

# RADIOWORLD

Technology & news for radio decision makers

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## The view from 1 M Street

NAB leader Curtis LeGeyt talks with us about geo-targeting, AI, the AM radio legislation and a court fight over radio ownership caps.

### Spring freshening

Where might you use marine paint around your radio station? Hint: See those dishes out back?

### The unexplored power of shortwave

Simon Keens writes that SW should be more than "radio of last resort."

### Buyer's Guide on transmitters

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# AM and AI are high on LeGeyt's priority list

With the NAB Show approaching, here's what the association's leader is working on

**N**AB President/CEO Curtis LeGeyt has spent the 12 months since the last NAB Show navigating policy matters, such as the sense of crisis for AM radio in cars and the potential impact of generative AI on broadcast media. He is assessing the implications of this year's election cycle and preparing to defend the broadcast industry from the threat of additional music royalty costs. He is also preparing for a court challenge to the FCC's refusal to ease ownership subcaps.

Radio World Editor in Chief Paul McLane and contributor Randy Stine interviewed him.

**RW** What do you see as the key policy issue for radio right now?

**Curtis LeGeyt:** Preserving AM radio's place in the automobile. Over the last year, I have been absolutely overwhelmed by the engagement from AM radio listeners across the country reaching out to their lawmakers to ensure they're aware of the importance of AM radio in the automobile. More than 400,000



**“ More than 240 senators and members of Congress are co-sponsors of this AM Radio for Every Vehicle Act. And they span the political spectrum from Bernie Sanders to Ted Cruz. ”**

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listeners have reached out to their members of Congress to tell them how important AM radio is. As a result legislation has been introduced in both the Senate and the House, purely bipartisan.

Between the two bodies, more than 240 senators and members of Congress are co-sponsors of the AM Radio for Every Vehicle Act. And they span the political spectrum from Bernie Sanders to Ted Cruz. We feel we are very, very well positioned on this legislation. But the hard work is in front of us, ensuring that we can get it to a bill that ultimately is taken up on the floor of both chambers.

**RW** **Has there been communication directly between NAB and car companies?**

**LeGeyt:** We have had ongoing conversations with individual automakers but most significantly with our counterpart trade organizations, reaffirming the

importance of this issue, not just for broadcasters but for consumers.

You've got 82 million listeners every month who continue to tune into the AM dial. While it is easy to be focused on the bright, shiny object of streaming services and ensuring that you've got a full range of entertainment options in the automobile, the ongoing relevance of AM radio makes it a must-have in the auto — for consumer appeal but also as a matter of public safety. We have had our doors open for continued conversations with the automakers.

**RW** **How do you reply to senators who have said it's not the government's place to do this?**

**LeGeyt:** The federal government has a long history of imposing public safety requirements on the automobile, from seatbelts to airbags. This is such a matter of public safety, especially given AM's role as an entry

point for the emergency alerting system. This is exactly the place where Congress has acted and should act when it comes to enabling public safety in the automobile.

**RW** **The FCC seems ready to give FM geo-targeting a green light. The chairwoman has put forward a proposal, and at least two other commissioners favor the idea. If the vote is yes and they say go ahead with this three minutes an hour, what's the outcome?**

**LeGeyt:** Over the course of the last two years, I have talked to radio broadcasters, my members of all sizes and all different market types. I don't feel there is an overwhelming interest in this technology, and we have conveyed as much to the FCC.

We certainly appreciate the fact that the FCC slowed down this proceeding to look at the technical issues and understand the impact of this technology on radio.



**About LeGeyt**

Curtis LeGeyt was NAB's COO prior to becoming president/CEO in 2022. Earlier he was EVP of government relations. Prior to joining NAB in 2011, he was senior counsel to then-Senate Judiciary Chairman Patrick Leahy of Vermont.

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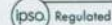
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The order that they have on circulation is only an interim step, and there's going to be a further notice, more process. But I don't think there is much interest in this technology as judged by the reaction of my membership.

Further, what we have said to the commission, and what I would remind our membership, is that our competitive advantage is in the range of our signal. A technology that would undermine our ability to reach the masses cuts radio off at the knees.

**RW** It doesn't sound like you accept the argument that geo-targeting would benefit minority and smaller broadcasters in particular.

**LeGeyt:** It just doesn't match what I have heard from my members whose businesses are focused on serving minority audiences.

ownership restrictions, especially as it relates to the sub-caps.

We believe that, Democrat or Republican, there is overwhelming concern for the state of local broadcast in this country and for our ability to compete in an environment that has been completely upended by the large tech platforms. So we are looking forward to making our case in court as to why the FCC may need clarity in how these facts ought to be applied to the current law. The record speaks for itself that media ownership modernization is long past due.

**RW** That means you're going to appeal this 2018 ruling?

**LeGeyt:** We are continuing to examine all of our legal options, but I absolutely expect to appeal this ruling.

**“ We believe that, Democrat or Republican, there is an overwhelming concern for the state of local broadcast in this country. ”**

**RW** You've protested about the FCC dragging its feet on its quadrennial review of ownership rules, and they finally did finish the 2018 under a court order. But they declined to ease the radio sub-caps. Is there any reason to think that the FCC under a Democratic administration is going to change those?

**LeGeyt:** This is why the courts are so important, now that the FCC 2018 order was just published in the Federal Register [in February]. We feel that the record is overwhelming in support of modernizing these

**RW** The comments filed by various broadcast groups show that there is not unanimity about the sub-caps. iHeart's filings and yours have not been in total sync. Aren't there reasonable arguments that it might not be good for local radio to change those sub-caps on the FM dial?

**LeGeyt:** NAB represents a broad tent of broadcasters. But an overwhelming number of our members are in strong support of modernizing these media ownership rules. That's why NAB has taken the position that we have. And we think the record is clear

that elimination of these sub-caps is long past due.

**RW** **Update us on your efforts to fend off the annual proposals in Washington like the American Music Fairness Act that would require broadcasters to pay royalties to performers.**

**LeGeyt:** We continue to be pleased with the degree of congressional opposition to any new performance fee on local radio stations. In this Congress again, more than 200 members of the House of Representatives have co-sponsored our local Radio Freedom Act, which opposes any new performance royalty — another two dozen in the Senate are co-sponsors of that resolution.

We've made clear to the recording industry as well as to the supporters of the American Music Fairness Act that our door is open for conversations around this issue, especially if there is a solution that will better enable broadcasters to economically compete as audiences are moving over to streaming, but we are adamantly opposed to a standalone terrestrial performance fee. As is a critical mass of members of Congress.

**RW** **You've spoken on the Hill about the possibilities and threats of artificial intelligence. Specifically for radio, what do you think would be the best outcome of AI and generative AI technology?**

**LeGeyt:** Every radio station in the country is making very hard choices right now as to how to best deploy their human capital to serve their communities. And that means trusted local voices who are boots on the



## Resource Hub

NAB and the NAB Educational Foundation provide useful resources for stations about issues like recruitment, the First Amendment, DEI and AM in cars. It's at [www.broadcourcesourcehub.com](http://www.broadcourcesourcehub.com).

ground in the community. That can be news, it can mean events that bring communities together, or it can mean localized entertainment that can only be done by humans.

To the degree that we can utilize generative AI technologies to take some of the burdens off administrative tasks at a station — scriptwriting or having a presence during those dayparts where it might not otherwise be economically viable to have a live voice — I think there's real opportunities there.

But I view it through the lens of how AI best enables us to deploy the people in our stations, for those areas of community service that only they can do. There's opportunity; but we need to proceed with absolute caution, because if we are not competing and excelling in the area local radio does best, that community commitment, we're just another audio medium.

**RW** **The NAB has put out very good resources on issues like best practices to support how radio looks in car dashboards. Is there a place for best practices for AI and radio from the NAB?**

**LeGeyt:** There is. We're working closely with our members to best focus our resources and how we can be most helpful to our membership. You're going to see a lot of programming focused on those issues at the NAB Show in April, and dozens of programs around generative AI — use cases, the policy concerns around licensing and attribution as well as protection of your trusted local personalities. But I think this is exactly where NAB needs to lead.

**RW** **We asked about the best outcome; what's the biggest risk? Would it be to the intellectual property and unique voices of broadcasters, with people copying and abusing them?**

**LeGeyt:** The biggest risk is that this technology uses our content as well as our formats to train models that

will ultimately compete with us. And they will do it without compensating us for it.

It's the story that we are telling in Congress every day. We're all for innovation, but we have to ensure that it doesn't happen at the expense of local broadcasting.

**RW** **Can you identify the challenges of dealing with a congressional body that some people describe as chaotic and can't get big stuff done?**

**LeGeyt:** I think that in spite of the hyperpolarized environment we're operating in, NAB has been very successful in getting our message across. I'm confident we are going to have a seat at the table and be in those conversations on what these chambers can actually get enacted into law.

As you know, Washington tends to do a lot of things all at once. We're confident that we're going to be well positioned when those moments happen.

No doubt the inability of Washington to deal with larger legislative issues outside the purview of broadcasters, whether it relates to appropriations or foreign policy, is jamming everything up in a way that that does impact even our smaller issues on a relative scale.

**RW** **If you had to identify one, what would you consider your most important radio success since you've taken the NAB leadership role?**

**LeGeyt:** I think it's the tremendous traction that we've gotten the AM Radio for Every Vehicle Act. In such short order, to have identified the threat and to have mobilized broadcast stations all across the country, all markets, all ownership groups, and their listeners to engage with Washington, and to have such a strong bipartisan bill that has already passed the Senate Commerce Committee — we're very proud of that.

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**RW** You've also had something of a win with broadcast fees with the FCC. Was that a substantial savings for members?

**LeGeyt:** We're very pleased with the FCC's willingness to accept the arguments that we've been making over several years and make a modification to their regulatory fee methodology, especially for our midsize and smaller stations. That savings of \$7 million really goes to the bottom line, industry wide.

**RW** Are there other policy issues to mention?

**LeGeyt:** I do want to revisit one, which is how the constraints on ownership are really problematic for the viability of radio. We are absolutely going to continue to be on offense, taking our case to the court, ensuring that members of Congress hear this story.

We have strong bipartisan support at the Capitol from those who believe in the value of their local radio station and want to see us thrive. They understand the impact that large tech companies have had on

the advertising marketplace. We're competing with one arm tied behind our backs, so there's a real sense of urgency there. I hear it from my members of all sizes, and that's a tremendous focus for NAB.

**RW** We do hear an awful lot from small- and medium-market broadcasters who are desperate to find good people to hire, specifically in engineering. Is there more the association can be doing?

**LeGeyt:** We've just launched a set of new initiatives around industry recruitment. There's now a more robust and modernized industry-wide database for job postings that serves as a destination for job seekers, as well as a set of assets including advertising radio advertisements, and digital tools for stations to customize and use in their recruitment efforts.

This can be used whether you're talking about talent behind the microphone, production side, sales, engineering. It will help our stations who are dealing with all kinds of

competitive pressures and give them some tools to boost their recruitment.

**RW** Assess the outlook for major trade shows now after COVID era. What does recent attendance at IBC and CES foretell for NAB?

**LeGeyt:** I expect we are going to see another significant attendance boost this year. I'm very bullish on where this trade show is. If you put out a high-quality, in-person experience, for an attendance base who can't get it anywhere else, it will succeed.

Our exhibitor square footage is going to outpace what we had last year. Exhibitors are looking for opportunities to get in front of their customers.

The NAB Show has expanded its bandwidth far outside the core broadcast audience, to a much broader set of content creators and distributors. There's so much changing about this business that you can't keep up if you're trying to do it virtually. We are a central stop for anyone in content creation and at any stage of the distribution chain.

**RW** Karen Chupka is in place now as head of NAB's conventions arm to succeed Chris Brown, who will step down after the show.

**LeGeyt:** We brought in Karen to write this next chapter for us. She is a person with a long history of building new initiatives that appeal to new segments of a marketplace. I'm confident our show assets will grow. Karen is going to carry on Chris's legacy of building a tremendous platform for those tech companies that exhibit to the media audience.

The future for the NAB Show is content creation, distribution and monetization, and in a range of industries far outside of traditional radio and television. This show needs to capture that from a B2B perspective. There's a tremendous demand for it. **R**



## Photo Tour

Shown is the lobby of NAB's new headquarters at 1 M Street Southeast in Washington. For more photos, visit <http://tinyurl.com/rw-nab-hq>.





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World Radio History



## Radio, where America's day begins

This awesome photo is of shortwave station KTWR, a member station of Trans World Radio, located on Guam. The site has one 100 kW and two 250 kW transmitters, and six curtain antennas. Radio World's Elle Kehres, who has lived on Guam herself, wrote about the facility, At [radioworld.com](http://radioworld.com), search keyword KTWR to learn more and explore this photo up close.

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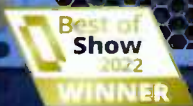
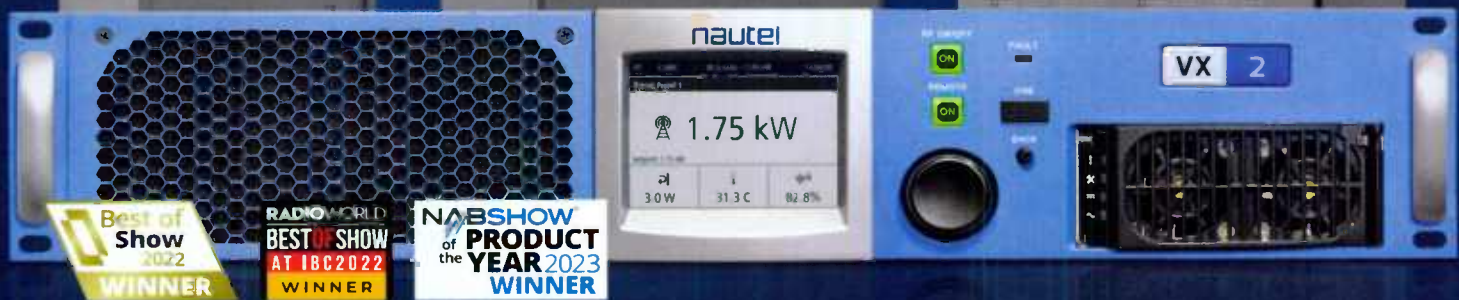
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John Bisset

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.



Rundstedt B. Roylance/Getty Images



Tips, please

Workbench submissions are encouraged and qualify for SBE recertification credit. Email johnpbisset@gmail.com.

12

# Use marine paint for your satellite dishes

This is a good time to inspect and freshen those receive antennas

**T**he beginning of spring is an ideal time to evaluate any infrastructure that was exposed to winter weather.

Hall Communications Lakeland Chief Engineer Steve Tuzeneu said his satellite dish needed attention, so he turned to Linkup Communications President Mark Johnson for tips on repainting the dish. Mark offered a three-step process.

First, inspect the dish to ensure that the metal underneath the original painting is not damaged. Then clean the dish thoroughly with a cleaning compound that will remove both grime and mold (and any peeling paint!)

Mark cautions against using a pressure washer even at a low setting. The impact of the water can deform the dish parabola.

Finally, use good marine paint. On the Lowes or Home Depot websites search for marine paint or boat paint for a variety of choices.

On a separate note: Steve has a Radio Systems Millenium console in a production studio but the original T-hook key for lifting the front of the board was missing. Steve solved the problem by using a paint can opener, as shown in the photos.



Archival photo courtesy WRMI

**Above**  
This is a stock photo. Have your security cameras caught any bugs up close? Send us the pix!

**Right**  
Spring is a good time to repaint your dishes.

### Attack of the 10-foot wasp

Have you seen strange insect images on the security cameras at your transmitter sites? Contract Engineer Stephanie Donnell says the magnification is reminiscent of horror films of the 1950s and '60s!

Spring is a good time to treat rain hoods, transmitter building overhangs and other spots where insects prefer to



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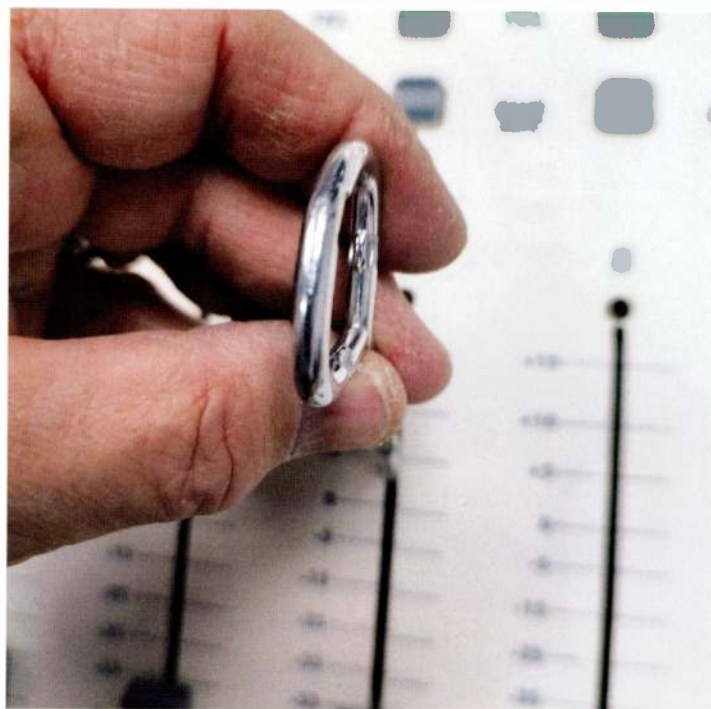
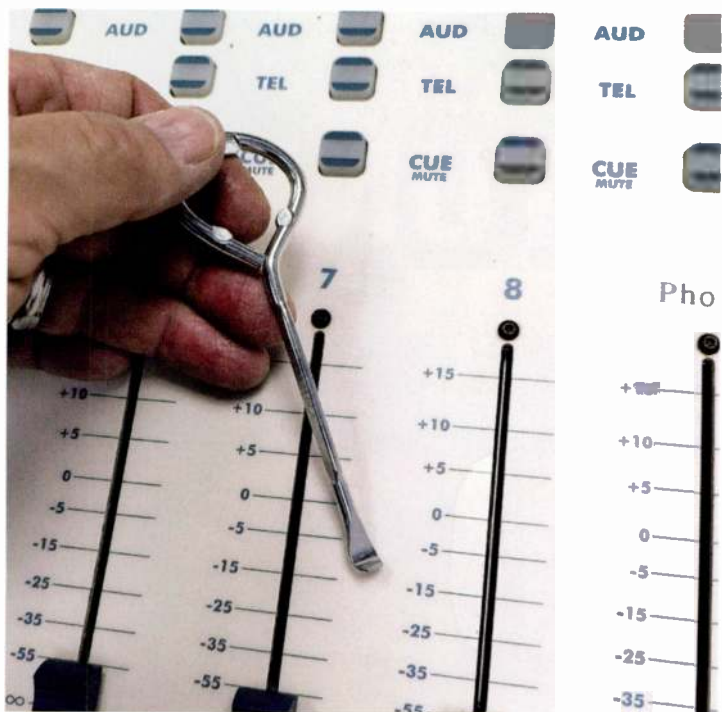
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**Above left**  
A paint can opener can be used to open a Millennium console.

**Above right**  
The hook fits perfectly in the fader slot.

**Right**  
Don't throw out that spare piece of wire duct.

**Bottom**  
It can hold a multitude of cables.

nest. Wasp and hornet spray will discourage nesting insects for several weeks and prevent you from getting stung.

## Stuck on you

Paul Sagi writes from Kuala Lumpur to tell us he loved Bill Traue's "belt and suspenders" approach to protecting wired remote control systems, as discussed here in October.

In that same column we shared a tip from Rolf Taylor about printed labels. Paul relates that the Dymo label on his wife's stethoscope was affixed 50 years ago and is still there! If you've ever had to remove or replace a Dymo label, I'm sure you'll agree that they are long-lasting.

## If it walks like a duct ...

Patch-cord "combs" can be repurposed to hold AoIP cable dongles. Don't have the budget for metal combs? San Diego's Marc Mann has a tip: Grab a spare section of slotted wire duct.

Made out of a flexible polymer, the duct "fingers" easily spring back after bending to permit adding or removing cables. Even a short section can hold a variety of cables or adaptors.

Although ductwork can be obtained through Amazon, Marc suggests checking out "low-voltage" distributors in your area. These wholesale suppliers carry a range of wire management products as well as cameras, security/access and intercoms, that you may find useful.

## Let there be light

In the previous column I shared a recommendation from Ed Walters, K8DI, that you always carry a good LED flashlight in your tool bag. With that in mind, enjoy this YouTube video: [www.youtube.com/shorts/3Y8rX5EuzkQ](http://www.youtube.com/shorts/3Y8rX5EuzkQ).

It won't fit in your tool bag, but it sure is bright. (Try not to get sucked into watching hours of YouTube shorts!) 📺



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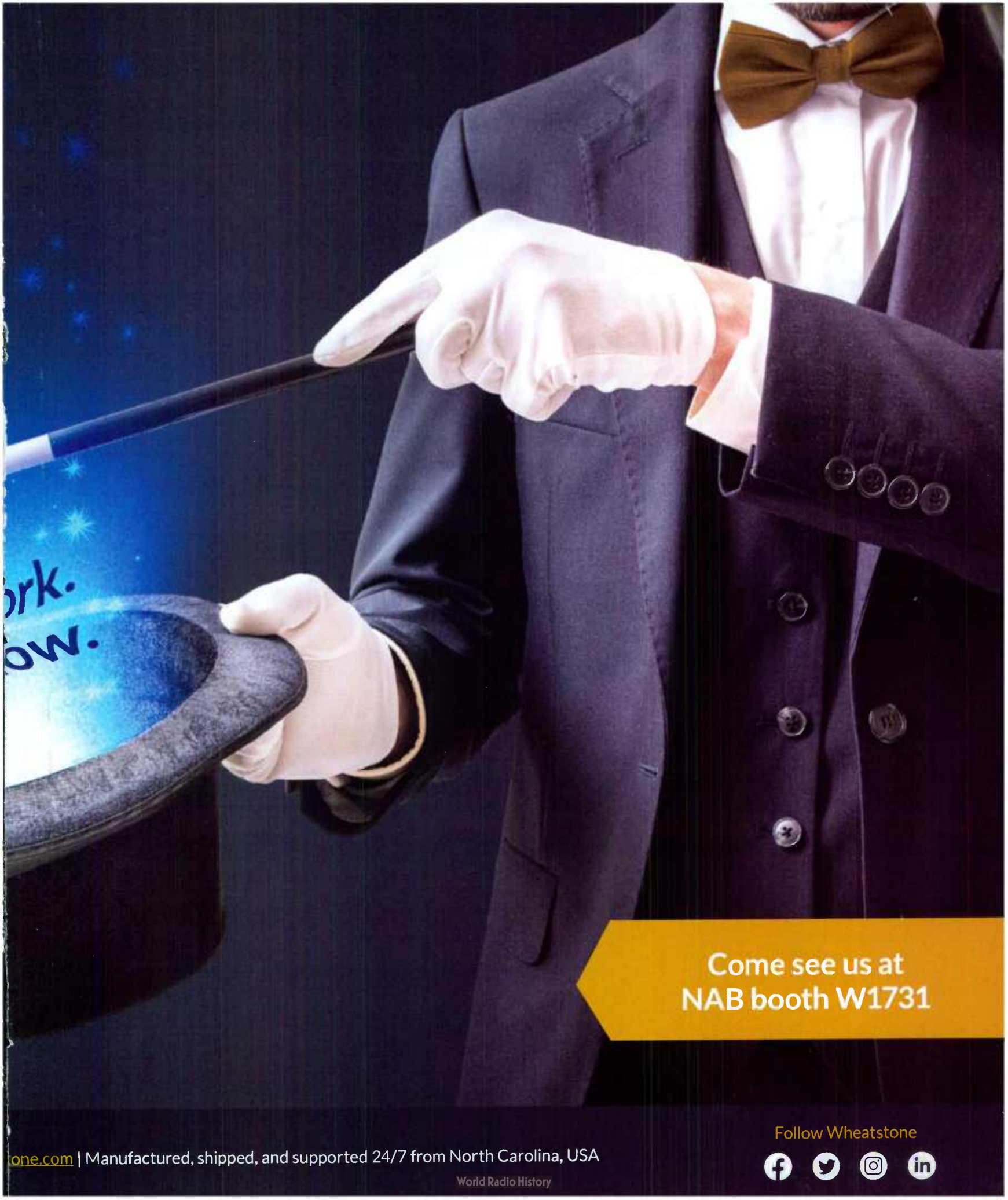
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# BUYER'S GUIDE

Transmitters

## About Buyer's Guide

This 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.

## Bext solves a problem of spurious emissions

Bill Traue deploys an XL3000 transmitter and cleans up a signal

**B**ill Traue, CSRE, 8-VSB, AMD, says he was on the receiving end of a conference call that included a station owner in Wyoming and the manager of the local airport.

"One of the owner's FM stations had suddenly developed a problem with spurious emissions and was interfering with aircraft communications in the area," said Traue, who runs a technical services firm in Idaho Falls, Idaho.

"The first question I asked was if the interference was being heard on 121.5 MHz, the distress frequency, and it was not. Only slightly relieved, I advised the station owner to shut down that transmitter immediately and I would come and get him back on the air, sans interference."

Traue said he felt that the problem was with the station's old FM transmitter. "Although a solid-state model, it occupied a full rack about a tall as Frankenstein. I hoped it wasn't IM interference from things like rusty tower joints."

When he arrived in town he stopped at the studio first and picked up a brand-new Bext XL3000, in its unopened box, which was awaiting another project.

He took it up the transmitter mountain and installed it as quickly as possible, moving the AC wires from the old transmitter to the new, the antenna coax with 7/8-inch flange and the composite audio from the processor to the Mux input on the rear of the transmitter. (The XL3000 can be ordered for single- or three-phase power, as can its larger brother the XL6000.)

"I prefer to operate a new transmitter into a dummy load for a week to wring out any problems and become more familiar with it. But there was no time for that since this station was off the air," he said.

"Bext provides the transmitter documentation on a USB thumb drive, and they are also available via a front-panel USB connection even if the transmitter is not powered up."

He resigned himself to slowing down long enough to fire up his laptop computer and read up on what this transmitter required to get it working.

"I realized after a minute that the colorful touch screen user interface on the front of the XL series transmitter was all I needed, and I put the PC away. I intuitively changed the frequency, lowered the preset power down to nothing and



pushed RF ON. The cooling fans came up to full speed for a few seconds, then slowed down to just what is required to manage things thermally."

He slowly raised power and with no reflected power, he went right up to 3000 watts. Then he called the airport manager and asked if the interference was gone. He checked around on his radios and found no trace of it.

"As I drove down the hill and around town, listening to the new transmitter, I noticed how great it sounds, a noticeable improvement from the old transmitter in the Frankenrack." The XL3000 takes up three rack spaces, leaving lots of room for other gear.

The next morning he returned to make sure the transmitter was happy in its new home. He called up the airport manager again to verify that there was no interference with his radios and there was none. He drove the signal out as he left the area and enjoyed the improvement in sound.

"Two months later, I asked the station owner if the XL3000 had been stable so far, and it has. Several listeners have commented to him how great the station sounds and asked what they had done," Traue wrote.

"I think the upgrade in sound is due to the direct FM at carrier frequency design. You can keep spending thousands on the latest greatest audio processing but if you don't have the design found in this Bext XL series working for you, you are just creating louder noise."

He said they plan to buy several more XL series transmitters. 📻

Right  
Bill Traue



### More Info

<https://bext.com/fm-transmitters>



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# Radio Kerry finds success with WorldCast

Trevor Galvin cites improved reliability and efficiency

**R**adio Kerry is deeply embedded in the Irish broadcasting scene as a full-service, commercial radio station. Nestled in the picturesque County Kerry, the station caters to the diverse needs of its audience in southwest Ireland.

Engineering & IT Manager Trevor Galvin said the station's older transmitters had been experiencing persistent issues with power supply failures and other problems. Radio Kerry decided to install new equipment and ultimately chose Eceso FM AiO Series from WorldCast Systems, purchased




through their local distributor, Radio Services.

Galvin said the choice was made based on the overall efficiency, build quality and user-friendly interface. Also attractive were the hot-swappable power supplies and fan and the transmitter's web interface, SNMP and logging, solidified the decision. Radio Kerry also was familiar with WorldCast from using APT IP codecs and Audemat RDS encoders.

Radio Kerry's commitment to operational cost efficiency led it to activate built-in software features like SmartFM, saving power costs and contributing to the station's efforts to reduce carbon dioxide emissions.



Galvin said the transmitters each took about an hour to configure and install, after bench testing. "We have seen energy consumption drop significantly at each site since installing the AiO." 



**More Info**  
www.worldcastsystems.com/en

# Switching Made Easy



## SS 6.1 MLR/BNC Switcher/Router

w/ Mechanical Latching Relays

The SS 6.1 MLR/BNC is a transparent six input, one output switcher/router with BNC connectors and mechanical latching relays. The SS 6.1 MLR/BNC is perfect for passively switching MPX FM baseband or AES-3id signals. Switching is accomplished with mechanical latching gold contact relays, which means that the unit can route a signal in either direction and it will keep routing signal even after losing power. Due to the passive nature of the switching, any input level and impedance can be used. Inputs may be balanced or unbalanced, while output levels, impedance, distortion, noise, and balancing will match that of the selected input. The SS 6.1 MLR/BNC can be controlled and monitored locally via front panel controls and/or remotely with simple opto-isolated contact closure inputs and dry contact status relay outputs, as well with multi-drop RS-232 serial commands, or TCP/UDP commands over Ethernet.



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# GatesAir transmitters deliver ROI to Bonneville

Two Flexiva FLX30 liquid-cooled systems go on the air in Phoenix

**T**here will always be a fan base for tube transmitters, but there is no question that the installed numbers are dwindling. The reasons are plentiful, and Bonneville International is one of many broadcasters accelerating their transition to a 100-percent solid-state fleet.

"We are actively working to remove every tube rig in our operation," said Aaron Farnham, regional director of technology, Bonneville International.

"Our remaining tube transmitters are in backup roles, but there is no guarantee they will run properly after sitting idle. There are few quality tubes available for replacement parts."

It's no surprise then that in some cases, Bonneville is moving some well-performing solid-state transmitters into backup roles to replace older tube rigs. The most recent example is the Phoenix market, where Farnham and his team put two GatesAir Flexiva FAX40 air-cooled transmitters into backup service, making room for two Flexiva FLX30 liquid-cooled systems.

Both new transmitters support FM and HD Radio feeds, with GatesAir's Flexiva FMXi 4g solution supporting all HD Radio importing, exporting and diversity delay functions. That technology is embedded within the transmitters. GatesAir's solid-state technology also reduces the transmitter footprint, creating more room inside the shared space for KTAR-FM and KMVP-FM.

GatesAir's liquid-cooled systems include a separate pump module and an outdoor heat exchanger, and Farnham says that while the process of preparing the system for operation takes some time, the benefits surface soon after going to air.



**More Info**  
[www.gatesair.com](http://www.gatesair.com)



"The performance benefits of the FLX are enormous," he said. "With air-cooled systems, you need a 40 kW transmitter to run 29,000 kilowatts of RF with -10 dB HD sidebands. With liquid, we can achieve that using 30 kW transmitters and maintain the same efficiency.

"That reduced the costs of our initial investment, and our AC usage has dropped dramatically. Since going to air, our monthly power bills have been reduced by \$2,500. That's no small change."

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# Nautel VX Series a good fit for KVWJ

Station likes the compact form factor and lower power consumption

**K**VWJ(LP) in Hyrum, Utah, is licensed to Alumni Records and broadcasts on 94.9 MHz with the slogan "Radio for the South Valley." Its original transmission setup involved a few separate and aging devices.

"We needed a new, reliable transmitter to assure ongoing operations," said Alumni Records Director Friend Weller.

"Nautel's VX Series 300W transmitter, along with being a new design, was the right choice for our LPFM for several reasons."

A key selling point was that the price was right for the features they desired and worked within their tight budget.

"Nautel's exceptional sales and factory support is renowned, and I've never been disappointed in their dedication in my nearly 15 years working with Nautel equipment," Weller said.

"Given our limited resources it was important to know that our investment was one where my best interests are being looked after for the long term."

The "Orban Inside" option eliminated the need for a separate processor. The integral remote control/AUI provides the needed details from one screen and was designed for the future.

"The compact 2 RU format not only reduced our vertical real estate from 16 RU but our power consumption decreased and our heat levels were significantly reined in," he said.




**“The compact 2 RU format not only reduced our vertical real estate from 16 RU but our power consumption decreased and our heat levels were significantly reined in.”**

"We are confident we'll see a lowering from the 912 watt-hours our operation originally demanded and overheating risks will be a thing of the past."

Weller described the installation and implementation as a breeze. "It literally took us longer to make up the necessary connecting audio cables

than it did to rack up the VX, connect it to the antenna, plug it in and put it on the air."

He said listeners have let the station know that its sound has improved. "And with our recent entry into the world of RDS, we can maintain the spirit of radio while keeping our listeners informed." 

  
**More Info**  
[www.nautel.com](http://www.nautel.com)

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## Tech Update



### BE Updates MDCL+ for AM Stations

Broadcast Electronics has released its latest version of MDCL, or Modulation Dependent Carrier Level, saying it can save most AM radio stations up to half of their electricity costs.

"For a station operating 12 hours per day (excluding nighttime savings), with a transmitter power output of 10 kW, and with an average electricity cost of 20 cents per Kilowatt/hour, the savings can be more than \$6,000 every year," the company states. "Even for a 1 kW AM transmitter, savings are typically over \$600 per year."

It adds that some locations, including Alaska and Hawaii, have considerably higher power rates and so stations there will see more savings in energy and cost.

"MDCL works by reducing transmitter power during periods when the program is louder and quickly recovers power during quiet periods," BE notes. "Any increase in received noise is masked by the louder program content. Compression is easily adjustable to ensure the best power savings are obtained without affecting received audio quality."

Info: [www.bdcast.com/products/radio/transmitter](http://www.bdcast.com/products/radio/transmitter)

## Tech Update



### Progressive Concepts Reps BW

Progressive Concepts recently was named the sole authorized dealer and service center for BW Broadcast equipment in the United States.

"Following corporate restructure, United Kingdom-based BW Broadcast is now in full production with improvements to existing products and new products being developed," Progressive Concepts said in its announcement. Eric Hoppe is owner of the Illinois-based firm.

BW Broadcast makes and sells FM transmitters, translators, rebroadcast receivers and audio processors. Relevant products are FCC certified and Industry Canada approved.

"Progressive can also announce that all new BW products supplied by them in the USA will now come with a groundbreaking four-year warranty," it said.

Info: <https://progressive-concepts.com>

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## Tech Update

### EventCAST Provides AM Service Quickly

Information Station Specialists says its EventCAST Portable Radio Systems can help when you need to light up an AM signal quickly due to loss of a main transmitter/antenna/site, to maintain an STA or want to broadcast local event traffic or parking info.

When an emergency is imminent, EventCAST Systems can be on the air fast to inform motorists about safety procedures and status. The portable 10-watt transmitter and antenna system deliver a 3- to 5-mile daytime signal radius and can operate under Part 73 or Part 90 (TIS) licenses.

The package includes a program mixer for live feeds and a USB-based audio system for program repetition.

ISS says units are "kept hot and ready to ship on a moment's notice."

Info: [www.theradiosource.com/services/eventcast.htm](http://www.theradiosource.com/services/eventcast.htm)



## Tech Update

### Telsat BSP Is a Portable Broadcast Site

Telsat offers the Broadcast Smart Platform, a portable broadcasting site in a mast-mounted, small weatherproof enclosure, for outdoor use in a range of international applications.

BSP networks can cover large critical areas with a cell-based network model and smart-topology approach, using low-power transmitters and avoiding costs of covering unwanted areas.

"We understood that we did not need just a new transmitter with some classic receiver in a small shelter," the company wrote.

"We needed a complete system, with very flexible, customizable architecture, because every country and government has different approaches to broadcasting regulation, and we had to be ready to satisfy the broadcast range of requirements for both TV and radio."

It says the BSP offers high efficiency, low power consumption and ability to be driven by alternative sources such as solar panels or wind.

"It needed to be very robust, with no maintenance and very easy to be handled, installed and assisted. But most of all it needed to be completely monitorable and configurable in remote."

Info: [www.telsat.it](http://www.telsat.it)



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## Tech Update

### Aqua Cobalt Offers Automations and Configurations

Aqua Broadcast's Cobalt FM transmitters now include a set of automations and configurations that let a user assign profiles based on scenarios like time or date, GPI, SNMP or alarm state.

"Unlike basic input source failovers that merely facilitate the switch between audio sources, we believe in providing a more comprehensive solution," the company said. The system is designed to provide flexibility in terms of routing inputs to the modulator, complemented by a robust failover mechanism.

"Adjusting the transmitter configuration involves tweaking numerous settings, and it's a bit like a puzzle where everything needs to fit just right. Take, for instance, changing from an external MPX modulator source to the internal one."

It said these configurations allow the user to set up the transmitter by tweaking multiple parameters with the push of a button. "This not only makes the process efficient but also helps avoid those pesky errors."

Configurations can be loaded manually for a specific situation or pre-loaded for integration with automated processes.

"You can save settings for specific sections in the web menu or just save them all at once. Saving all sections is like having a safety net



for your default configuration, whether you need to revert to a stable point or quickly set up a replacement transmitter. This is especially handy when dealing with multiple Cobalt transmitters, leaving the site-specific configurations for later."

Configurations become crucial with Cobalt transmitters in a backup system, ensuring that the backup transmitter mirrors the setup of the failed one. "On the flip side, if your goal is to tackle a specific issue or tweak the transmitter's behaviour based on a schedule, like adjusting audio presets or RF power, it's a breeze with configurations."

Info: [www.aquabroadcast.co.uk](http://www.aquabroadcast.co.uk)

## Tech Update

### R.V.R. Launches Hot Plug-In Next Gen Series

FM transmitter manufacturer R.V.R. Elettronica is celebrating its 45th year. Exhibiting at the NAB Show in the Broadcast Depot booth, it will introduce its Hot Plug-in Next Gen high-power series by showing a 10 kW Hot Plug-in EPS Transmitter.



EPS stands for Extractable Power Supplies. "Due to the increasingly common need for fast maintenance, minimal downtime and redundancy at multiple points in the transmitter, R.V.R. has decided to provide a drawer of

hot-pluggable power supplies, with an additional empty slot for N+1 PSU configurations."

It allows the integration of supplies from different brands based on the budget and technical needs of clients in various countries.

Each supply can be removed or plugged in without turning off the transmitter. The system can generate 10 kW, plus margin, with five power supplies. By installing a sixth, the transmitter will operate at full power in the event of a single PS failure, eliminating the need for derating.

Each supply features an automatic magnetic switch, preventing short circuits and ensuring uninterrupted signal broadcasting. The power stream generated by the supplies is distributed in parallel to all RF modules; if one power supply fails, all RF modules maintain balanced operation.

R.V.R. makes FM transmitters ranging in power from 30 Watts to 60 kW, as well as antennas, combiners and filters. All are made in Italy.

Info: [www.rvr.it/en](http://www.rvr.it/en)

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Writer



Simon Keens

Sales and Business Development Manager, Ampegon Power Electronics AG

# Why is shortwave only “radio of last resort”?

Its powerful new capabilities remain largely unexplored

**M**y first car, a 1984 vintage, had a shortwave radio receiver, but I didn't bother using it. I was young while it was old and therefore unworthy of my attention. Besides, the signal it received was mostly odd-sounding talk-radio that changed tone as I accelerated. Something to do with unscreened sparkplugs? Whatever they were. Instead, I had a huge selection of pop music available to me on the FM bands, and big plans to retrofit new dash-mounted CD player technology (which never worked)!

Nobody who ever listened to FM really prefers old analog shortwave services. Analog doesn't have the bandwidth to provide stereo sound, and it's subject to atmospheric distortion and (non-shielded sparkplug) interference.

Let's be honest: People only like analog shortwave when there's nothing else. People who live in rural areas without FM coverage; people without resources for more choice; people with authoritarian rulers, who ask what the rest of the world thinks.

I realize that a significant percentage of the world's population are covered by these three simple classifications. But we can agree that these people deserve access to high-quality radio broadcasts, too.

## Shortwave's unique properties

The big draw of shortwave is the ability to broadcast to the other side of the world. Shortwave frequencies

reflect off the ionosphere, offering long-range capabilities not possible with FM and MW propagation. With a high-power transmitter and appropriate antenna, shortwave broadcasters can provide national, continental or even inter-continental coverage from a single location.

If you need to broadcast to the whole country; if you need to provide content to remote populations; if you are providing aid to faraway regions in the midst of catastrophe, shortwave is often the only feasible way to reach everybody, right now.

This is not a suggestion that broadcasters replace all FM transmitters with shortwave stations.

An “integrated network” means there are different solutions for every need, and governments should foster them. If you live in the city with dense populations, short-range FM networks are justified and economical. If you are more distant, medium-wave transmitters offer economical service at longer ranges. If you need to provide a base level service over extreme distances, shortwave provides the solution.

And of course, if localized disasters or faults take short-range services off-air, longer-range services free from the influence of these disruptions provide coverage and the reassurance of regional or national broadcasts.

Thus, a resilient three-layered network can provide multi-faceted service to its listeners: short-range broadcasts serving local demands and niche audiences, a regional level with more general programming, and a national service for an entire country.

## Reinvention with DRM

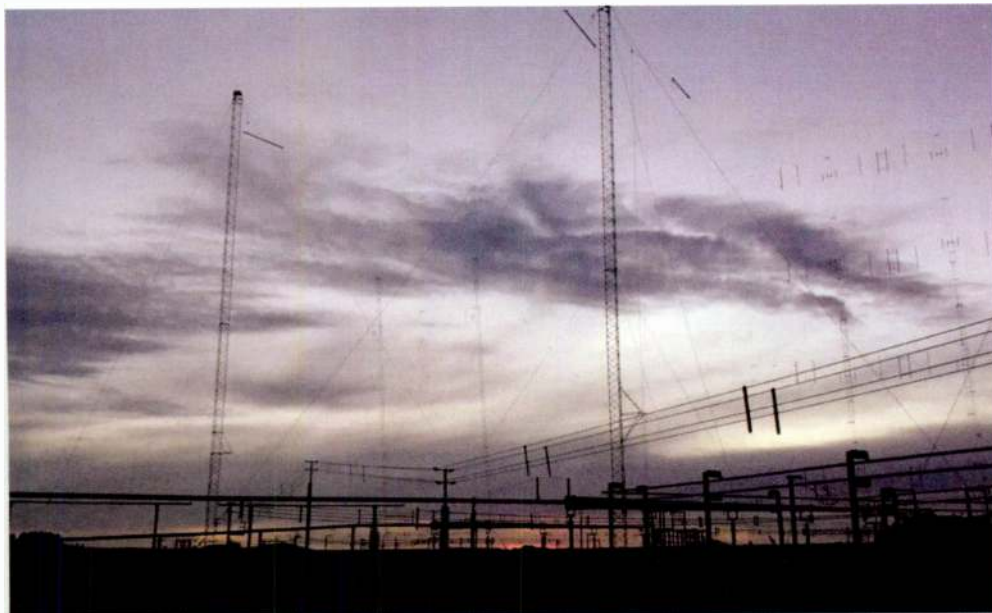
Like other broadcast techniques, shortwave has also been digitized.

Using the Digital Radio Mondiale standard, the only comprehensive standard for covering both the AM and FM bands, the same shortwave coverage footprint can be achieved for half the energy cost of an analog broadcast while also providing better service.

Gone are the days of atmospheric distortion and mono sound. Today, DRM shortwave provides FM-like stereo sound, and a data stream with additional internet-like text information/news in multiple languages, pictures, graphics and even short videos alongside the audio.

(In fact, in the age of analog FM, had digital shortwave features been available, the national

**Below**  
Rangitaki antenna site of Radio New Zealand.



radio I was listening to in my car would likely have been delivered by shortwave instead, such is the improvement.)

An emergency warning channel can optionally be added, which — at the press of a button — switches regular broadcasts instantly to one of any number of pre-recorded emergency messages and other relevant content; all directed to listeners at the speed of light. Every second of additional warning is critical when a tsunami or hurricane is bearing down on you. History shows that delays cost lives.

### Case Study: Radio New Zealand

The fact that DRM shortwave provides FM-like quality and emergency warning features at extreme range is precisely the reason it is used by Radio New Zealand for broadcasting into the Pacific.

From their Rangitaiki station, RNZ provides daily DRM shortwave programming to the hundreds of tiny islands and atolls in the Pacific ocean. Any users with DRM radios can listen directly, but for those without a digital receiver, many of the islands and atolls have FM rebroadcasting stations. Here, the DRM signal is received and decoded, and a small FM transmitter broadcasts the stereo content as an analog signal covering the island. Effectively, DRM shortwave is providing the data link from studio to FM transmitter.

In the event of a localized emergency, these broadcasts from far over the horizon are invaluable.

On Jan. 14, 2022, the Pacific nation of Tonga was overrun by a devastating tsunami with waves up to 65 feet high, caused by an undersea volcanic eruption 15 minutes beforehand. Four people were killed, and the islands were inundated with water. Communications with the outside world was largely cut off, due to damage to undersea fiber-optic cables, as were FM transmissions. Electrical infrastructure was disrupted and destroyed. However, Radio New Zealand was able to maintain broadcast coverage via shortwave, providing information to the people of Tonga and assisting with emergency response.

**“The fact that DRM shortwave provides FM-like quality and emergency warning features at extreme range is precisely the reason it is used by Radio New Zealand for broadcasting into the Pacific.”**

It took six weeks to restore internet and telephone services to the islands. RNZ immediately ordered another transmitter to provide additional capabilities and redundancy for their DRM service, since their older standby transmitter was not DRM-capable.

### Untapped potential

It is widely known that, following the closure of many traditional analog shortwave services, shortwave broadcast bands are currently underutilized.

As is the way of the universe, available resources present opportunities. There is no reason why shortwave should broadcast audible programming. It is known that stock traders are experimenting with shortwave for high-speed trading links over enormous distances. What else is currently being developed?


Nowhere is it written that receivers have to be connected to a speaker. Any data application requiring highly compressed or short messages distributed to limitless numbers of unknown or mobile receivers over enormous distances have a potential solution in shortwave. The laws of physics dictate that there are unlikely to be quicker ways to deliver messages around the world, with speed of light in air being about 50% faster than light speed in optical fiber, even before fiber repeater delays are considered.

With digital technology, global coverage and potentially limitless distribution, the available shortwave spectrum presents enormous potential.

### Conclusion

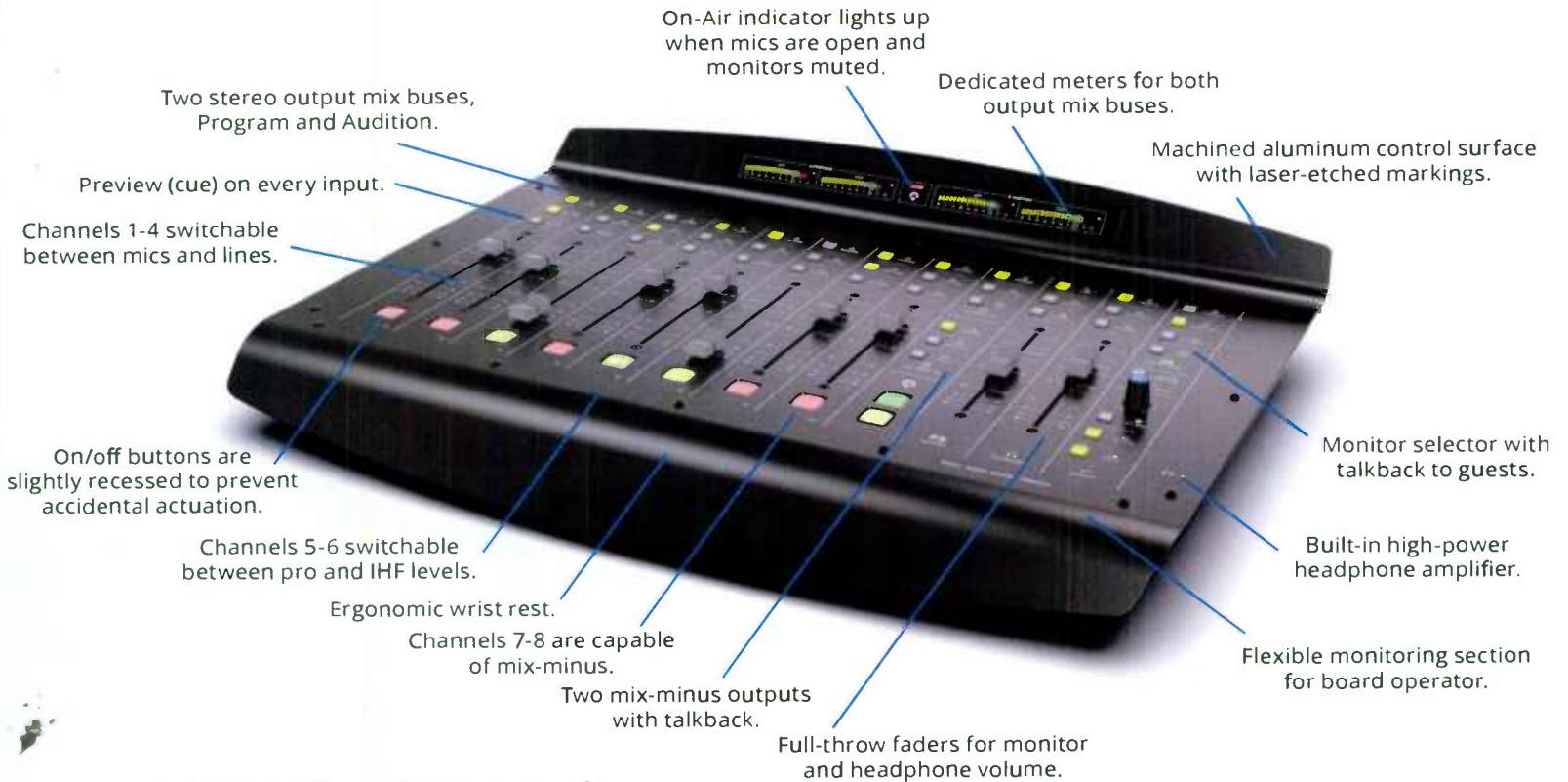
In an increasingly uncertain world, with rising levels of authoritarianism and disinformation, climate change and unrest, the ability to broadcast information and news to distant lands is increasingly important to prevent suffering and exploitation worldwide.

While TV and internet provide excellent service, they are both reliant upon fixed infrastructure, and are easily censored or exploited to control “the truth.” The number of countries censoring journalism and broadcasting significantly outnumbers those with a free press. Radio broadcasting acts as a beacon of hope to those fighting against tyranny offering support to those suffering — especially long-range shortwave broadcasts made from places of stability and safety, unaffected by borders or the need for local infrastructure. Digital DRM offers the only common standard across all radio bands and levels the playing field in terms of broadcast quality: No longer is a shortwave signal destined to be distorted and fading. And, still, it is long-range shortwave services that are the service of last resort in the event of emergencies or disasters. Indeed, shortwave continues to prove itself indispensable in an uncertain world, remaining the most resilient backstop of integrated broadcasting systems.

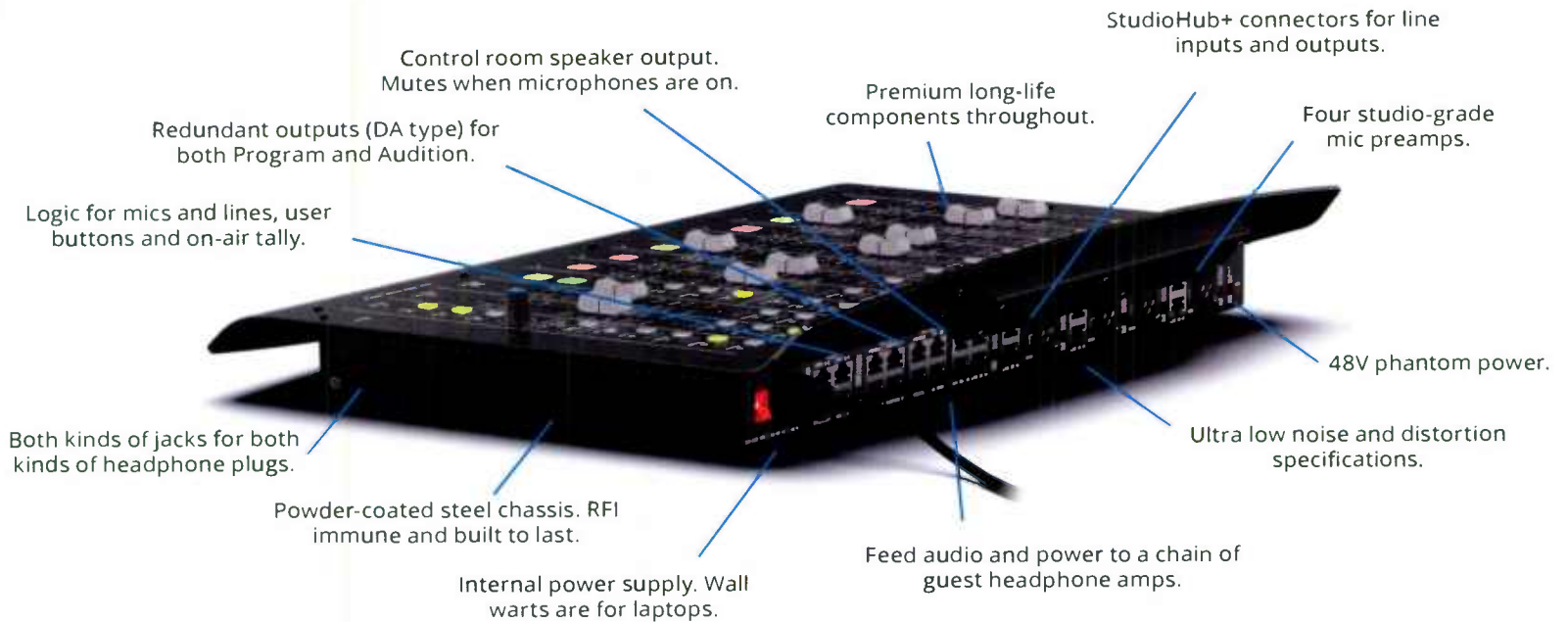
Often neglected as old tech, shortwave’s powerful new capabilities remain relevant and largely unexplored. 



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