools to dig out a little box of hardware at the bottom!

The deep toolbox also has enough room for something anyone over 40 needs to have: AirFlow gel-filled kneepads, shown in Fig. 2. With these gel cushions, made by CLC Work Gear, you could crawl on your knees under consoles all day long. (My alternative before discovering these was bubble wrap!)

A small inspection mirror like the one shown, made by General, will come in handy, especially if you can't squeeze your smartphone into a tight space to take pictures.

However, if you do a lot of inspections, search Amazon online for a smartphone endoscope. The scope has a lighted lens on the end of a three-foot cable that plugs into your Smartphone. The camera image is displayed on the phone, and the best part is that it's under $20.

What's on YOUR list?
What other useful items should be on an engineer's New Year shopping list? Email *johnpbisset@gmail.com*.

Above
Fig. 1: Start with a heavy-duty Stanley toolbox.

Above
Fig. 2: The toolbox is big enough to store gel-filled kneepads like these from CLC Work Gear.

Above
Fig. 3: A small inspection mirror gets into tight spaces.

Right
Fig. 4: This probe set from General is ideal for troubleshooting components.

Left
Fig. 5: A Stanley 12-in-one multi-tool takes the place of multiple tools.

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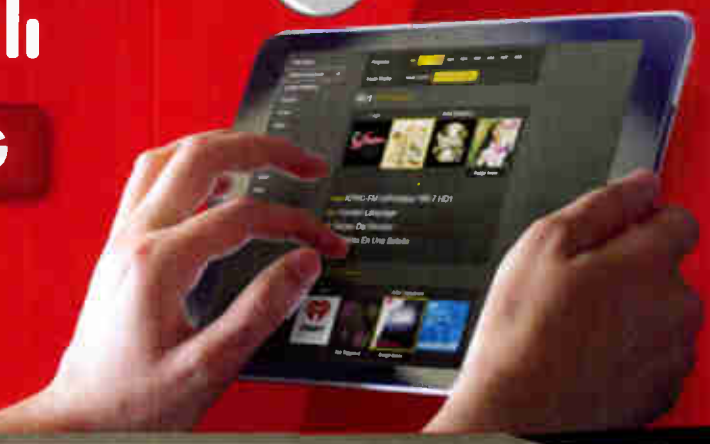

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Speaking of medical/dental instruments, the General probe set shown in Fig. 4 is ideal if you troubleshoot and repair to the component level. Another must-have for your kit is a multi-tool like the one pictured in Fig. 5. This Stanley 12-in-one multi-tool can really come in handy thanks to its many functions.

Some other products that can find uses around the transmitter site are Scott Rags in a Box work towels and GoJo Natural Orange Pumice Hand Cleaner (Figs. 6 and 7). And show me an engineer who doesn't want a can of WD-40 lubricant around, as pictured in Fig. 8. Don't forget to spray your transmitter site padlocks to guard against frozen lock mechanisms.

Above left to right
Fig. 6: More absorbent than paper towels are Scott Rags in a Box.

Fig. 7: GoJo Natural Orange Pumice Hand Cleaner really cuts the grease after you work on dirty components.

Fig; 8: WD-40 keeps locks lubricated and guards against freezing. Squirt in the keyhole and where the hasp locks, then work the mechanism to coat internal parts.

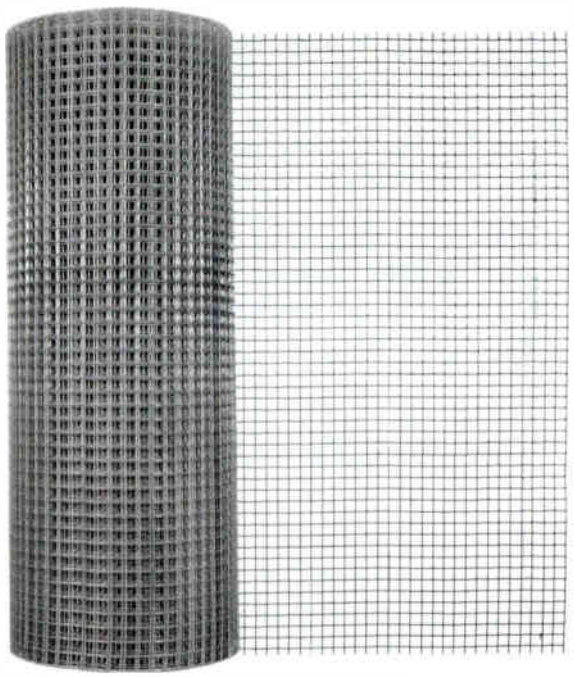
Fig. 9: A five-gallon diesel fuel container is great insurance for your generator.

Fig. 9 certainly won't fit in that toolbox, but the five-gallon diesel fuel container by Midwest Can may come in handy if your generator runs low on fuel and access for a fuel truck is blocked. Yes, you'll be making multiple trips to refill the tank; but that's better than being off the air.

Speaking of the generator, diesel block heaters are welcome signs for rodents seeking a warm home in the winter. Rodents can't squeeze through half-inch hardware cloth like the Garden Zone product shown in Fig. 10. Make sure all your vents and ventilation openings are sealed. This size screening should deter rodents while not obstructing air flow.

And while we're on the subject of rodents and snakes, we've all seen (and maybe used) the little glue traps for mice. The JT Eaton Stick-Em Pro Series comes in dimensions suitable even for king-size city rats and large snakes; the "Elephant Size" ones I saw in the store were a foot square.

As we wrap up the tour, consider investing in a ceramic heater — such as the Honeywell Heat Bud pictured in Fig. 12 — as well as an LED trouble lamp, which gives plenty of light. Plus the bulb doesn't break when it's dropped.



Above
Fig. 10: Half-inch-square hardware cloth keeps vermin out of generators or air vents.

Right
Fig. 11: For really big rat problems, supersize the glue trap!

Right
Fig. 12: Stay warm in unheated buildings with this small but efficient Honeywell ceramic heater.

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BEST IN MARKET 2021 RADIOWORLD WINNERS

Congrats to the winners of the Radio World "Best in Market" Award for fall of 2021. The program was open to manufacturers of professional radio, TV and AV products and solutions. It was conducted in place of the "Best of Show" program that would have been held at the spring NAB Show; that show was postponed to the fall and later cancelled.

Sometimes Ya Just Gotta Disconnect

Radio usually is about making connections, but the Angry Audio Headphone Disconnector is the opposite. This short adapter goes between the headphone jack and cable. Any yank or pull causes the magnetic quick-release connector to separate. To reconnect, get the two connector poles close and they snap together. It solves those awkward absent-minded "walkaways." Four versions are available covering a variety of plugs and jacks.

Info: angryaudio.com.

HD Monitoring Gets More Advanced

Inovonics is out with the 551 HD Radio Modulation Monitor, a 3U box with lots of meters and diagnostics on the front (there's also a 1RU version, stripped down to use at the remote site). Both are accessible from any web-enabled device, which means you can use your tablet or smartphone to check modulation levels, Artist Experience and other transmission metrics. Its SNMP functionality is useful for today's NOCs. You also can monitor four HD channels simultaneously; and there's a meter history covering the past 24 hours.

Info: www.inovonicsbroadcast.com/product/551

Quasar Streamlines

Telos Alliance gets a nod for its streamlined version of its Axia Quasar AoIP surface. The Quasar SR replaces the Axia Fusion in the company's lineup. The SR is part of the Livewire+ AES67 ecosystem; it uses the frame, power supply and master module of the higher-end XR model, but the fader modules are not motorized and there are fewer, larger and easier-to-reach buttons on each channel strip. Features include a big touchscreen user interface and Expert Source Profile controls that allow up to 4,000 console "snapshots."

Info: https://telosalliance.com

Radio Through the Gateway

Also new this year is Gateway-4. This beefy DSP-based IP codec from Tieline is designed for live remote broadcasting applications, as well as STL or SSL links. It includes support for AES67, ST 2110-30, AES3 and analog I/O as standard, and an optional WheatNet-IP card.

The Gateway-4 supports four full-duplex audio channels in 1RU to expand channel density by one compared with the older models. It is suitable for mission-critical broadcast applications requiring two to four audio streaming channels. (Those who need more channels can choose the Gateway-8/16 multichannel codec.)

Info: tieline.com

"That's not a Blade..."

"... THIS is a Blade!" With apologies to Crocodile Dundee, Blade 4 is Wheatstone's fourth-generation WheatNet-IP I/O unit. The company calls it a significant development in AoIP technology. Blade-4 integrates key studio elements into one native AoIP environment, including audio processing, codecs, mixing, routing, control and operating system. It has its own OS for running apps and customized scripts for specialized software, metering apps and virtual interfaces. Opus, MP3 and AAC codecs are included for streaming audio between station and home studios, plus add-ons such as dual audio clip players enhanced to play compressed or uncompressed audio files from its USB ports to do away with memory storage issues.

Info: wheatstone.com.

Learn More

A Program Guide with details of all the nominees is available at *radioworld.com*. Open the Resources tab and scroll down to Awards. It's a great way to catch up on the new products of 2022 across radio and related industries.

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.

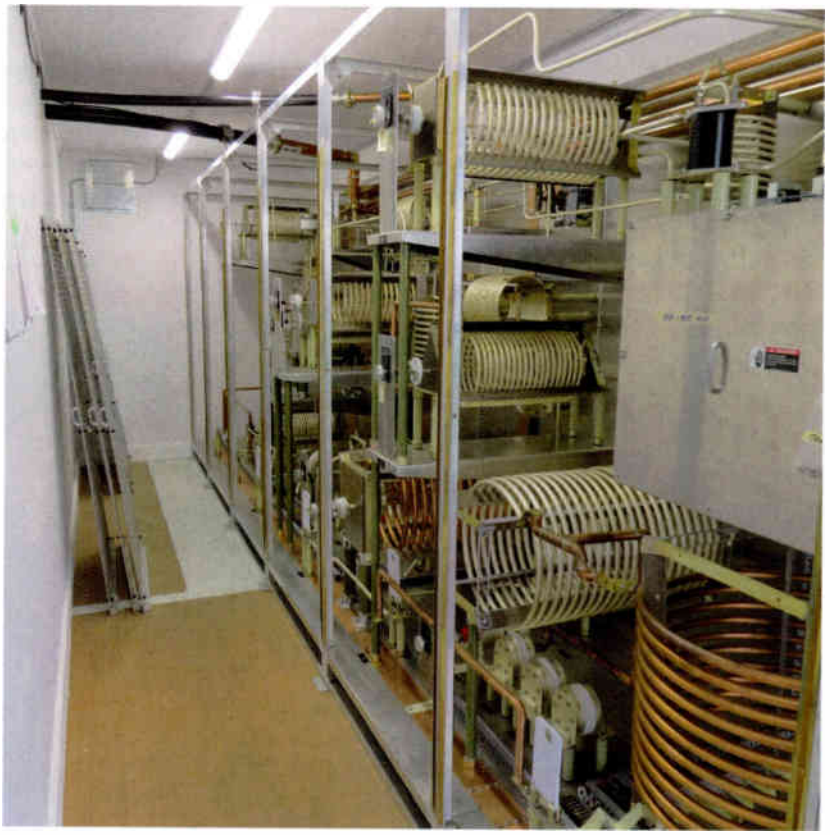
CKSP initiates service via diplexed AM directional

Kintronic Labs built custom system for CKNW transmitter site

CKNW(AM), a 50 kW station at 980 kHz, is an existing four-tower directional array located near Surrey, to the southeast of Vancouver, BC, Canada.

CKSP, a 600 kHz, 50 kW DA-D, 20 kW DA-N station operated by Sher-E-Punjab, a broadcaster specializing in South Asian news/talk content, was added to the site, making use of two of the four towers. It required a diplexed directional antenna system designed and fabricated by Kintronic Labs to facilitate the simultaneous operation of both stations from the CKNW transmitter site.

According to Tom King, president/CEO of Kintronic Labs, project management of the diplexed AM directional antenna system project was conducted by Richard Sondermeyer of G.S. Broadcast Technical Services Ltd. of Mississauga, Ontario. Kerry Pelser from DEM Allen and Associates was the consultant. Final commissioning was conducted by Rob Elder, the Kintronic Labs field engineer.



The existing CKNW four-tower array is in the shape of a parallelogram, with two diagonally opposing towers oriented along a north-south line, and the other diagonally opposing towers oriented along a line rotated roughly 50 degrees clockwise from the center of the north-south line.

The NW tower is also the closest to the transmitter building, and its ATU building houses the CKNW power division / phasing networks as well as the tower matching network for this tower. The two towers on the north side of the array are those used for the new 600 kHz system, with the towers on the south side of the array detuned for 600 kHz.

The 600 kHz phasing and matching system was installed in a separate container located south of the CKNW transmitter building. The CKSP matching, filter and detune cabinets were installed in weatherproof housings and mounted on wooden platforms at the base of each of the towers.

More Info

www.kintronic.com

Tech Update

Fullwave: Specialists in Tower and Broadcast

Fullwave Tower & Broadcast says it provides structural and broadcast antenna installation services, from the transmitter building to the tip of the lightning arrestors.

The company also conducts tower modification designs and structural material procurement; structural analysis and design; engineering climbing inspections; and engineering construction planning and support.

"As the industry continues to 'age out,' we've assembled a team of specialists throughout the tall tower industry to form an elite management team of experts who have plenty of years of experience and plenty more years of runway to serve our customers," said VP Business Development Matt Ruedlinger

Services include planning, design, engineering, fabrication and antenna solutions. The company has delivered services for broadcasters, tower owners and antenna providers and has experience with broadcast TV, FM and AM systems; structural rehab work on aged broadcast towers; gin pole work; helicopter lifts; and sensitive tower decommissions.

Fullwave's James Ruedlinger, P.E., is shown working at Sutro Tower in San Francisco.

Info: *www.fullwavebroadcast.com*; 812-455-8540 or email *matt@fullwavebroadcast.com*.

SineControl adds lower-cost PowerClamp

President Hank Landsberg talks about its new offering, the HP-200-1-TX

What is the new product?

Hank Landsberg: It's a lower-cost version of our top-selling, highest-performance surge suppressor. The model number will be HP200-1-TX. It will be suitable for use at transmitter sites, hence the "TX." It's rated at 200,000 surge-amps per phase, so it's ideal for use in high-lightning locales.

How will radio stations use it?

Landsberg: It will be an excellent choice for use with solid-state transmitters that run on 240 volt single-phase power. These are very popular from manufacturers like Nautel and GatesAir, but they are also vulnerable to power supply failure caused by AC power line spikes and surges.

Our existing model HP200-1 has been very effective at eliminating this source of transmitter failure; the new model will make it more affordable without compromising performance.

The HP200-1-TX will be for 120/240 volt single and "split" phase power. It should be installed close to the main electrical panel where the Neutral and Ground wires are tied together.

The unit will also provide a Remote Status Output that can be interfaced to any transmitter remote control system. It will alert the user if there is a power failure or if a fuse in the PowerClamp unit needs to be replaced.

More Info

www.henryeng.com or call 562-493-3589 in California.

What else should we know? Cost?

Landsberg: Like all PowerClamp surge suppressors, this unit uses a hybrid of multiple suppression circuits to achieve a very low clamping level — just a few volts above the sine wave peak. It's installed in parallel with the load. There is no voltage loss, nor does its performance degrade over time.

Pricing is not determined yet, but it should be about 25% below the current model with identical performance.

Tech Update

Richard Tell
Specializes in RF Safety

Richard Tell Associates Inc., established in 1987, specializes in all aspects of RF safety.

Founder Richard Tell is an expert on matters related to RF exposure assessment, instrumentation for measurements of RF fields, RF hazard evaluations, antenna analysis and RF safety program development.

He also is the developer of the RoofView RF compliance analysis software, used by the wireless industry; shown is a RoofView RF exposure map for a wireless site.

Tell is a Fellow of the Institute of Electrical and Electronics Engineers and chair of the IEEE TC95/Subcommittee 2 on RF safety programs.

The firm also carries a line of RF safety alerting signs that are used at transmitter sites across the country, such as FCC Call Sign, FCC Tower Registration and RF Warning signs.

Over the years, the company has been engaged in RF studies at major broadcast sites at such locations as the former World Trade Center in New York, the Hancock Center in Chicago, Sandia Crest in New Mexico and Tucson Mountain in Arizona.

Measurement and evaluation of RF contact currents at high power international broadcast sites, RF burn hazards associated with tall cranes in the vicinity of AM broadcast stations and RF compliance studies at rooftop wireless sites are among the areas of expertise.

Info: www.radhaz.com.

More Info
www.broadcast-devices.com or call (914) 737-5032

BDI RF Power Monitors at work

Each transmission line and combiner module is protected against VSWR fault at the combiner input

Here's an example of how Broadcast Devices DPS-100D series RF power monitors are being used in an FM combiner installation.

"Pictured are two DPS-100D-3-1/8 RF power monitors at the input to a two-station FM combiner for WEZN and WEBE in Connecticut," the company wrote.

"Both meters can report forward and reflected power, temperature and line pressure and also provide positive interlock control to either transmitter. Each transmission line and combiner module is protected against VSWR fault at the combiner input. This was an important feature for customer consideration."

Cat-5 cables attached carry user monitor/remote control and provide electrical power via passive POE.

A third meter not shown monitors the output of the combiner, and all three meters can be connected to an SWP-206D Supervisory chassis for complete monitor and control of the entire system.

BDI said all of its products support SNMP for integration to third-party remote controls and software. DPS-100D series power monitors are available in all EIA line sizes plus others like N, DIN and the popular 4-1/16-inch line size.

The DPS-100D series meter is suitable for monitoring one transmitter or a combined system, particularly for multi-station and digital radio transmission.

The photo was provided by BDI installer Xenirad Broadcast Engineering.

Northern Community Radio goes higher with ERI

"Finally, the 91.7 signal is back bigger and stronger than ever before"

Northern Community Radio is an independent non-profit organization that operates two full-service FM radio stations and one translator that serve north central and northeastern Minnesota.

NCR built a full-service Class C2 FM station, KBXE, licensed to Bagley, Minn., in 2012. KBXE has a 488-foot guyed tower and directional Rototiller FM antenna made and installed by ERI. The station rebroadcasts KAXE and airs local programming from studios in Bemidji.

In 2019 NCR was granted a CP to increase KAXE's height above average terrain from 459 to 673 feet while maintaining 100 kW effective radiated power. These new facilities required a taller 499-foot tower.

Chief Engineer Dan Houg proposed a new tower, antenna, transmission line and installation services, and ERI won the contract. Shown is KAXE's 10-Bay High-Power Model SHPX-10AC Rototiller FM Antenna. ERI also was awarded a contract that included destacking the existing 315-foot tower after the new system was operational.


Courtesy Kilowatt Inc.

More Info
eriinc.com, 812-925-6000 or email *sales@eriinc.com*

David Baes, executive director of Northern Community Radio, told ERI, "Now, with the new, improved signal, we are reaching out further than ever and bringing in a new group of listeners into the KAXE/KBXE family. I am excited about the future, to see where it leads us next."

When the construction and commissioning of the new transmission facilities, were complete, the station website announced, "After YEARS of fundraising and planning, the construction of the KAXE tower and transmitter is complete. Finally, the 91.7 signal is back bigger and stronger than ever before."

ISS AM antenna does a quick stand-in

The HPR.0990 is suitable for temporary, emergency and aux situations

More Info
theRADIOsource.com, 616-772-2300 ext. 102, or email *bill@theradiosource.com.*

Information Station Specialists says its newly available HPR.0990 Antenna is a temporary, auxiliary or emergency solution for AM broadcasters that need an affordable means of remaining on the air when a situation demands it. That might be because of loss of primary site, tower rebuild/failure, maintenance of translator authorization or a tower site move.

Pictured is the antenna in temporary use by KNBI(AM) in Monterey, Calif.

The station, which is branded as KMBY, was silenced due to reduced revenues during COVID and was donated to a nonprofit that then was unable to renegotiate the tower lease. So a temporary antenna solution was required. ISS says the 1240 signal is back on air from a commercial building's roof in Monterey.

The HPR.0990 can transmit with up to 270 watts (carrier) with no ATU requirement due to its 50-ohm resonant design. A generous loading coil and capacitive top hat allow the antenna to be shorter (32 feet) and more efficient than antennas of similar design.

Its efficiency rating is up to 170 mV/m/km/1 kW. A 25-foot radius ground plane provides the required counterpoise. The antenna is tunable across a frequency range.

Local engineer and installer Mark Carbonaro said the antenna is relatively lightweight at 30 pounds and has

durable, stainless steel assembly parts, important in a marine environment. The anodized finish is designed for harsh conditions. The sustained wind rating exceeds 100 mph. KNBI's antenna survived 65-mph gusts from recent coastal windstorms.

The antenna is in stock at common frequencies for fast shipment. ISS said Carbonaro offers to answer questions about the antenna at *markcarbonaro1@gmail.com.*

Tech Update

Bext Offers Lightweight Antenna Alternative

Bext says its FM Radio antennas are known for their sturdiness, broadband capability and high power ratings.

But with all that big size and weight. So for some limited applications where there is a need for a small and lightweight antenna due to space limitations or a weak mast, Bext offers the TFLHO omnidirectional antenna.

It is only 15 by 15 inches wide and about 3 inches tall each bay. Thanks to its small size it presents a very limited windload.

This tunable antenna can be ordered in single- or multiple-bay configurations up to 12 bays.

Thanks to the modest size and weight, shipping is simplified and economical, and installation is easy as well. Brackets are included and can clamp on a support up to 4 inches wide.

Specifications showing available configurations and type of connectors can be viewed at the website.

Info: www.bext.com or call (888) 239 8462.

KOEZ(FM) de-ices, optimizes with Dielectric

New eight-bay DCR-C ring-style antenna serves the 100 kW ERP station

Saga Communications station KOEZ(FM) in Iowa, serving the Ames and Des Moines markets, completed installation of a new Dielectric DCR-C ring-style antenna this fall.

The circularly polarized, center-fed antenna replaces an antenna knocked off the air by a partial tower collapse caused by a February ice storm. The station had been operating with a lower-power auxiliary antenna for months; the eight-bay DCR-C was operating below full power at press time, with full commissioning for KOEZ's 100 kW ERP expected shortly.

KOEZ opted not to replace the top 100 feet of the tower lost to the storm. The side-mounted DCR-C has a center of radiation just short of 900 feet. Joe Farrington, chief engineer of Saga subsidiary Des Moines Radio Group, believes lowering the antenna position and dropping from 10 to eight bays will improve penetration within city limits.

"Downtown Des Moines has always been a challenge," Farrington told the manufacturer. "There is a very low spot in the center downtown with a surrounding ridge. We believe the DCR-C is properly designed and positioned to actually strengthen our signal through Des Moines instead of somewhat skipping over it."

Farrington said the tower was erected under old guidelines that didn't consider icing and windload. "We have lightened the tower load considerably, both with the antenna weight and LED tower lights. Dielectric added radomes to the antenna design, which will protect it from future icing. We expect that the antenna and tower will each last its lifetime without incident."

Dielectric's broadband DCR-C antennas can be end-fed or center-fed, offer a power rating of 10kW per bay, and are available in stacked arrays up to 12 bays with an input rating to 40 kW.

More Info
www.dielectric.com/antenna/dcr-c-hdr-c.

BROADCAST EQUIPMENT EXCHANGE

BROADCAST EQUIPMENT EXCHANGE

Writer
Tom Taggart
Vice president and secretary of Seven Ranges Radio in St. Mary's, W.Va.

A genset mandate? Only if Uncle Sam pays

Let's be realistic about the resources available to smaller-market radio

Require backups?
Should the FCC require communications providers including broadcasters to have backup power provision? Comment to *radioworld@futurenet.com*.

The FCC is discussing adding requirements for backup power at radio stations and other key communications providers, in order to maintain service during emergencies (see "More Time to Comment in 'Resilient Networks' Proceeding," *radioworld.com*).

A worthwhile idea — but it's not going to happen without federal money.


Pias Rahman/Getty Images

In 2012 a "derecho" hit our market of some 20 stations. This straight-line wind event shut down power for a wide area. The next morning, only my suburban B-1 FM and an AM station in town were on the air carrying emergency information.

For most small to medium-market stations, the proposal is not going to happen unless the government pays for generator installation. Even for a small plant, this project can start at $7,000 and go up from there. And these small systems need continual, annual maintenance.

And that's in "fly-over" country. In the East and West, infested with bureaucrats, installation costs may be double or triple that in order to satisfy all the government agencies.

I own three stations in Market No. 242, two FMs and a full-time AM, plus a fourth Class A FM at a small town some 40 miles out of the market. Also in this market are another five AM stations, five non-com FMs and seven commercial FM signals.

> **"For most small to medium-market stations, this proposal is not going to happen unless the government pays for generator installation."**

In town we have a full-time AM and a Class A FM. The AM tower is at the AM/FM's studios. Our suburban B-1 is at a combined studio/transmitter site 20 minutes from downtown. Our fourth FM is programmed from there. Both studios have generators, and that out-of-town FM has one at the transmitter site.

We installed our first generator some 25 years ago at our suburban B-1, not specifically for emergency broadcast but because the local public utility was so unreliable. It proved its value in 2012 when the "derecho" toppled several transmission towers at the local power plant. We were on generator power for a week.

But the transmitter site for our in-town FM has no backup. We've talked about installing a generator, but between COVID slowing sales and a certain government agency sucking up around $7,000 each year in "fees," that's been put off again this year. On our same tower at that site are a local non-com plus translators for four of the six AM stations in town.

But we are in better shape than the rest of the market. The "big group" owner in town doesn't have working backup at any of their three FMs, nor at their studio. The other group owner can power three of their four FMs if someone goes out to start the generator manually. But they have no backup power at the studio.

One AM — also locally owned by former NAB board member John Wharff — has backup power for his station and its associated translator. His was the only station on-air in town the day after the derecho. But that's the roster.

Come another big storm, our two AMs and my suburban B-1 will be the only sources of emergency information.

Well said

Having been an amateur radio operator for more than 67 years (and an occasional contributor to Radio World), I want to compliment Mark Persons on his article in the Oct. 27 issue, "Alike but Not Alike: Broadcast vs. Ham Radio."

It is the best explanation of the amateur radio hobby that I have ever read. There is nothing more that I could add to describe "hamming" to both the technical and non-technical, and I will rely on it to explain and recruit more hams to our hobby. 73.

John Seibels, K4AXV

Remembering the magic

I was a broadcaster first for a number of years and didn't get licensed in amateur radio until 1990. In the early years, it seemed that many of the engineers I worked with were hams. Maybe not so much anymore. But one of them proved a worthy "Elmer" to me and got me up and running on ham over 30 years ago.

There are indeed many similarities, at least in the technical aspects. When I started in broadcasting, a Third Class License was required. Every person overseeing an air shift needed to take transmitter readings to ensure compliance in power output. Other "off-air" duties included making sure we powered down or up at the appropriate times to sunrise or sunset, check the tower lights and other similar tasks.

As time went on, the Third Class requirement was dropped, as were the requirements of the broadcasters to be knowledgeable of power readings, and such.

They were fun years: two turntables, three cart decks and a microphone staring you in the face. No automation, no computers. Even having time to use the bathroom on a six-hour shift was pretty much limited to the 4-1/2-minute UPI news feed at the top of the hour.

My last years in broadcasting were distilled down to recording cuts and saving them with specified file names.

Of course, ham radio is more recreational. The content is not controlled by a station log but by the person on the other end of the QSO.

But there was still the magic of being on the other side of a microphone. If conditions were good, it was not unusual for me to work a number of QSOs before and after being on the air as a broadcaster.

I am grateful for the broadcast engineers I've known over the years, keeping us on the air with our broadcast stations as well as helping me get into ham radio. 73.

Scott McIntire, K7DXT

How to submit

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

On the same frequency

I live in the Washington area and have been a pro broadcaster since 1979, but I didn't jump into amateur radio until 2009. When I did it was with both feet. I even changed my ringtone on my cellphone to the Morse characters CQ, which hams use to call out over the air to talk to other hams.

As a frequent commuter bus rider, I often have to transfer at the Pentagon depot. Many of my fellow passengers are military folks who disembark there for their day of duties.

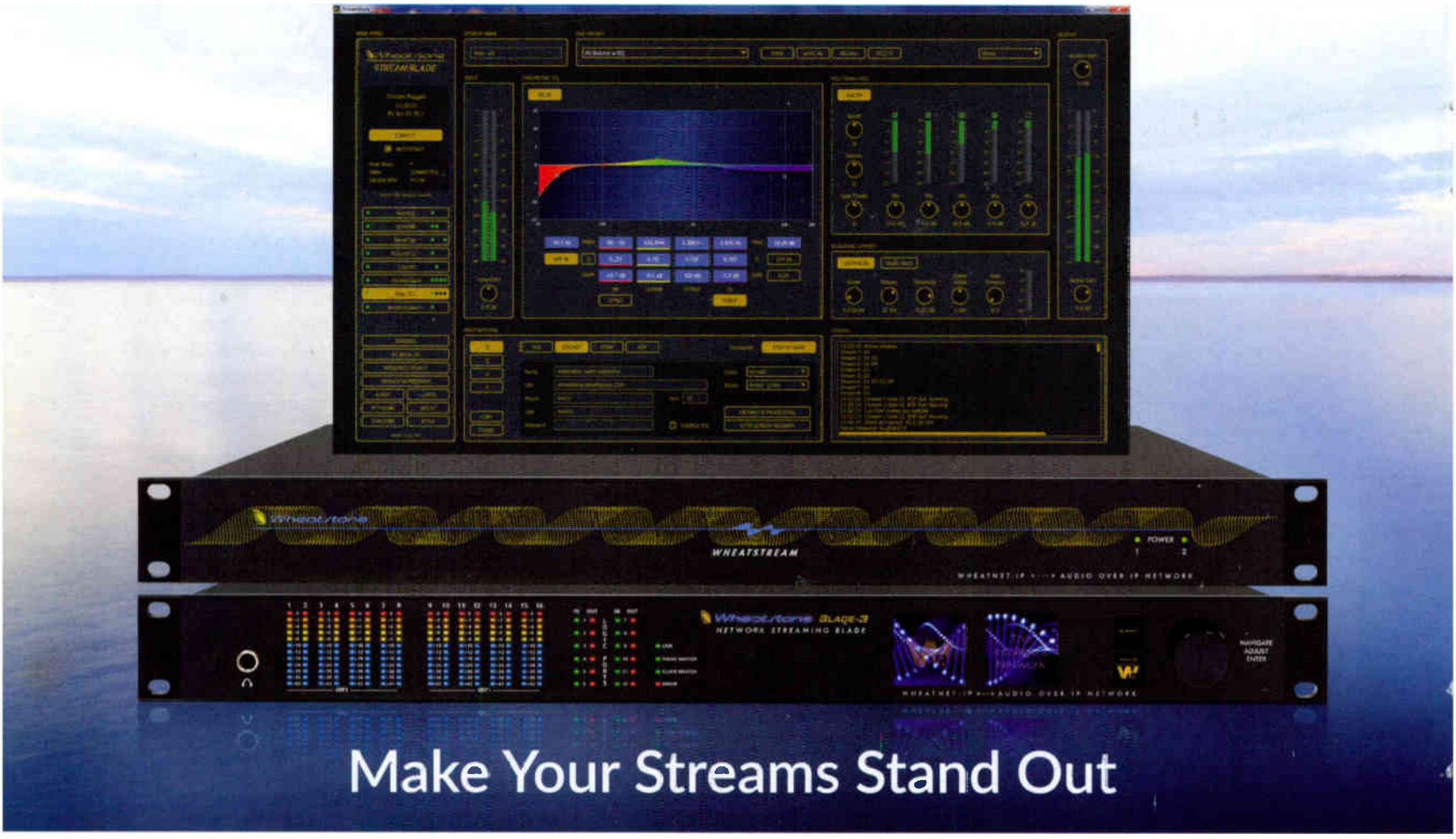
One morning my phone rang — *"dah-dit-dah-dit, dah-dah-dit dah."*

I heard a loud guffaw go up from the back of the bus. One of the other passengers — either a ham or part of the Signal Corps — had recognized the pattern and got my joke.

Broadcast radio and ham radio. Love 'em both.

Alan Peterson, KJ4IVD
National Production Director & Second Engineer
Radio America Network

"Ham radio is more recreational. The content is not controlled by a station log but by the person on the other end of the QSO."



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