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September 27th, 2023

issue of

Radio World

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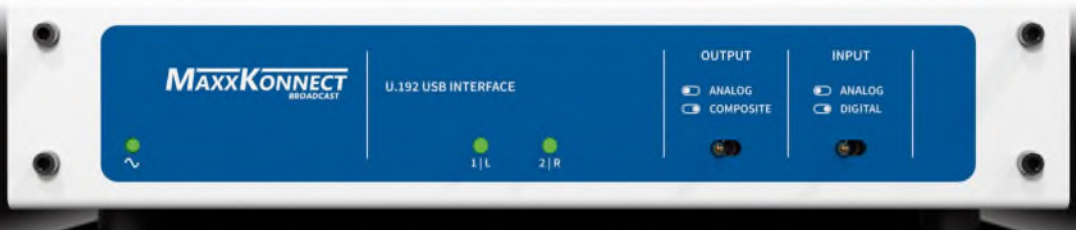

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What's your take on AI?

Where exactly is it going to take us?

Paul McLane
Editor in Chief

I'd like to hear what you think about artificial intelligence and the long-term role it will play in radio.

The frenzy of media attention that accompanied the launch of ChatGPT 10 months ago has cooled now, but as far as I'm concerned, AI is serious and here for the long haul. (Don't be that person who interpreted the dot-com crash of 2000 as proof that the internet had been overhyped.)

We've all been using AI for years, of course, in applications like e-commerce, social media and search. What I'm asking about is the exploding generation of technologies based around generative AI. We see them being used to write and voice shows, playlists, commercials, newscasts, weather forecasts and social video; and that's just in the on-air product, it doesn't touch on the many functions it is starting to play behind the scenes. So what's your prognostication?

Some people are terrified of it, believing it can only lead to replacing humans and taking jobs. Advocates say that it's a tool intended to make us all more efficient. "Think of it as a wingman," they say, "a co-host, a useful researcher, an assistant." They encourage us to dive in and learn, because it's here regardless and it's only going to get better and more powerful.

Send me your thoughts to *radioworld@futurenet.com*, with "Letter to the Editor" in the subject line. It comes right to me.

I'll moderate a session about AI for radio at the Broadcasters Clinic in Madison, Wis., in October. Join us if you can.

The panelists will include Craig Bowman of Futuri, maker of RadioGPT; Fred Jacobs of Jacobs Media; and David Oxenford of Wilkinson, Barker, Knauer. The event is produced by the Wisconsin Broadcasters Association and is in its 67th year. If you've gone, you know it's one of the best state or regional conferences in the country. Info is at *www.wi-broadcasters.org*.

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Ready for the Test?

A reminder that the Federal Emergency Management Agency, in coordination with the FCC, will conduct nationwide tests of the Emergency Alert System and Wireless Emergency Alerts on Oct. 4. If anything is actually happening that day that might cause confusion about whether an alert is real, the backup date is Oct. 11.

EAS participants are required to participate in the nationwide test and make required filings in the commission's EAS test reporting system. Updates for Form One were due Sept. 15. Participants must file Form Two "day of test" data on or before Oct. 5, and they must file Form Three detailed post-test data on or before Nov. 20, 2023. Forms Two and Three will become available in ETRS when the test launches. More info is at *www.fcc.gov/general/eas-test-reporting-system.*

Senate Finally Fills FCC Seat

Anna Gomez was confirmed in September as the FCC's newest commissioner. The vote to confirm was 55–43. She fills a Democratic seat that has remained open since President Biden took office, in part because of the long and ultimately fruitless push to install Gigi Sohn.

Gomez, a telecommunications attorney, most recently was senior advisor for international information and communications policy in the State Department's Bureau of Cyberspace and Digital Policy, which she joined earlier this year.

She is better known as a former deputy administrator of the National Telecommunications and Information Administration; and she served for 12 years in various positions at the FCC, including as deputy chief of the International Bureau and senior legal advisor to then-Chairman Bill Kennard.

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Paul McLane
Editor in Chief

Absolut Radio gets a head start with AI

Antenne Deutschland execs share their experience so far

A growing number of radio companies are experimenting with artificial intelligence, but German broadcaster Antenne Deutschland got out in front earlier this year when it launched a streaming radio station fully programmed with AI and voiced by a synthetic air talent named kAI.

The channel, called Absolut Radio AI, uses technology from Radio.Cloud. Its cloud-native software creates a schedule, programs the breaks and creates voice tracks with a feature called Voicetrack.ai. The streamed station targets listeners ages 14 to 49 years with pop and dance music.

"kAI not only gets you through the day in a good mood," its website promises. "He also has a lot to say. He gently introduces you to the topic of artificial intelligence and explains to you how versatile an AI can be used, how it works and where its limits are." You can listen at *https://tinyurl.com/rw-kAI*.

Then in August, Antenne Deutschland put the AI format on a local DAB+ channel in Braunschweig in north-central Germany. It's believed to be the first over-the-air radio broadcast station in the world programmed and voiced full-time with artificial intelligence.

To find out how all this is going, we spoke with Antenne Deutschland Managing Director Mirko Drenger, Program Director Tina Zacher and Radio.Cloud CEO and founder Christian Brenner.

Tina Zacher and Mirko Drenger

Describe the scope of the organization.

Mirko Drenger: There are two platforms for national DAB+ in Germany, each with 16 stations. Antenne Deutschland runs one of the platforms and six of its stations, branded Absolut Radio. We also have many online audio streams such as Absolut Rock, Absolut 80s and Absolut Radio AI. And we sell ad space for ourselves and for third-party stations.

Tina did you have concerns about working with the AI at first?

Tina Zacher: We thought the same things other people do. How would it do on the air? But we trusted in the technology, in Christian and his team. And we have a lot of people at Antenne Deutschland who are interested in AI. We knew it was a risk but we wanted to take it.

As a programmer, do you worry that AI technology would be seen as a replacement for live talent?

Zacher: I don't think it will. Human beings will always reach out for other human beings — that's our thing, we want to be where other people are. But the AI makes work much easier in some ways, especially for radio creators.

There are tasks you love but there are many others you hate to do over and over every day. Now we have AI to do those tasks, leaving us more time to create. But I don't think AI will replace radio hosts in the next 10 years.

Mirko, what's the business justification for exploring this?

Drenger: For me, the headline is not that it replaces us. It makes us smarter and faster. It's not about saving money. You still have to write program-specific prompts, develop your own logic and develop it further. It's about creating more content, faster and smarter. It's about fun and creativity.

We're also helping our employees "skill up." We encourage them to learn because more and more

> **"It's not just that we're allowing AI; we really want [employees] to learn it, which becomes a big advantage for us."**

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companies like Microsoft and Hewlett-Packard will require these skills. So we're not just *allowing* AI; we really want them to learn it, which becomes a big advantage for us.

We're just at the beginning of the conversation — we have six radio stations with hosts, yet no one is hosting at night, and we have many online audio streams that are not hosted. I don't know what the future will bring, but we're not replacing hosts; it's an add-on.

Above
Christian Brenner

Brenner: Among customers I've spoken with, no one wants to replace people. They want to add it to nonstop music channels on DAB or web radio channels, or start new ones like Antenne Deutschland did. In the U.S. maybe an HD channel that's currently just playing music can be turned into a hosted channel.

One customer who is about to launch a 24/7 channel in radio will use it with music and jingles and create chart shows from the '80s. It will automatically create the shows pulling the chart data from the internet.

We are often surprised how good the AI is; but it is not as good as a creative host. Maybe it's like a boring host who only tells you the time and the next song. If you want a really creative morning show, we're still far away, and maybe will be forever. But customers want to get experience with the technology.

How does the system work?

Christian Brenner: Everything that comes before the language model is from Radio.Cloud. We have approximately 4,500 prompts and thousands of news sources. We send a smart query to the language model, ChatGPT 4.0 in Azure OpenAI. We doublecheck results with Google Bard. Some answers will need corrections or optimization, or we'll drop an answer and do it again.

Then we send it to one of several providers of text to speech. There's additional audio processing, then we integrate the audio and playout. The process is fully automated.

We recently calculated that we have already created 45,000 breaks for Absolut Radio AI and seven other client channels, most of which aren't public yet. The technology is working reliably on overnights, on the weekend and with weather reports. It's really automated.

So no one is typing a script, right? The content is generated by your back end, then voiced synthetically.

Brenner: At the beginning there's work to set up everything to train it. But once your clocks are built and your presets are done, you could leave it alone, and there is no day-to-day typing as with some AI platforms. It is possible to run the station fully automatically including hook promotions, music ramps, all the mixing, the whole workflow.

You don't need to write these prompts yourself. Now there's a simple setting so you can tell it, for instance, "Talk about the next few songs for 45 seconds."

Tina does your staff have to go over the content, monitoring it to make sure it's all OK?

Zacher: No. Our colleagues and others listen to the program constantly. But we knew that the AI would make some mistakes. This was okay. It even adds a little bit of authenticity. We don't have three employees listening eight hours and monitoring every break.

Brenner: We're creating the breaks 24 hours ahead. It takes about five minutes to scroll through all of them. The staff can log in to see all the breaks for today and tomorrow, and on the weekend they can see three days ahead. They can scroll line by line through the playlist; below each voice break they can read and review the text. The only thing they can't is the weather report, which is updated 10 minutes before broadcasting.

You're aware that GPT-4 has problems with hallucinations or inventing things. So if the next song is by Madonna and we tell it "Speak about Madonna using this text from Wikipedia," we also tell it, "Don't invent anything. Just take this text and make it sound like a radio host. Speak about this or that, and here are supporting documents; but don't do your own research." [This approach] makes sense anyway because GPT-4 knows nothing after September of 2021.

Continued on page 14

The Sound of kAI

Listen to two sample cuts of kAI at *tinyurl.com/rw-kai-1* and *tinyurl.com/rw-kai-2*.

> **They don't talk about kAI as a machine, they talk about him like a person, they feel connected to him.**

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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.

Don't suppress your tips
Workbench submissions are encouraged and qualify for SBE recertification credit. Email *johnpbisset@gmail.com.*

How to attenuate an act of God

Take the zap out of copper-connected remote controls

Bill Traue is SBE certified (CSRE, 8-VSB and AMD) and the proprietor of Bill Traue Technical Services LLC in Idaho Fall, Idaho. From 1988 to 1991, he was a customer service engineer at Gentner Electronics, manufacturer of telephone interfaces and transmitter remote-control systems. Bill was brought in primarily because of his familiarity with the VRC-1000 remote control.

Bill installed one of the first VRC systems in 1986. It was later damaged by lightning. In fact, all of the VRC repairs that came into the factory were from damage related to phone lines, including surges and lightning. Because these were deemed acts of God, they were not covered under warranty.

Suggestions on how to prevent damage were always shared and welcome. One of Bill's favorite tips was to take a full roll of telephone wire, either 500 or 1,000 feet, crimp connectors on each end of the roll and connect the full roll in series with the incoming phone line. The inductance of the wire and the distributed capacitance helped slow the incoming destructive impulse.

Unfortunately, the telephone coupler circuit in the VRC1000/2000 sits right in the middle of the motherboard.

Efforts to design something to protect the VRC from surges would have to be done outside the chassis.

Right
Bill Traue with the AGA-1.

> **After the AGA-1 began to ship, there were no more incidents of the VRC mother boards being damaged by lightning surges.**

Gentner Engineer Bill Gilman designed a small metal box that attached to the ground terminal on the rear of the chassis, right next to the phone line connector. Bill is pictured here holding one. Despite its labeling, it became known as an AGA-1 for Act of God Attenuator!

Inside the box was a circuit board with some series inductance, some shunt capacitance, gas discharge tubes and MOVs across the line and to ground, and some series resistors. These components were installed on both sides of the phone line to maintain balance.

The resistors, a pair of 2.2 ohm and a pair of 22 ohm, acted as fuses and would burn up if lightning came near the line.

After Gentner began shipping the AGA-1 with new VRC units and loaners, there were no more incidents of the mother boards being damaged by lightning surges.

And it was easy to repair the burned-out resistors, should

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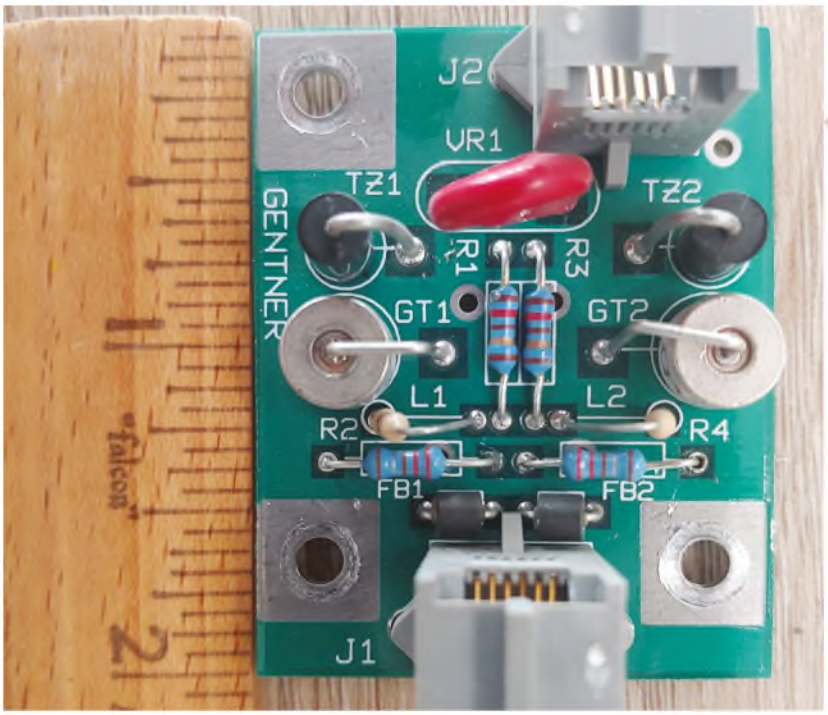

Above
Component view of the AGA-1.

they fail. Bill says Gentner even sold a repair kit, but if the customer didn't have any low-value resistors to replace the fried ones, a short loop of solder wire could be used temporarily.

Another occasional problem with VRC installations was failure to auto-answer an incoming call. The temptation was to blame excess RFI on the line, but Bill discovered that the problem actually was caused by the nature of the ring detect circuit originally employed. The detect circuit could get saturated by the incoming voltage and current, and the individual 20 Hz ringing pulses were getting lost. To solve the problem, the company added a Zener diode, altered resistance values and deployed a more suitable opto-coupler.

Users of the older telephone-based remote controls know of their value for backup site access. We need to employ every trick in the book to prevent these useful relics from being damaged, given that factory repair is no longer available for them. Readers who still employ VRCs can contact Bill Traue at *billtraue@gmail.com*.

AGA-1 COMPONENTS

- TZ1 and 2 are transorb bidirectional diodes rated to clamp at 328 volts
- Gas gaps GT-1 and -2 will conduct at 230 volts
- VR1 is a MOV rated at 250 volts
- R2 and R4 are 2.4 ohms
- R1 and R3 are 22 ohms
- L1 and L2 are molded miniductors (value not known)

Label tips

Rolf Taylor is a principal in Rocket Engineering and Consulting. The first broadcast board he regularly used and maintained was an old Gates Dualux console that had been extensively modified for stereo operation. The board had been meticulously labelled with different colors of embossed Dymo tape. It really was a thing of beauty.

Nowadays, embossed labels are considered crude. The best thermal label technology is laminated with a clear top layer to avoid the letters wearing off. When you're shopping for a new label maker, it's worth checking on the availability of this type of label. Rolf says his ancient Brother P-Touch has the feature while his modern Dymo Pro unit does not.

Recently Rolf has run across labels that could benefit aesthetically from the advanced features that label makers now offer. For example, if you are labeling a patch field, there's a mode that allows you to create a horizontally oriented strip of labels that are equally spaced. (Dymo calls it "Module Mode.") Similarly there's a "Breaker Mode" meant for a vertical strip.

One limitation of this feature is that it uses tenths of inches to specify the width of labels. This rarely corresponds perfectly to the usual dimensions. You can see this "slip" of the words on the photo of Rolf's receiver in the photo below.

Next time Rolf creates one of the breaker or module labels, he intends to use metric measure. Even if each label slips by 1 mm, that's not much even over the width of several labels. Rolf says most modern label makers have this feature and he recommends it.

Below Right
Dymo and Brother now offer millimeter letter spacing, as shown here on Rolf Taylor's receiver. This would be useful when labeling patch bays.

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Continued from page 8

Similarly, we take a long-form weather report from the government and GPT makes a nice short version; we don't ask GPT to create a forecast itself.

Google Bard checks for anything that isn't appropriate. For example, we did a test in which a weather report was hacked to put out political messages instead; the system detected it immediately and blocked the source.

You've been up front with listeners that this is moderated by AI. What kind of reactions have you had?

Zacher: We were surprised because the feedback has been very good. [Listeners] don't talk about kAI as a machine, they talk about him like a person, they feel connected to him. He even has his own kind of humor, which they like.

Mirko what's stopping you from using it now as a co-host on a broadcast channel?

Drenger: Nothing. We're just figuring out how it works and where we want to take it.

Brenner: Doing a co-host is much trickier on the technology side. Having two AI voices interacting is easy, but having a human with a co-host who can respond live brings up latency. Right now, even with the best infrastructure, it would take one and a half to two seconds for the co-host to respond. That's like a satellite interview in the old days. Many text-to-speech providers are working on this, trying to bring latency down below 0.5 seconds.

> **When the mom of the host says, 'Oh, you're back on the radio,' that for me is the proof.**

Now you've put Absolut Radio AI on a DAB+ channel between Hannover and Magdeburg, near Volkswagen's headquarters.

Drenger: The city of Hannover is known as the place in Germany where the clearest German is spoken. So it's fun that we start with an AI host there. DAB+ is very successful in Germany and we're waiting for an opportunity to put it on a nationwide broadcast slot.

Brenner: That feed has different imaging and localized weather forecasts from the start. Local news is planned soon.

What else would you want a fellow radio manager to know?

Brenner: The AI is not taking away the creativity of the program director. The PD tells us what they want. The design is in the hands of the organization. You can even dictate whether he should speak to a younger audience or an older one. Further, if Mirko hypothetically needed to program for an Antenne Spain or Antenne Italy, it could be done with a click of a button. The channel would run the same way, with the same cloned voice, but speaking perfect Spanish or English or Italian.

Listen to kAI

You can hear the stream of Absolut Radio AI at *https://tinyurl.com/rw-kAI*.

Drenger: I hear people saying AI is a lot of work, it costs a hell of money and people are frightened of it. No. It saves a lot of money, it's very easy, it's very fast, and you can learn a lot. And people aren't frightened. If you set up a team of seven people doing it while everyone else is left out, of course they'd be frightened; you just have to keep them informed and let them participate.

Zacher: Whether you work at a radio station or in any other area, you'll be working with AI, so don't fall behind. Use it as much as you can, and take chances. I'd rather be one of the first people to use it than among the last.

Tina you've called kAI "a presenter in its infancy." When you listen to that voice, do you hear a human? Would you be able to tell that it's synthetic?

Zacher: I don't hear a human, though maybe I'm not the right listener because I know it's AI, and I know Jott Lischka, the person from whom the voice was cloned. But I had a call from a colleague at a music label, and he said, "You still have a person hosting the show, right?" I said, "No, it's a clone, a synthetic voice," and he said, "I heard it in the background in my office and I could swear that it was a human being."

Brenner: We also find that when there is music under the voice, it's harder to detect than when you hear just the dry voice.

The voice was cloned from Jott Lischka, an employee of Radio.Cloud, who is a former radio host. He called his mum and told her to listen to the stream, and she said, "Oh, you're back on the radio." She even told him she heard him make a mistake. Every two or three hours there's still a mistake — maybe an English artist's name is pronounced as German. We're still working on those small errors.

But when even the mom of the host says, "Oh, you're back on the radio," that for me is the proof.

Zacher: And as a program director, I can tell you, I have some human employees who don't speak the name of the of the English singer in the correct way!

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Writer

James Careless

The author wrote recently about a major grant from the Mellon Foundation to support the American Archive of Public Broadcasting.

Above
This beautifully restored Philco Transitone "flying wedge" radio originally was brown and its center wedge unpainted. Chris Deneau of Renovated Radios customized it while fixing a cracked case.

What to do with that old antique radio

Don't let that ancient beauty sit gathering dust

Maybe it's a hand-me-down from an elderly relative. Maybe you found it at a flea market, or it has been hidden in the attic for far too long.

It could be an anonymous-looking black box with big dials and horn speaker from the 1920s, or an iconic Zenith floor console with big lighted dial and multiple wood veneers from the 1930s, or a multi-colored tabletop model cased in Bakelite plastic from the 1940s.

At some point an antique radio may come into your life; or someone will ask you to help them with that antique they just inherited. What should they do with it?

Radio World spoke with several restoration experts. Here's what they told us about the right and wrong ways to handle these artifacts, because doing this the wrong way can turn a valuable antique into a destroyed "blue smoke generator."

What's antique?

"In similar fields of collecting such as in furniture, it's widely accepted that anything over 100 years is 'antique,'" said Lisa Edwardson, owner of the online Retro Radio Shop, which sells and restores old radios (and can even add Bluetooth and aux inputs to them).

"Fifty to 100 years is 'vintage,' and less than 50 years old is 'retro,' which is somewhat of a sub-category of vintage. Just where the bottom threshold of retro lies is quite a gray area."

Chris Deneau is the owner of Renovated Radios in Macomb, Mich., which specializes in making reproduction parts for old radios. "In my opinion, an antique radio is any radio powered with vacuum tubes, which should only be powered up with a variac after a careful electronic inspection," he said.

For the sake of this article, we will refer to them all, including vintage/retro transistor radios, as antique radios.

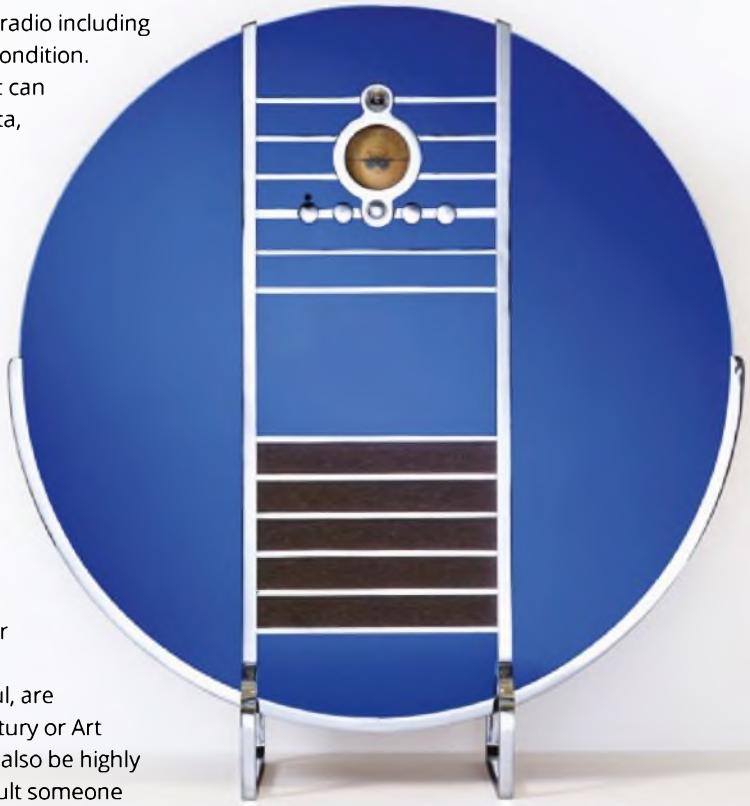

PHOTO: The Wolfsonian-FIU

Right
This beautiful Model 1186 Nocturne by Sparton Corp. once sat in the lobby of the Park Central Hotel in Miami Beach. Today it is in the Wolfsonian-FIU Museum in Florida. "In 1936, this radio cost $350, nearly as much as a new Ford car," states its website. "With its shiny exterior and sleek design, this very large floor-model radio is the epitome of modern design of the time. At its center are knobs and a display console with hands telling you what station you are on. All of the radio components and features are hidden in a cabinet behind the cobalt blue mirrored disk."

Determining value

Several qualities determine market value of an antique radio including its general availability, its specific brand/model and its condition.

"If the radio in question checks off just one of these, it can increase its value," Edwardson said. "If you have a trifecta, you've hit the jackpot."

Quality antique radios that were made in smaller production numbers are much sought after. "As well, if they were made from a fragile material such as glass, or even Catalin —1930s colored phenol formaldehyde resins — fewer of them have survived the years," said Edwardson.

"The Sparton Model 1186 Nocturne is a great example of this, as it was partially made of glass. Any Catalin set is also typically worth more as fewer of these sets have survived due to this material being relatively fragile when compared to Bakelite or wood."

Like a vintage car, a radio's brand and model affects its value as a collectible or resale item. Certain radios, thanks to their unique designs, features and/or superior build quality, can fetch more.

"Catalin radios, which are typically swirled and colorful, are highly sought after," Deneau said. "Radios with mid-century or Art Deco looks, chrome fronts and large beautiful dials can also be highly desirable. There are so many variables, it's best to consult someone

Shown
The Zenith radio seen above is shown at right after a visit to the Mumford Restoration shop in Raleigh, N.C.

familiar with values or research exact model numbers."

Those variables explain why antique radio prices vary so widely.

"You can look on eBay anytime and find radios for sale for $50 because they don't work, but priced at $1,000 to $2,000 when they're working," said Zach Mumford, general manager of Mumford Restoration in Raleigh, N.C., which restores furniture, clocks, pianos, guns and other items.

"Certain types get a lot more money because they are known for their brand name, such as Zenith. A lot of Zeniths were made in the 1930s, and they have an iconic face plate to them that people really like. They were also known as a 'rich man's radio' back in the day. So collectors will pay a lot more for a restored Zenith floor console than for your average Philco radio, which was more of a 'working man's' radio."

Consulting engineer and RW contributor Charles "Buc" Fitch also cites the beauty of the construction.

"Many radios were replacements for the fireplace in America, as the new center of the living room where families would gather," he said. "The cabinetry could be craftsman-grade. That's a separate restoration in itself."

Plug it in?

Once you have taken possession of an antique radio, your temptation may be to plug it in, turn it on and see if it works. Many people reading this article are qualified to assess the condition of an old radio; but if you aren't one of them, don't just plug the thing in. The aged components and wires in old high-voltage sets can fail and burn — hence the nickname blue-smoke generator.

"It is not advisable to go ahead and plug it in," Chris Deneau says. "There are many things that could cause an 80-year-old piece of history to have some kind of failure."

Said Zach Mumford, "If it doesn't turn on as you'd hoped, the best-case scenario is that your circuit breaker would trip while the radio's internals get damaged. Worst-case scenario, it could start a fire because of short circuits within the radio itself."

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Above
Chris Deneau of Renovated Radios has been collecting and selling radios for 15 years. He's shown with a collection of Catalin, bakelite and plastic radios.

"Chances are that your house won't immediately burst into flames or you will not get thrown across the room by a high-voltage electric shock," Edwardson concluded. "But there's a better and safer approach than just plugging it in to test."

Old battery-powered transistor radios are not prone to this level of failure, but caution never hurts.

Buc Fitch adds, "AC-powered classic radios should be rewired for three-wire power cords such that exposed or accessible metal parts are at ground potential. Many years ago I had an all-metal cabinet shortwave receiver with two-wire cord; it tingled whenever you touched the cabinet. It turned out to be leakage from the primary winding in the power transformer. Three-wire and a new transformer corrected the issue. Some early AC/DC radios also have hot chasses, hence the 'plastic' cabinets."

Find an expert

Instead of rolling the dice on your antique radio's fate by plugging it in, leave it alone and find a respected radio restoration expert to check it out. Many of them will also do complete cabinet restorations, along with finding original/accurate reproductions of missing/aged buttons, dials and knobs, as well as the glass with the right tuning markings.

A Google search will reveal lots of people offering to restore your antique radio. Be sure to check out reviews and references. There are people ranging from hobbyists to dedicated radio restoration companies offering these services, and some are better than others.

As for the experts' advice on finding trustworthy radio restoration shops?

"You can find professional radio service shops through numerous sources," said Edwardson. "And yes, it can be made new again with original parts. It may take some time and effort but it can be done. You can post on *http://www.antiqueradios.com* and request someone near you. Also consider reaching out to your local antique radio club, as they can certainly point you in the right direction as well."

Deneau of parts specialist Renovated Radios said, "We have a number of people we can recommend to do restoration work on your radio depending what part of the country you are in. Once again, if you are looking for someone very local, it may be smart to join some of the radio groups on Facebook and ask if there is anyone in your area that would be willing to do the work."

"Radio restoration is pretty much what we do," said Mumford. "We restore them using original parts, because they're just not producing new parts that would fit into antique radios. So it comes out looking pretty much like it would've when it rolled off the factory floor in the 1930s, 1940s or whenever it was made."

Use it

A restored antique radio is like a restored antique car. It needs to be used (carefully) and maintained to keep it in top condition. So once you've had your antique radio restored, be sure to listen to it every now and then. You'll be astounded just how good even today's AM radio sounds on a receiver designed to do it justice.

"Once restored, use it!" Edwardson told Radio World. "It's not recommended to leave it playing unattended for any significant period, but if it has been serviced or restored, use it as often as you like. Keep it dust free and clean, and you'll get many, many hours out of your old gem."

Deneau agreed: "Once a radio is properly restored it should be good to use with little to no maintenance. Just keep it clean, dust off the back and enjoy."

Said Mumford, "Usually, once an antique radio has been properly restored, the only problems that occur to it — at least for the next five to 10 years — are just tubes going out, which can be replaced. You just have to have a source to find the right tube that fits with your radio, and the people who restored your radio can likely help you with that." RW

World-class studios serve Spotify at Mateo

Spotify photo by Thomas McGovern

The photo at right shows a podcasting studio at the glittering "Spotify at Mateo" campus in downtown Los Angeles, which opened in late 2021.

"Spotify loves to bring creators together and give them the tools that they need to help them be the best that they can be," said Chris D'Angelo, head of production and studio facilities and former head of YouTube's studios worldwide.

"Yes, you're coming into an office, but we wanted it to be immediately obvious that a lot of thought went into this by the best people in the industry — and we knew we wanted it to be one of the best facilities in the world."

The campus was designed in partnership with design firm RIOS. Prime system integration was by ASG, music studio integration by ProCraft and podcast system design & integration by Sound, Production & Lighting. Spotify chose WSDG Walters-Storyk Design Group for studio design and acoustics.

You can see more pix and read Steve Harvey's profile of this facility in the Radio World ebook "Spectacular Radio Studios 2023" at *radioworld.com/ebooks*.

A chat with Bill Sitzman

Consultant and frequency coordinator was recently honored by SBE Chapter 1

Writer

Susan Ashworth

Longtime RW contributor and the former editor of TV Technology magazine.

Bill Sitzman is a technical consultant, designer of directional arrays and a frequency coordinator for the Society of Broadcast Engineers. He's a longtime member of SBE Chapter 1 and an audiophile who began singing at age 18; he performs in a masterworks chorale to this day. He describes himself as semi-retired.

Here's an excerpt from our recent interview, which you can read at *http://radioworld.com*, keyword Sitzman.

Right
Bill Sitzman, left, was named SBE Chapter 1 "Engineer of the Year" in 2022. He's shown at Chapter 22's Broadcast & Technology Expo with Tom McNicholl, chair of the conference, and Gary Talkiewicz, chair of Chapter 1.

When did you start your own firm?

Bill Sitzman: I founded Independent Broadcast Consultants in 1973, and by 1980 Robert Lynch, an engineer, and Norman Hollenbeck, an engineering aide and draftsman, were hired. Since we worked in offices adjacent to my residence versus high-priced rented facilities, I offered clients attractive fees. By 2012 we had amassed 710 clients in the U.S., Pacific and Latin America. I still maintained a happy relationship with Canadian engineers.

I heard that you were involved in resolving frequency coordination issues around the Watkins Glen racetrack in New York.

Sitzman: One year while the Watkins Glen International Races were progressing, I received a call from an Ithaca broadcaster that his STL was being interfered with by someone carrying the races. I called the racetrack supervising engineer reporting the interfering frequency. He advised that no one was using anything near that channel. Suspecting it was a pirate, he issued a warning on the PA system. We never caught the pirate but the interference quit within an hour.

What do you consider some of your biggest accomplishments?

Sitzman: While my firm has written many applications for 10 kW and even a 50 kW facility, our biggest accomplishment was to move the transmitter site of WHLD in Niagara Falls, N.Y. (where I began years ago) to a diplex into the five-tower array of WNED(FM) in Hamburg, N.Y., just south of Buffalo. WHLD paid Gordon Elder's firm to run needed radials in Canada and we even contracted a Lake Erie captain to help us make radial measurements over water when the proof of performance was being conducted.

There's much to look back on within a radio career that's been as long as yours.

Sitzman: There were some humorous events. While waiting for the chief engineer at one of my clients, I looked over the posted operator licenses and questioned the fellow on duty. I asked him to stand up a minute and point out his supposed license. I said, "This license lists you as 6 feet tall and you appear to be 5 feet 6 inches. Did you shrink?" He then explained that he had no license but had borrowed the document from a friend. I immediately called the manager, who came and fired the operator and promptly took over.

Another story was shared with me by one of the FCC field operation bureau staff. During an inspection in one of the far-off states, that inspector checked the harmonics but noted the station's field strength was higher than expected. Visiting the station, he noted a 1 kW transmitter in operation. He also made note of all the rooms, and that evening he drew a diagram of the building in his hotel room. The next day he returned and demanded access into the room in question and found a 5 kW transmitter operating. The inspector cited that owner for illegal operation at five times the authorized power. The word is that the license was pulled and the station was shut down.

Octogenarian Bill Sitzman still does frequency measurements and frequency coordination. He also wrote an application last year for a 27 kilowatt daytime power increase for Class B station WYSL in the Rochester, N.Y., market; the CP was granted in the spring and the station is building out the four-tower pattern. He was named SBE Chapter 1 "Engineer of the Year" in 2022.

Audix Dynamic Mic Catches the Eye

Audix is out with a professional dynamic studio mic that could find its way into radio studios.

The hypercardioid PDX720 Signature Edition is marketed as excellent for music vocals, spoken-word applications and drum and instrument recording. Applications include voiceovers, professional podcasting and high-end home studios.

"Its sound signature finds its roots from the Audix distinctive ability to produce natural, smooth vocals with great low-end extension, even without active filtering," the company says.

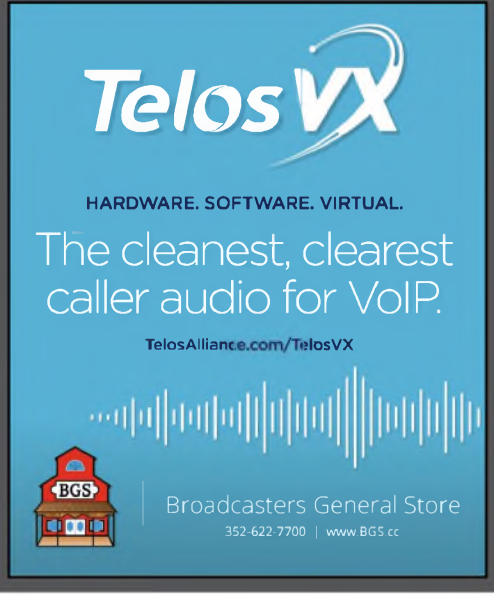
"The microphone's standard default gain level eliminates the need for preamp boosts or cloud lifters."

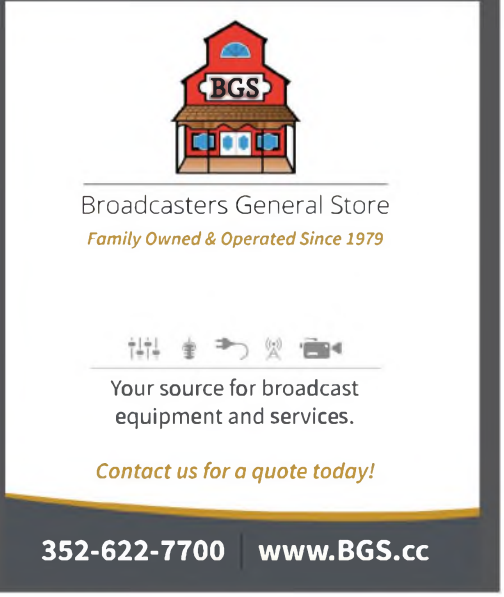
It features two three-position switches that enable users to modify sound by adjusting the low cut and presence boost.

Audix also highlights it for "warm low-end tones and clear, defined highs which produce great clarity without sounding harsh." The mic is aluminum with a black and gold finish. It retails for $799.

Audix, based in Oregon, is part of Videndum Media Solutions.

Info: audixusa.com





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.

Apex serves Defenders of the Faith

Managers of Catholic LPFM in West Virginia get a helping hand from Arrakis automation

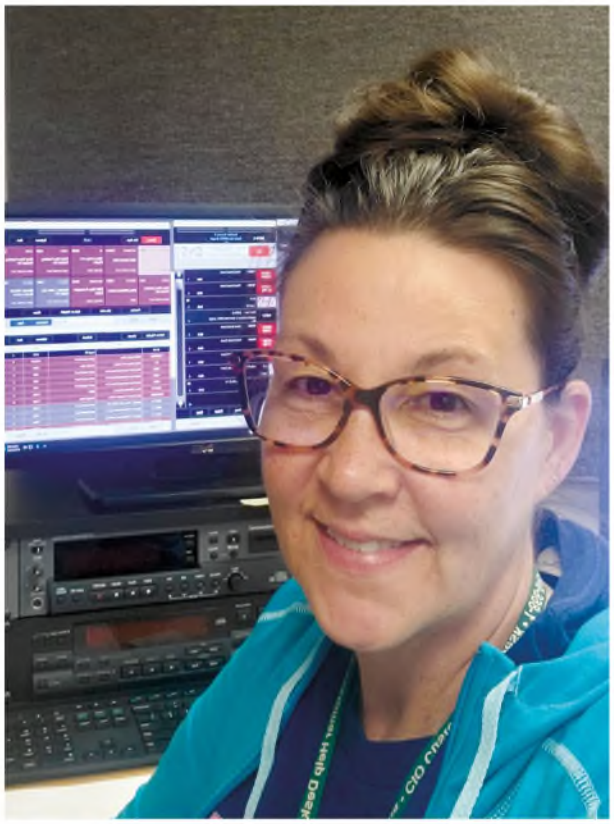
In 1987, some parishioners in West Virginia got together as an informal group intended to provide feedback to their local Catholic parish. By 1998 they incorporated as a nonprofit, Defenders of the Faith, serving their community in many ways.

In 2002, when the FCC began allowing non-profits to establish low-power FM stations, they were inspired to expand their mission of service to include Defenders of the Faith WDTF(LP) on 107.9 in Berkley Springs and Splendor of Truth, a translator in Hancock. Subsequently the founders stepped aside and transitioned the management of these stations to Arlin and Theresa Messersmith.

"I have no background in radio or computers. I had no idea what I was doing," said Theresa Messersmith. She did know that they wanted to do more to grow their mission and that they needed to upgrade their equipment and step up their programming to reach more people.

Messersmith said she consulted with fellow Christians who are "radio people" and they pointed her to Arrakis Systems and its Apex Plus Automation System.

The stations broadcast Catholic satellite programming such as EWTN (Eternal Word TV Network). Messersmith said adding the Apex source switcher into the broadcast chain "was straightforward, the installation and setup of the Apex Automation PC and switch over to Apex Automation software was seamless."



Right
Theresa Messersmith

More Info
www.arrakis-systems.com

The stations later added Relevant Radio programming, and Messersmith has more ambitions.

"Apex does what we need it to do now, but I know it can do so much more and we want to do all of it. We want to get more local content, more local artists, more new artists from around the Christian world as well as to bring in new programming. We want to go out to music festivals and events, do interviews with leaders in the Church and in our community, bring the good word of God to as many as we can as we spread His spirit far and wide."

She finds it useful to be able to network the two stations together in order to schedule, record tracks and manage audio from a centralized location, including from home.

"I've created fully automated music segments using audio I've imported into an audio library I created." She said she now understands how satellite programming works and is actively working with artists to bring in new content, as well as uplifting and educational programs from the church community.

"What does God have in store for us? Well, sometimes we never know. I never thought I would have two Christian radio stations."

> **"What does God have in store for us? Well, sometimes we never know."**

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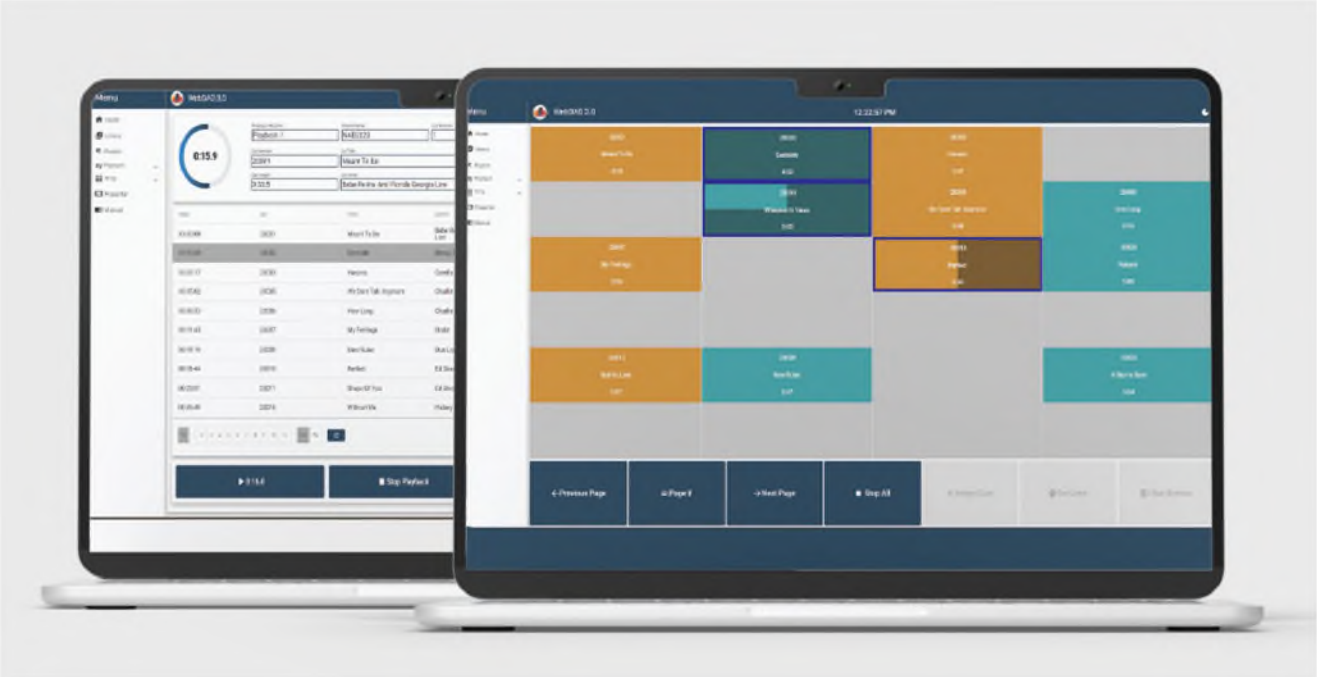

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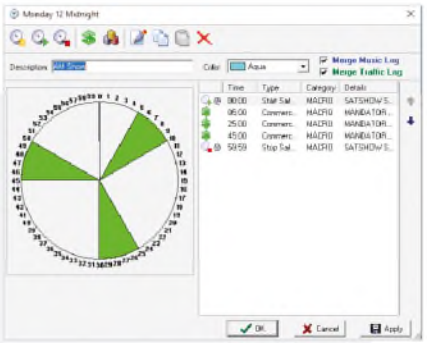
Tech Update

Manage the Bird With **OpX Clock Builder**



OpX automation from Broadcast Software International is composed of separate modules. Modules can run on one computer for single-station installations, or on separate computers for redundancy and multi-station cluster setups.

OpX includes a Clock Builder module to manage satellite programming. This provides the ability to rebroadcast satellite-originated shows. These shows include signals (closures) to tell automation systems such as OpX when the show starts and stops, and when to play IDs, liners and breaks.

"Not only does the Clock Builder offer a visually familiar method of configuration, but it also offers an intuitive and quick method to add or modify shows, schedule satellite breaks, and more in a visual, easy-to-understand way," the company says.

Clocks created in Clock Builder integrate with a user's imported logs. You can schedule each hour of the day to help take some of the load off the traffic department and scheduling. The Clock Builder allows handling of multiple types of formats, from music-from-hard-drive stations to full-time satellite stations without requiring the user to memorize or look up commands to enter. The result is simplified setup and modification of a station's format.

Info: *www.bsiusa.com*

Tech Update

Northshore Saves With **PayNow**

PayNow from Marketron streamlines electronic payments by connecting to the station's traffic system. It integrates to allow for fast and secure payments, which Marketron says results in a significant reduction in manual work and days outstanding.

Northshore Media Group, which operates 12 stations in Louisiana and Mississippi, now uses the system. Accounting Manager Stephanie Fendlason told Marketron that manual processes required for their paper billing had bogged down productivity. She had a payment processor but it wasn't integrated with the traffic system, so it wasn't used much.

She now uses PayNow. "When I was able to get billing out the same day and see people pay immediately, those quick results were a wow."

Getting advertisers to adopt electronic payments was a key initiative. The company is seeing growth each month, with about one-third of customers remitting this way. Fendlason said they've decreased postage and paper costs with more electronic invoicing. The flat processing fee also makes it easy for her to understand charges, as tje previous processor had a tiered framework. "You don't know month to month. You're in the dark." They now have better visibility and transparency into these fees.

Info: *marketron.com/paynow*

Tech Update

DJB Radio Spider & Logger Get an Update

DJB Radio Software kicked off its release season with an overhaul of the DJB Radio Spider and its stablemate DJB Radio Logger.

"The HTML client for both products has been combined into a single interface with increased programming flexibility and security measures to keep up with market demands for remote access and, above all, peace of mind," the company says.

A tool for automated content retrieval, Radio Spider 4 is updated with new protocols for Dropbox, Google Drive and other popular FTP and cloud storage solutions.

"Along with e-mail alerts for failed or completed downloads, auto retry and the ability to format your audio for ingest into any automation system, Radio Spider 4 can now scan your remote storage for new content by-the-minute for immediate transfer."

DJB Radio Logger 4 still lets the user log, skim or schedule recordings from any local audio source, AoIP driver or URL, but now you can also log and search streaming metadata.

"Connect Logger to serial or custom logic interfaces for WNIP, Livewire or SAS for full start/stop control. Email alerting per-channel gives you silence detection as well as URL loss notifications. Allow secure HTML access to each channel for competition monitoring or easy airchecks."

DJB Radio Logger starts at $295, Spider at $395 and automation packages at $1,295.

Info: *djbradio.com*

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DAD gives college students a boost

ENCO system modernizes broadcast and production for Clark Atlanta

Students at Clark Atlanta University, a liberal arts college with approximately 4,000 students in Georgia's largest city, have long enjoyed access to broadcast and production opportunities through work study, internships and extracurricular programs.

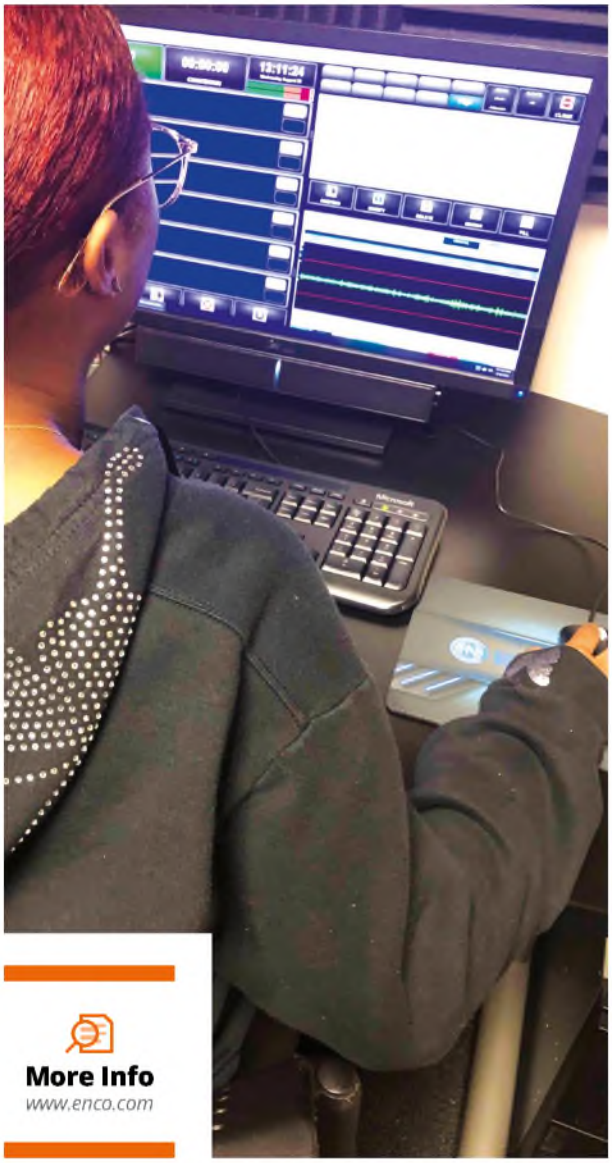
The Department of Mass Media Arts offers students practical experience in journalism, multimedia production and radio through an on-campus cable TV station, student streaming radio station and four production suites.

The university recently invested in technology upgrades for WSTU, the online student-led radio station, and all four production suites to establish a modernized infrastructure and workflow across all locations. That includes a Dante network that will move between the studios and allow students to record audio for WSTU programming and course projects.

Among the upgrades is a new ENCO DAD automation system.

Dr. Brian Bentley, Clark Atlanta University's associate dean of arts and sciences and professor of mass media arts, said, "We wanted a more modern automation system that also offered a quick learning curve for students, and that we could have ready for the fall semester. The ease of use was immediately clear, beginning with the user interface."

He and a colleague spent day one bringing music into the system and arranging it into different categories.



More Info
www.enco.com

"We can do a lot more with our production workflow now and with better efficiency."

Bentley said that the upgrades represent efforts to make WSTU "more visible" on campus.

"We also purchased new mixers, microphones and PTZ cameras, the latter of which will allow us to start doing video podcasts. With DAD and our Dante network at the center of the workflow, we can produce much more student programming and in different formats."

He said the school wanted to deploy technology that is used in broadcast today to help students compete better in the global job market.

Bentley's intention is to add DAD systems to each of the production rooms, which he says will allow them to record content directly into the system everywhere.

"We can even convert our analog boards to Dante, and then move content over Cat-6 network cable and straight into DAD. We're just at the starting gate with DAD, but this simplifies how our students work with both live and prepackaged content, and it is a perfect representation of how infusing the right hardware and software can really open new opportunities in radio." RW

> **"With DAD and our Dante network at the center of the workflow, we can produce much more student programming and in different formats."**

Tech Update

Super Hi-Fi Offers an "OS for Radio"

Super Hi-Fi describes Program Director as a new "operating system" for building and scaling radio experiences.

The company says this suite of AI-powered, web-based tools saves customers time and money by streamlining the workflow for curating, programming, scheduling and broadcasting radio, so users can deliver high-quality sounding radio experiences with little work.

"Program Director was designed from the ground up to feel like the modern streaming music services like Spotify or Apple Music and helps users manage their music, sound effect and voice track library across all multiple radio stations within a single web browser-based interface," it says.

"It provides recommendations and data insights about each piece of music in the catalog, and automatically marks and sound-codes music to reduce the programming lift for PDs."

In addition to helping users create playlists — "categories" that can be used within multiple stations — and schedule clocks, Super Hi-Fi's Program Director uses patented AI technology to automatically select, sequence and segue music programming with voice tracks and branding elements. The company says the outputs are "indistinguishable from hand-built radio" and that it helps companies reduce the time needed to program and operate their stations so they can increase their focus on creative content ideas and sales.

Info: *www.superhifi.com*

Tech Update

BBC Radio Networks Use **CGI dira**

CGI said its dira system is used by all internal BBC radio networks.

"The relationship ... dates back over 20 years to the early 2000s, and the software has enabled BBC radio networks to work remotely and distribute workflows, making it easier for broadcasters to work in a more mobile way," the company said.

"A Radio 1 broadcaster in Salford can log onto a terminal and access their database in London, or if they are in a radio studio anywhere, they can access a playout schedule and play material from that studio."

In 2002 VCS, as it was called then, was chosen to provide an audio playout system for the BBC's network radio stations based at the historic Broadcasting House in London.

This evolved when the Radio 5 Live news and sport station was looking to replace antiquated systems. BBC News and Sport wanted a client-based software tool that would allow them control over the MAM. VCS designed it and called it Highlander.

That software was first used by News and Sport on Five Live in Television Centre in 2004. Alongside dira, CGI integrated various third-party systems to allow for integration into its infrastructure.

The name dira derived from "digital radio." The system now supports uses for radio, television, newsroom and new media production and playout.

Info: *www.cgi.com/en/solutions/dira*

Tech Update

Broadcast Radio Grows Its Lineup

Broadcast Radio this summer released Myriad Playout 6, its sixth-generation radio playout and automation system, accompanied by a suite of supporting applications and services including Myriad Schedule, Myriad News and Myriad Logging.

Continuing a busy year it also has rolled out Myriad Anywhere 6, a next-generation web interface that it says allows every aspect of a station to be controlled from anywhere via a web interface without complex network infrastructure or firewall exceptions.

"This allows stations using Myriad 6 to do everything from live shows and voice tracking to user management and scheduling, no matter where they are in the world," the company says.

Broadcast Radio has also launched a cloud-native professional radio platform. "Unlike some systems, Myriad Cloud runs natively on MS Azure with no need for VMs or virtual sound devices, and without any compromise on functionality or flexibility," it says.

Myriad Cloud shares the codebase of Myriad 6 Playout. "You can run your radio station including live shows and VT contributions from presenters around the world, for a fraction of the cost of a traditional radio station." Streaming, website and mobile app options are available.

Info: *www.broadcastradio.com*

Tech Update

BE AudioVault 11 Is Now Shipping

Broadcast Electronics says Version 11 of its media management AudioVault system has around 100 new capabilities including advanced scheduling, cloud-based shared storage and simplified remote access and operation.

A new AudioVault Scheduler allows complex program and content distribution tasks to be managed in an intuitive manner.

AudioVault Anywhere supports operations from any connected device, suitable for remote voice tracking, playlist and program management, file playback, remote broadcast, sports and remote talent.

CloudVault enables cloud-based shared and redundant content storage "to deliver greater efficiency and disaster recovery using the reliable, scalable and secure Microsoft Azure platform."

AudioVault 11 also integrates with Adobe Audition editing software. "Streamline production with powerful new metadata tools to simply load audio into AudioVault directly from Audition, eliminating tedious data entry."

And enhanced AVWatchDog provides insurance monitoring and tracking of schedules and playlists. It will notify the user in advance of problems.

Info: *www.bdcast.com*

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Tech Update

Burbuja Embraces **NextKast**

Veteran radio programmer Javier "Burbuja" Cisneros is using NextKast automation in his role as program director at KQMX(FM), "Que Buena 105.7" in Bakersfield, Calif.

Cisneros has worked in radio for more than two decades, primarily in the Los Angeles market, in roles at companies like Estrella Media, Spanish Broadcasting System, Grupo Radio Centro and Entravision.

NextKast integrates traffic management, music scheduling, trigger implementation, syndication facilitation, online radio streaming and an online radio decoder. Cisneros told the company that he appreciates the multifaceted functionalities and the company's level of customer service.

According to the NextKast website, the latest software update added text color options and background color for categories, allowing for better visual organization and customization. NextKast also updated its audio engine drivers, ensuring compatibility with the latest hardware and software configurations, and added support for pages within sample buttons for improved organization. The full list of changes is on the company website.

Info: *www.nextkast.com/BX*

Tech Update

RCS Highlights Disaster Recovery

Disaster Recovery is a feature of the RCS Zetta automation/playout platform in which a station's content is automatically uploaded to the cloud but ready at a moment's notice for playback.

"From natural disasters to viruses taking down IT infrastructure, whatever the emergency, RCS Disaster Recovery is a high-tech, cutting-edge safety net that gets broadcasters back on-air, easily, efficiently and quickly," it says.

The cloud-based tool backs up all audio, schedules and metadata in a matter of minutes. After an outage, when the station is ready to return to its normal live output, RCS Disaster Recovery rapidly restores the original data.

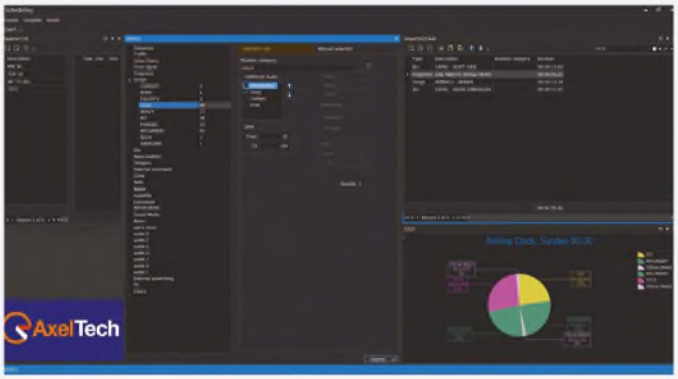
Features include secure two-factor VPN-less remote access for control, contribution and playout from the cloud in the event of a terrestrial system or infrastructure failure.

The company also now offers Zetta2GO, which provides control of a Zetta system from any browser. The user can see their Logs, Hot Keys and the Segue/Voice Track Editor and produce sophisticated remote broadcasts.

And RCS is promoting a new service with which radio stations can manage text and image advertising delivered in sync with their audio. It says AudioDisplay supports new revenue by helping stations take better advantage of interactive car dashboards. It works with Zetta as well as other systems on the market. RDS and HD Radio advertising campaigns run whenever an ad break is on air.

Info: *http://rcsworks.com*

Tech Update



AxelTech Introduces XRadio

XRadio is a new solution from AxelTech, the provider of DJ Pro Radio Automation.

The company said XRadio, introduced at this year's IBC Show, "extends the concept of radio automation to a full audio and media content management and publishing platform." It is a flexible and scalable solution, suitable to match the needs of stations as well as regional and national networks.

"It manages one or more radio stations with simultaneous and multiple playouts to provide different broadcast areas with advertisement splits," the company said.

Functions are managed by modules. XRadio Core handles production, scheduling and traffic while the XRadio OnAir module manages automated or manual on-air work including live, recording and controlling functions.

XRadio is compatible with cloud and IP workflows. It manages Microsoft SQL databases and multi-channel library and data sharing.

Info: *www.axeltechnology.com/xradio/*

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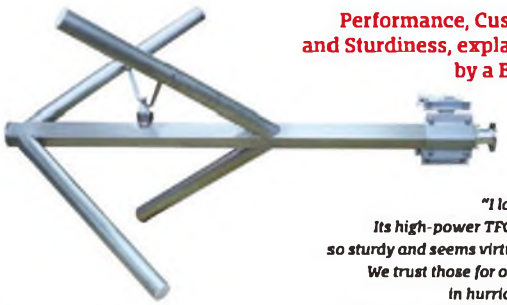

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DAVID HOXEMO, ADX Communications, Pensacola, Florida

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Keep up the heat on AM

Paul, a belated note with regards to your very interesting interview with John Zimmer ("Five Challenges for Small- and Medium-Market Radio," keyword Zimmer):

As a group owner, each of the concerns mentioned are worthy of note. But in my opinion, he leaves out one major point: The electric vehicle is NOT his friend.

He should be using his (and his FCC attorney's) considerable political clout to decry the fact that EV manufacturers are eliminating his AM stations from their on-board radio receivers.

He should be screaming bloody murder over the fact that the geometrically increasing number of EV charging stations are spewing out uncontrolled RFI, in spite of very specific FCC regulations to the contrary.

And if his AM stations are being removed from dashboards, can his FMs be far behind?

Unless these very real threats are confronted with great vigor right now, some of the issues he mentioned in your conversation will diminish, along with a major portion of his overall business.

Robert Richer

bulentgultek/Getty Images

Mandate radio in phones and tablets

I appreciate the efforts being made to keep AM receivers in automobiles. Surely the interference issues with EVs are solvable. Keeping radio as a readily available option for most people should be considered an essential part of the emergency information ecosystem.

Another innovation could greatly enhance the availability of emergency broadcasts for the public. Congress should require that all cellphones and tablets come equipped with an AM/FM receiver chip. Fewer people have radios in their homes than in the past, but most people now carry a smartphone. When cell towers are down or overloaded and electricity is out, the majority of people would still be able to receive radio signals via their phones, even if their cars were destroyed in the emergency.

A happy side effect of this is that making radio reception more accessible will likely increase daily radio listening. It will also help free radio listening from dependence on internet providers and data plans, thereby democratizing the availability of radio signals once again.

Tim Lynch
General Manager
KALX(FM) UC Berkeley
Berkeley, Calif.

It will take a village

Timothy Cutforth's article is spot-on with regards to the impending departure of AM radio from ... everywhere ("Optimize AM Receivers Before Giving Up," *radioworld.com*, keyword Cutforth).

Vehicle tuners are notorious for being just plain awful, going back to the 1970s. Add the experiment that was AM IBOC, which limited the broadcast bandwidth even further. I don't know if it has returned even now that AM HD has been mostly retired.

In 1973 my Toyota Corolla's "TEN" AM/FM tuner had a decent FM sound, but the AM tuner was the pits. In 1974, a new Corolla with an AM-only radio offered decent fidelity. My 1979 Honda Prelude had a proprietary Honda tuner; it was possible to tune slightly off-frequency to catch some more highs. A 1991 Infinity Q30 had an AM stereo receiver that would widen the bandwidth on demand. It sounded pretty good.

But even the Bose systems in my subsequent vehicles carries shameful AM fidelity. Most stations have rolled off the bottom end to try to correct the lack of highs on the frequency, rendering them just slightly better than the weather band frequencies.

It's a common fact that intelligibility of AM receivers is pitiful. Perhaps the declining number of AM stations can somewhat alleviate the interference. But without a concerted effort to fix all the problems facing the "standard" band, it will be lost. It's going to have to fall on all involved, and the sooner the better.

Dave Mason
San Diego

Shortwave radios don't tell tales

Several points of interest regarding shortwave broadcasting. Although I have been retired from Voice of America as a Foreign Service Officer and field engineer for over a decade, several points are still worth noting.

In my experience of living and working around the world for 20 years, most radios sold overseas are a combination AM/FM and shortwave. So there are radios available to the general public.

Second is the beauty of shortwave. Broadcast can be sent over large distances and be highly effective at reaching the desired audience. AM broadcasting can only reach a smaller listener area and without extremely high power must be in rather close proximity to the intended audience. FM broadcasting has even greater limitations in respect to closeness to the intended listener.

As we have adopted new technology such as the global internet, we don't seem to have a grasp of its inherent limitations. I witnessed this firsthand in the Middle East where websites or information deemed inappropriate are easily blocked or deleted from a country's internet stream. Proxy servers and other VPN methods do little for the individuals striving for freedom of information. Information regarding using and searching for these services is easily gathered by internet service providers and can be used to intimidate or prosecute.

Shortwave radios don't tell tales. Frequency memories can be deleted easily, and there is no way to tell what broadcast were being listened to, especially on analog scale radios.

We need to reevaluate our strategic thinking and remember that shortwave works effectively and has for many years. People around the world have relied on SW broadcast for years as a source of reliable news and information that their host countries did not want them to hear.

Walter Konetsco

The author is a former Foreign Service officer and Voice of America radio engineer.

How to submit

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

Waze has its place

I would like to comment on the letter from Hans Laetz of KBUU, "Why I Don't Trust Waze" (RW Aug. 16 issue, Readers' Forum).

Over the past 10 years I have done traffic reports for multiple markets for three Philadelphia Traffic services: TangoTraffic, GeoTraffic and USTN (is it MY fault they ALL went under?)

It is Journalism 101 that a good reporter never copies another report or announces information without verifying via a second source or at least adding a disclaimer of where the info came from.

When I do Washington, D.C., traffic for a suburban station, Waze is just one of the tools in the toolbox, along with the DOTs, speed sensors, city bulletins, tweets and listener reports.

It sounds like Mr. Laetz is experienced in multi-sourcing traffic information, so I am not sure about his comments other than to caution inexperienced broadcasters not to rely only on Waze as the know-all and be-all.

As with any type of reporting, be it news, sports, weather, entertainment or traffic, the more sources that agree on the information, the more accurate your reporting will be.

J.R. Russ
Marcus Hook, Pa.

Nothing is forever

Yes, "There's No Such Thing as a Permanent Install" (*radioworld.com*, keyword Roybal).

Back in the day, I remember installing an analog audio console for the third time. It had been moved from one studio location to another in ownership changes. I told the manager, "This is the LAST time I am going to reinstall this console!" The next change was to digital.

As we know, radio is in a constant change of flux at an ever-accelerating rate with digital connectivity.

Mark Persons, CPBE, W0MH
Brainerd, Minn.

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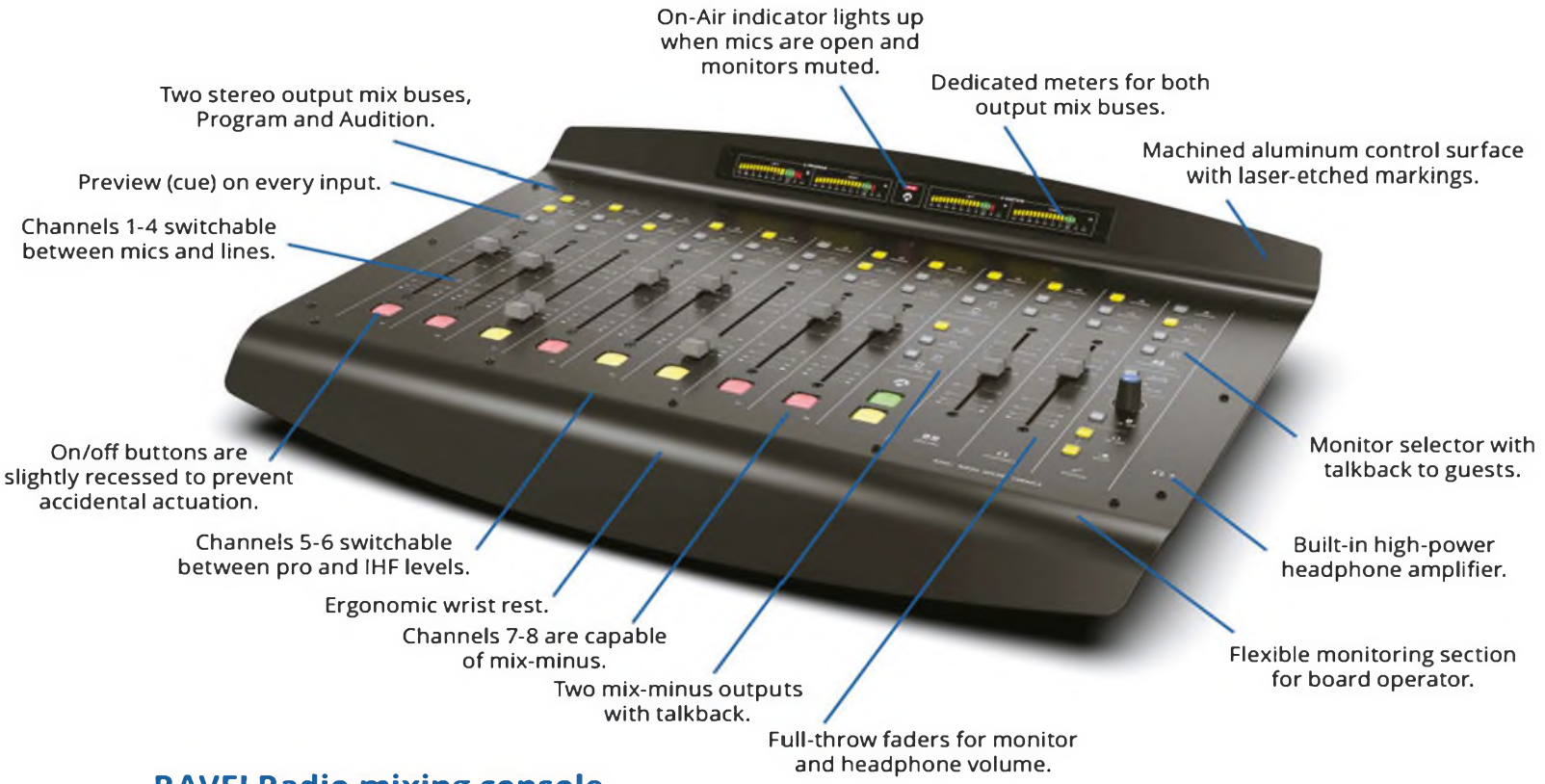

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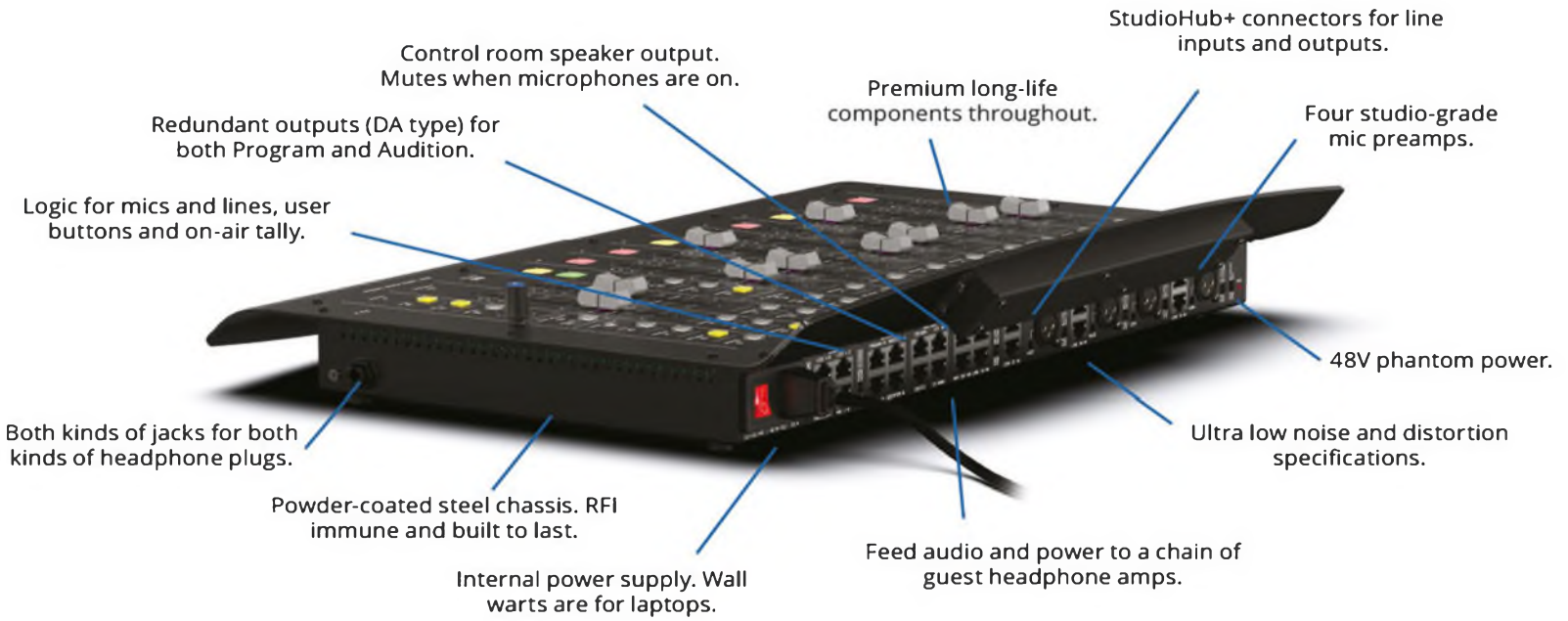

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Well...not really. Our LiON has the latest Wheatstone DSP algorithms; it is *not* a 90's era processor by any means. The AUDIOARTS LiON Five-Band Processor/Multipath Controller has WheatNet-IP, so it can be networked. It has analog and AES3 so it can stand alone. It has Wheatstone SystemLink™ built in, to send full 24-bit linear audio directly to your transmitter over reliable high-speed links—Baseband 192 MPX with FM+HD timing locked (no codec to degrade audio quality). And it comes with 50 presets so you can plug and play.

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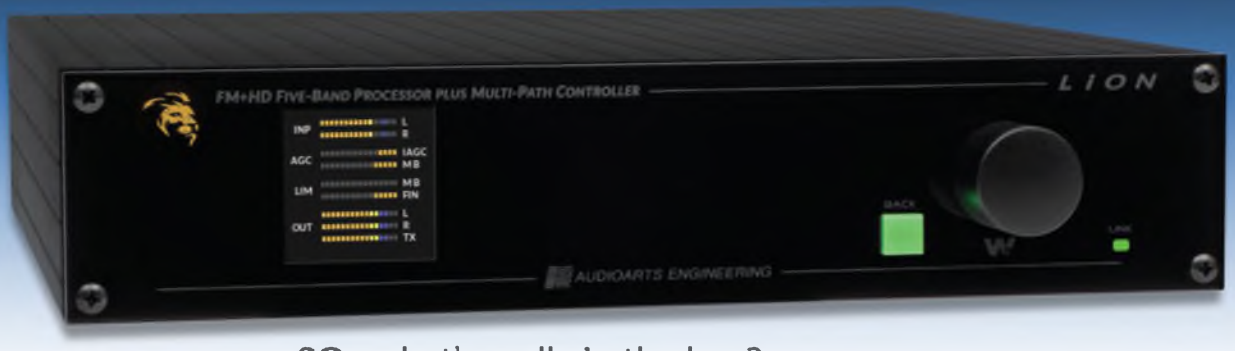

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