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Brown's last rodeo

Chris Brown will conclude his tenure running conventions for the NAB come springtime.

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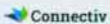
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Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by Future US, Inc., 130 West 42nd Street, 7th Floor, New York, NY 10036.
Phone: (978) 647-0352. Periodicals postage rates are paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to Radio World, PO Box 1051, Lowell, MA 01853.

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Transparency is crucial with AI

We're taking a conservative approach to use of such tools



Paul McLane
Editor in Chief

Radio World's longtime supporter Mark Durenberger wrote to me to express concern about national publications that reportedly are using generative artificial intelligence tools to create articles — with or without transparency to readers. What about Radio World, he wondered.

Radio World's policy, set by me and stated briefly in a past column, is not to use generative, language-based artificial intelligence to create our stories.

If this were to change for a reason that I currently can't imagine, I would explain it to readers.

(I exclude from this discussion widely available AI-based tools that we all use on our phones such as search engines that are part of daily American life, but it's worth noting that AI in one form or another is all around us already.)

Our freelancers and columnists have been told of our policy and reminded to conform to it in their own work.

The only AI-based language tools that I'm conscious of using in our editorial workflow are those that create transcriptions of audio or video interviews we do. A human person reviews such content for accuracy before using it in reported material.

Generative AI of course can also be used in creating graphics and photos. In Radio World we do not use such images that aren't labeled as such, and to date they have been used only in stories about AI itself.

I would not have a concern about using AI tools to create "concept images" or other graphics that merely create visual interest; I don't feel we'd need to tell you, the reader, that AI was used in such cases, given that graphics tools have existed for decades to let us create or modify such images.

But an original image in a news or information context should not be manipulated to change meaning or mislead the viewer. And if a created image might be misinterpreted or misunderstood by a reader as being "real" when it fact it is not, we should identify it.

Our parent company, like many media organizations, is still trying to figure all this out; and the ground shifts around us as the tools become more capable, creating gray areas even as we try to stake out boundaries. But so far, it has been easy for me to tell where the "line" is, based on my gut and commonsense.

I would not for instance publish a photo in RW where we had taken the head of a person from one snapshot and cropped it into a different group photo to make her look better. However this is an example where someone else might have a different opinion about what constitutes acceptable modification, whether AI was involved or not.

I suspect Mark Durenberger's main concern is with language-based content, and the short answer is that my personal intention overall for Radio World is to take the conservative course in applying any of these tools. If Future as a company decides tomorrow that it could replace your friendly editors with RW-GPT5, all bets are off; but I don't see any signs of that to date. 🤖

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WCRX Expands Its Reach

The Class A transmission facilities of WCRX(FM), a student-led station at Columbia College Chicago, had been on Chicago's West Side atop an eight-story building. But now a new antenna, transmitter and processor have been installed on the Alexandroff Campus Center, a 15-story structure owned by the school at 600 S. Michigan Avenue.

The goal was to promote a clearer and more reliable signal that could reach students, faculty and staff on the South Loop campus as well as all of downtown Chicago and Chicago's lakefront. The project allows WCRX and its 100 watts of effective radiated power to cover its entire downtown campus on 88.1 MHz.

Station officials said the installation reflects Columbia College Chicago's commitment to the radio program, its students and the city.

The project was completed in June of 2023. It features a single-bay directional JMPC-1R(DA) antenna from Jampro fed by a Nautel VS300 transmitter that includes Gen-4 HD Radio, allowing the station to add HD Radio. Also new is an Omnia.9 processor with FM+HD option. Legacy equipment now serves as backup transmission. A Spinner



From left: Matt Cunningham, David Knuth and Stephen Emling.

coaxial switch allows the older transmitter to operate as a standby.

"This project was realized thanks to the collective vision of Columbia College Chicago faculty and staff, including FCC Engineer David Knuth; Broadcast Engineer Stephen Emling; Interim Chair of the Communication Department Erin McCarthy; Director of Technology Support Jeff Meyers; the former Dean of the School of Media Arts Eric Freedman; and the leadership team at Columbia," said Station Manager

Matt Cunningham.

"Mike Dorris of Inrush was also instrumental on the project and provided the core planning for the move, looping in the needed other trades," Cunningham said. Sam Reiman, Jeremy Hewitt and Coleman Connolly of Inrush all assisted in the buildout.

Other notable providers included a tower crew from Installation Services Inc., Structural Engineer John Erichsen and Professional Engineer Bruce Bellamy of Munn-Reese.

You can read about this and other nifty RF projects in the free ebook "Great New RF Installs" at <http://radioworld.com/ebooks>.

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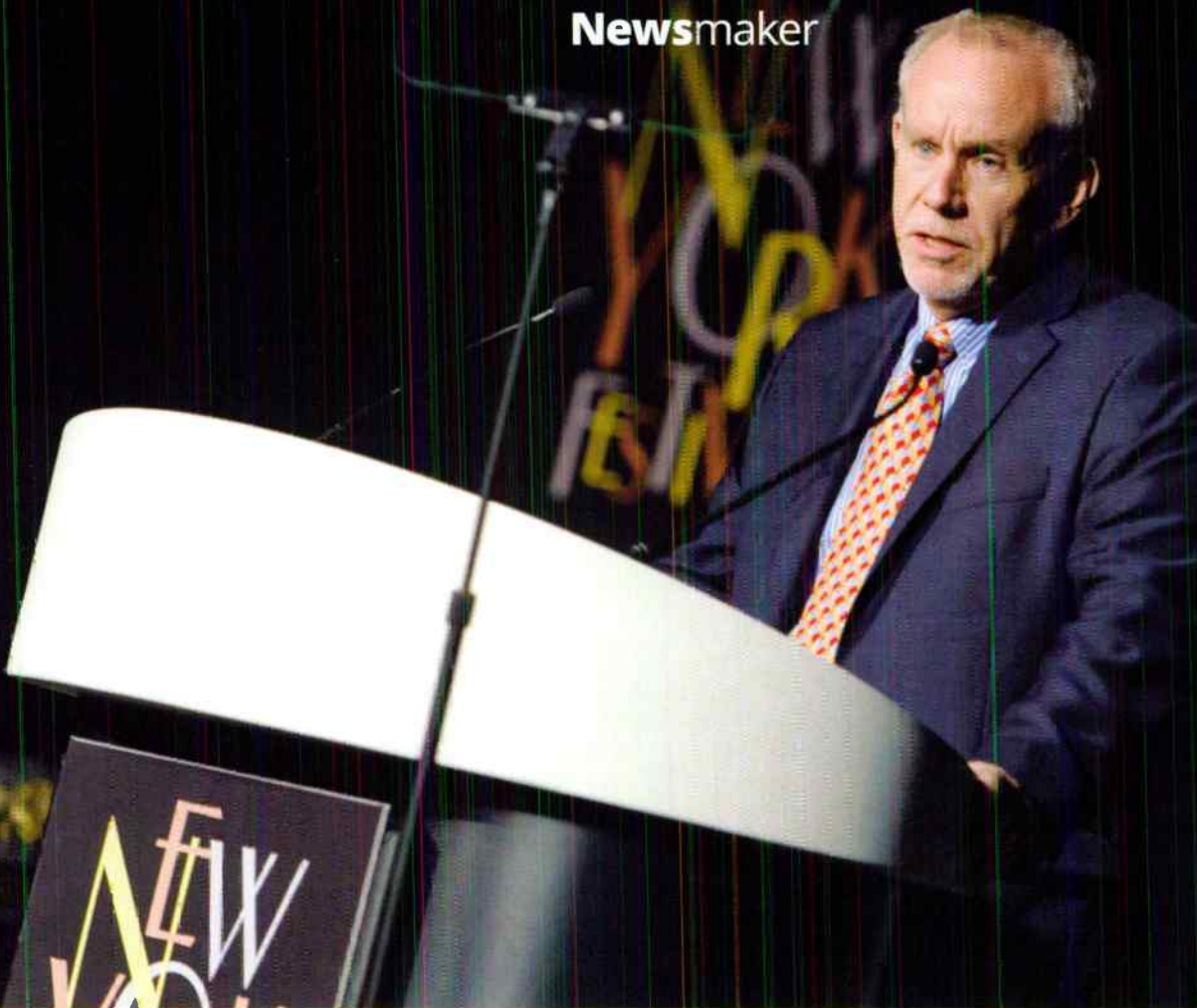
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Writer



Randy J. Stine

Radio World's lead news contributor wrote in November about FCC Chairwoman Jessica Rosenworcel's regulatory priorities.

Above
Chris Brown speaking at the 2015 New York Festivals Television & Film Awards.

NAB's Chris Brown preps his final spring NAB Show

"We are in a renewed golden era of live events coming out of COVID"

You might say that for Chris Brown, COVID-19 was a giant pain in the business.

As executive vice president and managing director of global connections and events for the National Association of Broadcasters, Brown is the point person for its live shows.

He oversees the team that runs the annual spring NAB Show and fall NAB Show New York; he also manages NAB's Amplify digital hub and serves on the association's executive leadership team.

Brown, 63, will depart his position following the spring show. We spoke with him about his tenure and the challenges of the past few years.

Preparing for the annual spring show is a massive effort. The convention is the largest in the world covering the media and entertainment sector and is annually among the 10 largest shows produced in North America.

It grew rapidly in the late 20th and early 21st centuries. Attendance hit 50,000 in 1991 and surpassed 100,000 six years later. Prior to the pandemic it was still pulling in more than 90,000 people.

But COVID wiped out the 2020 and 2021 conventions, a huge hit for an association that typically derives about 70 percent of annual operating revenue from the spring show. It had to ask members for an extra assessment to help cover the loss of income.

Revenue from the pre-pandemic 2019 convention was around \$53 million, according to a federal tax form filed for the fiscal year ending March 2020. The association collected about \$16 million in membership dues for that period.

"The pandemic was the greatest challenge I've ever faced professionally," Brown said. "Navigating those two years was tough. Obviously being cut off completely from hosting live events created a number of issues."



southeast Virginia, where Chris spent most of his formative years. He earned a bachelor's degree in commerce from the University of Virginia and a master's degree in general administration from the University of Maryland.

His background was in trade show management rather than broadcasting. "I was hired by Arthur Anderson Consulting, now more commonly known as Accenture, and worked in software development, which was not what I went to school for and wasn't the career I intended to head off for. After a couple of years of being buried deep in computer coding I realized it wasn't going to be in my long-term plans."

He has since accumulated 35 years of experience in leading events for the non-profit sector, serving a variety of industries. Prior to coming to NAB in 1999, he spent three and a half years as vice president of conventions for the Personal Communications

Industry Association and before that was with the Food Marketing Institute.

"I've always been more of a people person. Staring at a computer screen isn't much fun for me."

Exhibitors and attendees may start thinking about the spring convention a few months ahead of time, but at NAB it's a year-round process.

"The team will meet with the convention center folks and key vendors several times in advance. The work begins a long way out. The bulk is done throughout the year. Then the January time frame is 'go time.' The cadence picks up once CES gets here, and once CES is done we are in go mode. The last 45 to 60 days is mostly focused on execution and getting the final operational elements in place."

Reflecting on his work with the NAB Show, Brown expressed pride in the organization's willingness to innovate the event.

"We've continued to evolve it and move forward with the industry. We have brought new audiences into the show that are relevant and connected to broadcasting. And we continue to deliver an enormous amount of education through our conference programming. The content is very high quality and deep in nature. It's a vital part of the show."

The show's growth beyond a radio/TV core to a broader communications and entertainment mix was by plan, Brown says, to take advantage of the software- and internet-driven sides of media.

"It's still predominantly radio and TV, but the internet really began to drive the disruption that brought in a

“The pandemic was the greatest challenge I’ve ever faced professionally.”

Above
Brown congratulates an ACE Award winner from Renewed Vision at the 2017 NAB Show. "You just can't duplicate the dynamic that happens on the exhibit floor," he says.

Perhaps it's not surprising that when asked to name his favorite NAB Show, he cited the 2022 convention that marked the event's return.

"It's the most feel-good show we have ever hosted," he says. "The disconnect COVID created between us and the industry, along with the revenue impact, was difficult."

The 2022 show drew 53,500, and attendance grew to about 65,000 this year. Brown called this a positive sign that live events are slowly recovering. His boss, President/CEO Curtis LeGeyst, said in April that he was "thrilled" with this year's turnout.

Emphasis on people

Brown, 63, was born into a military family at Fort Belvoir, Va., and spent parts of his early youth in Heidelberg, Germany, and Bangkok, Thailand, before his father was stationed in



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Above
NAB's Global Connections and Events team, led by Chris Brown, at the 2023 NAB Show in Las Vegas.

brand-new perspective linking broadcast to a variety of entertainment sectors like film."

He said NAB will continue to focus on growth from adjacent sectors that are relevant to media entertainment. He adds that the association understands the importance of ramping up attendance at live events again.

"We discovered that some things can be done perfectly well in a virtual environment. That includes education and information flow. But some other facets of a live environment just can't be replicated online," such as networking and product discovery.

"You just can't duplicate the dynamic that happens on the exhibit floor. My view right now is that we are in a renewed golden era of live events coming out of COVID. People are excited to get back out," he said.

"In a way we are benefiting from this renewed value of discovery. But I don't think this glow will last forever. Perhaps another four or five years."

"I'm a fan now"

The spring show settled into Las Vegas decades ago. Might it ever move elsewhere? Brown doubts it. He adds that the city has grown on him.

"I'm a fan now. It's a machine, with these huge properties. They provide an extraordinary experience. It's a fun and cool town from a leisure and business perspective."

NAB will continue to look for ways to evolve the live experience for attendees while delivering return on investment for exhibitors and members, he says.

Chupka Will Succeed Brown

Karen Chupka will succeed Chris Brown as leader of the conventions arm of the NAB.

She worked at the Consumer Technology Association for 34 years, most recently as chief strategy officer and executive vice president of CES. She left CTA in January of 2023 to start a consultancy, with CTA as her first client, according to Trade Show News Network.



"Chupka will set the strategy, manage the business and inspire the people that produce NAB Show, NAB Show New York and NAB Amplify," the NAB said in the announcement. Her title will be managing director and executive vice president, global connections and events.

President/CEO Curtis LeGeyst noted Chupka's "long track record of exemplary leadership managing and growing one of the largest trade shows in the world." Chris Brown described his successor as "an absolute paragon of innovation for the tech sector" and "an empathetic and enlightened leader of people."

Chupka called the spring NAB Show "a widely respected and unrivaled marketplace of innovative products, services and ideas that are driving the future of the media industry."

She starts Jan. 1.


"And digital isn't going away. I think there is a place for digital to compliment the live event side of it."

Part of that package includes Amplify, a year-round hub for media and entertainment.

"I think it is evolving nicely and will become a great community connector for us to utilize throughout the year. But live shows are certainly not coming to an end. Humans love getting together with colleagues and friends and comparing challenges."

Brown resides in Fairfax, Va., and has been married 42 years to his high school sweetheart Sherry. The couple has four adult children and three grandchildren.

He said he'd begun contemplating his departure even before President/CEO Gordon Smith stepped down at the end of 2021 but that Smith's successor Curtis LeGeyst had asked him to stay on for a while longer.

Brown expects to continue working, possibly in a part-time or consulting role. "I'm definitely not shutting down. I want to spend more time with my family, but I'm looking to stay active and involved in the events world." 

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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.



Send your tips

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

Top

Resuscitating a BW Broadcast 1000W FM transmitter.

Middle

Wiring from both supplies. Black/White is 12VDC and Red/Black is the 8-gauge superflex 48VDC wiring.

Right

After routing the wires through the back of the chassis, this closeup shows where the wires are soldered.

Far right

Frank's power adjustment schematic.

Frank Hertel revives a 1 kW FM transmitter

Here's how he brought a BW Broadcast box back to life

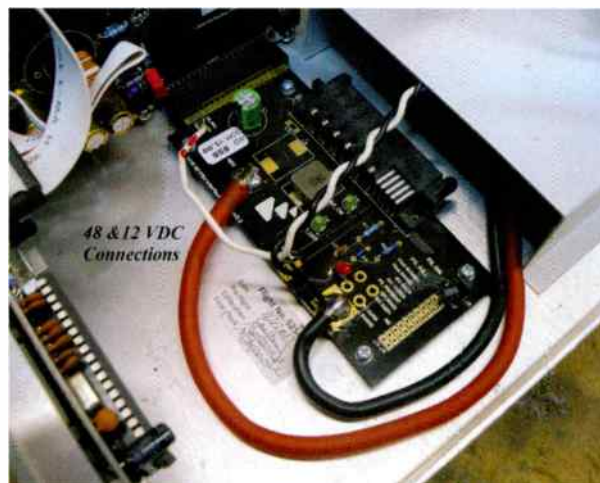
Engineering consultant Frank Hertel writes in to describe a fix for a power supply failure in the popular BW Broadcast 1000W transmitter.

If you're not ready for a construction project, you can get service support for the BW lineup from Progressive Concepts, which introduced the transmitters to the U.S. in 1997. The company has expertise servicing BW equipment and has once again been appointed as BW's sole sales and service center for the United States. For information, contact Eric Hoppe at 630-736-9822.

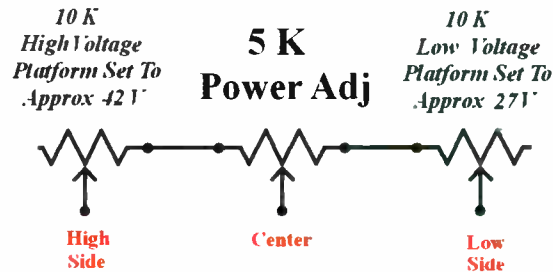
Frank took a DIY approach. The original power supply is a semi-proprietary design modified for special use, making his efforts to find a replacement harder, but Frank set out to find a workaround to revive this otherwise good FM transmitter.

In the end, it was a fairly simple fix. What was lost was software control of the transmitter's power output; his repair causes the transmitter power to be adjusted using the output voltage of the 48VDC supply. You will also need to add a 12VDC power supply, rated at 3 to 4 Amps, since the original power supply provided both 48 and 12VDC.

Frank described a series of steps to replace the defective power supply. First, for the 12VDC supply, Frank selected a



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“brick” power supply from Amazon. They are inexpensive (under \$10) and widely available. The 48VDC supply is manufactured by Jingmaida and can be found on Amazon for under \$300. The photos on page 10 show where to connect the wires from the new 12VDC and 48VDC power supplies, inside the transmitter chassis. For the 48VDC, Frank used #8 silicone superflex wire.

Frank adds the following notes:

Above
The physical construction of the power adjustment components.

1. No holes were drilled in repair. The external power supplies can be replaced easily, should they fail.
2. Velcro brand hook-and-loop fastener was used to fasten the new power supplies to the top of the transmitter chassis.
3. Frank chose to remove the defective internal 48VDC power supply. The void provides easier routing of the new power supply wiring.
4. If desired, the on-board voltage adjust potentiometer can be wired to an external larger potentiometer, to make power adjustment easier; see the schematic on page 10 and the photo at left.
5. The 48VDC power supply also has a terminal strip where you can add a switch to MUTE the 48VDC power supply. Frank used this feature for easy shutdown of the transmitter. These MUTE contacts can also be wired to a set of dry relay contacts on your remote control, to remotely shut down the transmitter.
6. When the new power supply is received, the MUTE terminal strip has a jumper on the bottom of the circuit board. You will need to remove that jumper to use the MUTE function.
7. The value of the Voltage Adjust Pot is 5K Ohms. Frank and his team added two small trim pots (10K each) to the lower and upper terminals of the larger external 5K pot. One of the small 10K trim pots will let you set the

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Minimum Voltage Platform (it should be approximately 27VDC) and the other small 10K Trim Pot will let you set the Maximum Voltage Platform (which should be approximately 42VDC). These settings help protect the internal regulators.

Other models of BW Broadcast transmitters have similar configurations but deserve a close review to make sure the procedure is suitable.

The new adjustable 48VDC power supply also has a current limit adjustment. It is factory set at approximately 33A. You should not need to reset this adjustment. Note that the replacement power supply also has over-current shut down. If something in the transmitter should fail and draw excessive current, the power supply will automatically shut down.

At left is the completed project, and the restored RF output power is seen at right.



Above
The completed power supply modification ...

Right
... produces the desired results!



If you complete this modification, snap some pictures and let us know how the upgrade went. Email them to me at johnpbisset@gmail.com.

BW Broadcast itself recently resumed business after an uncertain time following the deaths of its founder and its CEO. Read our story at radioworld.com; type "BW Broadcast Resumes Business" in the search field. 📡

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Writer
Randy J. Stine

FCC focuses on security for EAS and WEA

Commission workshop examined cybersecurity for public warning systems

If China or Russia were to seek to induce societal panic in the United States, they could do so by hijacking internet-connected EAS equipment with bogus emergency warnings, according to homeland security experts. Therefore, the Federal Communications Commission says, protecting and improving the security of the Emergency Alert System and Wireless Alert System are priorities.

The commission in October partnered with the Cybersecurity and Infrastructure Security Agency or CISA to host a public roundtable on strengthening that cybersecurity. It included stakeholders from around the public warning ecosystem.

"Maintaining the security and operational readiness of EAS and WEA is essential," Chairwoman Jessica Rosenworcel said. "These are essential systems that function in emergencies, and the public must trust the warnings they receive."

Mandatory reporting

Seeking to protect EAS from cyberattacks, the FCC has a notice of proposed rulemaking (PS Docket No. 22-329) that would impose new risk management and reporting requirements on entities that relay alerts, including broadcasters.

"The new rules would help ensure the reliability, readiness and resilience of these critical alerting systems we all count on," Rosenworcel said.

The FCC proposes to require participants to patch vulnerabilities in EAS gear, eliminate outdated software





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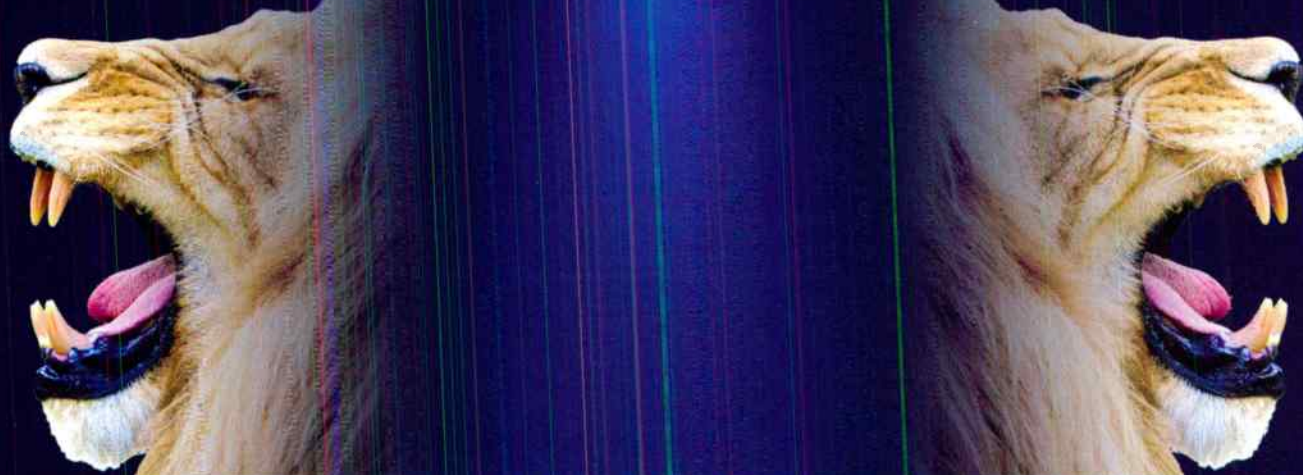
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and install proper firewalls in encoder/decoder devices. It also would require broadcasters to report incidents of unauthorized access to EAS equipment within 72 hours.

Broadcasters have cast a wary eye at these proposals. NAB told the FCC that the measures are well intentioned but would create compliance issues and impose burdens on small and medium-sized broadcasters. It favors "more outreach and education over new mandates" and pointed to "scant evidence of previous cybersecurity incidents."

However, representatives of CISA say mandatory reporting would provide security experts with critical data about what is being exploited as well as any mitigating factors.

"An early heads up on weaknesses allows others to protect themselves from similar attacks, and give hardware and software developers the tools to improve products and services," said Todd Klessman, CISA's rulemaking team leader for the Cyber Incident Reporting for Critical Infrastructure Act, or CIRCIA, which became law in 2022.

There have been several notable hacks of EAS equipment of broadcasters that were mentioned during the roundtable. One resulted in the broadcast of a zombie attack EAS alert in 2013 by several TV stations.

The commission says more needs to be done because alerting systems are such desirable targets for bad actors. It also acknowledges that keeping the alerting infrastructure protected is a massive job.

“ An early heads up on weaknesses allows others to protect themselves from similar attacks, and give hardware and software developers the tools to improve products and services. ”

Relays Made Easy



Box O' Relays 6

Six Channel Isolated Relay Module

The Broadcast Tools Box O' Relays 6 is a six channel optically isolated relay module. It's new design is perfect for converting GPO outputs from AoIP systems and other devices to dry contact closures. Compatible with WheatNet Blade RJ45 GPIO ports configured as GPO outputs or with GPIO xNodes using the optional [Broadcast Tools COA-15/RJ DB-15M](#) to RJ45 Breakout Adapter.

The Box O' Relays 6's SPDT relay outputs are rated up to 30V at 1 amp, perfect for controlling on-air lights, LED indicators, and other externally powered devices. The relays can be configured for independent operation, or for flip-flop (set/reset) operation in pairs and are available via pluggable screw terminal block connectors for ease of installation. RA-1 rack shelf or DBM-1 DIN rail bracket optional.

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“20,000 end points”

Wade Witmer, deputy director of FEMA’s Integrated Public Alert and Warning System Division, told the roundtable that one of the challenges is the sheer number of participants.

“That makes EAS unique and makes it more susceptible to cyber threats. The number of senders right now in the United States, those local agencies authorized to send alerts, is 1,500 to 1,600. But when you consider the realm of broadcast, it’s remarkable. There are well over 20,000 end points between radio and TV, each with EAS equipment that is overseen by maybe just one person across multiple stations,” Witmer said.

He said broadcasters face the same threats as any entity connected to fiber, and that no entity is too small to suffer a cyberattack.

Harold Price, president of Sage Alerting Systems and a roundtable panelist, said Sage is improving its software and is working to help give users better insight into who might be attempting to gain access.

“In all we are trying to build EAS systems with a reduced threat surface — limiting the reason why broadcasters would ever put an EAS device on an unprotected network and limiting the number of people who can access EAS equipment,” he said.

Price reminded the FCC that the majority of radio stations are small businesses with small staffs and limited IT resources.

“We are working to raise the awareness and give them the tools to manage their EAS systems,” he said. Price urged the FCC to take a more proactive role in education and training.

“A rulemaking saying that broadcasters have to have a plan and follow it is all well and good. But time has to be spent in presenting clear and effective language to make it relevant and relatable to small radio operators who do not have the resources and the time to learn it.”

Ed Czarnecki, VP at Digital Alert Systems, said the challenge of having a large number of EAS participants is made greater by their disparity in size.

“The majority of issues we hear about are with small broadcasters and LPFMs, not the major broadcast corporations.” Small broadcasters, he said, simply don’t have the money to pay for alerting infrastructure. Compliance costs, while relatively small, are always going to be a challenge for them.

Czarnecki, like Price, asked the commission for plain-language guidance. “Some of these smaller broadcasters likely have a staff of one or two people with very limited IT skills. That means they will likely need to hire outside help to handle some of the compliance, which will add to the costs.”

Several CISA representatives said the agency has a variety of resources for small business including cost-effective measures for protecting assets. Many of those

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World Radio History

resources are designed to be understandable to small business owners, they said.

Kenneth Chew, unit chief of the FBI's Cyber Division, said public warning systems deployed by broadcasters are a high-value target. "Cyber mischief makers and adversaries alike," he said, have their sights set on disrupting the nation's communication systems.

Another panelist agreed. "Worry over fake alerts is the top concern of public warning experts in this country. False alerts would kill the credibility of IPAWS and other public warning systems," said Nick Narine, program manager for the public warning division at New York City Emergency Management. "You don't want the public questioning: 'Hey, is this real?'"



Watch the Roundtable

www.fcc.gov/news-events/events/2023/10/alerting-security-roundtable

“There are well over 20,000 end points between radio and TV, each with EAS equipment that is overseen by maybe just one person across multiple stations.”

”

Brian Scott, a deputy assistant in the office of the national cyber director, said it's critical that EAS participants not rely on outdated firmware and software. He noted that prior to its invasion of Ukraine, Russia conducted a cyberattack against that country's satellite communications that interrupted services. He said precautions are complicated by the intermingling of providers with customers and the broad reach of communications and ISP entities and their interdependencies.

“Cascades of panic”

Broadcast architecture connected to the internet isn't the only potential digital highway that is susceptible to hackers. Public warning stakeholders at the roundtable said the cellular WEA system has its own vulnerabilities.

Steven Hayes, director of standards for Ericsson North America, said a potential red flag in WEA is a “false base station.” The terminology refers to hardware and software that allow for passive and active attacks against mobile subscribers over radio access networks. The tool attacks vulnerabilities in mobile systems including 3G, 4G and 5G networks.

Hayes cited research in 2018 by the University of Colorado. It concluded that presidential alerts could be spoofed by attackers and in theory sent to all capable cellphones within a given area, such as a packed sports stadium or small city. The study concluded that fake alerts in densely populated cities could potentially result in “cascades of panic.”

Michael George, an associate administrator for FEMA's Office of National Continuity Programs, said the public's reliance on cellphones “is a societal change” that must be factored into the country's long-term alerting capabilities.

FEMA's Witmer, too, noted the growing role of cellphones for alerting. “The public perception of how and when they want to be alerted is changing. There is a growing dependency by the public on their cellphones, and ... the information they receive there is much more personalized from their perspective than the same information displayed on TV or broadcast on radio. It's becoming the preference for receiving alerts.”

Panelists pointed out that the FCC has a proposed rulemaking addressing some of the cybersecurity concerns for WEA. But Christopher Oatway, associate general counsel at Verizon, stressed a need for “harmonization of rulemaking” within the FCC. He said there were four separate proposals before the commission dealing with alerting security. 📡

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BUYER'S GUIDE

Antennas, RF Support & Power Protection

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.

Right
Dave Hacker



More Info
www.shively.com

WMOD puts Shively to work in Tennessee

FM station had to move quickly after a truck backed over a guy anchor

Time and unforeseen occurrence befall them all." Dave Hacker quotes scripture to describe the case of a 3 kW Class A station in Bolivar, Tenn. He

said a typical, uneventful summer day was transformed into a tangled pile of steel, cable and antenna debris after a logging company backed a hauler truck into and over a guy anchor of FM station WMOD's 260-foot tower.

A strategy was needed and quickly. Hacker, whose regular job is chief engineer for Forever Communications, was called upon to help WMOD as a contractor.

"Having good people at your disposal certainly makes the process of rebuilding much simpler, and that was where Ernie Oliver from American Antennas and Mike Phelps from SCMS helped immensely."

Hacker has worked with both for years. "We kinda know what the other wants and expects." Because the tower had crashed into and through the existing transmitter building, it was going to be a complete rebuild.



Hacker says West Tennessee is in one of those geographic zones where winter would be happy to give you a half inch of cold rain, a half inch of snow, or a half inch of ice.

"I've learned well that antennas may claim to tolerate a quarter-inch of ice without significant impact, but it's just not the case." He considers radomes essential in his area, and his preferred antenna for this type of station and situation is the Shively 6813 three-bay.

This was right around the time that American Amplifier Technologies was purchasing the Shively line from Howell Laboratories.

"I had zero experience with AAT and really knew nothing about them. Moving manufacturing from one side of the country to the other in my mind was a significant undertaking, given the state of logistics these days,

“Moving manufacturing from one side of the country to the other in my mind was a significant undertaking, given the state of logistics these days.”

and I couldn't help but wonder if it would take time for them to get up to speed and glitches ironed out at the new location."

Despite the aggressive timetable, he was delighted when the antenna arrived at the freight terminal, and even more so when he inspected the crate.

"Gone were cardboard boxes. An extremely robust framed wooden 'vault' sat in front of me. Even more surprising when I opened it was the engineering that had gone into preserving the structural integrity of the antenna during shipment — wonderfully thought out and well executed in every minute detail. Superb job, AAT."

Another surprise was that the bays had been assembled onto their feedline mount sections. And the radomes had already been attached.

"Gone was the old pressure relief valve for purging the line and ensuring a future tower climb for



Above
The Shively 6813-3 in situ.




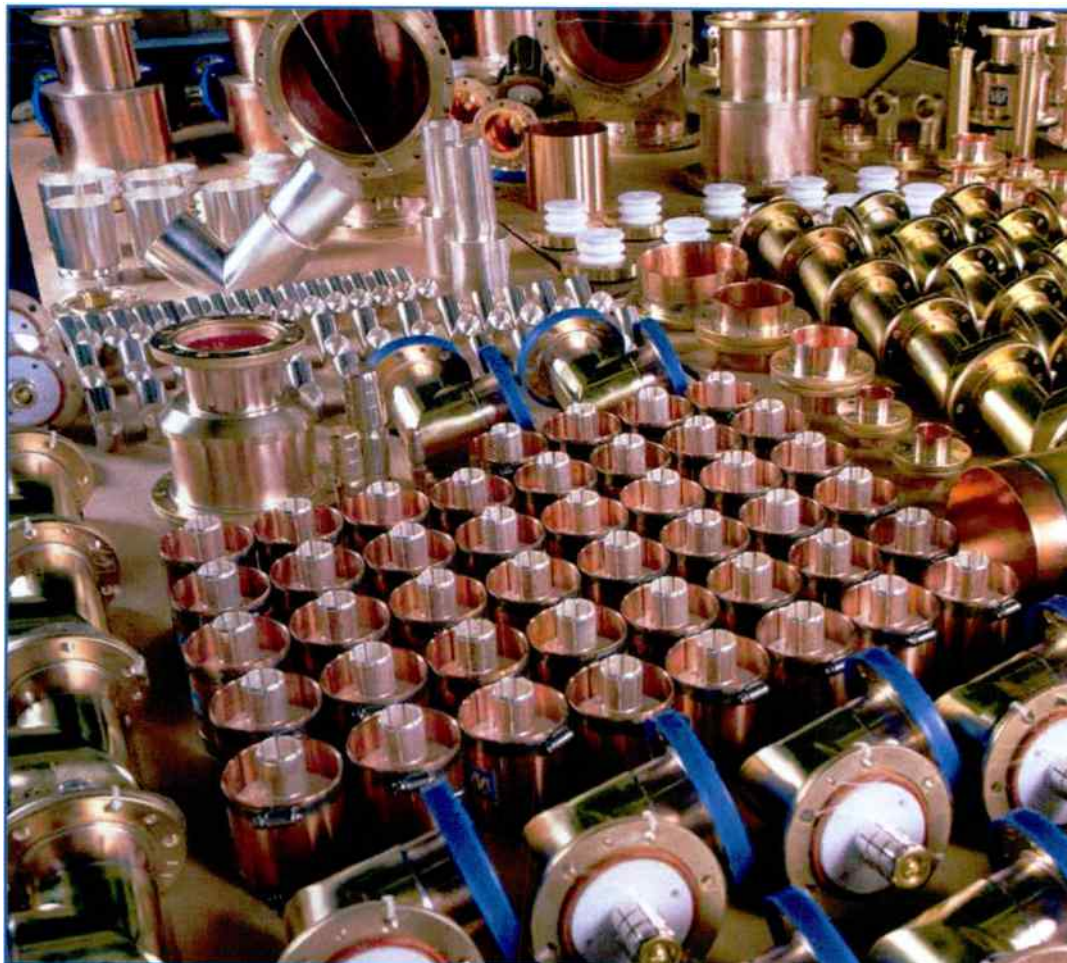
Left
The author was pleased with how the antenna was tuned out of the box.

replacement when it inevitably started leaking. Also absent was the two-plunger tuning section, which was easy enough to use but at times could be finicky."

So up the tower it went. With all cables, connectors, ground kits attached and dressed, the moment of truth had arrived. To achieve 3 kW ERP with 1-5/8-inch line and an antenna power gain of 1.56 dB, the transmitter needed to operate at a TPO of around 2.4 kW.

"The power button on the new GatesAir FAX 3 was energized — fire in the hole — and instant gratification, with 2.4 kW forward, 0.9 reflected. POINT 9!" Hacker said he has not had an antenna of any brand tune so well out of the box with no intervention.

"Coverage is superlative for this little Class A, and everyone was happy at the end of the day and ready for beer. Are Shively antennas now even better? I couldn't argue against it." 



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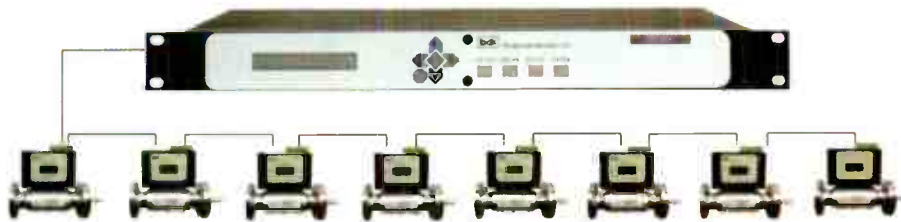
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Tech Update



BDI SWP-206D is a Flexible Antenna Monitor System

Broadcast Devices Inc. developed the SWP-206D Digi Monitor to monitor antenna/combiner systems with up to eight BDI DPS-100D True RMS digital power sensors in a single rack unit display.

It can measure up to eight BDI DPS-100D power monitor forward/reflected outputs simultaneously, providing interlock control to safeguard against damage caused by high reflected power.

"The SWP-206D accurately displays forward/reflected power. Temperature and line pressure measurements can be performed by the addition of optional BDI TMP-100 temperature and PSW-100 pressure sensors connected to accompanying DPS-100D True RMS power sensor systems."

Connection via Category 5/6 cabling is used to connect the various DPS-100D power sensors to the SWP-206D chassis. The

SWP-206D provides power for up to eight DPS-100D sensors.

SWP-206D systems are offered as complete systems with calibrated RF Watt meters; the company says no on-site calibration is ever needed. "Accurately monitor digital TV, FM, IBOC or DAB antenna/combiner systems with one consolidated system."

BDI also offers the ICP-8 interlock consolidation panel, providing simple closures for each station on the system. You can add other interlocks from patch panels as well as RF switches or lock out/tag out switches. Use BDI's optional Panel Viewer software or send SNMP data to any SNMP-equipped manager remote control or software for monitoring of the entire antenna system.

Info: <http://broadcast-devices.com>

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Tech Update

DAC Has Compact Version of RFHawkeye

Antenna monitoring company DAC System has introduced a more compact version of its RFHawkeye system.

"We monitor radio and TV antennas because we strongly believe that prevention is better than reaction," the company says.

RFHawkeye monitors the infrastructure while the system is in operation, without interference with the transmitted signal.

"The compact RFHawkeye, based on real-time TDR-like mode monitoring, detects and localizes all the VSWR-Return Loss changes along the antenna transmission lines," the company says.

"Its main feature is focused on degradation analysis. Warnings and alarms allow operators to immediately apply corrective actions before it is too late to prevent failures including those from catastrophic events."

DAC's IoT Apollo Software is resident in the compact RFHawkeye to gather information from the installed systems and keep the network under control from a single portal. The company has also introduced a new power meter that can measure RF power and VSWR/RL of your RF environment in real time and provide channel spectral analysis.

Info: www.dacsystem.ch



Tech Update

AMReady: "Radio That's Ready to Roll"



Information Station Specialists said its AMReady product family is intended to assist broadcasters in maintaining AM service quickly and affordably when circumstances become extraordinary.

Solutions include temporary antennas, transmitters and accessories such as quick-deploy ground planes, support masts, cable and mounting hardware.

"Do you need to set up a temporary AM station on the roof of

a building or on an independent support or tower? No problem," it says. "Do you need to move it to a new location when one becomes available? No problem there either."

The company stocks three lightweight antennas of various sizes and efficiencies that don't require tuning units. Frequency-agile, low-power transmitters and one-piece ground planes are ready to ship, to roll out quickly.

The accompanying image shows a lightweight, temporary AN2X antenna on the island of Maui, Hawaii, atop a high-school gym, after the Lahaina fires, for safety broadcasts during recovery efforts.

The AMReady line also includes an entire "radio station in a box" with the audio system onboard, called EventCast, a portable station that often can ship within 24 hours.

"EventCast systems are particularly adept at providing information to motorists as they approach local events or who find themselves navigating highway detours or emergencies. Provide that service to your community with a temporary license the company can provide."

ISS also offers full-power transmitters, antennas and associated engineering services.

Info: <https://theradiosource.com/products/amready.htm>



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www.eriinc.com

Tech Update

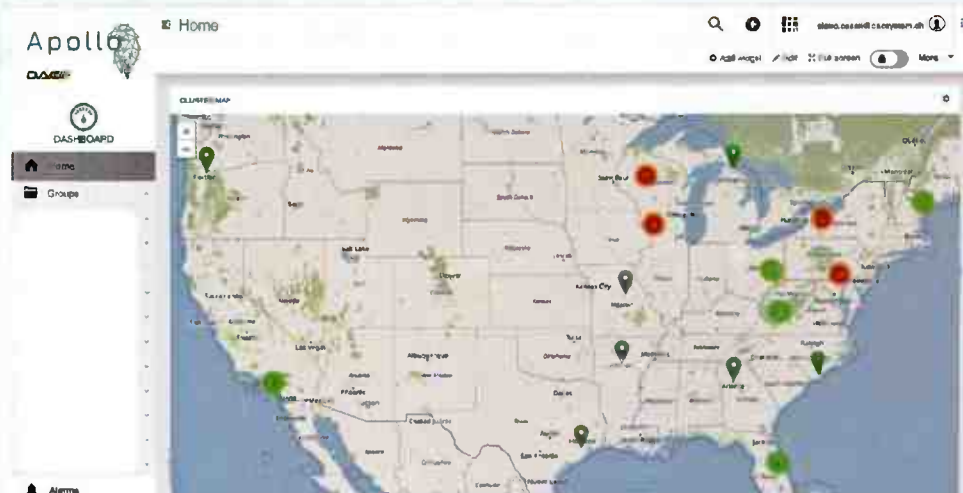
Get Insights With Dielectric's Apollo Analytics

Dielectric's Apollo is a service-based analytics platform that detects anomalies in RF systems. The company says it allows broadcast engineers to take quick and decisive action on current problems and preventive actions against future ones.

"The advanced analytical software is an extension of RFHawkeye, Dielectric's IP-based remote RF monitoring solution. RFHawkeye's software suite integrates Apollo to help users quickly analyze and formulate site data into actionable reports."

These reports can be customized to prioritize important system information and performance trends over selectable time periods.

Dielectric offers four tiers of Apollo service, beginning with a basic software offering for a single unit. That extends to visualization of all RFHawkeyes in a group for tier two. The third tier adds advanced



software updates along with multi-station access while the fourth tier is premium-level managed service that includes 24/7 monitoring of transmission line, antennas and arc detection. "Dielectric experts will analyze and report suggested actions to station representatives, and provide biannual reports outlining site status, detected issues and actions taken."

Info: www.dielectric.com.

Some voices need work



THE AUDIOARTS VOICE 1 has all the tools and secret sauce of the Wheatstone M-1 microphone processor. But it's got more: WheatNet-IP, AES67, remote GUI control, password protection, real time clock and presets—complete with scheduler. It can be controlled from the OLED display and, of course, your desktop computer.

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KQMR installs five-bay ERI Rototiller

In Phoenix, an auxiliary site is upgraded to be the main

Martyn Horspool, TelevisaUnivision's director of RF transmission for the western region, was tasked with upgrading FM station KQMR's auxiliary site to its main transmission facility.

The station's currently licensed main transmission facility does not have commercial

power. "Converting our old auxiliary site to be the main site was a move to environmental and fiscal sustainability by using commercial power versus diesel generator as the prime source of power," Horspool told ERI.

TelevisaUnivision selected an ERI Model MP-5E, five-bay Rototiller FM antenna, and it was installed at the end of October along with a new microwave dish.

KQMR is a full-service Class C FM. The location has an elevation of 7,500 feet above sea level, and the authorized height above average terrain for the new FM antenna is nearly 7,700 feet and an authorized ERP of 33 kW.

The end-fed MP Series medium-power Rototiller FM antennas are rated to handle up to 18 kW input power. The MP-5E model used for this application has a numeric 2.715, so the input power to the antenna to achieve the licensed ERP is only 12.15 kW. The antenna included optional radomes for protection from snow and ice and anti-rotation brackets to prevent the leg-mounted array from twisting.

Horspool told ERI in November that the antenna was working perfectly as expected. "We are currently operating with it as we prepare for the next step, which is to complete modifications to our existing GatesAir FAX FM transmitter and move it up to the new site."



Right
Martyn Horspool



More info
<http://eriinc.com>

Tech Update

Telsat Gets Smart With BSP

Telsat has introduced the Broadcast Smart Platform, or BSP, to help broadcasters serve populations that otherwise are difficult to reach.

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

"We needed a complete system, with flexible/customizable architecture, because every country or government has its own approach to broadcasting regulation, and we had to be ready to satisfy at least most of their possible requirements, both for TV and radio."

BSP is a complete portable broadcasting site in a single, mast-mounted, small weatherproof enclosure for outdoor use.

"The system had to present high efficiency and low power consumption. It also needed to be powered with alternative sources, such as solar panels or wind energy. Then it needed to be 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."

Telsat highlights BSP's integrated management software, and adds that with BSP networks it can cover large critical areas with a cell-based network model in a "smart topology" way, using low-power transmitters and avoiding unnecessary higher costs of covering undesired areas.

Info: www.telsat.it



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Tech Update

Attenuate Dangerous Spikes With Sine

"Transmitter sites are especially vulnerable to power line spikes and surges," states Sine Control Technology.

"They often cause transmitter shutdowns, tripped breakers or, worse, a damaged power supply. Newer solid-state transmitters that use 'switcher' supplies are especially vulnerable to damage."

The company says the recently updated PowerClamp HP200 surge suppressors are effective at attenuating these spikes and surges so they don't disrupt your operation or damage your gear.

PowerClamp HP200 units are rated at 200,000 surge-amps per phase and will reduce power line spikes to within about 20 volts of the AC sinewave.

MOVs handle the high-amplitude spikes, while a second suppression network attenuates lower-level surges. "These lower-amplitude disturbances might be only a few hundred volts above normal voltage, but they happen much more

frequently than high-voltage spikes (usually caused by lightning); their cumulative effect is often destroyed power supply," Sine says.

PowerClamp surge suppressors are installed in parallel with the AC power input to the facility. They'll instantly shunt power spikes to ground, preventing them from damaging gear. This parallel topology also eliminates any chance of line loss, and prevents loss of power in the unlikely event of a suppressor overload, which would blow the PowerClamp's internal fuse. PowerClamp HP200 units are available for single- and three-phase power at standard voltages up to 480 volts.

Also, PowerTracker is a simple way to monitor the AC line voltage at any remote facility. It converts the AC input to a proportional low-voltage DC output. This DC can be fed to the telemetry input of any transmitter remote control system, so that AC line voltage at the site can be monitored

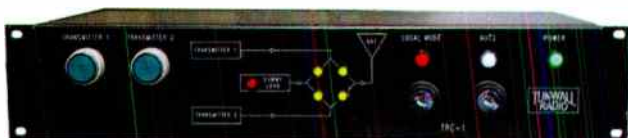


from the studio. One PowerTracker unit will monitor single- or three-phase power at any voltage up to 480 volts.

Info: <https://sinecontroltech.com/>

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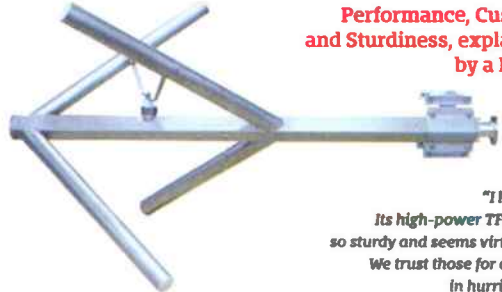
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DAVID BOKERIG, ADX Communications, Pensacola, Florida

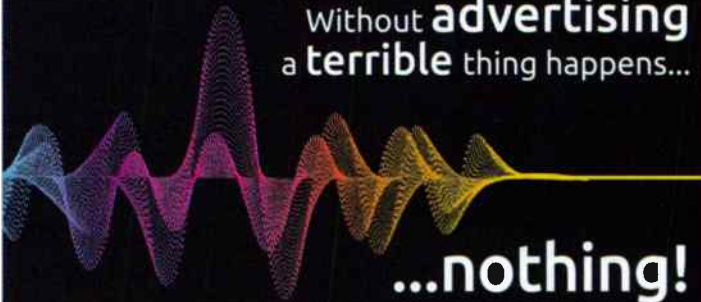
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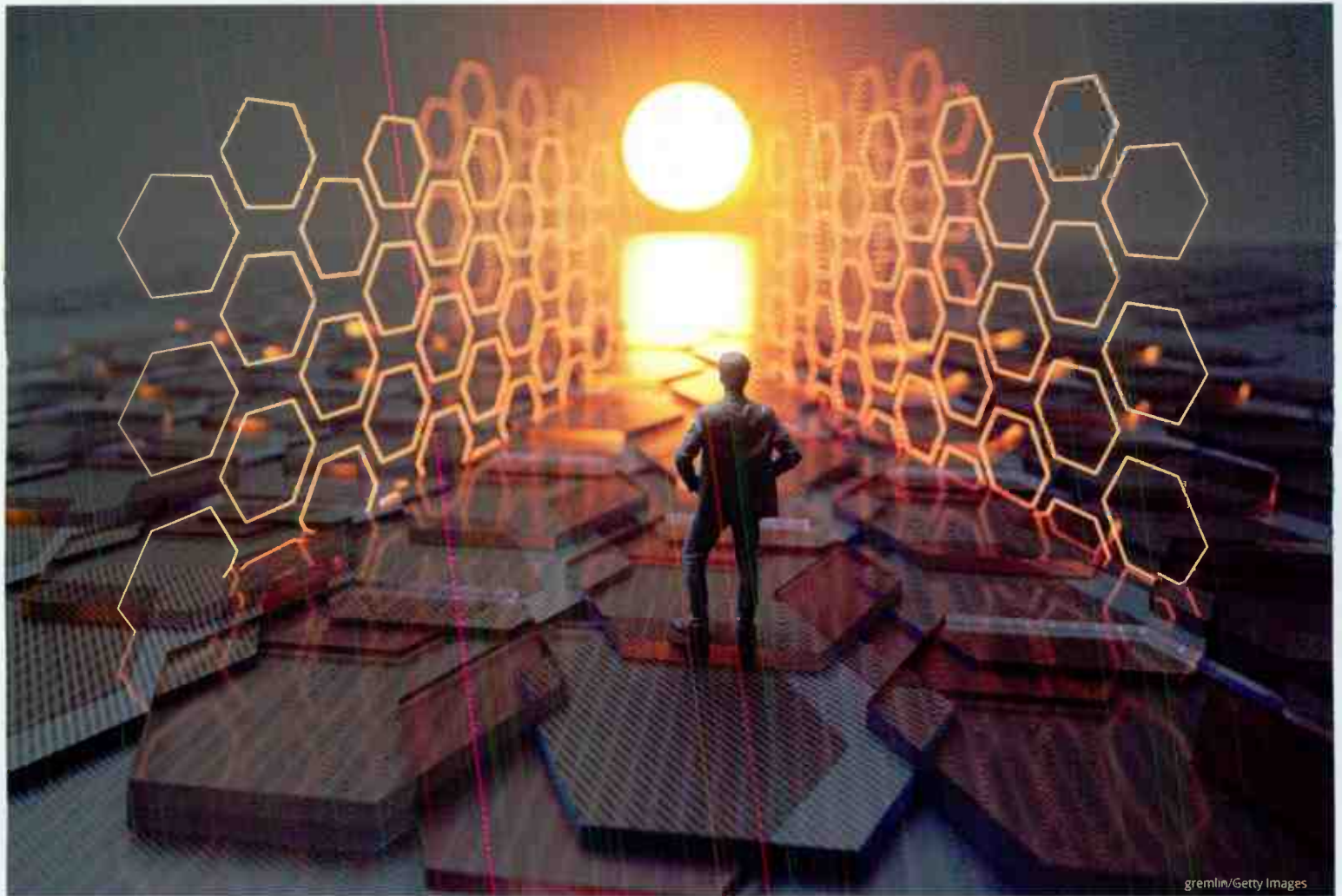
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Writer



Nathan
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Big Tech is the real threat to freedom of speech

Why not apply net neutrality principles to ISPs and Big Tech alike?

This is the text of a statement by Commissioner Nathan Simington released in September about the FCC's notice of proposed rulemaking seeking to reclassify broadband as a Title II service.

Net neutrality has become an obsession. Big Tech-funded hysteria turned this weedy competition law debate into a cause célèbre and the FCC's best known policy issue.

In their original push, net neutrality activists portrayed it as the free speech battle of our time, as the only way to prevent greedy ISPs from making deals in smoke-filled rooms to censor the internet. Of course, it was never really about free speech

for Big Tech companies. To them, Title II net neutrality was about making sure that they, and only they, were allowed to reap the massive profits of the internet ecosystem, an ecosystem that could not exist without the hundreds of billions of dollars invested in deploying broadband over the decades.

Unhappy with merely monopolizing various sectors of the internet economy, the Big Tech giants needed to make sure that no one above or below them in the supply chain could earn a fair share of those massive profits. That meant getting the FCC to take all leverage and ability to innovate away from the ISPs, just like it meant anticompetitive practices in other areas, like illegally colluding to keep employee salaries low.

How exactly does net neutrality help protect Big Tech monopoly profits?

First, it prevents last-mile ISPs from being able to charge large originators of traffic, like streaming platforms, any transit fees, the desirability of which is a question of pure economics, not free speech.

Second, it makes any attempt by ISPs to use their immense infrastructure to provide enhanced services, like edge computing that could compete with Big Tech cloud services, legally suspect and therefore less likely to be undertaken.

And third, Title II casts a long shadow on ISPs, with the ever-present possibility of rate regulation stifling investment and innovation, eliminating ISPs as players who can compete for a bigger share of the digital economy. Free speech was just the public front for what was really a campaign of industrial lawfare.

But by the time the commission considered Chairman Pai's Restoring Internet Freedom Order, Big Tech had a problem. Neither they, nor the far-left activists they funded, could barely even pretend to care about purported ISP censorship of free speech anymore. In fact, those companies and activists are now among the most notorious practitioners of censorship and opponents of free speech.

Professor Tim Wu, who coined "net neutrality," now argues that the First Amendment is obsolete. Every Big Tech social media platform has an army of partisan censors. And the advocacy groups they fund are funded precisely in order to lobby Big Tech to censor further.

With free speech on the back burner, astroturfed Title II net neutrality activism then took a turn for the absurd. Activists insisted that ISPs would slice and dice the internet into plans resembling cable packages. A widely shared mockup predicted an ISP offering access only to social media in a base plan but charging more to unlock higher-brow websites like Wikipedia and NPR. And just in case that wasn't scary enough, we were told that repealing net neutrality would cause people to literally die. Net neutrality, it turned out, was the only thing that stood between us and doomsday.

This hysteria, encouraged by Big Tech-funded activists, ultimately culminated in stalking and harassment of commissioners and bomb threats against the FCC headquarters.



Sound Off

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“ It has now been nearly six years since we repealed the net neutrality rules, and as far as I know, no one has died yet, nor have any other of the solemnly predicted catastrophes come to pass. ”

It has now been nearly six years since we repealed the net neutrality rules, and as far as I know, no one has died yet, nor have any other of the solemnly predicted catastrophes come to pass.

But what has happened is a dramatic and alarming increase in political censorship — not by ISPs, who have been conspicuous so far in their neutrality, but by social media platforms.


The leaders of Big Tech companies have anointed themselves the arbiters of which ideas are allowed to be expressed and which are not. These companies are, without a doubt, the biggest threat against freedom of speech that our country has faced in decades.

I'm not surprised that some of my colleagues, moved by the hyperbole of previous net neutrality debates, feel that they have no choice but to reimpose Title II net neutrality rules, but I am disappointed that they have shown no interest whatsoever in bringing some of those same net neutrality principles to Big Tech platforms, whose control of internet infrastructure and the digital economy is in fact much greater than that of ISPs and who have a much greater demonstrated willingness to abuse it.

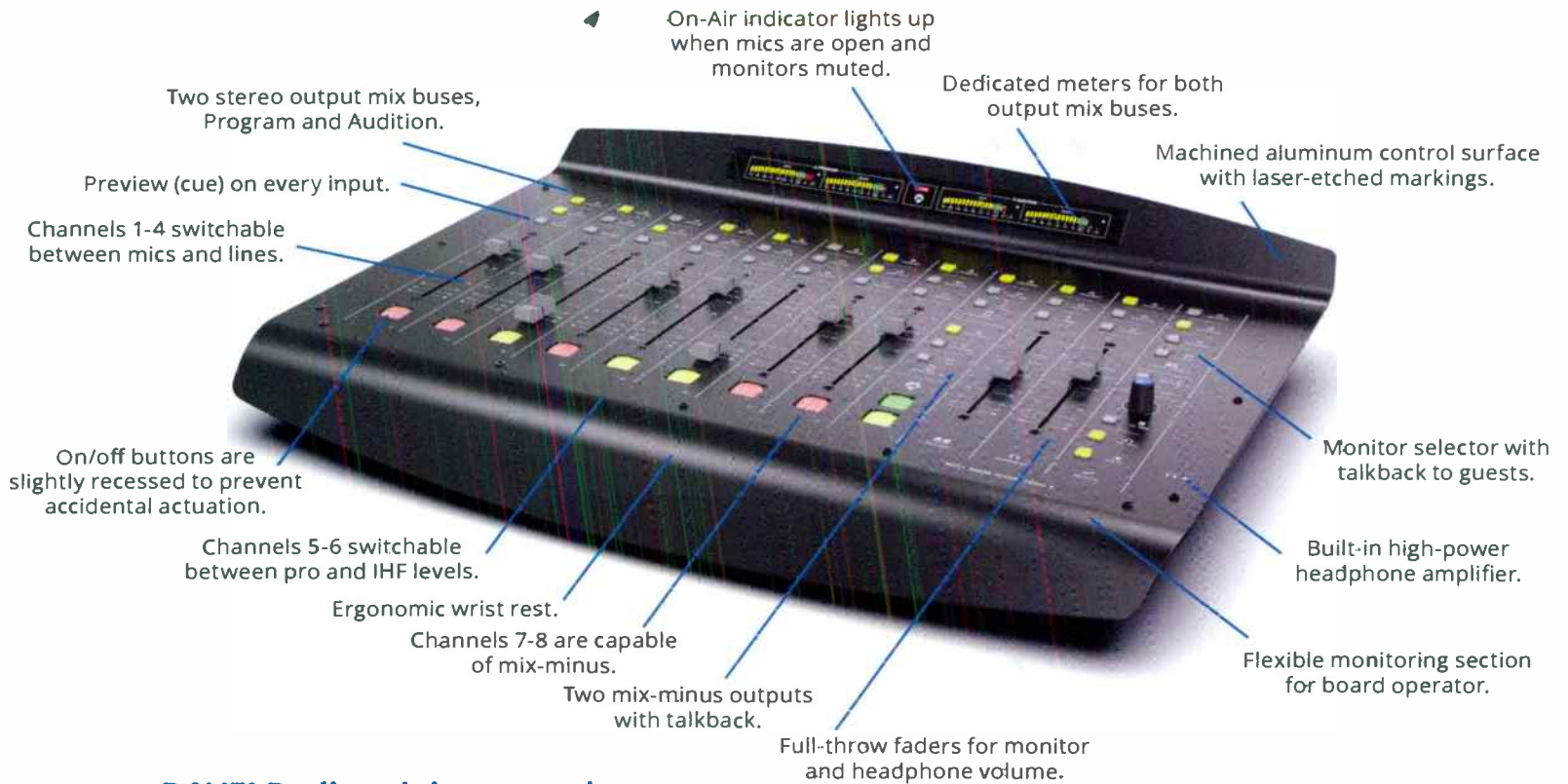
None of which is to say that the now-sidelined free speech concerns about ISPs are baseless. ISPs in other Western countries do now engage in censorship and, given the ubiquity of such bad behavior in other segments of the digital ecosystem, it is possible that ISPs in the U.S. would have already gone down that path but for fear of provoking the FCC to reimpose net neutrality rules. A

minimal regulation or law preventing ISPs from engaging in censorship, whether promulgated by the FCC or by Congress, is worth considering.

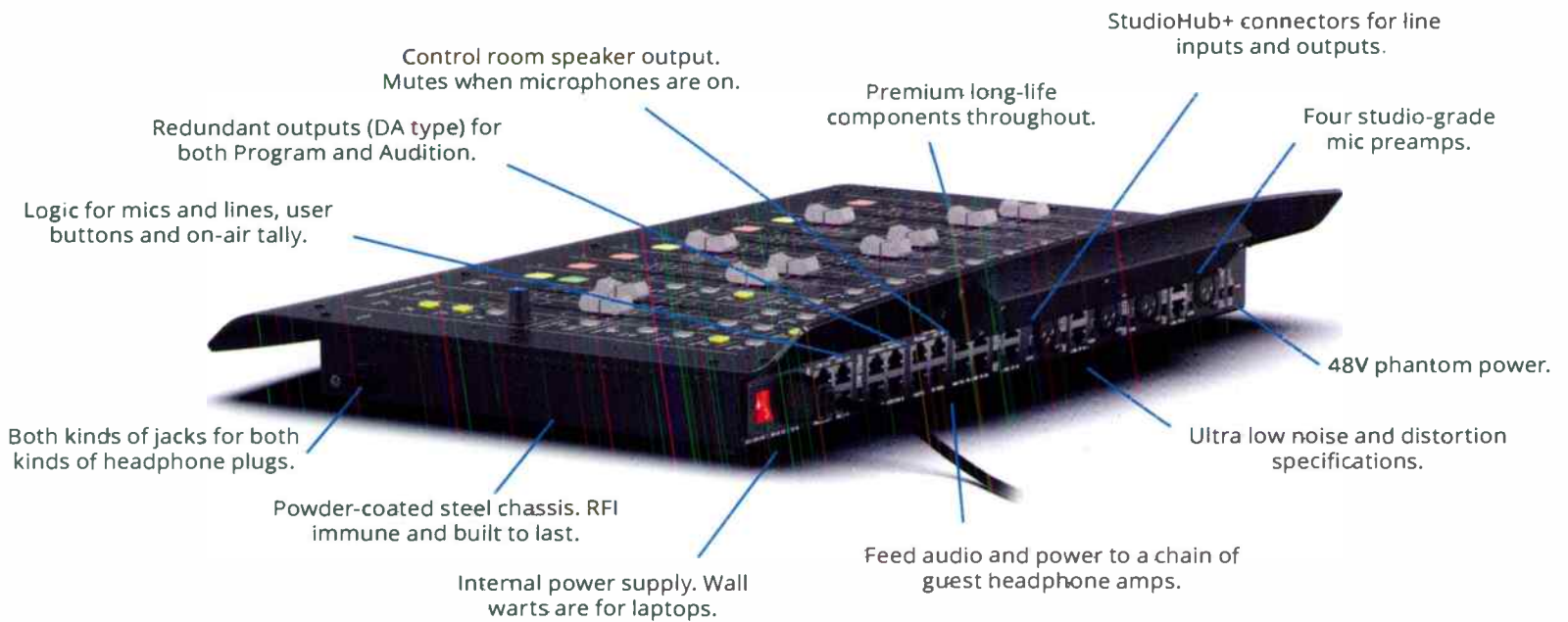
What would it look like to apply net neutrality principles to both ISPs and Big Tech alike? There are lot of questions, such as whether Title II is the appropriate vehicle for one or both or neither, and whether congressional action would be preferable.

But what I would like to see, through whatever approach is best, is light-touch rules that prevent any dominant corporation, whether ISP or Big Tech, from abusing its market position to engage either in censorship or in anticompetitive practices. 

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